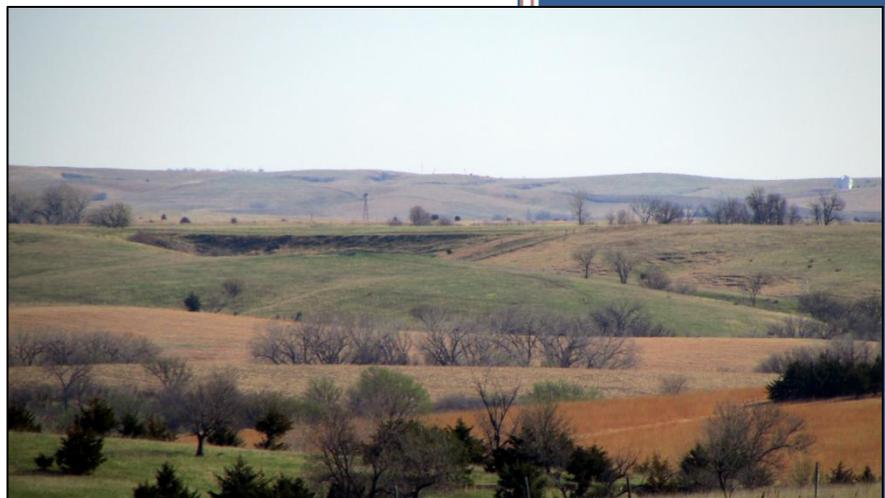


**GREELEY COUNTY, NEBRASKA**

**COMPREHENSIVE PLAN - 2025**

*“Comprehensive Plan, Zoning & Subdivision Regulations for the Unincorporated, Rural Areas of Greeley County, Nebraska.”*



**Prepared By:**

**HANNA:KEELAN ASSOCIATES, P.C.**  
**COMMUNITY PLANNING & RESEARCH**

**April, 2015**

# GREELEY COUNTY, NEBRASKA COMPREHENSIVE PLAN 2025.

## PLAN PARTICIPANTS

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### COUNTY BOARD OF COMMISSIONERS

Leo Reilly, Chairman  
Michael Goldfish, Vice Chairperson  
Doug Wrede

### GREELEY COUNTY PLANNING AND ZONING BOARD

Nick Dutcher, Chairperson	Bill Hamer
Kenneth Ryan, Vice Chairperson	Dan Miller
Jason McIntyre, Secretary	Dennis Wadsworth
Paul Glaser	David Winter
Shirley Goldfish	

### COUNTY STAFF

Franz Trumler, Zoning Administrator  
Cindy Bassett, County Attorney  
Sandy Stachura, Planning and Zoning Secretary

### CONSULTANTS

## **HANNA:KEELAN ASSOCIATES, P.C. COMMUNITY PLANNING & RESEARCH**

*COMPREHENSIVE PLANS & ZONING \* HOUSING STUDIES \*  
DOWNTOWN, NEIGHBORHOOD & REDEVELOPMENT PLANNING \*  
CONSULTANTS FOR AFFORDABLE HOUSING DEVELOPMENTS\**

-----  
\*Lincoln, Nebraska\* 402.464.5383 \*

-----  
\* Becky Hanna, Tim Keelan, Lonnie Dickson, AICP, Keith Carl \*

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# **SECTION 1**

## **THE GREELEY COUNTY PLANNING PROCESS.**

# SECTION 1

## THE GREELEY COUNTY PLANNING PROCESS

### ***THE COMPREHENSIVE PLAN***

---

This **Comprehensive Plan** was prepared as an update to the 1999 Comprehensive Plan and serve as a guide to direct future growth and development opportunities in Greeley County during the 10-year planning period 2015 to 2025.

The County has an ongoing One- and Six-Year Road Plan that outlines street and road maintenance programs. The County is also impacted by the State of Nebraska One- and Five-Year Road Plan, regarding the improvement of any State highway. The primary public facilities and services exist in the City of Greeley, the County-Seat.

The focus of this **Comprehensive Plan** is on the potential for growth and development of the unincorporated, rural areas of Greeley County and is addressed in terms of ***“Goals & Policies,” “Population, Income, Economic & Housing Profile,” “Land Use Profile & Plan,” “Public Facilities, Utilities & Transportation” and the “Energy Element.”*** The intent of this **Comprehensive Plan** is also to guide revisions to the Zoning and Subdivision Regulations, as needed, to achieve the specific goals and policies identified in the **Plan**.

This **Comprehensive Plan** is intended to provide policy guidance to enable the residents and elected officials of the County to make decisions based upon the consensus of the Planning & Zoning Board. Plan implementation methods should include incentives to stimulate private action consistent with the **Plan** and the use of Local, State and Federal programs for County-wide economic development activities.

The **Comprehensive Plan** was prepared under the direction of the **Greeley County Planning & Zoning Board** and Planning Consultants, **Hanna:Keelan Associates, P.C.**, of Lincoln, Nebraska.

**PLANNING PERIOD**

The planning time period for achieving the goals, programs and economic development activities identified in this **Comprehensive Plan** for Greeley County, Nebraska, is 10 years (2015-2025).

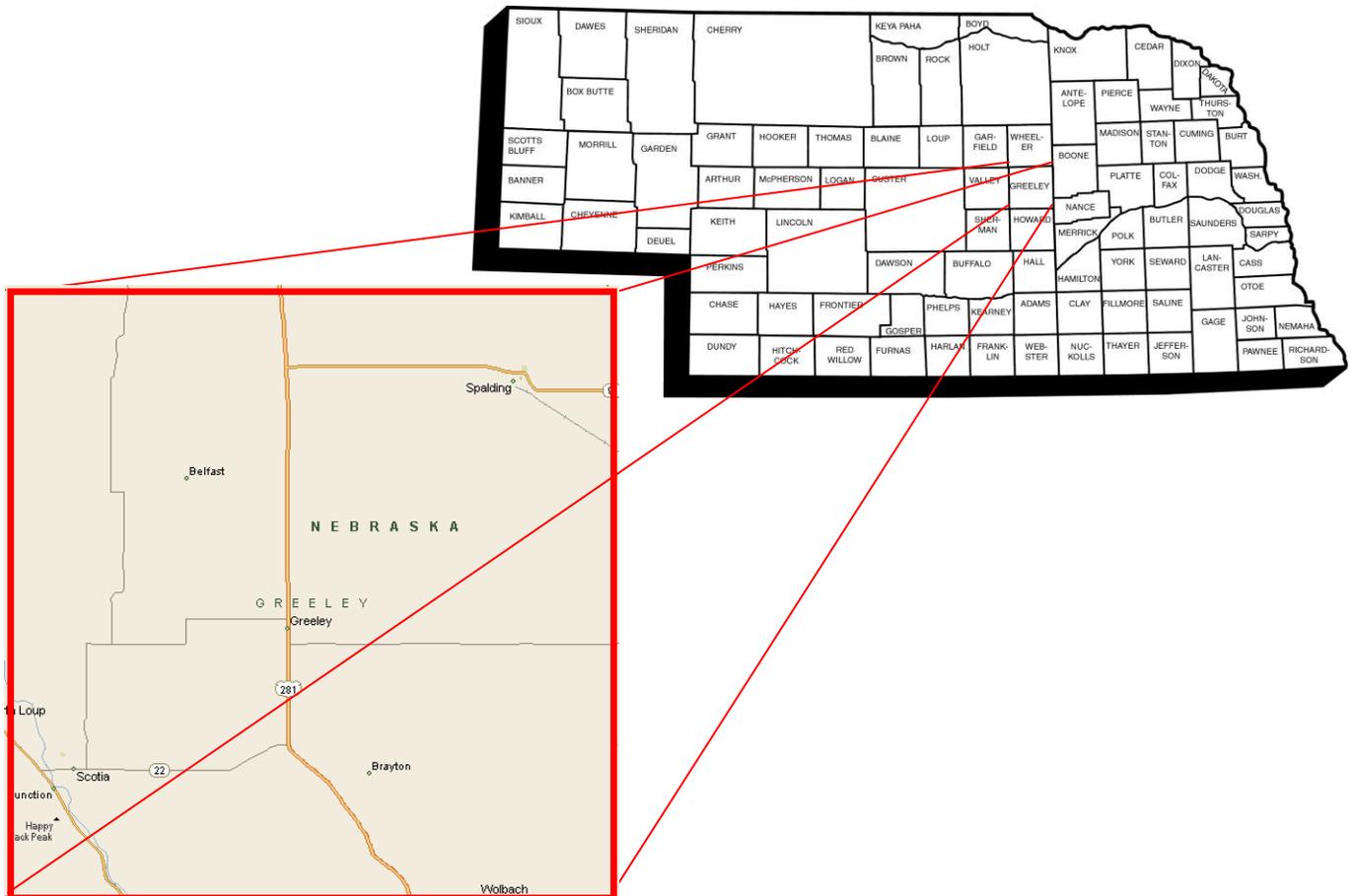
**AUTHORITY TO PLAN**

This **Comprehensive Plan** for Greeley County is prepared under the Authority of Sections 23-114 to 23-174.10, Nebraska State Statutes 1943, as Amended.

**AMENDMENT**

The **Comprehensive Plan** may be amended or updated as the need arises as provided in the Nebraska State Statutes.

**ILLUSTRATION 1.1  
LOCATION MAP  
GREELEY COUNTY, NEBRASKA**



## **SECTION 2**

# **GOALS & POLICIES.**

## SECTION 2 GOALS & POLICIES

### *INTRODUCTION*

---

The **Comprehensive Plan** plays a major role in the future growth and sustainability of a county. Important components of this plan are specific **planning goals and policies**. Goals and policies provide local planners direction in the administration and overall implementation of the Plan. In essence, **Goals and Policies** are the most fundamental elements of the Plan; the premises upon which all other elements of the Plan must relate. The following Goals and Policies are to be in effect for the period of the **Greeley County Comprehensive Plan**, including annual review.

**Goals are broad statements** identifying the present state or condition of the planning area and what the area could or should evolve into during the planning period. Goals are established for the primary components of the Comprehensive Plan, including **land use, housing, economic development, public infrastructure, facilities and transportation and plan maintenance and implementation**. Goals are long term in nature and, in the case of those identified for this Comprehensive Plan, will be active throughout the 10-year planning period.

**Policies help to further define the meaning of goals.** In essence, policies are recommendations for means by which goals can be accomplished. Policies, or often referred to as objectives, are sub-parts of a goal and are accomplished in a much shorter time space.

The following **Goals and Policies** are the result of both qualitative and quantitative research conducted in association with the **Comprehensive Plan**. The **qualitative research** has included input received from the Greeley County Planning & Zoning Board.

## ***GENERAL COUNTY GOALS***

---

The first step in developing Goals and Policies for this Plan is the creation of **general County goals**. These general goals "highlight" **important** elements of the Greeley County comprehensive planning process, as determined via the identification of "key" issues.

**The following represents the general goals associated with the rural, unincorporated areas of Greeley County.**

- ❖ Strive to produce population increases for the next 10 years, through housing and economic development activities.
- ❖ Actively market Greeley County to stabilize population, broaden the economic base and expand employment opportunities.
- ❖ The future image of Greeley County will greatly depend on the residents willingness to accept changes in the population and economic structure to be a part of the ongoing planning and implementation process of the County.
- ❖ Promote the preservation of the agricultural industry, including the diversification of crop developments. Historically, agriculture has been the primary income producing activity for Greeley County and this is anticipated to remain as such through the 10-year planning period 2015-2025.
- ❖ Protect the natural resources and living environs of Greeley County by controlling and prohibiting, in specific regions, large scale intensive livestock/confinement facilities in areas deemed inappropriate for such activities.
- ❖ Programs of citizen participation should be fostered in rural Greeley County to maintain and improve the economic and social quality of life of the County as a whole.
- ❖ Foster and market the values of Greeley County to encourage the development of organized local action to preserve and strengthen the County.

- ❖ Preserve and protect rural lands for agricultural use and encourage future residential development in the one-mile planning jurisdictions of Greeley County Communities, or at appropriate locations along hard surfaced transportation corridors.
  
- ❖ Monitor the consumption of energy by all sectors of the County and promote the implementation of alternative energy sources such as Wind, Solar, Geothermal, Biomass and Methane, to reduce the reliance on traditional fuel and energy sources.
  
- ❖ Establish a comprehensive Tourism Program to capitalize on the heritage of Greeley County.
  
- ❖ Establish resolutions dealing with excessive debris and dilapidated structures on properties throughout Greeley County.
  
- ❖ Establish zoning and subdivision regulations and the appropriate planning and zoning administration procedures to ensure the proper implementation of the Greeley County Land Use Plan.
  
- ❖ Maintain and strengthen relationships between the County and each Community to produce planning practices supportive of proper land usage, economic growth, housing, public facilities and services, transportation and recreation.

## ***LAND USE***

---

**Goal 1 - Provide opportunities for development in an orderly, efficient and environmentally sound manner.**

**Policies:**

- 1.1 Ensure that all areas for future non-agricultural development in the County have access to adequate infrastructure and public utilities.
- 1.2 Avoid developments that could result in the contamination of soils.
- 1.3 Establish a program of clean-up of existing sites deemed contaminated.
- 1.4 Limit future non-agricultural developments to locations which are relatively free of environmental constraints relating to soils, slope, flood plain, drainage, ground water, endangered species or other natural resources.
- 1.5 Enforce the process of allowing intensive livestock/confinement facilities in appropriate areas of the County through a special use permit process.
- 1.6 Provide for the use of alternative energy systems to supplement individual residential and business electric consumption in accordance with Nebraska State Statute 70-1012, as amended August, 2009. The use of Solar, Methane, Wind, Biomass and Geothermal energy systems on individual properties to supplement or sell excess energy produced to the local utility district, a process known as “Net Metering.”
- 1.7 Promote the development of Commercial Wind Energy Conversion Systems in appropriate areas by use of a special permit process.

**Goal 2 - Utilize land use development patterns and densities in Greeley County that conform to uniform planning standards.****Policies:**

- 2.1 Foster a program of higher density development in areas of transition within close proximity of Greeley County Communities, to maximize existing infrastructure systems.
- 2.2 Continue to implement the general land use plan for the County, which is based upon present needs and the sound forecast of future needs, based on resident desires.
- 2.3 Preserve and protect the highest concentration of irrigated and dry land crop production areas along the Cedar and North Loup River Valleys. Emphasis on groundwater protection and preservation of agricultural land uses should be emphasized.
- 2.4 Insure adequate open and recreational space is maintained in the County. Emphasize recreational opportunities associated with the North Loup and Cedar River Corridors, as well as the proposed Loup and Cedar Valleys Trail Development Plan, as part of the Comprehensive Trails Plan for the State of Nebraska.
- 2.5 All intensive livestock facilities should be classified as agricultural uses, allowable as special permitted uses.
- 2.6 The County must continue to enforce zoning and other policies/regulations that will provide incentives for maintenance of agricultural lands for agricultural uses throughout rural Greeley County.

**Goal 2 - Utilize land use development patterns and densities in Greeley County that conform to uniform planning standards.****Policies:**

- 2.1 Foster a program of higher density development in areas of transition within close proximity of Greeley County Communities, to maximize existing infrastructure systems.

- 2.2 Continue to implement the general land use plan for the County, which is based upon present needs and the sound forecast of future needs, based on resident's desires.
- 2.3 Preserve and protect the highest concentration of irrigated and dry land crop production areas along the Cedar and North Loup River Valleys. Emphasis on groundwater protection and preservation of agricultural land uses should be emphasized.
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- 2.5 All intensive livestock facilities should be classified as agricultural uses, allowable as special permitted uses.
- 2.6 The County must continue to enforce zoning and other policies/regulations that will provide incentives for maintenance of agricultural lands for agricultural uses throughout rural Greeley County.

**Goal 3 - Maintain compatible adjacent land uses throughout the County through regulations suited to the unique characteristics and location of each use.**

**Policies:**

- 3.1 Continue to annually review and modify the zoning districts and regulations to encourage development and redevelopment activities.
- 3.2 Facilitate the flexible and orderly development of mixed residential uses that are environmentally sound, with regard to topography and soils capacity.
- 3.3 Support the planned development of non-farm residential structures within one mile of the Greeley County communities and in areas of marginal agricultural land use.
- 3.4 Encourage industrial and commercial development within and/or adjacent Greeley County communities, or in areas allowing for compatible land uses and adequate access to transportation systems and utilities.

**Goal 4 - Work cooperatively with Federal, State, and adjoining County governments to develop compatible flood control measures.**

**Policies:**

- 4.1 Continue the process of implementing state and local regulations protecting the environment from contamination or pollutants.
- 4.2 Require all developments to be consistent with flood plain requirements in flood prone areas.
- 4.3 Review and identify measures which limit or reduce flood hazards, control water run-off and enhance the quality of surface and ground water.

**Goal 5 - Continue to provide opportunities and incentives for development that will encourage economic stability and strengthen the overall tax base in the County.**

**Policies:**

- 5.1 Identify areas for development and redevelopment, based on need, market potential and infrastructure capabilities within and adjacent the Planning Jurisdictions of Greeley County Communities.
- 5.2 Encourage the development and redevelopment of local business districts and at strategic locations along the Highway 22, 56, 91 and 281 corridors within the one-mile planning jurisdiction of each Community.
- 5.3 Identify land uses to promote and complement the future Loup and Cedar Valleys Trails Plan, including the rail to trail corridor adjacent the Cedar River, between Spalding and Fullerton, Nebraska and along Highway 91 East of Spalding to Albion, Nebraska.

## ***HOUSING***

---

**Goal 1 - Provide access to a variety of safe, decent and affordable housing types, especially for persons and families of low-to moderate income residing in Rural Greeley County and each community.**

**Polices:**

- 1.1 Improve on existing and develop new organizational relationships to create affordable housing in Greeley County, including, but not limited to, the Central Nebraska Housing Developers or the Central Nebraska Economic Development District.
- 1.2 Develop affordable housing programs, both for removal and rehabilitation of unsafe housing, as well as new housing construction.
- 1.3 Promote the development of housing in rural Greeley County, considering a variety of styles, prices, densities and quantities, in locations that are in conformance with the County Land Use Plan.
- 1.4 Adopt and enforce both modern housing and building codes for non-farm structures throughout Greeley County.
- 1.5 Design and implement a Housing Initiative to insure the development of future, needed housing stock in Greeley County. This Initiative would include development schedules, organizational structures, identification of funding sources, both public and private, and the public marketing of a safe and decent affordable housing stock for all communities in Greeley County.
- 1.6 Plan and implement the development of a minimum 62 new units of housing throughout Greeley County by 2025. This would include an estimated 49 rental units and 14 owner occupied units. Approximately 20 of the 62 total housing units are anticipated to be developed in Rural Greeley County.
- 1.7 Promote new housing construction in areas identified for residential development in the future land use plan.

**Goal 2 - Protect and preserve existing rental and owner occupied residential units.****Policies:**

- 2.1 Create an ongoing County-wide housing rehabilitation program, to include both owner and renter housing units, an estimated 209 total units by 2025.
- 2.2 Create a program to demolish an estimated 58 units in Greeley County during the next 10 years.
- 2.3 Encourage the adaptive reuse of existing buildings and/or new construction of mixed residential development in downtown local business areas.
- 2.4 Identify and rehabilitate historically significant residences and other types of structures.

**Goal 3 - Encourage future non-farm residential developments, which are located adjacent or near hard surfaced highways and County roads, or within the Planning Jurisdictions of Greeley County communities.****Policies:**

- 3.1 Increase education and community awareness for the need for housing development throughout the County.
- 3.2 Identify and develop additional acres for residential units that do not conflict with agricultural land and production.
- 3.3 Limit development of rural residential dwellings in environmentally sensitive areas.
- 3.4 Promote additional housing to attract and retain the retirement age population.

## ***COMMUNITY AND ECONOMIC DEVELOPMENT***

---

### **Goal 1 - Coordinate community and economic development efforts in Greeley County.**

#### **Policies:**

- 1.1 Encourage community/county development activities which create permanent employment opportunities with competitive wages, especially for low- to moderate income person and families.
- 1.2 Develop and actively pursue the implementation of a Tourism Plan, to promote recreational uses throughout Greeley County.
- 1.3 Actively promote the Scotia Chalk Mine, Davis Creek and Spalding Reservoirs as tourism destinations in Greeley County.
- 1.4 Develop a self-guided tour of historic buildings in Greeley County by utilizing the Nebraska Historic Buildings Survey of Greeley County.

### **Goal 2 - Housing and public facility improvements coupled with economic development opportunities should be the foundation of community development programming and implementation throughout Greeley County.**

#### **Policies:**

- 2.1 Focus community and economic development activities to address county-wide and regional residential and commercial needs.
- 2.2 Ensure job creation is a recognizable issue of any economic development activities implemented in Greeley County communities, with emphasis on low- to moderate income persons and families.

**Goal 3 - Maximize economic opportunity for all residents, with emphasis on low- to moderate income persons and families.**

**Policies:**

- 3.1 Support and expand the agricultural business industry in Greeley County.
- 3.2 Ensure that all economic development activities be consistent with the Comprehensive Plan.
- 3.3 Target new businesses and industries capable of producing competitive incomes for the residents of Greeley County.
- 3.4 Promote cooperative economic development activities with neighboring Counties, while expanding the hospitality, tourism and recreational industries in Greeley County.
- 3.5 Promote the development of a comprehensive retail base to capture a larger volume of sales in Greeley County.
- 3.6 Utilize both existing and develop new organizations for technical and financial assistance in support of economic development in Greeley County.

**Goal 4 - Actively pursue funding sources available from local, state and federal agencies to assist in financing community and economic development activities in Greeley County.**

**Policies:**

- 4.1 Utilize local, state and federal funding sources to strengthen existing and assist in the creation of new business and industry.
- 4.2 Place priority on community and economic development programs that leverage private financing.
- 4.3 Utilize the Small Business Administration and Community Development Block Grant program to plan and assist in financing local economic development programs.

- 4.4 Implement a Community Economic Development Initiative that includes a listing of appropriate activities, business and industry types, a schedule of implementation, financing format(s) and community/county promotion and involvement.
- 4.5 Utilize all available, local business groups in the sponsorship of County-wide economic development activities.

***PUBLIC INFRASTRUCTURE,  
FACILITIES AND TRANSPORTATION***

---

**Goal 1 - Plan, program and implement the most effective, safe and cost efficient infrastructure and public facilities systems throughout the County.**

**Policies:**

- 1.1 Prepare and adopt an annual Capital Improvement Program or Plan, which is consistent with the goals and policies of this Comprehensive Plan.
- 1.2 Recognize the need for and improve on intergovernmental and regional cooperation to reduce duplication of services.
- 1.3 Maintain modern design standards and policies for public infrastructure improvements, within the rural areas of Greeley County.

**Goal 2 - Provide a transportation system throughout the County that enhances the safe and efficient movement of people, goods and services.**

**Policies:**

- 2.1 Continue to maintain the County street system in accordance with the standard State of Nebraska functional street classifications.

- 2.2 Support efforts to develop the Loup and Cedar Valleys Trail Plan to allow for pedestrian travel and recreation throughout the County. Promote the expansion of a local trails extension within Greeley County that connects to the State Trails System in the northeast portion of the County.

**Goal 3 - Provide adequate, efficient and appropriate public utilities and services to both existing and future residential, commercial and industrial areas.**

**Policies:**

- 3.1 Provide facilities and services necessary to prevent degradation of the environment.
- 3.2 Maintain and improve existing public utilities and services on an as need basis.
- 3.3 Ensure the rules and regulations governing safe drinking water and sewage treatment are adhered to.

**Goal 4 - Provide for the equitable distribution of public facilities to meet the cultural, educational, social, recreational, public safety and health needs of the County.**

**Policies:**

- 4.1 Provide sufficient resources to examine, maintain and develop appropriate recreational, cultural and leisure activities.
- 4.2 Provide adequate public health, safety and crime prevention systems throughout the County.
- 4.3 Promote a social and cultural environment that provides an opportunity for all residents to experience, develop and share their values, abilities, ambitions and heritage.
- 4.4 Continue to support a public educational system capable of raising the County's overall educational level.

- 4.5 Develop and promote programs to educate and entertain the residents of Greeley County and visitors on the rich heritage and history of the region.
- 4.6 Ensure the rules and regulations of the Americans with Disabilities Act are met at all public facilities and by selected private businesses.
- 4.7 Encourage the availability of all necessary services to youth and older adults in Greeley County.

***PLAN MAINTENANCE  
AND IMPLEMENTATION***

---

**Goal 1 - Maintain and utilize the Comprehensive Plan as the primary tool for making County decisions regarding the physical development of the Region.**

**Policies:**

- 1.1 Establish a review process for the Comprehensive Plan and associated Regulations, including Zoning and Subdivision Regulations.
- 1.2 Coordinate local groups and organizations to carry-out the Goals and Policies of this Comprehensive Plan.
- 1.3 Coordinate development and land use changes with Local, County and State officials.

## **SECTION 3**

# **POPULATION, INCOME & ECONOMIC PROFILE.**

## SECTION 3 POPULATION, INCOME & ECONOMIC PROFILE

### *INTRODUCTION*

---

Population, income and economic trends in Greeley County serve as valuable indicators of future development needs and patterns for the County and provide a basis for the realistic projection of the future population. The quantity and location of social and economic features play an important role in shaping the details of various development plans to meet the County's needs.

The population trends & projections for the years 2000 through 2025 were studied and forecasted, utilizing a process of both trend analysis, U.S. Census population estimates and popular consent. **Greeley County is projected to decline slightly, but remain stable in population during the next 10 years.** To stabilize and reverse this trend, the County will need to aggressively promote the development of a variety of businesses and housing types throughout the 10-year planning period in Greeley County.

### *GENERAL POPULATION TRENDS & PROJECTIONS*

---

The analysis and projection of population are at the center of all planning decisions. This process assists in understanding important changes which have and will occur throughout the planning period.

Estimating population size is critical to a planning process. Further, projecting a county's population is extremely complex. Because projections are based on various assumptions about the future, projections must be carefully analyzed and continually re-evaluated due to an area's dynamic economic and social structure.

## POPULATION

- ❖ **Table 3.1** identifies **population trends and projections** for Greeley County, from 2000 through 2025. County population estimates identify the trend of a declining but stable population for Greeley County.

Currently (2015), Greeley County and the Balance of County have estimated total populations of 2,482 and 987, respectively. Both the County and Balance of County are projected to decline, slightly, in population during the next 10 years, to an estimated 2,359, or by 4.9 percent (123 persons) for Greeley County and an estimated 898, or 9 percent (89 persons) for the Balance of County.

All of the Greeley County communities are projected to decline, but remain stable in population through 2025.

**TABLE 3.1**  
**POPULATION TRENDS AND PROJECTIONS**  
**GREELEY COUNTY, NEBRASKA**  
**2000-2025**

	<u>2000</u>	<u>2010</u>	<u>2015</u>	<u>2025</u>	<u>% Change</u> <u>2015-2025</u>
<b>Greeley County:</b>	<b>2,714</b>	<b>2,538</b>	<b>2,482</b>	<b>2,359</b>	<b>-4.9%</b>
Greeley:	531	466	450	442	-1.7%
Scotia:	308	318	305	299	-2.0%
Spalding:	537	487	464	450	-3.0%
Wolbach:	287	283	276	270	-2.1%
Balance of County:	1,051	984	987	898	-9.0%

2012 Population Estimates:

Greeley – 453; Scotia – 306; Spalding – 469; Wolbach – 270.

Source: 2000, 2010 Census, 2012 Census Population Estimates.

Hanna:Keelan Associates, P.C., 2015.

### AGE DISTRIBUTION

- ❖ For planning purposes, the various cohorts of population are important indicators of the special needs of a County. The cohorts of age, sex and family structure can assist in determining potential labor force and the need for housing, public facilities and other important local services.

An analysis of age characteristics can be used to identify the potential needs for public school, recreational areas and short- and long-term health care facilities.

- ❖ **Table 3.2** provides **age distribution** for Greeley County, from 2000 to 2025. The County is projected to experience a net decrease in population during the next 10 years of approximately 123. All population categories above 75 years are projected to experience population increases, in both the County and the Balance of County.

The 20 to 34 age group is projected to experience the largest population increase during the next 10 years, in Greeley County, from 218 to 253, an estimated increase of 35. The age group anticipated to experience the largest decline in Greeley County during the next 10 years, is the 19 and under age group, projected to decline by 108. This same age group is projected to decline by 49 persons in the rural, Balance of County.

In 2015, median age in Greeley County is an estimated 46.9 years. This median age is projected to increase to 49.1, or by 2.2 years by 2025.

**TABLE 3.2**  
**POPULATION AGE DISTRIBUTION**  
**TRENDS & PROJECTIONS**  
**GREELEY COUNTY, NEBRASKA**  
**2000-2025**

<b>Greeley County</b>		<b>2000-2010</b>				
<b><u>age group</u></b>	<b><u>2000</u></b>	<b><u>2010</u></b>	<b><u>Change</u></b>	<b><u>2015</u></b>	<b><u>2025</u></b>	<b><u>Change</u></b>
19 and Under	794	648	-146	607	499	-108
20-34	332	285	-47	218	253	+35
35-54	699	671	-28	668	659	-9
55-64	260	349	+89	366	378	+12
65-74	301	271	-30	258	239	-19
75-84	212	225	+13	223	231	+8
85+	116	89	-27	85	100	+15
<b>TOTALS</b>	<b>2,714</b>	<b>2,538</b>	<b>-176</b>	<b>2,482</b>	<b>2,359</b>	<b>-123</b>
Median Age	41.7	46.4	+4.7	46.9	49.1	+2.2
<b>Balance of County</b>		<b>2000-2010</b>				
<b><u>age group</u></b>	<b><u>2000</u></b>	<b><u>2010</u></b>	<b><u>Change</u></b>	<b><u>2015</u></b>	<b><u>2025</u></b>	<b><u>Change</u></b>
19 and Under	338	290	-48	287	238	-49
20-34	127	42	-85	40	22	-18
35-54	304	316	+12	319	311	-8
55-64	114	141	+27	144	139	-5
65-74	106	103	-3	102	90	-12
75-84	50	74	+24	76	77	+1
85+	12	18	+6	19	21	+2
<b>TOTALS</b>	<b>1,051</b>	<b>984</b>	<b>-67</b>	<b>987</b>	<b>898</b>	<b>-89</b>
Median Age	38.7	44.6	+5.9	45.0	46.8	+1.8

Source: 2000, 2010 Census.

Hanna:Keelan Associates, P.C., 2015.

**HOUSEHOLD CHARACTERISTICS**

- ❖ **Table 3.3** identifies **specific household characteristics** of Greeley County, from 2000 to 2025. The number of households in the County is projected to decrease by an estimated 13, while the Balance of County is projected to decrease an estimated two households, from 2015 to 2025. During the next 10 years, persons per household in Greeley County is projected to decrease, from 2.30 to 2.21. Persons per household in the Balance of County is anticipated to decline from 2.58 in 2015, to 2.36 by 2025.

**TABLE 3.3**  
**SPECIFIC HOUSEHOLD CHARACTERISTICS**  
**GREELEY COUNTY, NEBRASKA**  
**2000-2025**

	<u>Year</u>	<u>Population</u>	<u>Group Quarters</u>	<u>Persons in Households</u>	<u>Households</u>	<u>Persons Per Household</u>
<b>Greeley County:</b>	2000	2,714	62	2,652	1,077	2.46
	2010	2,538	53	2,485	1,069	2.32
	<b>2015</b>	<b>2,482</b>	<b>29</b>	<b>2,453</b>	<b>1,064</b>	<b>2.30</b>
	<b>2025</b>	<b>2,359</b>	<b>27</b>	<b>2,332</b>	<b>1,051</b>	<b>2.21</b>
<b>Balance of County:</b>	2000	1,051	0	1,051	376	2.79
	2010	984	0	984	381	2.58
	<b>2015</b>	<b>987</b>	<b>0</b>	<b>987</b>	<b>382</b>	<b>2.58</b>
	<b>2025</b>	<b>898</b>	<b>0</b>	<b>898</b>	<b>380</b>	<b>2.36</b>

Source: 2000, 2010 Census.

Hanna:Keelan Associates, P.C., 2015.

Group quarters consist of living quarters that are not considered a household, such as dormitories, nursing care centers and correctional facilities. Currently, an estimated 29 group quarters exist in Greeley County. The decline in group quarters is the result of the demolition of the former long-term care nursing home in Spalding, Nebraska.

**HOUSEHOLD TENURE**

- ❖ **Table 3.4 identifies tenure by household** for Greeley County, from 2000 to 2025. The County is currently (2015) comprised of an estimated 1,064 households, consisting of 853 owner units and 211 renter households. By 2025, owner households will account for an estimated 81.6 percent of the total households in Greeley County, resulting in 858 owner households and 193 renter households.
- ❖ By 2025, an estimated 329 owner and 51 renter households are projected to exist in the Balance of County.

**TABLE 3.4  
TENURE BY HOUSEHOLD  
GREELEY COUNTY, NEBRASKA  
2000-2025**

	<u>Year</u>	<u>Households</u>	<u>Owner</u>		<u>Renter</u>	
			<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
<b>Greeley County:</b>	2000	1,077	846	78.5%	231	21.5%
	2010	1,069	851	79.6%	218	20.4%
	<b>2015</b>	<b>1,064</b>	<b>853</b>	<b>80.1%</b>	<b>211</b>	<b>19.9%</b>
	<b>2025</b>	<b>1,051</b>	<b>858</b>	<b>81.6%</b>	<b>193</b>	<b>18.4%</b>
<b>Balance of County:</b>	2000	376	290	77.1%	86	22.9%
	2010	381	313	82.1%	68	17.9%
	<b>2015</b>	<b>382</b>	<b>318</b>	<b>83.2%</b>	<b>64</b>	<b>16.8%</b>
	<b>2025</b>	<b>380</b>	<b>329</b>	<b>86.5%</b>	<b>51</b>	<b>13.5%</b>

Source: 2000, 2010 Census.

Hanna:Keelan Associates, P.C., 2015.

## ***INCOME TRENDS & PROJECTIONS***

### **MEDIAN HOUSEHOLD INCOME**

- ❖ **Table 3.5** identifies **median household income** for Greeley County, Nebraska, from 2000 to 2025. Currently, median income in Greeley County is projected at \$47,107. Median income in the County is projected to increase by an estimated 18.4 percent to \$55,788, by 2025. Median income in Households with persons age 65+ years is also projected to increase during the next 10 years by 8.4 percent, reaching \$36,774.

The income group for All Households, with the largest number of households, as of 2015, is the “\$50,000 or More” category, with 500 households. This income group is also the only group projected to increase through 2025, by 45, or 9 percent. This trend is the same for 65+ households, which are projected to increase by 26 percent, or by 36 households through 2025.

**TABLE 3.5  
HOUSEHOLD INCOME BY AGE GROUP - TRENDS & PROJECTIONS  
GREELEY COUNTY, NEBRASKA  
2000-2025**

<b><u>Income Group</u></b>	<b><u>2000*</u></b>	<b><u>2012*</u></b>	<b><u>2015</u></b>	<b><u>2025</u></b>	<b><u>% Change 2015-2025</u></b>
<b>All Households:</b>					
Less than \$10,000	126	93	87	59	-32.2%
\$10,000-\$19,999	219	157	149	128	-14.1%
\$20,000-\$34,999	326	168	162	155	-4.3%
\$35,000-\$49,999	186	169	166	164	-1.2%
<u>\$50,000 or More</u>	<u>214</u>	<u>435</u>	<u>500</u>	<u>545</u>	<u>+9.0%</u>
<b>Totals</b>	<b>1,071</b>	<b>1,022</b>	<b>1,064</b>	<b>1,051</b>	<b>-1.2%</b>
Median Income	<b>\$28,375</b>	<b>\$44,219</b>	<b>\$47,107</b>	<b>\$55,788</b>	<b>+18.4%</b>
<b><u>Households 65+ Yrs.</u></b>					
Less than \$10,000	71	58	50	31	-38.0%
\$10,000-\$19,999	115	85	79	60	-24.0%
\$20,000-\$34,999	110	75	72	68	-5.5%
\$35,000-\$49,999	46	35	34	36	+5.9%
<u>\$50,000 or More</u>	<u>67</u>	<u>128</u>	<u>138</u>	<u>174</u>	<u>+26.0%</u>
<b>Totals</b>	<b>409</b>	<b>381</b>	<b>373</b>	<b>369</b>	<b>-1.0%</b>
Median Income	<b>\$22,522</b>	<b>\$30,499</b>	<b>\$33,788</b>	<b>\$36,774</b>	<b>+8.4%</b>

\* Specified 2000 & 2012 Data Used. 2012 Estimate subject to margin of error.

Source: 2000 Census, 2008-2012 American Community Survey.

Hanna:Keelan Associates, P.C., 2015.

**PER CAPITA INCOME**

- ❖ **Table 3.6** identifies **per capita income** for Greeley County and the State of Nebraska, from 2002 to 2025. Per capita income is equal to the gross income of an area (State, County, City, Village) divided equally between the residents of the area. In 2015, per capita income in Greeley County is an estimated \$42,018. By 2025, per capita income will increase in the County by an estimated 23.6 percent, to \$51,937.

**TABLE 3.6**  
**PER CAPITA INCOME**  
**GREELEY COUNTY, NEBRASKA / STATE OF NEBRASKA**  
**2002-2025**

<u>Year</u>	<u>Greeley County</u>		<u>State of Nebraska</u>	
	<u>Per Capita Income</u>	<u>Percent Change</u>	<u>Per Capita Income</u>	<u>Percent Change</u>
2002	\$22,417	--	\$30,314	--
2003	\$26,650	+18.8%	\$32,126	+6.0%
2004	\$26,829	+0.6%	\$33,265	+3.5%
2005	\$29,460	+9.8%	\$34,318	+3.1%
2006	\$25,941	-11.9%	\$35,679	+4.0%
2007	\$26,210	+1.0%	\$37,887	+6.2%
2008	\$29,083	+11.0%	\$40,396	+6.6%
2009	\$30,225	+3.9%	\$38,438	-4.8%
2010	\$31,803	+5.2%	\$39,445	+2.6%
2011	\$39,276	+24.0%	\$42,450	+7.6%
<b>2015</b>	<b>\$42,018</b>	<b>+7.0%</b>	<b>\$45,572</b>	<b>+7.3%</b>
<b>2002-2015</b>	<b>\$22,417-\$42,018</b>	<b>+87.4%</b>	<b>\$30,314-\$45,572</b>	<b>+50.3%</b>
<b>2015-2025</b>	<b>\$42,018-\$51,937</b>	<b>+23.6%</b>	<b>\$45,572-\$55,009</b>	<b>+20.7%</b>

Source: Nebraska Department of Economic Development, 2015.  
 Hanna:Keelan Associates, P.C., 2015.

**SOCIAL SECURITY INCOME**

- ❖ **Table 3.7** identifies the number of persons receiving **Social Security Income and/or Supplemental Security Income** in Greeley County. A total of 620 persons received Social Security Income in Greeley County, in 2012. Of this total, 80.7 percent, or 500 persons were aged 65 or older.

**TABLE 3.7**

**PERSONS RECEIVING SOCIAL SECURITY INCOME  
GREELEY COUNTY, NEBRASKA  
2012**

<b><u>Social Security Income-2012</u></b>	<b><u>Number of Beneficiaries</u></b>
<b><u>Retirement Benefits</u></b>	
Retired Workers	420
Wives & Husbands	45
Children	5
<b><u>Survivor Benefits</u></b>	
Widows & Widowers	65
Children	15
<b><u>Disability Benefits</u></b>	
Disabled Persons	55
Wives & Husbands	0
<b><u>Children</u></b>	<b><u>15</u></b>
<b>Total</b>	<b>620</b>
<b><u>Aged 65 &amp; Older</u></b>	
Men	230
<b><u>Women</u></b>	<b><u>270</u></b>
<b>Total</b>	<b>500</b>
<b><u>Supplemental Security Income-2012</u></b>	
Aged 65 or Older	N/A
<b><u>Blind and Disabled</u></b>	<b><u>N/A</u></b>
<b>Total</b>	<b>N/A</b>

N/A = Not Available.

Source: Department of Health and Human Services,  
Social Security Administration, 2015.  
Hanna:Keelan Associates, P.C., 2015.

## ***EMPLOYMENT & ECONOMIC TRENDS***

The most recent and comprehensive employment data available for Greeley County was obtained from the Nebraska Department of Labor. A review and analysis of Greeley County labor force statistics provides a general understanding of the economic activity occurring in and around the County.

### **EMPLOYMENT DATA**

- ❖ **Table 3.8 identifies employment data trends and projections** for Greeley County, Nebraska, from 2002 through 2025. In 2015, Greeley County is estimated to have 1,265 employed persons with an estimated unemployment rate of 4.2 percent. By 2025, employed persons in the County are estimated to increase by 37 persons, or by 2.9 percent. The 2025 unemployment rate is projected at approximately 4 percent.

**TABLE 3.8  
EMPLOYMENT DATA TRENDS & PROJECTIONS  
GREELEY COUNTY, NEBRASKA  
2002-2025**

<u>Year</u>	<u>Number of Employed Persons</u>	<u>Change</u>	<u>Percent Unemployed</u>
2002	1,368	--	3.6%
2003	1,412	+44	3.6%
2004	1,397	-15	3.9%
2005	1,335	-62	3.7%
2006	1,302	-33	3.0%
2007	1,248	-54	2.6%
2008	1,259	+11	3.0%
2009	1,272	+13	3.7%
2010	1,263	-9	3.7%
2011	1,323	+60	3.1%
2012	1,371	+48	3.3%
2013	1,312	-59	3.2%
<b>2015</b>	<b>1,265</b>	<b>-47</b>	<b>4.2%</b>
<b><u>2025</u></b>	<b><u>1,302</u></b>	<b><u>+37</u></b>	<b><u>4.0%</u></b>
<b>2002-2025</b>	<b>1,368-1,302</b>	<b>-66</b>	<b>3.6%-4.0%</b>

Source: Nebraska Department of Labor, 2015.  
Hanna:Keelan Associates, P.C., 2015.

**TRAVEL TIME TO WORK**

- ❖ **Table 3.9** illustrates the **travel time to work** for residents of Greeley County, in 2012. Approximately 663 (63.3 percent) of the employed residents of Greeley County traveled less than 20 minutes to work or worked at home, while approximately 93 residents travel 30 minutes or more.

In rural Greeley County, approximately 223, or 63 percent of employed residents traveled less than 20 minutes to work or worked from home. A total of 88, or 24.9 percent of the rural employees travel 30 minutes or more to their place of employment.

**TABLE 3.9**  
**TRAVEL TIME TO WORK**  
**GREELEY COUNTY, NEBRASKA**  
**2012 ESTIMATE\***

	<b>9 Minutes or Less</b>	<b>10-19 Minutes</b>	<b>20-29 Minutes</b>	<b>30-39 Minutes</b>	<b>40 Minutes or More</b>
<b>Greeley County:</b>	<b>450</b>	<b>213</b>	<b>125</b>	<b>93</b>	<b>167</b>
<b>Balance of County:</b>	<b>106</b>	<b>117</b>	<b>43</b>	<b>39</b>	<b>49</b>

\*Estimate subject to margin of error.

Source: 2008-2012 American Community Survey.

Hanna:Keelan Associates, P.C., 2015.

**CIVILIAN LABOR FORCE**

- ❖ **Table 3.10** identifies **workforce employment by type**, in Greeley County, Nebraska, from 2012 to 2014. Non-farm employment, in Greeley County, decreased by an estimated 8.2 percent, from 2012 to 2014. The employment sectors experiencing an increase were the Wholesale Trade, Financial Activities, Leisure & Hospitality and Other Services sectors. The largest increasing sector was Leisure & Hospitality, which increased by 19 positions.

**TABLE 3.10**  
**WORKFORCE EMPLOYMENT BY TYPE**  
**GREELEY COUNTY, NEBRASKA**  
**2012-2014**

<u>Workforce</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>% Change</u> <u>2012-2014</u>
<b>Non-Farm Employment</b> <b>(Wage and Salary)</b>	<b>649</b>	<b>586</b>	<b>596</b>	<b>-8.2%</b>
<b>Goods Producing</b>	<b>66</b>	<b>58</b>	<b>62</b>	<b>-6.0%</b>
Manufacturing	*	*	*	*
Natural Resources & Const.**	27	21	24	-11.1%
<b>Service Providing</b>	<b>583</b>	<b>528</b>	<b>534</b>	<b>-8.4%</b>
Trade, Trans, Ware, Util***	*	*	*	*
Total Trade	136	149	145	-6.6%
Wholesale Trade	77	94	95	+23.3%
Retail Trade	59	55	50	-15.2%
Information	*	*	*	*
Financial Activities	33	39	51	+54.5%
Professional & Business	*	*	*	*
Education & Health	*	*	*	*
Leisure & Hospitality	8	10	27	+237.5%
Other Services	17	11	20	+17.6%
<b>Total Government</b>	<b>306</b>	<b>302</b>	<b>269</b>	<b>-12.1%</b>
Federal	14	15	11	-21.4%
State	9	7	7	-22.2%
Local	283	280	251	-11.3%

\* Data not available because of disclosure suppression.

\*\* Natural Resources & Construction.

\*\*\* Trade, Transportation, Warehousing & Utilities.

Source: Nebraska Department of Labor, Labor Market Information, 2015.  
 Hanna:Keelan Associates, P.C., 2015.

# **SECTION 4**

## **LAND USE PROFILE & PLAN.**

## SECTION 4 LAND USE PROFILE & PLAN

### ***INTRODUCTION***

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The following Section is the **Land Use Profile & Plan** for the **Greeley County Comprehensive Plan**. The current Comprehensive Plan for the County was completed in 1999 This Plan includes only the unincorporated rural areas, or Balance of Greeley County. Detailed components from the original Plan associated with the natural environment, including soils, watersheds, wetlands and ground water for the Planning Jurisdiction remain in the same configurations. This **Plan** focuses on the analysis of existing and future land uses.

### ***DEVELOPMENT ISSUES***

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The objective of the **2009 Comprehensive Plan** was to protect agricultural lands and, where appropriate, provide for the potential development of intensive agricultural uses and/or non-farm rural dwellings. The consensus of the Greeley County Planning & Zoning Board was that the future of the County was reliant on both of these issues for continued economic prosperity. The Challenge was to balance agricultural expansion with rural residential development.

The Greeley County Planning & Zoning Board wanted to evaluate the effectiveness of the **2009 Land Use Plan**. The original Plan was developed to preserve and protect the sensitive lands associated with the Sand Hills geographic region of Nebraska, in the northwest corner of Greeley County. The Commission also chose to limit non-farm rural dwellings from developing in concentrated agricultural production areas in the northeast corner and southern two-thirds of Greeley County. These priorities were addressed by promoting higher residential densities in the one-mile planning jurisdictions of Greeley County communities. This would allow for the potential expansion of existing or development of new intensive agricultural and livestock confinement facilities, where appropriate, in the undeveloped, rural portions of the County. By examining development trends between 1999 and 2014, the Planning & Zoning Board would be able to determine if revisions were needed to the **2025 Land Use Plan**.

The focus of the planning process for this **Comprehensive Plan** was to determine if the provisions of the **2009 Land Use Plan** were successful in preventing the encroachment of incompatible uses within agricultural production areas.

The 2015 evaluation of population (**Section 3**) is based upon the 2000 and 2010 Censuses, the 2008-2012 American Community Survey and information obtained from State and Federal sources. The total Greeley County population, from 2000 to 2010, declined from 2,714 to 2,538, or by 176 persons. The trend of declining population occurred throughout rural Greeley County. Population projections, from 2015 to 2025, identify a slight population decrease for the County and Balance of County, but at slower rates, suggesting that the population of the County is stabilizing.

The **2009 Comprehensive Plan** established goals and supported zoning regulations that were intended to guide the development of rural dwellings. The **Land Use Plan** and **Zoning Regulations** were also developed to guide non-farm rural dwellings to locate within the Planning Jurisdictions of Greeley County Communities.

A review of Census information pertaining to the housing stock profile, between 2000 and 2014, indicate that 29 houses, or approximately two per year, were constructed in rural Greeley County. Further examination within this **Comprehensive Plan** indicates the majority of the new houses were built on family owned farm land, rather than in rural subdivisions.



## ***EXISTING LAND USE ANALYSIS***

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The **Existing Land Use Map, Illustration 4.1**, serves as the basis for establishing the new **Land Use Plan**. The **Existing Land Use Map** highlights the impact of concentrations of rural dwellings and intensive agricultural facilities and production areas throughout the County. The impact of residential development on the production of crops and the raising of livestock can be evaluated by the Nebraska Agricultural Census for Greeley County.

### **EXISTING LAND USES**

The most prolific rural land use in Greeley County is irrigated cropland, which is generally situated along the Cedar and North Loup Rivers and in the west central portion of the County. Dry land crop production is concentrated in areas throughout the eastern portion of the County.

#### ♦ **RURAL RESIDENTIAL DEVELOPMENT**

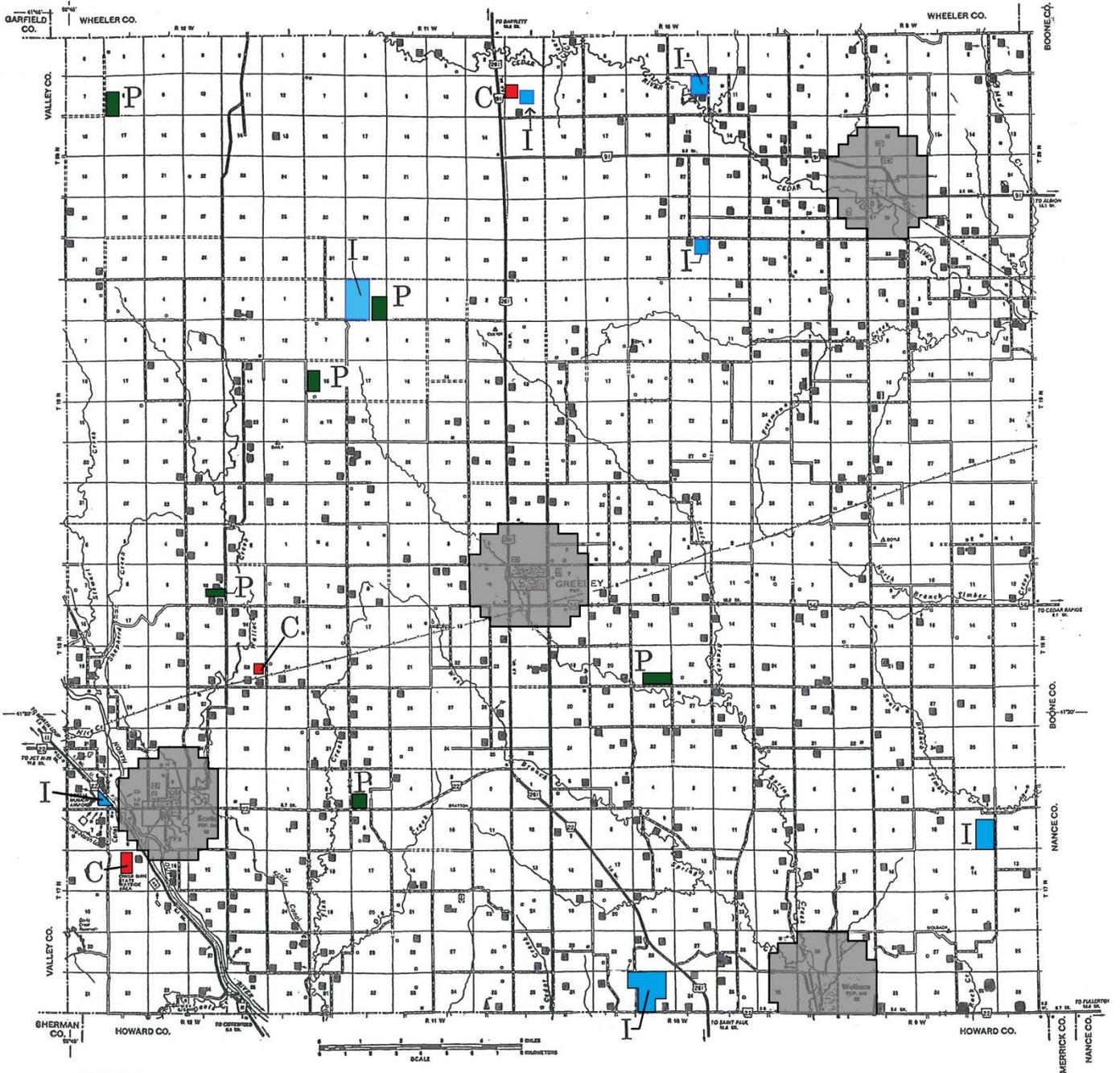
The **Existing Land Use Map, Illustration 4.1**, indicates rural dwellings are generally located throughout Greeley County, but are also congregated in larger numbers in close proximity to County municipalities. Development is more limited in the extreme western and the northwestern quadrant of the County, where the topography and terrain are much more restrictive to agricultural crop production and rural roads.

Throughout the initial phases of this **Comprehensive Plan**, the Greeley County Planning & Zoning Board addressed incentives put in place through the **2009 Comprehensive Plan** in terms of how the County can be successful in limiting non-farm single family dwellings to be constructed within targeted rural residential areas.

The updated **Existing Land Use Map** illustrates that new houses constructed in the agricultural production areas of the County were generally relatives of farmers in these areas that wanted to build new homes on or near the “family” farming operations.



# EXISTING LAND USE MAP GREELEY COUNTY, NEBRASKA



**LEGEND**

- VACANT/AGRICULTURAL
- PUBLIC/QUASI-PUBLIC
- SINGLE FAMILY RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL / INTENSIVE AGRICULTURAL
- COMMUNITY PLANNING JURISDICTION

**HANNA:KEELAN ASSOCIATES, P.C.**  
**COMMUNITY PLANNING & RESEARCH**

\* Lincoln, Nebraska \* 402.464.5383 \*

**ILLUSTRATION 4.1**

- ◆ **PUBLIC AND RECREATIONAL USES.**

**Public/quasi-public land uses**, such as churches, cemeteries and rural utility substations are scattered throughout Greeley County. **Rural wildlife and recreation land uses** are concentrated along the North Loup River in the southwestern corner of the County and include a portion of the Davis Creek State Wildlife Management Area and the Davis Creek Dam.

- ◆ **COMMERCIAL AND INDUSTRIAL USES.**

**Commercial and industrial land uses** are generally located in the designated Planning Jurisdictions of Greeley County communities. Rural livestock facilities are identified as “intensive agricultural” uses on the **Existing Land Use Map** and are located throughout the County.



## ***AGRICULTURAL PRODUCTION STATISTICS***

### **NUMBER AND SIZE OF FARMS**

The consolidation of farms, along with existing farms has resulted in the increase of crop producing lands in Greeley County throughout the last 10 years. Statistics included in the Nebraska Census of Agriculture are released every five years, the latest is 2012.

The number and size of farms, identified in **Table 4.1**, indicates that **1,000+ acre farms in Greeley County increased by 23.2 percent, between 2002 and 2012.** During the same 10-year period, the total number of farms increased by 28. Although farms of “10 to 49”, “50 to 179” and “500 to 999” acres declined by a total of 12 farms during the 10 year period, small “1 to 9” acre farms increased by 17 and “1,000+” acre farms increased by 19. The increase in Total Crop Land between 2002 and 2012 of an additional 25,900 acres concludes that farms in Greeley County are not just consolidating and gaining in size and pasture lands have been increasingly converted to agricultural production lands.

**TABLE 4.1  
FARMS BY SIZE  
GREELEY COUNTY, NEBRASKA  
2002 – 2012**

<b><u>Size</u></b>	<b><u>2002</u></b>	<b><u>2007</u></b>	<b><u>2012</u></b>	<b><u>% Change 2002 - 2007</u></b>	<b><u>% Change 2002 - 2012</u></b>
1 to 9 Acres	1	7	18	+600%	+700%
10 to 49 Acres	25	34	17	+36%	-32%
50 to 179 Acres	82	65	81	+36%	-1.2%
180 to 499 Acres	83	80	87	-3.6%	+4.8%
500 to 999 Acres	88	62	85	-29.6%	-3.4%
1,000 Acres or More	<u>82</u>	<u>86</u>	<u>101</u>	<u>+4.9%</u>	<u>+23.2%</u>
<b>Total Farms*</b>	<b>361</b>	<b>334</b>	<b>389</b>	<b>-7.5%</b>	<b>+7.8%</b>
<b>Total Crop Land</b>	128,454	127,554	154,354	<b>-0.7%</b>	<b>+20.2%</b>

Source: Nebraska Census of Agriculture, 2002, 2007 & 2012.  
Hanna:Keelan Associates, P.C., 2015.

The increase in the total crop lands in Greeley County has a correlation with the increase of 19 farms in the “1,000+” acre category of farms and the amount of pasture land converted for crop lands. **Total cropland accounted for approximately 35.2 percent of the total acreage in Greeley County (365,063 acres) in 2002, compared to 42.3 percent in 2012.**

### CROP PRODUCTION TRENDS

**Table 4.2** identifies the **status of crop production** in Greeley County from 2002 to 2012. The total number of farms that harvested crops increased by 31. During the same period, the number of farms with irrigated crop lands increased by 19, or 11.4 percent. Total acres of irrigated crop lands, however, increased by 26,785 acres, or nearly 44 percent. This trend indicates that farms comprised of dry-land crops and pasture lands are being converted to irrigated crop lands.

**TABLE 4.2  
STATUS OF CROP PRODUCTION  
GREELEY COUNTY, NEBRASKA  
2002 – 2012**

	<u>2002</u>	<u>2007</u>	<u>2012</u>	<u>% Change 2002 - 2007</u>	<u>% Change 2002 - 2012</u>
<b><i>HARVESTED CROP LAND</i></b>					
Farms	260	224	291	-13.8%	+11.9%
Acres	96,731	105,012	135,663	+8.6%	+40.3%
<b><i>IRRIGATED CROP LAND</i></b>					
Farms	167	166	186	-0.6%	+11.4%
<u>Acres</u>	<u>61,405</u>	<u>76,393</u>	<u>88,190</u>	<u>+24.4%</u>	<u>+43.6%</u>
<b><i>TOTAL CROP LAND</i></b>					
Farms	<b>313</b>	<b>262</b>	<b>315</b>	<b>-16.3%</b>	<b>+0.6%</b>
Acres	<b>128,454</b>	<b>127,554</b>	<b>154,354</b>	<b>-0.7%</b>	<b>+20.2%</b>

Source: Nebraska Census of Agriculture, 2002, 2007 & 2012.  
Hanna:Keelan Associates, P.C., 2015.

The trends highlighted in **Tables 4.1 and 4.2** illustrate that agricultural practices in Greeley County are becoming more efficient with increasing amounts of acres in production. Agricultural production figures from 2002 to 2012 indicate that the amount of Total Crop Land increased by 20.2 percent, or approximately 26,785 acres in Greeley County. During the same period, the amount of Harvested Crop Land increased by 40.3 percent and the percentage of Irrigated Crop Land increased by nearly 44 percent. An **Irrigated Crop Production Map** is highlighted in **Illustration 4.3**.

A variety of crops are produced in Greeley County. **Table 4.3** identifies that in 2012, “Corn for Grain or Seed” was the primary crop in the County, accounting for 75,469 acres, or 20.7 percent of the total County area. Production of Corn for Grain or Seed increased by 53 percent from 2002 to 2012. The production of “Soybeans for Beans” is the second largest harvested crop. The production in acres of this crop increased by 73 percent, between 2002 and 2012. In addition to Corn and Soybeans, “Corn for Silage or Green Chop” was the only other crop that significantly increased in the amount of acres harvested; 14.2 percent increase during the same period.

**TABLE 4.3  
HARVESTED CROPS BY TYPE  
GREELEY COUNTY, NEBRASKA  
2002-2012**

<b>CROP BY TYPE</b>	<b>Production in Acres</b>			<b>% Change</b>	<b>% Change</b>
	<b>2002</b>	<b>2007</b>	<b>2012</b>	<b>2002-2007</b>	<b>2002-2012</b>
Corn for Grain or Seed	49,320	73,482	75,469	49.0%	+53.0%
Corn for Silage or Green Chop	5,460	1,633	6,237	-70.1%	+14.2%
Sorghum for Grain or Seed	168	D	D	D	D
Wheat for Grain	121	1,034	114	+754.5%	-5.8%
Oats for Grain	179	119	220	-33.5%	+22.9%
Soybeans for Beans	19,167	14,049	33,176	-26.7%	+73.1%
Hay-Alfalfa, Other Wild, Silage	24,931	15,829	19,559	-36.5%	-21.6%

\*D Information Suppressed.

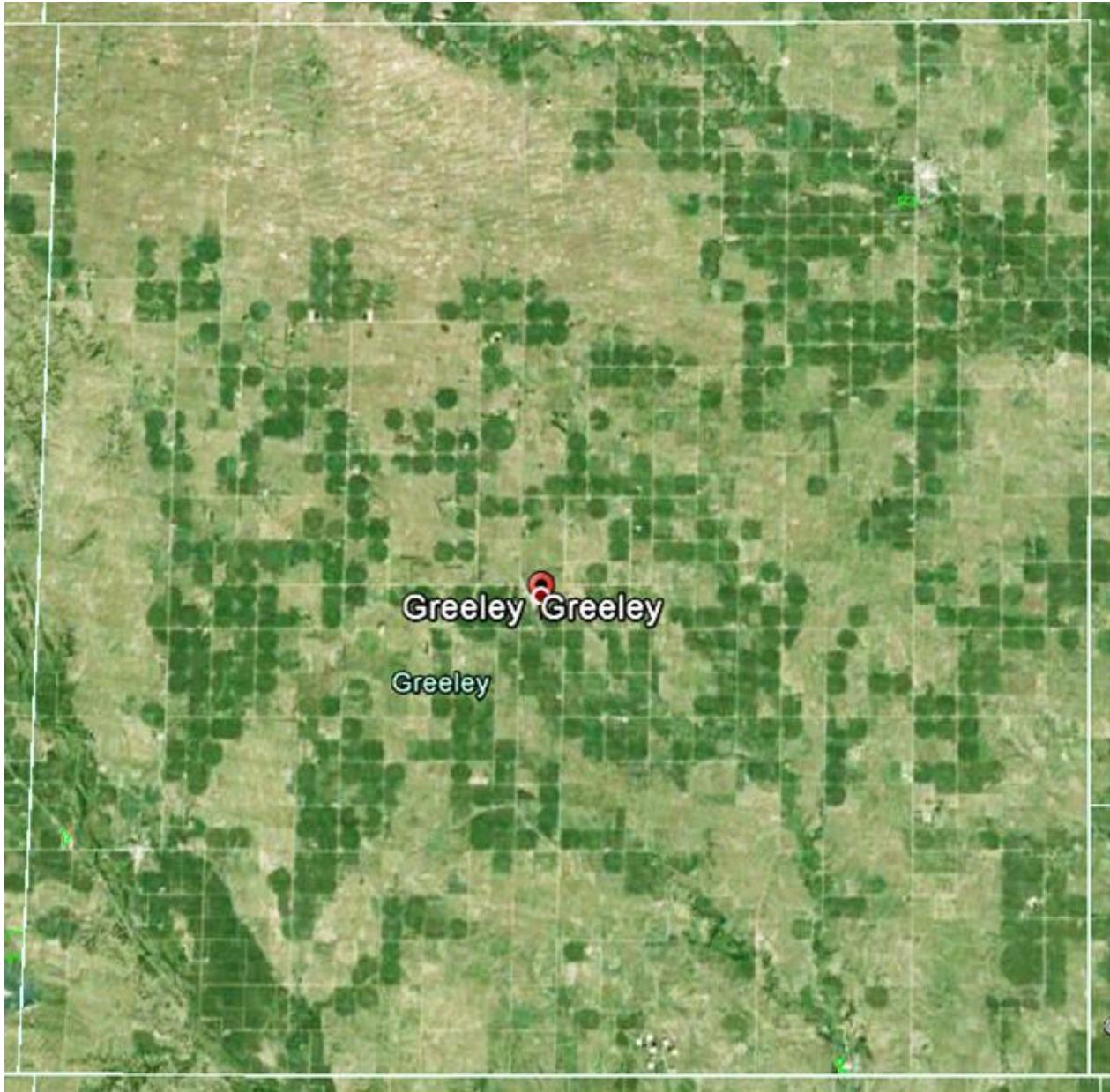
Source: Nebraska Census of Agriculture, 2002, 2007 & 2012.

Hanna:Keelan Associates, P.C., 2015.



# IRRIGATED CROP PRODUCTION MAP

## GREELEY COUNTY, NEBRASKA



### LEGEND

-  Irrigated Crops
-  Non-Irrigated Crops

ILLUSTRATION 4.2

**HANNA:KEELAN ASSOCIATES, P.C.**  
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### LIVESTOCK PRODUCTION TRENDS

**Table 4.4** identifies **livestock production trends** from 2002 through 2012. During this period, the number of farms raising livestock increased in the categories of “Cattle/Calves,” “Beef Cows” and “Sheep and Lamb.” The number of farms producing beef cows increased by 42 while cattle/calves farms increased by 34. The production of both milk cows and “hogs and pigs” sharply declined during the 10-year period.

The number of farms with “Milk Cows” in Greeley County declined from eight to three, with a total of nine dairy cows remaining as of 2012. The number of farms producing hogs and pigs declined from 22 in 2002 to 12 in 2012. This represents a decrease of 45.5 percent.

**TABLE 4.4**  
**LIVESTOCK PRODUCTION TRENDS**  
**GREELEY COUNTY, NEBRASKA**  
**2002 – 2012**

<u>Size</u>	<u>Total Farms / Total Animals</u>			<u>% Change</u>	<u>% Change</u>
	<u>2002</u>	<u>2007</u>	<u>2012</u>	<u>2002 - 2007</u>	<u>2002 - 2012</u>
Cattle/Calves	239 / 45,463	201 / 52,984	273 / 59,636	-15.9% / +16.5%	+14.2% / +31.2%
Beef Cows	209 / 19,968	180 / 19,751	251 / 22,721	-13.9% / -1.1%	+20.1% / +13.8%
Milk Cows	8 / 178	3 / 4	3 / 9	-62.5% / -97.8%	-62.5% / -94.9%
Hogs and Pigs	22 / 119,453	12 / D	12 / D	-45.5% / D	-45.5% / D
Sheep and Lamb	9 / 978	9 / 798	10 / 1,058	0% / -18.4%	+11.1% / +8.2%

\*Farms less than 180 acres in size were not included in this analysis.

\*\* “D” indicates that the information was suppressed.

Source: Nebraska Census of Agriculture, 2002, 2007 & 2012.

Hanna:Keelan Associates, P.C., 2015.

### SUMMARY OF AGRICULTURAL STATISTICS

The review of agricultural statistics indicated that the total number of acres occupied by crop producing farms and the numbers of cattle/calves and beef cow producing farms have dramatically increased in Greeley County during the 10-year period of 2002 to 2012.

## ***FUTURE RURAL LAND USE ANALYSIS***

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**Illustration 4.3** identifies the **Future Land Use Map** for Greeley County. The primary hard-surfaced County Roads and State Highways were reviewed to determine the potential impact of rural development adjacent these corridors. The conclusion of the Planning & Zoning Board was that agricultural residential land uses, in addition to being in close proximity to Greeley County communities should also be promoted along the highway corridors in central and southern portion of the County.

### **GENERAL AGRICULTURAL AREAS**

The **Greeley County Comprehensive Plan** focused on evaluating the effectiveness of policies that were intended to preserve and protect agricultural production areas by controlling the development of non-farm dwellings.

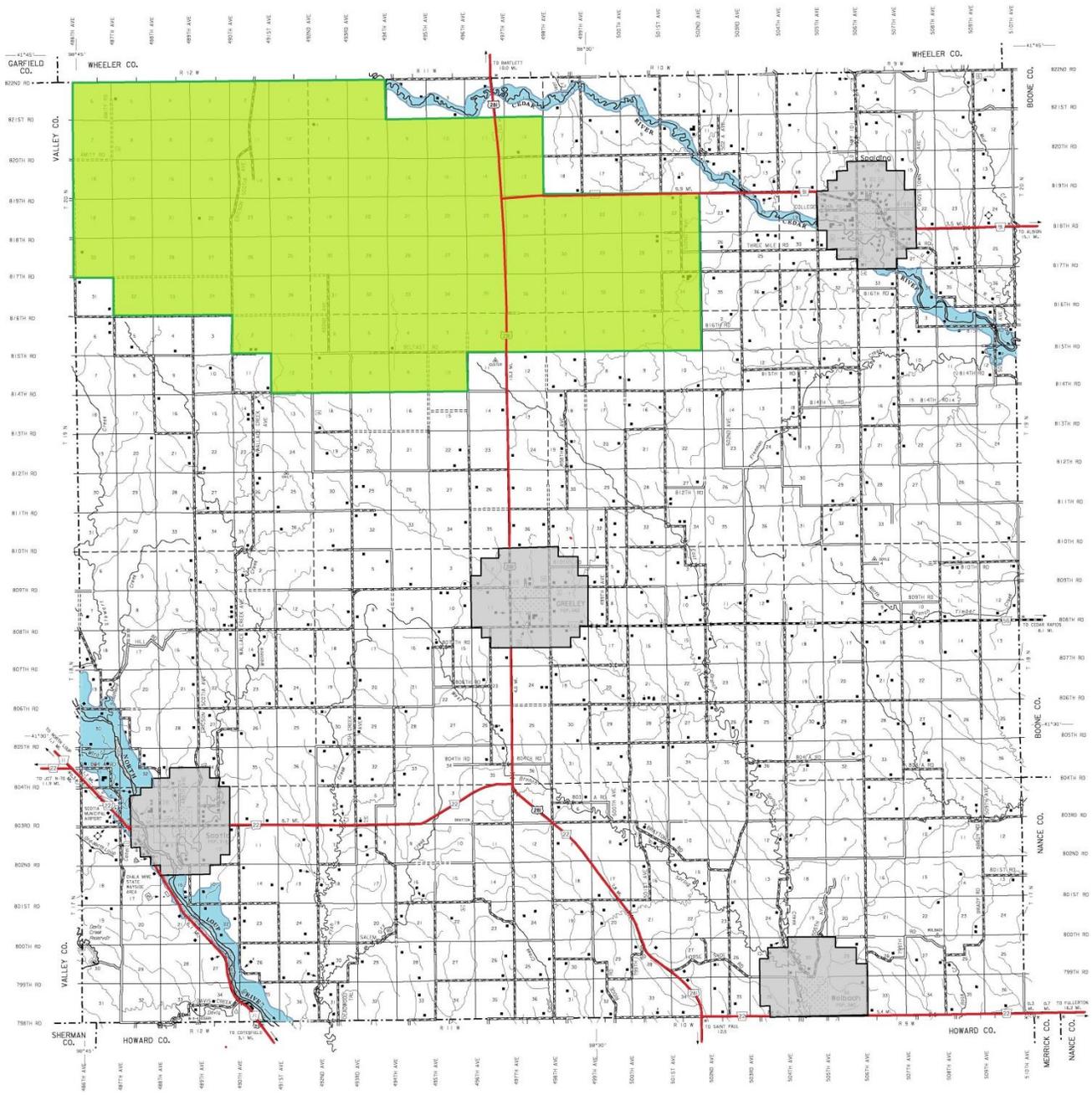
Significant agricultural production lands are identified in the **Future Land Use Map** as “general agricultural areas.” These areas continue to be preserved and protected from unnecessary encroachment of residential, commercial or industrial development. Irrigated cropland comprises the majority of rural areas along the Cedar and North Loup River Valleys, while dryland production occurs more frequently in the northwest Sand Hills area and the south-central and southeastern portions of the County. These dryland areas also have a higher concentration of pasture lands or hay fields located on moderate to steep slopes. Dryland or irrigated crop production areas tend to be located in areas having rolling hills.

Commercial scale wind turbines, developed singularly or as large “Wind Farms,” were also discussed by the Planning & Zoning Board. These facilities could potentially be allowed as a Special Use (Zoning) Permit and required to be in compliance with the Greeley County Zoning Regulations. Primary areas anticipated to be considered for development are the rural (general agricultural) regions of Greeley County.



# FUTURE LAND USE MAP

## GREELEY COUNTY, NEBRASKA



**LEGEND**

- VACANT/AGRICULTURAL
- AGRICULTURAL CONSERVATION AREA
- CREEK/RIVER BOTTOM LANDS
- MUNICIPAL PLANNING JURISDICTION
- HIGHWAY CORRIDOR

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**ILLUSTRATION 4.3**



The Cedar River.

### AGRICULTURAL CONSERVATION AREAS

**Agricultural Conservation Areas (ACAs)** are environmentally sensitive areas. In Greeley County, ACAs are lands associated with the Sands Hills Region, concentrated in the northwest corner of Greeley County. This area was identified and zoned AG-2, as identified in the Greeley County Zoning Regulations, to protect sensitive sandy soil areas with limited crop production. Soil conditions in ACAs severely limit development.

The Planning & Zoning Board also evaluated the North Loup and Cedar River corridors during the 2015 analysis of the original Land Use Plan. These narrow corridors were determined by the Planning & Zoning Board to be in need of protection from over development from seasonal cabins, and non-farm rural dwellings. These (rural conservation) Corridors consist of floodplains and flood prone, low-lying lands with shallow depths to the groundwater table.

**The consensus of the Planning & Zoning Board is that future development in the Sand Hills and local river corridors should be limited to activities associated with agricultural production, while also limiting intensive agricultural uses such as livestock confinement facilities.**

## OPEN SPACE & PARKS/RECREATION AREAS

State Wildlife Management Areas are primarily located in the southwest corner of the County, along and south of the North Loup River. State Wildlife Management Areas surround the Davis Creek Reservoir and Dam.

The “Network of Discovery,” the Nebraska State-Wide Trails Plan builds upon the Union Pacific Railroad Corridor between Spalding and Fullerton, Nebraska, as a potential for “rail-with-trail” development. This region is identified as the **Cedar and Loup Valley Development Plan**. Highway 91 east of Spalding is also designated as a highway shoulder trail connection to Albion, Nebraska. These potential trails could provide recreational connections to Greeley County and expand tourism opportunities for Greeley County.

## AGRICULTURAL RESIDENTIAL AREAS

The development of non-farm dwellings in Greeley County was determined not to be a factor that needs to be controlled differently by the **2015 Land Use Plan**. Most of the housing construction in rural Greeley County has been associated family members building an additional house on existing farmsteads or a new house on family owned land. Rural subdivisions have not had a major impact in Greeley County.

The economy of Greeley County continues to be agriculturally based. The Planning & Zoning Board determined that current limitations restricting the development of rural dwellings to a limit of four per quarter section by the AG-1 and AG-2 Zoning Districts has been successful. This **Comprehensive Plan** continues the recommendation that non-farm dwellings be focused on developing within the One-Mile Planning Jurisdictions of the Greeley County communities. By implementation of the new **Future Land Use Map** and continued enforcement of the County’s **Zoning Regulations**, the County will continue to grow and develop as planned, in an orderly manner, addressing both the agricultural activities and residential needs of rural Greeley County.

## COMMERCIAL AREAS

Existing and planned commercial developments within rural Greeley County are promoted within the Planning Jurisdictions of the Greeley County communities. The One-Mile Planning Jurisdictions of the communities within Greeley County are anticipated to support the majority of commercial uses. Close proximity of municipal water and sewer services will continue to attract rural commercial uses to these locations.

## INTENSIVE AGRICULTURAL AREAS

Rural, agriculture-oriented industrial uses, such as large scale grain elevators is the primary rural industrial use in the County. Grain elevators, large silos or warehouse buildings remain in a variety of locations near railroad corridors, throughout the County. This **Comprehensive Plan** and associated **Zoning Regulations** identify these facilities as either intensive agricultural uses in Agricultural Districts, or specifically as “I – Industrial” Districts in rural Greeley County.

Future areas of anticipated intensive agricultural development should be considered in locations near community areas within reasonable distance of fire protection and hard surfaced roads.



## **SECTION 5**

# **PUBLIC FACILITIES, UTILITIES & TRANSPORTATION.**

## SECTION 5 PUBLIC FACILITIES, UTILITIES & TRANSPORTATION

### *INTRODUCTION*

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**Section 5** of this **Comprehensive Plan** discusses the existing conditions and planned improvements to the **public facility, utility and transportation systems** in the County. All improvements to these components are aimed at maintaining or improving the quality of life in Greeley County.

### *PUBLIC FACILITIES & UTILITIES*

---

**Public Facilities** identify existing public places in the County and determine future needs of and desires for pertinent public facilities during the planning period 2015 to 2025. Public facilities provide citizens with social, cultural and educational opportunities in Greeley County. Facilities can include, but are not limited to fire protection, schools, medical/elderly services and recreational facilities such as parks and sports fields. A majority of the referenced public facilities are located within the Planning Jurisdictions of the Greeley County communities.

The public utilities of a county are those utilities which are most directly concerned with the health and welfare of the population. The water supply, and sewage disposal facilities, solid waste disposal facilities, and electrical services are the services most frequently considered. A comprehensive plan allows for the coordination of these services with projected growth patterns. Planning for these utilities should be interrelated with future land use, zoning and housing needs.

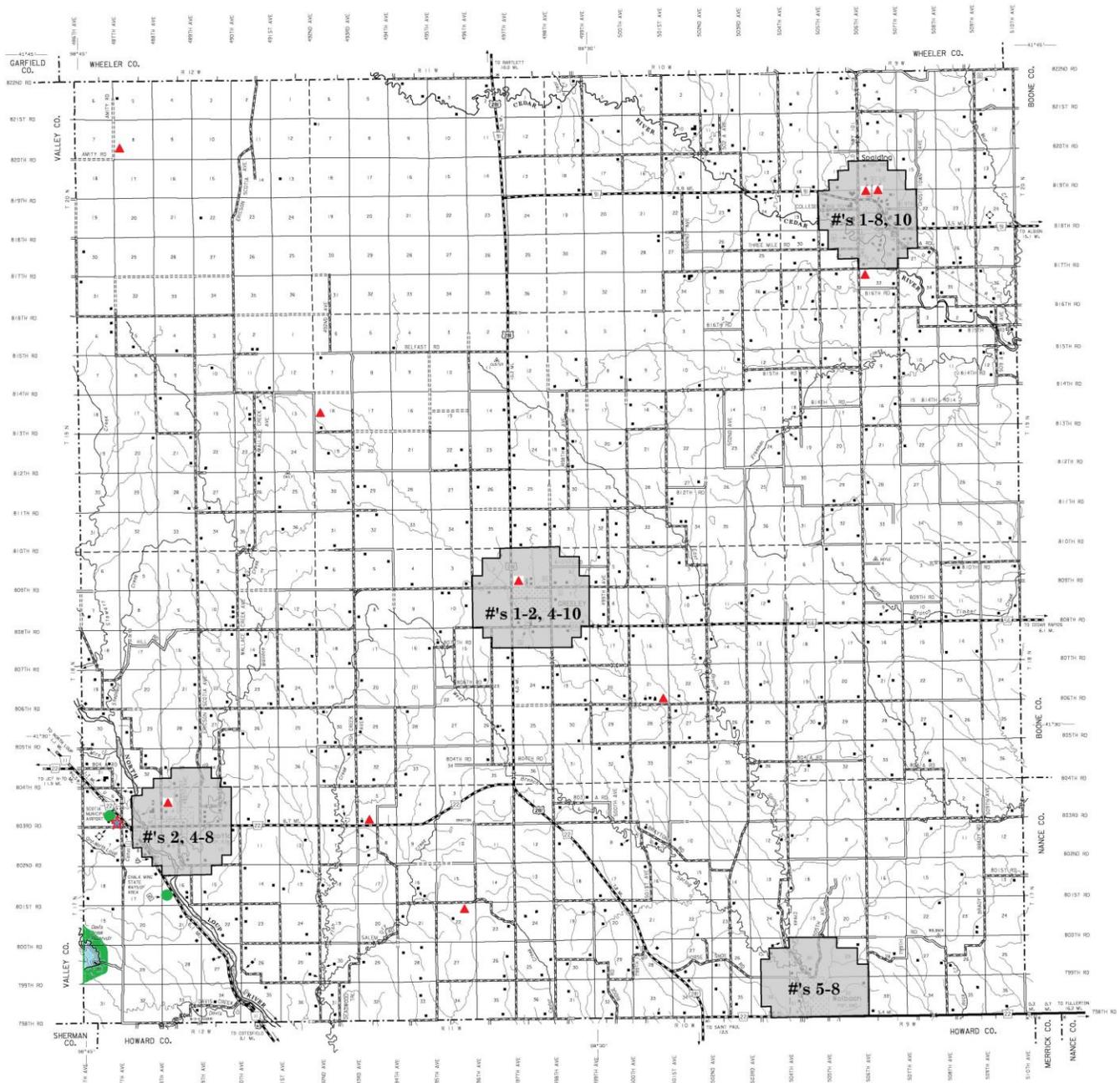
**A majority of public facilities and transportation networks identified in the 2009 Comprehensive Plan for rural Greeley County remain much the same today.** The only major addition is Davis Creek State Wildlife Management Area and Reservoir, in southwestern Greeley County. **Illustration 5.1** identifies the **Public Facilities** in Greeley County, Nebraska.

**Utility systems in rural Greeley County remain largely the same today, as in 1999.** Each community in Greeley County provides a modern utility system to its residents.



# PUBLIC FACILITIES MAP

## GREELEY COUNTY, NEBRASKA



**LEGEND**

1 Elementary School	▲ Cemetery
2 Jr./Senior High School	★ Municipal Airport
3 Parochial School K-12	● Park / Recreation
4 Library	
5 Village Office	
6 Village/Rural Fire Dept.	
7 Village Park / Recreation	
8 Post Office	
9 Nursing Home	
10 Retirement Living Apts.	

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ILLUSTRATION 5.1

## **TRANSPORTATION**

The availability of a convenient and efficient transportation system is essential to the continued economic and physical development of Greeley County. An adequate transportation system is required to transport goods and services to and from major travel routes and market centers within and outside the County. The overall purpose of the Transportation Plan is to provide the necessary guidelines for the safe movement of people and vehicles throughout the planning area.

The primary sources of information utilized to develop the Transportation Plan were (1) Greeley County “One and Six Year Plans” and (2) State of Nebraska Department of Roads “Nebraska Highway Program” (Fiscal Years 2015-2021 and Beyond).

### **EXISTING TRANSPORTATION SYSTEM**

**Illustration 5.2, State Functional Classifications**, as identified by the Nebraska Department of Roads, depicts the transportation system in Greeley County. The transportation system is comprised of “*Major Arterial*” U.S. Highways 281, and State Highways 11, 22, 56 and 91. All other streets and roads within Greeley County are classified as “*Rural Other Arterial and Collectors*,” County roads, local streets and minimum maintenance roads. Collectors and local streets provide transportation to and throughout the Greeley County Villages, while U.S. and state highways provide transportation into the County, adjacent counties and communities and areas beyond.

### **ROAD CLASSIFICATIONS**

Nebraska Highway Law identifies the eight functional classifications of rural highways as follows:

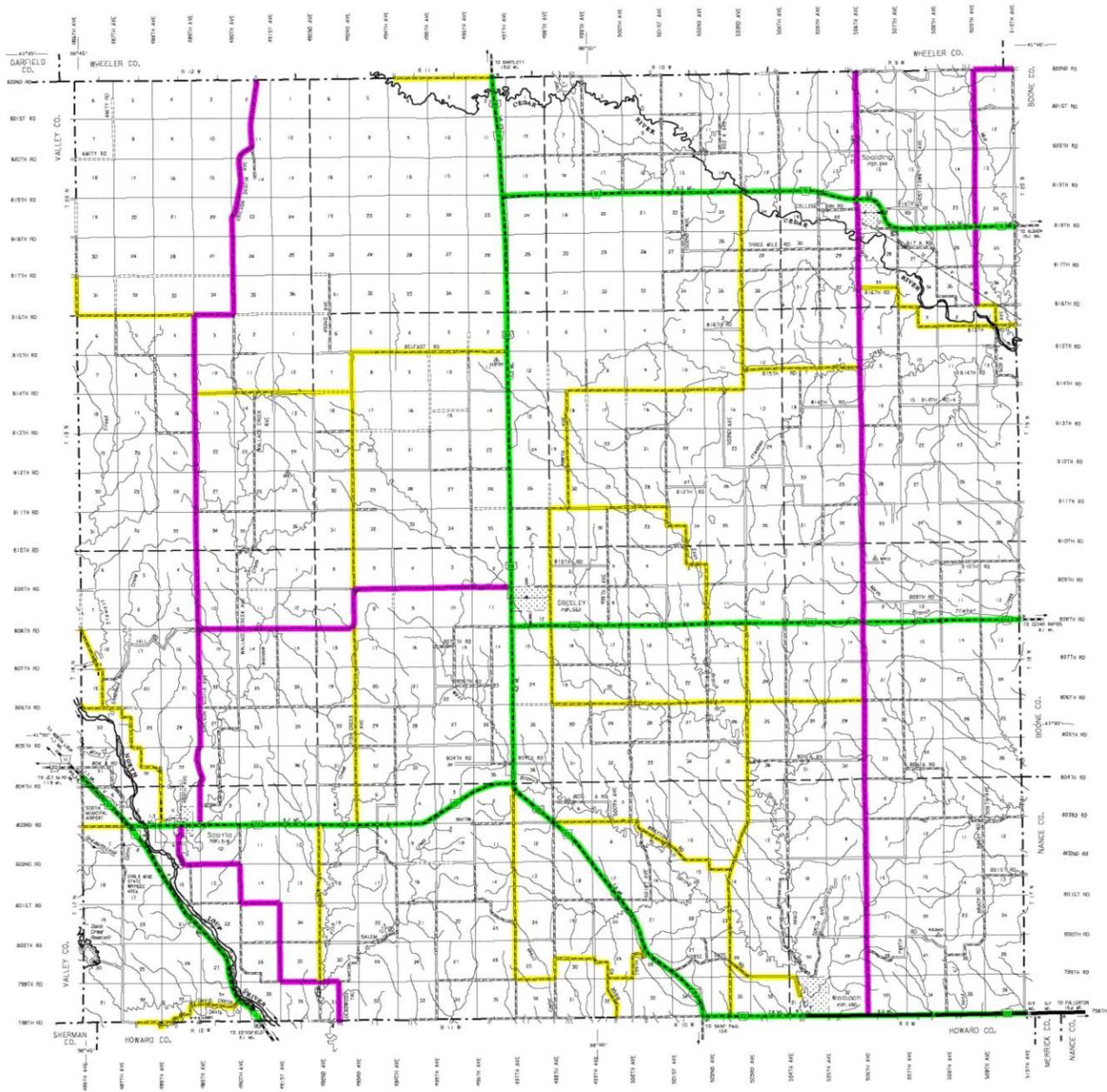
- (1) **Interstate:** Which shall consist of the federally designated National System of Interstate and Defense Highways;
- (2) **Expressway:** Second in importance to Interstate. Shall consist of a group of highways following major traffic desires in Nebraska and ultimately should be developed to multilane divided highway standards;
- (3) **Major Arterial:** Consists of the balance of routes which serve major statewide interests for highway transportation in Nebraska. Characterized by high speed, relatively long distances, and travel patterns;

- (4) **Scenic-Recreation:** Consists of highways or roads located within or which provide access to or through state parks, recreation or wilderness areas, other areas of geological, historical, recreational, biological, or archaeological significance, or areas of scenic beauty;
- (5) **Other Arterial:** Which shall consist of a group of highways of less importance as through-travel routes which would serve places of smaller population and smaller recreation areas not served by the higher systems;
- (6) **Collector:** Which shall consist of a group of highways which pick up traffic from many local or land-service roads and carry it to community centers or to the arterial systems. They are the main school bus routes, mail routes, and farm-to-market routes;
- (7) **Local:** Which shall consist of all remaining rural roads, except minimum maintenance roads;
- (8) **Minimum Maintenance:** Which shall consist of (a) roads used occasionally by a limited number of people as alternative access roads for area served primarily by local, collector, or arterial roads, or (b) roads which are the principal access roads to agricultural lands for farm machinery and which are not primarily used by passenger or commercial vehicles.

The rural highways classified, under subdivisions (1) thru (3) of this section should, combined, serve every incorporated municipality having a minimum population of 100 inhabitants or sufficient commerce, a part of which will be served by stubs or spurs, and along with rural highways classified under subsection (4) of this section, should serve the major recreational areas of the State. Sufficient commerce shall mean a minimum of two hundred thousand dollars of gross receipts under the Nebraska Revenue Act of 1967.



# STATE FUNCTIONAL CLASSIFICATIONS GREELEY COUNTY, NEBRASKA



**LEGEND**

**STATE FUNCTIONAL CLASSIFICATION:**

- EXPRESSWAY.....
- MAJOR ARTERIAL.....
- OTHER ARTERIAL.....
- COLLECTOR.....
- MINIMUM MAINTENANCE.....

Revised: March 9, 2007  
All Roads Not Otherwise Indicated Are  
Classified As Local.

**HANNA:KEELAN ASSOCIATES, P.C.**  
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ILLUSTRATION 5.2

**TRAFFIC VOLUME**

The Nebraska Department of Roads monitors traffic volume in the Greeley County area, for local roads and State and Federal highways. This tabulation process is done to identify appropriate existing road classification and engineering standards. **Table 5.1** also identifies the average daily traffic counts for State and Federal transportation routes around Greeley County. Each of these road segments are identified as “*Major Arterial*,” roads. All other roads within the County jurisdiction are classified as “*Other Arterial*,” “*Collector*,” local or minimum maintenance roads.

**TABLE 5.1**  
**TRAFFIC VOLUME – AVERAGE DAILY TRAFFIC COUNTS**  
**STATE AND FEDERAL ROADS\***  
**GREELEY COUNTY, NEBRASKA**  
**2008, 2010 & 2012**

	<b>2008</b>	<b>2010</b>	<b>2012</b>
U.S. Highway 281, South of Highway 22 Scotia Intersection	1,530/225	1,595/235	1,695/250
U.S. Highway 281, North of Greeley & Highway 56	1,325/245	1,365/250	1,500/225
U.S. Highway 281, North of Highway 91 Spalding turn-off	1,455/270	1,530/285	1,825/270
NE Highway 91, East of Spalding	1,090/135	1,245/155	1,370/170
NE Highway 91, East of U.S. Highway 281	765/110	950/135	995/140
NE Highway 56, West of Boone County Line	225/36	265/40	290/60
NE Highway 56, East of U.S. Highway 281	360/30	415/35	355/30
NE Highway 22, West of Walbach	620/65	655/70	765/80
NE Highway 22, West of Scotia	1,295/130	1,590/160	1,425/180
NE Highway 11, South of Scotia	965/120	1,035/130	1,220/155

\*Total Vehicles/Commercial Vehicles.

Source: Nebraska Department of Roads, 2015.

Hanna:Keelan Associates, P.C., 2015.

The analysis of Average 24 Hour Traffic Volumes at the above identified locations indicates that in each two-year period, traffic volumes increased in terms of total vehicles. The one exception to this conclusion was along Highway 56 just east of Highway 281, entering into the Village of Greeley. Between 2008 and 2012 traffic volumes declined from 360 vehicles to 355, after increase to 415 vehicles in 2010.

## ***FUTURE GREELEY COUNTY TRANSPORTATION SYSTEM***

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The Future Transportation System in Greeley County is outlined in the County **One and Six Year Road Improvement Programs**. The County's One-Year Plan is for projects to be undertaken in 2015, while the Six-Year Plan is for projects to be undertaken through 2021, or earlier if funding becomes available. Upcoming roads projects through the Nebraska Department of Roads and Greeley County are updated for 2015 and 2021.

The official One- and Six-Year Road Improvement Program project list is available in the **Appendix** of this **Comprehensive Plan**.

# **SECTION 6**

# **ENERGY ELEMENT.**

## SECTION 6

# ENERGY ELEMENT

### *INTRODUCTION*

---

This **Section** of the **Greeley County Comprehensive Plan** complies with a July 2010 amendment to Nebraska State Statutes 23-114.02, requiring updates to a County Comprehensive Plan to include an “**Energy Element.**” This component of the **Plan – Update** assesses the energy infrastructure and energy use by sector, including residential, commercial, and industrial. This section is also intended to evaluate the utilization of renewable energy sources and promote energy conservation measures.

### *PUBLIC POWER DISTRIBUTION*

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Energy usage and consumption throughout Greeley County has followed the trends prevalent in the State of Nebraska. Electrical power is distributed across rural Greeley County by three separate Public Power Districts, including **Howard-Greeley Public Power District (HGPPD)**, which serves the southeastern, east-central and extreme southwestern portions of the County, **Cornhusker Public Power District (CPPD)**, the northeast corner of the County and **Loup Valley Rural Public Power District (LVRPPD)** in the west-central and northwestern portions of the County. All three Public Power Districts purchase 100 percent of their electricity from **Nebraska Public Power District (NPPD)**.

Spalding is the only municipality in Greeley County that owns and operates its own electric system. **Spalding Municipal Light/Power** is also a member of the **Nebraska Municipal Power Pool (NMPP)**, which supplies the electrical power that is distributed by Spalding. These Greeley County Utility Districts do not generate electricity; 100 percent of the electricity they distribute originates from either NPPD or NMPP.

As the largest electric generating utility in the State of Nebraska, NPPD provides electricity to all or parts of 91 of the State’s 93 Counties. The fuel source of NPPD’s generating facilities includes coal, oil, natural gas and nuclear energy. Additionally, NPPD also purchases electricity from the **Western Area Power Administration (WAPA)**, which markets and transmits electricity for federally owned hydropower facilities.

## RENEWABLE ENERGY STRATEGIC PLAN

As of July 2011, the NPPD Strategic Plan states:

*“NPPD will evaluate all forms of renewable resources feasible in Nebraska and incorporate them in the total mix of NPPD-owned generation and contract purchases with **a goal of achieving 10 percent of our energy supply for NPPD’s native load from renewable resources by 2020**”.*

The Strategic Plan promotes the addition of a minimum 80 megawatts of wind-generated power during every two-year period, reaching the 10 percent goal by 2020.

As of 2011, approximately 57.6 percent of NPPD’s energy generation was from coal, 28.2 percent nuclear, 4.9 percent hydro, 0.6 percent gas & oil, **and 3.9 percent from alternative energy sources, primarily wind**. The remaining 4.8 percent of NPPD’s energy was supplied through purchases, with over half of these purchases from the WAPA, or hydro-electricity facilities.

In order for NPPD to meet its goal of 10 percent of its generating capacity originating from renewable resources, *primarily wind*, the District will need to develop 533 megawatts of total wind generation by 2020. As of 2011, the entire State of Nebraska had a total wind turbine production of 337 megawatts produced by 196 operational turbines.

### **Nebraska Municipal Power Pool**

**NMPP** was created in 1975 as 19 municipal electric utilities pooled their resources to better handle escalating fuel prices while still serving their communities effectively and efficiently. Today, 155 Nebraska Communities, including the **Village of Spalding**, are member communities of NMPP. Several communities in the States of Kansas, Colorado, Wyoming and North Dakota are also members of this electric supply organization.

The passage of legislation in 1981 allowed the formation of the **Municipal Energy Agency of Nebraska (MEAN)**, a wholesale electric supply organization. This organization is a program operated by NMPP. Since its inception, MEAN has relied upon member generation as part of its power supply and, with its growth, has secured additional sources of electric generation from other organizations. Today MEAN supplies wholesale electricity to more than 69 communities in Colorado, Iowa, Wyoming and Nebraska, including the City of Spalding. Collectively, these communities subscribe to the core philosophies of local control and working together in providing reliable, low-cost energy and energy-related services to member communities.

MEAN participated with the Public Power Generation Agency along with four other regional utilities on the construction of the Whelan Energy Center Unit 2, near Hastings, Nebraska. The 220-megawatt coal fired power plant began operation in May 2011, supplying MEAN with 80 megawatts from the plant. MEAN also has a 50-megawatt, long-term participation power agreement with the **Nebraska Public Power District (NPPD)**. The agreement provides MEAN with energy priced at a fixed rate from NPPD through 2023.

### **RENEWABLE ENERGY PROJECTS**

MEAN expanded its renewable energy capabilities with the following projects during 2011:

- 1.) A 20-year power purchase agreement with Waste Management, Inc., for six megawatts of capacity from a landfill gas project near Mitchellville in Central Iowa;
- 2.) The signing of a power purchase agreement for up to eight megawatts from Nebraska Public Power District's Laredo Ridge Wind Facility near Petersburg, Nebraska. The 80-megawatt wind farm began production in 2011;
- 3.) MEAN is seeking additional renewable opportunities, including participating with NPPD on power generated from the Broken Bow Nebraska Wind Facility.

**As of 2014, MEAN's total renewable energy resources are 13 percent of its total electric generating capacity.** By comparison, the mission statement of NPPD includes the goal of producing 10 percent of its energy supply from renewable sources by 2020. This would involve the development of at least 80 megawatts of wind-generated power during every two-year period through 2020 to achieve the 10 percent goal.



Broken Bow Nebraska Wind Facility

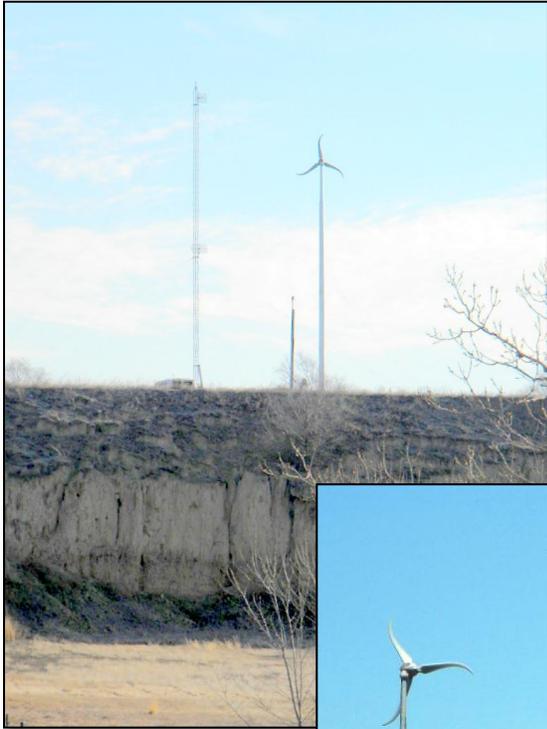
**WIND TURBINES AND “NET METERING”**

Commercial, large scale wind turbines, or “Wind Conversion Systems,” are being promoted in Nebraska Counties by companies and local property owners alike. Wind towers of up to 400’ in height are typically developed as “wind farms,” where multiple wind towers are constructed in a single area, or linearly along a ridge line, such as Laredo Ridge Wind Farm, east of Petersburg in Boone County, for example. This facility consists of 54 individual 1.5 megawatt (MW) turbines.



Laredo Ridge, Petersburg, Nebraska

As of August, 2009, the State of Nebraska Legislature approved and signed into law, LB 439 (**Nebraska State Statute §70-2001 to 2005**), which is also referred to as “**Net Metering.**” This law allows individual residences and businesses to supplement their standard electric service with one, or combinations of, five alternate energy systems, including Solar, Methane, Wind, Biomass, Hydropower and Geothermal. By implementing these types of alternative energy systems, the desire of the individual is to reduce their reliance on public utility systems, potentially by where they generate more electricity than they can use and profit by having the public utility district purchase their excess energy.



Net Metering Small Wind Energy System  
Rural Furnas County, Nebraska



Net Metering Small Wind Energy Systems  
Winnebago, Nebraska

The Greeley County Planning & Zoning Board chose to allow residences and businesses to utilize the provisions of Net Metering, specifically Small Wind Energy Systems. These same small Wind Energy Systems are permissible as Special Uses in each of the Districts of the County Zoning Regulations.

Commercial Wind Energy Conversion Systems, or what are commonly known as “Wind Farms” are potentially permitted as Special Uses in the “AG-1” and “AG-2” Agricultural Districts.

## ***ENERGY CONSUMPTION***

According to the Nebraska Energy Office, the only available energy consumption statistics by Sector are the State totals. As of the 2013 Annual Energy Report, the Industrial Sector consumed 41.8 percent, or more than a third of the Total Energy Consumption of the State of Nebraska. The other three Sectors comprised nearly equal portions, at 17 percent in the Commercial Sector, 19.6 percent for the Residential Sector and 21.6 percent in the Transportation Sector. The Total Energy Consumption, in 2010, was 843.8 trillion British Thermal Units (BTU), which more than doubled, since 1960, when total consumption was 308.3 trillion BTU, an increase of 173.7 percent.

Two of the three Public Power Districts that supply electric energy to portions of Greeley County were able to supply annual totals of energy consumption in 2014. Tables 6.1 and 6.2 provide energy consumption data from CPPD and LVRPPD. The energy consumption data from HGPPD for Greeley County was not available from their offices in St. Paul, Nebraska.

**TABLE 6.1  
ENERGY CONSUMPTION BY SECTOR  
CORNHUSKER PUBLIC POWER DISTRICT  
2014**

<b>TYPE</b>	<b>KW/HR</b>
Residential	2,451,591
Seasonal (stock wells)	34,106
Irrigation	1,535,246
<u>Commercial (livestock confinement)</u>	<u>85,184</u>
<b>SUBTOTAL</b>	<b>4,106,127</b>
<u>Village of Spalding, NE</u>	<u>5,304,203</u>
<b>TOTAL</b>	<b>9,410,330</b>

Source: Cornhusker Public Power District.  
Hanna:Keelan Associates, P.C., 2015.

**TABLE 6.2**  
**ENERGY CONSUMPTION BY SECTOR**  
**LOUP VALLEY RURAL PUBLIC POWER DISTRICT**  
**2014**

<u>TYPE</u>	<u>KW/HR</u>
Rural Residential (Stock wells and Grain Drying)	2,741,650
Commercial (Confinement Facilities)	1,633,480
<u>Irrigation</u>	<u>3,981,037</u>
<b>TOTAL</b>	<b>8,356,167</b>

Source: Loup Valley Rural Public Power District.  
Hanna:Keelan Associates, P.C., 2015.

### TRENDS IN ENERGY CONSUMPTION

**During the last 51 years, the State of Nebraska, as a whole, has vastly increased energy consumption.** The Nebraska Energy Office “Annual Report – 2013,” (the latest publication available) details the most recent state-wide statistics from 2011. Throughout Nebraska, energy consumption as a percentage share of personnel income has remained constant. **In 1970, 11.8 percent of personnel income was spent on energy. As of 2011, 12 percent was spent on energy usage. The peak percentage occurred in 1980 at 17.1 percent.**

Trends in the Total Energy Consumption for the State of Nebraska is mirrored in each of the individual energy categories, coal, natural gas, gasoline and distillate fuel oil (primarily diesel fuel), nuclear power and hydroelectric production. Each of these energy types are detailed between 1960 and 2011, as follows:

- Coal consumption increased from 20 trillion BTUs in 1960 to 285.4 trillion BTUs, as of 2011.
- Natural gas consumption rose and fell during the 51 year period between 1960 and 2011, beginning at 140.4 trillion BTU, peaking in 1973 at 230.7 trillion BTU and by 2011 increasing again back up to 173.6 trillion BTU.

- Gasoline and diesel fuel consumption increased in Nebraska between 1960 and 2011. Overall, petroleum consumption overall peaked in 1978 at 246.1 trillion BTU. Gasoline consumption rose by 25 percent, from 78.8 to 97.8 trillion BTU, as of 2011 but peaked in 1978 at 115.9 trillion BTU. During the same time period, diesel fuel consumption quadrupled from 24.1 trillion BTU to 113.1 trillion BTU.
- Nuclear power generation began in Nebraska in 1973 at 6.5 trillion BTU and has increased to 72.5 trillion BTU as of 2011, but peaked in 2007 at 115.7 trillion BTU.
- Renewable energy consumption from 1960 to 2011 increased and decreased throughout the decades, beginning in 1960 at 13.4 trillion BTU to 2011 at 164.9 trillion BTU. Hydropower was the primary renewable energy source between 1960 and 1994, but as of 1995, biofuels (ethanol) production began at levels equaling hydropower, and production soared. By 2011, 69.3 percent of all renewable energy produced in that year came from biofuels, 9.5 percent from hydroelectric power, 6.2 percent from wood and wood waste.

### INCREASED ENERGY COSTS & CONSERVATION

High fuel costs or limited availability of a particular energy type increases the desire for energy efficiency practices. For example, historic peak prices for natural gas in 2008 motivated farmers to convert natural gas and propane fueled irrigation equipment to electric power; to limit frequency and amount of applications of anhydrous ammonia fertilizer (a natural gas product); and to increase the use of conservation tillage practices to reduce crop cultivation. Access to low-cost financing through the Nebraska Energy Office and locally available low-interest loans to modernize agricultural equipment have led to conservation increases in the Agricultural Sector.

The U.S. Department of Agriculture issued a report in 2008 that concluded that farmers have increased conservation practices. Since the 1970s, total farm energy consumption fell by 26 percent, while farm production increased by 63 percent. This figure is even more significant when the consolidation of farms is taken into account.

**In 1966, just 3.1 million acres of Nebraska crop lands were irrigated, but as of 2011, 9.1 million acres were irrigated. Thus, approximately forty-six percent of the total cropland in Nebraska was irrigated.**

Ethanol production in Nebraska has consumed an increasing amount of corn produced annually and in the process expanding irrigation practices. **In 2011, more than 40 percent of the corn crop was utilized by ethanol facilities across the State.**

## ***ENERGY CONSERVATION POLICIES***

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The most effective means for Greeley County to reduce its total energy consumption in each of the Energy Sectors (and by energy type) is by conservation practices and by promoting the conversion to alternative energy systems when appropriate.

The following is a list of policies to guide energy practices throughout rural Greeley County:

- ❖ **Promote the use of “Net Metering” or the use of one, or combinations, of the five alternative energy sources to reduce rural residential and agricultural facilities consumption of energy.**
  - Utilize the Greeley County Zoning Regulations to control the placement and operation of alternative energy systems.
  - Require compliance with the Accessory or Conditional Use permit processes so that established conditions are met by the applicant.
  - Promote the development of vocational education opportunities in local high schools, regional trade schools, and in state colleges and universities to educate the current and future workforce in alternative energy design, fabrication of equipment and maintenance.
- ❖ **Promote the use and placement of large scale Commercial/Utility Grade Wind Energy Conversion Systems, commonly referred to as “Wind Farms.”**
  - Utilize the Greeley County Zoning Regulations to guide the potential use and placement of large scale Commercial Wind Energy Conversion Systems.
- ❖ **As other sources of Alternative Energy Systems are developed or become cost-effective for use in Nebraska, amend Greeley County planning documents to locate and control their operation.**

**Promote the use of conservation methods to reduce the consumption of Energy Usage in each of the individual sectors including residential, commercial, industrial (agricultural) and transportation.**

- Promote the use of weatherization methods and energy efficient or “green building” materials in conformance with the “LEED” Certified Building techniques.
- Support and provide incentives for the expanded use of agricultural practices to reduce energy consumption. Techniques such as conservation tillage, high efficiency irrigation equipment and cost effective fuel sources to power irrigation systems.
- Support State and Federal incentive programs to continue to provide low-cost financing to purchase modern agricultural equipment such as low-pressure pivots and no-till equipment. Programs such as the U.S. Department of Agriculture’s Rural Energy for America Program (REAP) that finances irrigation efficiency improvements switching diesel, propane and natural gas pumps to electric.
- Promote the availability of incentives provided by public power districts to develop alternative energy sources for and from agricultural practices. Modern methods such as producing methane gas from livestock confinement facilities to power agricultural equipment, is just one example.
- Promote the expanded use of solar and geothermal exchange energy systems for agricultural applications that power equipment and heat/cool farm buildings.

# **APPENDIX**

## **ONE- AND SIX-YEAR ROAD IMPROVEMENT PROGRAMS.**

**Board of Public Roads Classifications and Standards**  
**Form 7 One- and Six-Year Plan**  
**Highway or Street Improvement Project**

County: <u>Greeley</u>	City:	Village:
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Location Description:  
 On North South Road between Sections 35 & 36 T18N R10W on East Branch Spring Creek

Existing Surface Type and Structures: *(Such as dirt, gravel, asphalt, concrete, culvert, or bridge)*  
 Bridge & Gravel

Average Daily Traffic: 20 = _____, 2029 = 40	Classification Type: <i>(As shown on Functional Classification Map)</i> Collector
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PROPOSED IMPROVEMENT			
Design Standard Number: RC2	<b>Surfacing</b>	Thickness: 3"	Width: 24'

<input checked="" type="checkbox"/> Grading	<input type="checkbox"/> Concrete	<input checked="" type="checkbox"/> Right of Way	<input type="checkbox"/> Lighting
<input checked="" type="checkbox"/> Aggregate	<input type="checkbox"/> Curb & Gutter	<input checked="" type="checkbox"/> Utility Adjustments	.....
<input type="checkbox"/> Armor Coat	<input checked="" type="checkbox"/> Drainage Structures	<input checked="" type="checkbox"/> Fencing	.....
<input type="checkbox"/> Asphalt	<input checked="" type="checkbox"/> Erosion Control	<input type="checkbox"/> Sidewalks	.....

<b>Bridge to Remain in Place</b>	Roadway Width:	Length:	Type:
<b>New Bridge</b>	Roadway Width: 28'6"	Length: 30'	Type: Steel Concrete
<b>Box Culvert</b>	Span:	Rise:	Length: Type:
<b>Culvert</b>	Diameter:	Length:	Type:

**Bridges and Culverts Sized**       Yes     N/A       Hydraulic Analysis Pending

Other Construction Features:  
 Replace Bridge, Bridge #3505

ESTIMATED COST <i>(in Thousands)</i>	★ COUNTY	★ CITY	★ STATE	★ FEDERAL	★ OTHER	TOTAL
★ OPTIONAL						60

Project Length: <i>(Nearest Tenth, State Unit of Measure)</i> 0.1 Mile	Project No.: C-39 (220)
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Signature:	Title: Highway Superintendent	Date: February 10, 2015
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**Board of Public Roads Classifications and Standards**  
**Form 7 One- and Six-Year Plan**  
**Highway or Street Improvement Project**

County: Greeley	City:	Village:
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Location Description:  
 On Cedar River between Sections 5 & 6 T20N R10W, 7 miles west and 3 miles north of Spalding

Existing Surface Type and Structures: *(Such as dirt, gravel, asphalt, concrete, culvert, or bridge)*

Average Daily Traffic: 20 = ..... , 20 = .....	Classification Type: <i>(As shown on Functional Classification Map)</i> Collector
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PROPOSED IMPROVEMENT			
Design Standard Number: RL-3	<b>Surfacing</b>	Thickness: 3"	Width: 24'

<input checked="" type="checkbox"/> Grading	<input type="checkbox"/> Concrete	<input checked="" type="checkbox"/> Right of Way	<input type="checkbox"/> Lighting
<input checked="" type="checkbox"/> Aggregate	<input type="checkbox"/> Curb & Gutter	<input checked="" type="checkbox"/> Utility Adjustments	<input type="checkbox"/> .....
<input type="checkbox"/> Armor Coat	<input type="checkbox"/> Drainage Structures	<input checked="" type="checkbox"/> Fencing	<input type="checkbox"/> .....
<input type="checkbox"/> Asphalt	<input checked="" type="checkbox"/> Erosion Control	<input type="checkbox"/> Sidewalks	<input type="checkbox"/> .....

<b>Bridge to Remain in Place</b>	Roadway Width:	Length:	Type:
<b>New Bridge</b>	Roadway Width: 28'6"	Length: 101'	Type: Steel Concrete
<b>Box Culvert</b>	Span:	Rise:	Length: Type:
<b>Culvert</b>	Diameter:	Length:	Type:

**Bridges and Culverts Sized**       Yes     N/A       Hydraulic Analysis Pending

Other Construction Features:  
 Replace Bridge, Bridge #32705

ESTIMATED COST <i>(in Thousands)</i>	★ COUNTY	★ CITY	★ STATE	★ FEDERAL	★ OTHER	TOTAL
★ OPTIONAL						400

Project Length: <i>(Nearest Tenth, State Unit of Measure)</i> 0.1 Mile	Project No.: C-39 (250)
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Signature: 	Title: Highway Superintendent	Date: February 10, 2015
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**Board of Public Roads Classifications and Standards**  
**Form 7 One- and Six-Year Plan**  
**Highway or Street Improvement Project**

County: Greeley	City:	Village:																
Location Description: In Sections 33 T17N R12W, 4 miles south of Scotia (west bridge)																		
Existing Surface Type and Structures: <i>(Such as dirt, gravel, asphalt, concrete, culvert, or bridge)</i> Bridge & Gravel																		
Average Daily Traffic: 20 = 40, 2029 = 40		Classification Type: <i>(As shown on Functional Classification Map)</i> Collector																
<b>PROPOSED IMPROVEMENT</b>																		
Design Standard Number: RC3	<b>Surfacing</b>	Thickness: 3"      Width: 24'																
<input checked="" type="checkbox"/> Grading	<input type="checkbox"/> Concrete	<input checked="" type="checkbox"/> Right of Way																
<input checked="" type="checkbox"/> Aggregate	<input type="checkbox"/> Curb & Gutter	<input checked="" type="checkbox"/> Utility Adjustments																
<input type="checkbox"/> Armor Coat	<input checked="" type="checkbox"/> Drainage Structures	<input checked="" type="checkbox"/> Fencing																
<input type="checkbox"/> Asphalt	<input checked="" type="checkbox"/> Erosion Control	<input type="checkbox"/> Sidewalks																
<input type="checkbox"/> Lighting																		
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"><b>Bridge to Remain in Place</b></td> <td>Roadway Width:</td> <td>Length:</td> <td>Type:</td> </tr> <tr> <td><b>New Bridge</b></td> <td>Roadway Width: 28'6"</td> <td>Length: 50'</td> <td>Type: Steel Concrete</td> </tr> <tr> <td><b>Box Culvert</b></td> <td>Span:</td> <td>Rise:</td> <td>Length:</td> </tr> <tr> <td><b>Culvert</b></td> <td>Diameter:</td> <td>Length:</td> <td>Type:</td> </tr> </table>			<b>Bridge to Remain in Place</b>	Roadway Width:	Length:	Type:	<b>New Bridge</b>	Roadway Width: 28'6"	Length: 50'	Type: Steel Concrete	<b>Box Culvert</b>	Span:	Rise:	Length:	<b>Culvert</b>	Diameter:	Length:	Type:
<b>Bridge to Remain in Place</b>	Roadway Width:	Length:	Type:															
<b>New Bridge</b>	Roadway Width: 28'6"	Length: 50'	Type: Steel Concrete															
<b>Box Culvert</b>	Span:	Rise:	Length:															
<b>Culvert</b>	Diameter:	Length:	Type:															
<b>Bridges and Culverts Sized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Hydraulic Analysis Pending																		
Other Construction Features: Replace Bridge, Bridge #4805P																		
<b>ESTIMATED COST</b> <i>(in Thousands)</i> ★ OPTIONAL	★ COUNTY	★ CITY	★ STATE	★ FEDERAL	★ OTHER	TOTAL												
						90												
Project Length: <i>(Nearest Tenth, State Unit of Measure)</i> 0.1 Mile			Project No.: C-39 (251)															
Signature: 			Title: Highway Superintendent		Date: February 10, 2015													

**Board of Public Roads Classifications and Standards**  
**Form 7 One- and Six-Year Plan**  
**Highway or Street Improvement Project**

County: Greeley	City:	Village:
Location Description: On Davis Creek, Section 33 T17N R12W, 4.5 miles south of Scotia		
Existing Surface Type and Structures: <i>(Such as dirt, gravel, asphalt, concrete, culvert, or bridge)</i> Bridge & Gravel		
Average Daily Traffic: 20 = 40, 2029 = 40		Classification Type: <i>(As shown on Functional Classification Map)</i> Collector
<b>PROPOSED IMPROVEMENT</b>		
Design Standard Number: RC3	<b>Surfacing</b>	Thickness: 3"      Width: 24'
<input checked="" type="checkbox"/> Grading	<input type="checkbox"/> Concrete	<input checked="" type="checkbox"/> Right of Way
<input checked="" type="checkbox"/> Aggregate	<input type="checkbox"/> Curb & Gutter	<input checked="" type="checkbox"/> Utility Adjustments
<input type="checkbox"/> Armor Coat	<input checked="" type="checkbox"/> Drainage Structures	<input type="checkbox"/> Fencing
<input type="checkbox"/> Asphalt	<input checked="" type="checkbox"/> Erosion Control	<input type="checkbox"/> Sidewalks
<input type="checkbox"/> Lighting	<input type="checkbox"/> .....	
<b>Bridges and Culverts Sized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Hydraulic Analysis Pending		
Other Construction Features: Replace Bridge, Bridge #4810P		
<b>ESTIMATED COST</b> <i>(in Thousands)</i>	★ COUNTY	★ CITY
★ OPTIONAL		
	★ STATE	★ FEDERAL
		★ OTHER
		TOTAL
		120
Project Length: <i>(Nearest Tenth, State Unit of Measure)</i> 0.1 Mile		Project No.: C-39 (252)
Signature: 		Title: Highway Superintendent
		Date: February 10, 2015

**Board of Public Roads Classifications and Standards**  
**Form 7 One- and Six-Year Plan**  
**Highway or Street Improvement Project**

County: Greeley	City:	Village:
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Location Description:  
 On Spring Creek on east-west road in Section 36 T18N, R10W

Existing Surface Type and Structures: *(Such as dirt, gravel, asphalt, concrete, culvert, or bridge)*  
 Bridge & Gravel

Average Daily Traffic: 20 = 30, 2024 = 25	Classification Type: <i>(As shown on Functional Classification Map)</i> Local
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PROPOSED IMPROVEMENT			
Design Standard Number: RL3	<b>Surfacing</b>	Thickness: 3"	Width: 24'

<input checked="" type="checkbox"/> Grading	<input type="checkbox"/> Concrete	<input checked="" type="checkbox"/> Right of Way	<input type="checkbox"/> Lighting
<input checked="" type="checkbox"/> Aggregate	<input type="checkbox"/> Curb & Gutter	<input checked="" type="checkbox"/> Utility Adjustments	.....
<input type="checkbox"/> Armor Coat	<input checked="" type="checkbox"/> Drainage Structures	<input checked="" type="checkbox"/> Fencing	.....
<input type="checkbox"/> Asphalt	<input checked="" type="checkbox"/> Erosion Control	<input type="checkbox"/> Sidewalks	.....

<b>Bridge to Remain in Place</b>	Roadway Width:	Length:	Type:
<b>New Bridge</b>	Roadway Width: 28'6"	Length: 24'	Type: Steel Concrete
<b>Box Culvert</b>	Span:	Rise:	Length: Type:
<b>Culvert</b>	Diameter:	Length:	Type:

**Bridges and Culverts Sized**       Yes     N/A       Hydraulic Analysis Pending

Other Construction Features:  
 Replace Bridge, Bridge #33605P

ESTIMATED COST <i>(in Thousands)</i>	★ COUNTY	★ CITY	★ STATE	★ FEDERAL	★ OTHER	TOTAL
★ OPTIONAL						75

Project Length: <i>(Nearest Tenth, State Unit of Measure)</i> 0.1 Mile	Project No.: C-39 (262)
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Signature:	Title: Highway Superintendent	Date: February 10, 2015
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**Board of Public Roads Classifications and Standards**  
**Form 7 One- and Six-Year Plan**  
**Highway or Street Improvement Project**

County: <b>Greeley</b>	City:	Village:
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Location Description:  
 West side of the North/South road on the west edge of Section 18 T17N R9W, on the east branch of Spring Creek.

Existing Surface Type and Structures: *(Such as dirt, gravel, asphalt, concrete, culvert, or bridge)*  
**Bridge & Gravel**

Average Daily Traffic: <b>2012 = 55, 2033 = 71</b>	Classification Type: <i>(As shown on Functional Classification Map)</i> <b>Local</b>
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PROPOSED IMPROVEMENT			
Design Standard Number: <b>RL2</b>	<b>Surfacing</b>	Thickness:	Width:

<input checked="" type="checkbox"/> Grading	<input type="checkbox"/> Concrete	<input checked="" type="checkbox"/> Right of Way	<input type="checkbox"/> Lighting
<input checked="" type="checkbox"/> Aggregate	<input type="checkbox"/> Curb & Gutter	<input checked="" type="checkbox"/> Utility Adjustments	.....
<input type="checkbox"/> Armor Coat	<input checked="" type="checkbox"/> Drainage Structures	<input checked="" type="checkbox"/> Fencing	.....
<input type="checkbox"/> Asphalt	<input checked="" type="checkbox"/> Erosion Control	<input type="checkbox"/> Sidewalks	.....

<b>Bridge to Remain in Place</b>	Roadway Width:	Length:	Type:
<b>New Bridge</b>	Roadway Width: <b>30'</b>	Length: <b>60'</b>	Type: <b>Precast Slab Type</b>
<b>Box Culvert</b>	Span:	Rise:	Length: Type:
<b>Culvert</b>	Diameter:	Length:	Type:

**Bridges and Culverts Sized**       Yes     N/A     Hydraulic Analysis Pending

Other Construction Features:  
 Replace Bridge, Bridge #3715

ESTIMATED COST <i>(in Thousands)</i> ★ OPTIONAL	★ COUNTY	★ CITY	★ STATE	★ FEDERAL	★ OTHER	TOTAL

Project Length: <i>(Nearest Tenth, State Unit of Measure)</i> <b>.1</b>	Project No.: <b>C-39(263)</b>
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Signature: 	Title: <b>Highway Superintendent</b>	Date: <b>Feb. 10, 2015</b>
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