## AGENDA
CARBONDALE BOARD OF TRUSTEES
WORK SESSION
CARBONDALE TOWN HALL
DECEMBER 19, 2017
6:00 P.M.

<table>
<thead>
<tr>
<th>TIME*</th>
<th>ITEM</th>
<th>DESIRED OUTCOME</th>
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<tbody>
<tr>
<td>6:00</td>
<td>1.</td>
<td>Roaring Fork Regional Housing Authority ATTACHMENT A Discussion</td>
</tr>
<tr>
<td>7:00</td>
<td>2.</td>
<td>Weed Management  ATTACHMENT B Discussion</td>
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<td>8:00</td>
<td>3.</td>
<td>Economic Development ATTACHMENT C Discussion</td>
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<tr>
<td>9:00</td>
<td>4.</td>
<td>Adjourn</td>
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* Please Note Times Are Approximate
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<thead>
<tr>
<th>No.</th>
<th>Stakeholders/Partners</th>
<th>$ Pledged</th>
<th>$ Requested</th>
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<tbody>
<tr>
<td>1</td>
<td>Aspen/Pitkin County Housing Authority (For the City and County)</td>
<td>$ 25,000</td>
<td>$</td>
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<tr>
<td>2</td>
<td>Town of Basalt</td>
<td>$ 10,000</td>
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<td>3</td>
<td>Town of Carbondale</td>
<td>$ 20,000</td>
<td>$</td>
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<tr>
<td>4</td>
<td>Colorado Housing Finance &amp; Authority (CHFA)</td>
<td>$ 25,000</td>
<td>$</td>
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<tr>
<td>5</td>
<td>Eagle County</td>
<td>$ 15,000</td>
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<tr>
<td>6</td>
<td>Garfield County</td>
<td>$ -</td>
<td>$ 15,000</td>
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<tr>
<td>7</td>
<td>City of Glenwood Springs</td>
<td>$ 20,000</td>
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<tr>
<td>9</td>
<td>Town of Snowmass Village</td>
<td>$ -</td>
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**Total Funds Pledged for Housing Needs**

- Assessment: $115,000 $30,000
- Funds Needed: $145,000
MEMORANDUM

To: Drafting Committee
From: David J. Myler
Date: October 31, 2017
Re: IGA Issues

Ladies and Gentlemen:

At our meeting on September 8, 2017, Heather Henry suggested that the Drafting Committee approach IGA terms in "bite size chunks", on a conceptual level, rather than to tackle the specific language in the initial draft. I think that that is an excellent approach and it seemed that everyone in attendance agreed. To that end, I would like to solicit comments regarding the proposed Operating Principles (Section 1.4) and the Governance/Cost Sharing provisions of the draft (Sections 3.1 and 4.5.a., respectively) as a first step.

A. Operating Principles.

The draft suggests the following Operating Principles that would serve as a guide to decision making by the Board of Directors and will also serve to define the mission of the Authority for the electorate. The Operating Principles, as initially drafted, are as follows:

Section 1.4 Operating Principles.

a. The Board of Directors shall develop and implement policies and procedures to assure a fair and balanced allocation of tax or fee revenues to projects that will benefit the workforce employed within the jurisdiction from which such revenues are derived (the "Jurisdiction of Origin"). Such policies and procedures may include the establishment of priorities in the purchase or rental of workforce housing units produced or acquired with such revenues for the benefit of individuals employed within the Jurisdiction of Origin, irrespective of the location of such units.

b. The Board of Directors shall develop and implement policies to assure that the costs of the Authority's activities are fairly distributed among the persons and businesses benefitted thereby and will not impose an undue burden on any particular group of persons or businesses.

c. The Board of Directors shall establish criteria for the evaluation of land acquisition and development opportunities. Such criteria shall require that projects will, to the greatest extent possible, be transit oriented, be in compliance with applicable land use regulations and policies, minimize impacts on neighboring properties, contain an appropriate mix of
unit types, and contain units that will be affordable to buyers or renters within as wide a range of incomes as possible.

d. The Board of Directors will establish buyer and renter qualifications and priorities that are consistent with the Authority’s objective of providing housing located as close as possible to the places of employment of the anticipated occupants of such housing.

Pitkin County rightfully raised a question about the language of Section 1.4.c. which seems to indicate that the Authority only needs to comply with local government land use regulations “to the greatest extent possible.” It was not the intent in drafting that language to give the Authority the ability to avoid compliance with local land use regulations and all of those attending the September 8th meeting agreed that the Authority needs to be committed to proposing and promoting development that complies with local government regulations. That is not to say that the Authority cannot or should not seek variances or waivers where appropriate as a means of reducing costs or increasing efficiencies, but that the local government involved will have the final say. To that end, I suggest that subparagraph c be amended to read as follows:

c. The Board of Directors shall establish criteria for the evaluation of land acquisition and development opportunities. Such criteria shall require that projects will, to the greatest extent possible, be transit oriented, minimize impacts on neighboring properties, contain an appropriate mix of unit types, and contain units that will be affordable to buyers or renters within as wide a range of incomes as possible. In all cases, development projects shall comply with local government land use regulations and policies, and shall not utilize any expedited procedures or processes that are available to governmental entities.

Please provide your thoughts and recommendations regarding all of the Operating Principles and the revisions to subsection c.

B. Governance and Cost Sharing.

The current draft envisions that the Authority will be managed by a Board of Directors and that each Member will appoint one Director to the Board. The draft also authorizes the Board to appoint two at-large Directors who could be individuals with land development and/or construction expertise that would be valuable to the decision making process. Each Director will have one vote. This “one for all and all for one” approach is consistent with the governance provisions of IGAs for the Gunnison Valley Regional Housing Authority, the Douglas County Multi-jurisdictional Housing Authority, and the Yampa Valley Housing Authority.

Likewise, cost sharing is essentially equal as well. Because the total costs to be shared is not equally divisible by either six or seven, the draft allocated a slightly higher share (1.25%) to the Counties assuming that they have more resources and that municipal taxpayers contribute to County revenues. An alternative to the “all for one and one for all” approach, for both voting and cost sharing, could be an allocation based upon the tax revenues generated by each Member. In this scenario, it probably makes sense to eliminate the at-large director positions and instead create an advisory committee of experts. Under this approach, taxpayers may be more
IGA Issues
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comfortable that their tax dollars will be invested in projects that benefit the work force employed within their jurisdiction. Conversely, the two or three Members providing the most tax revenue will effectively control the decision making process thereby reducing the role of the other Members to that of advisors. Since it seems to make sense that the cost sharing should be consistent with voting power, the Members providing the most tax revenue should pay more of the costs not covered by tax revenue.

C. How to Proceed.

I suggest that each of you submit your comments, questions, suggestions for language as well as suggestions for additional issues to discuss in writing via email. I will circulate those comments to the entire Committee and attempt to determine if there is a consensus regarding acceptable language for the IGA. If we reach a consensus by sharing comments via email, I will then select additional topics for a similar type of review. If a meeting to discuss these issues would be useful, or more appropriate, please let me know and I’ll arrange it.

Thank you all again for your interest in this matter and I look forward to the opportunity to facilitate a discussion regarding IGA issues that could result in an acceptable agreement.
INTEGOVERNMENTAL AGREEMENT
ESTABLISHING THE
ROARING FORK VALLEY REGIONAL HOUSING AUTHORITY

THIS INTEGOVERNMENTAL AGREEMENT is entered into as of the Effective Date defined below by and among the BOARDS OF COUNTY COMMISSIONERS OF THE COUNTIES OF GARFIELD, EAGLE AND PITKIN, COLORADO, ("Garfield County", "Eagle County" and "Pitkin County", respectively); the CITY OF GLENWOOD SPRINGS, COLORADO ("Glenwood Springs"); and the TOWNS OF BASALT, CARBONDALE AND NEW CASTLE ("Basalt", "Carbondale" and "New Castle"); collectively, the "Parties".

RECEITALS

A. The provisions of Section 18 of Article XIV of the Colorado Constitution and C.R.S. § 29-1-203, allow Colorado local governments to cooperate or contract with one another to provide any function, service or facility lawfully authorized to each local government.

B. The provisions of C.R.S. § 29-1-204.5 allow Colorado local governments to contract with each other to establish a separate governmental entity to be known as a multijurisdictional housing authority.

C. A multijurisdictional housing authority established pursuant to C.R.S. § 29-1-204.5 may be used by the contracting local governments to effect the planning, financing, acquisition, construction, reconstruction or repair, maintenance, management, and operation of housing projects or programs pursuant to a multijurisdictional plan to provide: (a) dwelling accommodations at rental prices or purchase prices within the means of families of low or moderate income; and (b) affordable housing projects or programs for employees of employers located within the jurisdiction of the authority.

D. The Parties recognize the benefits and advantages obtained by working together to establish and create a multijurisdictional housing authority to provide affordable workforce housing projects or programs for local low or moderate income families and for employees of local employers, and therefore desire to participate with one another in the establishment of a multijurisdictional housing authority serving the interests of residents of the Roaring Fork Valley.

NOW, THEREFORE, for and in consideration of the mutual promises, covenants, and obligations herein set forth, the Parties hereby mutually agree as follows:
ARTICLE I
ESTABLISHMENT OF AUTHORITY

Section 1.1 Establishment and Name of Authority. The Parties hereby establish a multijurisdictional housing authority to be known as the “Roaring Fork Valley Regional Housing Authority” (the “Authority”).

Section 1.2 Purpose. Recognizing that the Roaring Fork Valley is a single community with a mobile workforce serving multiple employers within the Roaring Fork Valley, the purpose of the Authority shall be to effect the planning, financing, acquisition, construction, reconstruction or repair, maintenance, management, and operation of housing projects or programs within the Roaring Fork Valley, to provide: (a) dwelling accommodations at rental prices or purchase prices within the means of families of low or moderate income; (b) affordable housing projects or programs for employees of employers located within the jurisdiction of the Authority; (c) senior housing facilities; (d) administer housing voucher program funded through the U.S. Department of Housing and Urban Development or other similar programs; and (e) mixed income or mixed use properties that facilitate either of the purposes set forth in Section 1.2(a) or (b).

Section 1.3 Functions or Services. The functions and services of the Authority include but are not necessarily limited to the following:

a. Complete a housing needs analysis and adopt a housing production plan based upon such analysis.

b. Advise local governments of the practical applications of workforce housing policy and infrastructure needs;

c. Facilitate partnerships to create housing;

d. Allocate funds for eligible housing projects;

e. Identify and facilitate the acquisition of vacant land that may be developed for affordable housing;

f. Identify and coordinate financing opportunities;

g. Establish and administer a down payment assistance program;

h. Propose ballot initiatives;

i. Acquire existing housing or other real estate and establish price and income restrictions to assure long term affordability;
j. Acquire land and obtain development approvals. Issue requests for proposals for private sectors and non-profit entity joint ventures to develop authorized housing projects;

k. Develop new for-sale or rental affordable housing;

l. Rehabilitate existing housing;

m. Manage affordable housing properties;

n. Construct infrastructure to serve authorized projects.

Section 1.4 Operating Principles.

a. The Board of Directors shall develop and implement policies and procedures to assure a fair and balanced allocation of tax or fee revenues to projects that will benefit the workforce employed within the jurisdiction from which such revenues are derived (the "Jurisdiction of Origin"). Such policies and procedures may include the establishment of priorities in the purchase or rental of workforce housing units produced or acquired with such revenues for the benefit of individuals employed within the Jurisdiction of Origin, irrespective of the location of such units.

b. The Board of Directors shall develop and implement policies to assure that the costs of the Authority's activities are fairly distributed among the persons and businesses benefited thereby and will not impose an undue burden on any particular group of persons or businesses.

c. The Board of Directors shall establish criteria for the evaluation of land acquisition and development opportunities. Such criteria shall require that projects will, to the greatest extent possible, be transit oriented, be in compliance with applicable land use regulations and policies, minimize impacts on neighboring properties, contain an appropriate mix of unit types, and contain units that will be affordable to buyers or renters within as wide a range of incomes as possible.

d. The Board of Directors will establish buyer and renter qualifications and priorities that are consistent with the Authority's objective of providing housing located as close as possible to the places of employment of the anticipated occupants of such housing.

Section 1.5 Boundaries. The boundaries of the Authority shall be coterminous with the boundaries of the Aspen School District, the Roaring Fork School District and the Town of New Castle, but shall not include the City of Aspen or the Town of Snowmass Village, unless said boundaries are modified by the Authority.
Section 1.6 **Separate Entity.** The Authority shall be a political subdivision of the state, a governmental authority separate and apart from the Parties, and shall be a validly created and existing political subdivision and public corporation of the state, irrespective of whether a party to this Agreement terminates its participation (whether voluntarily, by operation of law, or otherwise) in the Authority subsequent to its creation under circumstances not resulting in the rescission or termination of this Agreement establishing the Authority. It shall have the duties and the privileges, immunities, rights, liabilities and disabilities of a public body politic and corporate. The Authority may deposit and invest its moneys in the manner provided in this Agreement and in the manner provided in C.R.S. § 43-4-616. The bonds, notes and other obligations of the Authority shall not be the debts, liabilities or obligations of the Parties. Further, the Parties to this Agreement do not waive or limit their right or ability to pursue their own individual affordable housing projects separate and apart from the Authority.

Section 1.7 **Term.** The term of the Authority shall be continuous until terminated or rescinded in the manner set forth in Section 6.1.

**ARTICLE II**

**POWERS**

Section 2.1 **Powers of Authority.** The Authority shall have the following general powers:

a. To plan, finance, acquire, construct, reconstruct or repair, maintain, manage, and operate housing projects and programs pursuant to a multijurisdictional or individual jurisdiction plan within the means of families of low or moderate income;

b. To plan, finance, acquire, construct, reconstruct or repair, maintain, manage, and operate affordable housing projects or programs for employees of employers located within the boundaries of the Authority;

c. To make and enter into contracts with any person, including, without limitation, contracts with state or federal agencies, private enterprises, and nonprofit organizations also involved in providing such housing projects or programs or the financing for such housing projects or programs, irrespective of whether such agencies are parties to this Agreement;

d. To employ agents and employees and to set the salaries of same;

e. To cooperate with state and federal governments in all respects concerning the financing of such housing projects and programs;

f. To acquire, hold, lease (as lessor or lessee), sell, or otherwise dispose of any real or personal property, commodity, or service;
g. To condemn property for public use, if such property is not owned by any governmental entity or any public utility and devoted to public use pursuant to state authority;

h. To levy, in all of the area within the boundaries of the Authority, a sales or use tax, or both, upon every transaction or other incident with respect to which a sales or use tax is levied by the state, as more fully described in Section 4.3 of this Agreement.

i. To levy, in all of the area within the boundaries of the Authority, an ad valorem tax, as more fully described in Section 4.4 of this Agreement.

j. To incur debts, liabilities, or obligations;

k. To sue and be sued in its own name;

l. To have and use a corporate seal;

m. To fix, maintain, and revise fees, rents, security deposits, and charges for functions, services, or facilities provided by the Authority;

n. To adopt, by resolution, bylaws or regulations respecting the exercise of its powers and the carrying out of its purposes;

o. To exercise any other powers that are essential to the provision of functions, services, or facilities by the Authority and that are specified in this Agreement;

p. To do and perform any acts and things authorized by C.R.S. § 29-1-204.5, as it may be amended from time to time, and by any other applicable law, under, through, or by means of an agent or by contracts with any person, firm, or corporation; and

q. To establish enterprises for the ownership, planning, financing, acquisition, construction, reconstruction or repair, maintenance, management, or operation, or any combination of the foregoing, of housing projects or programs authorized by C.R.S. § 29-1-204.5, as it may be amended from time to time, and by any other applicable law, on the same terms as and subject to the same conditions provided in C.R.S. § 43-4-605, as it may be amended from time to time.

r. To propose a referred measure to the electorate providing that the Authority is authorized to collect and spend or reserve all revenues of the Authority from existing property and sales or use taxes, non-federal grants and other revenue sources in any given year or in perpetuity to fulfill any of the prescribed purposes of the Authority, notwithstanding any limitation set forth in Article X, Section 20 of the Colorado Constitution.
ARTICLE III
ADMINISTRATIVE PROVISIONS

Section 3.1 Board of Directors. The Authority shall be governed by a Board of Directors.

a. Number and Qualification of Directors. Each of the Parties shall appoint one member to the Board. The Board of Directors shall select two additional members at large. All members must reside within the boundaries of the Authority and shall have reached the age of 18 years on the effective date of their appointment.

b. Term of Office. Each Board Member shall serve a three-year term, except for the initial at-large Board Members appointed by the Board of Directors and New Castle, who shall serve a one-year term, and the Board Members appointed by Garfield County, Eagle County and Pitkin County who shall serve a two-year term.

c. Vacancies. Vacancies other than by reason of expiration of terms shall be filled by the original appointing entity for the unexpired term.

d. Resignation or Removal. Any Board member may resign at any time, effective upon receipt by the Secretary or the President of written notice signed by the person who is resigning. Members of the Board serve at the pleasure of their appointing entity. The appointing entities may terminate the appointment of their appointees at will at any time without cause. Furthermore, unless excused by the Board, if a director fails to attend three regular meetings of the Board in any twelve-month period, or otherwise fails to perform any of the duties devolving upon him or her as a director, he or she may be removed by the Board and the appointing entity shall fill such vacancy within sixty (60) days after such removal. Consideration of removal of a director by the Board shall be at a regular or special meeting of the Board, reasonable notice of which shall be given to the director to be removed and the entity which appointed him or her.

e. Compensation of Directors. Directors shall receive no compensation for their services, but shall be entitled to the necessary expenses, including traveling expenses, incurred in the discharge of their duties.

f. Action by Board. Each member of the Board shall have one vote on matters brought before the Board. A majority of the directors shall constitute a quorum and a majority of the quorum shall be necessary for any action taken by the Board. Notwithstanding the foregoing, or any other provision herein to the contrary, the following actions shall require the approval of two-thirds (six Directors) of the full board of directors: (i) condemnation of property for public
use; (ii) proposal of ballot initiatives; (iii) the removal of a director under Section 3.1(d) herein; and (iv) termination of the Authority. Meetings of the Board of Directors shall be open to the public and conducted in accordance with the C.R.S. 24-72-201 et seq.

g. **Duties of Board.** The directors shall govern the business and affairs of the Authority. The directors shall also comply with all provisions of parts 1, 5, and 6 of article 1 of title 29 of the Colorado Revised Statutes, which provisions relate to the obligations of local governments with respect to budgets, accounting, and audits, as such provisions may be amended from time to time.

Section 3.2 **Officers.** The officers of the Authority shall be a President, a Vice-President, a Secretary, and a Treasurer, each of whom shall be elected by the Board of Directors. Such other officers and assistant officers as may be deemed necessary may be elected or appointed by the Board of Directors. Any two or more offices may be held by the same person, except the offices of President and Secretary.

a. **Election and Term of Office.** The officers of the Authority shall be elected annually by the Board. Each officer shall hold office until his/her successor shall have been duly elected and shall have been qualified or until his or her death or until he or she shall resign or shall have been removed in the manner hereinafter provided.

b. **Resignation or Removal.** Any officer may resign from office at any time, effective upon receipt by the Secretary or the President of written notice signed by the person who is resigning. Any officer may be removed from office by the Board whenever in the Board’s judgment the best interests of the Authority will be served thereby.

c. **Vacancies.** A vacancy in any office because of death, resignation, removal, disqualification or otherwise, may be filled by the Board for the unexpired portion of the term.

d. **Duties.**

(i) **President:** The President, when present, shall preside at all meetings of the Board of Directors. He or she may sign, with the Secretary or any other proper officer of the Authority deeds, mortgages, bonds, contracts, or other instruments which the Board of Directors has authorized to be executed, except in cases where the signing and execution thereof shall be expressly delegated by the Board of Directors to some other officer or agent of the Authority, or shall be required by law to be otherwise signed or executed; and in general shall perform all duties incident to the office of President and such other duties as may be prescribed by the Board of Directors from time to time.

(ii) **Vice President.** In the absence of the President or in the event of his or her death, inability or refusal to act, the Vice-President shall perform the duties of the President, and when so acting, shall have all the powers of and be subject to all the restrictions upon the
President. The Vice-President shall perform such other duties as from time to time may be assigned to him or her by the President or by the Board of Directors.

(iii) Secretary. The Secretary shall: (a) keep the minutes of the proceedings of the Board of Directors; (b) see that all notices are duly given in accordance with the provisions of the C.R.S. 24-72-201 et seq and this Agreement or as otherwise provided by law; (c) sign with the President; (d) in general perform all duties incident to the office of Secretary and such other duties as from time to time may be assigned to him or her by the President or by the Board of Directors.

(iv) Treasurer. The Treasurer shall be the financial officer for the Authority and shall: (a) coordinate with the department of revenue regarding the collection of sales and use tax authorized pursuant to paragraph (f.1) of subsection (3) of C.R.S. § 29-1-204.5; (b) have charge and custody of and be responsible for all funds of the Authority; (c) receive and give receipts for moneys due and payable to the Authority from any source whatsoever, and deposit all such moneys in the name of the Authority in such banks, trust companies or other depositaries as designated by the Board of Directors; and (d) in general perform all the duties incident to the office of Treasurer and such other duties as from time to time may be assigned to him or her by the President or by the Board of Directors. All checks written from an Authority bank account over $10,000 shall require the signature of the Treasurer and a single member of the Board of Directors or the signature of two members of the Board of Directors.

Section 3.3 Executive Director. The Executive Director shall be the chief executive officer of the Authority, shall supervise the activities of the Authority, shall see that all policies, directions and orders of the Board are carried out and shall, under the supervision of the Board, have such other authority, powers and duties as may be prescribed by the Board. The Executive Director shall be appointed by a majority vote of the Board, shall report to the Board of Directors, and shall have his or her salary and compensation set by the Board. The Executive Director shall have the authority to hire additional staff members pursuant to the budget adopted by the Board and shall also have firing authority over those staff members.

Section 3.4 Committees. The Board of Directors may create such committees as it deems necessary or appropriate in order to carry out the affairs of the Authority.

Section 3.5 Conflicts of Interest. No member of the Board nor any immediate member of the family of any such member shall acquire or have any interest, direct or indirect, in (a) any property or project acquired, held, leased or sold by the Authority; or (b) any entity with whom the Authority has contracted with to plan, finance, construct, reconstruct, repair, maintain, manage or operate any property, project or program related to the Authority. If any Board member has such an interest, whether direct or indirect, he or she shall immediately disclose the same in writing to the Board of Directors, and such disclosure shall be entered upon the minutes of the Board. Upon such disclosure, such Board member shall not participate in any action by the Board affecting the project, property, or contract unless the Board determines that, in light of
such personal interest, the participation of such member in any such act would not be contrary to
the public interest.

Section 3.6 Insurance. The Authority shall purchase and maintain at all times an
adequate policy of public entity liability insurance, which insurance shall at the minimum
provide the amount of coverage described in C.R.S. § 24-10-115(1), including errors and
omissions coverage. The Authority may purchase such additional insurance as the Board deems
prudent. The Authority’s employees acting within the scope of their employment shall be
indemnified pursuant to C.R.S. § 24-10-110.

ARTICLE IV
SOURCES OF REVENUE

Section 4.1 Sources of Revenue. The expected sources of revenue for the Authority
may include, but are not limited to the following:

a. federal, state, local and private grants or donations;
b. property management fees;
c. rents or other lease income;
d. interest on interest-bearing accounts;
e. proprietary revenue of the Parties in accordance with this Agreement;
f. sales and/or use taxes levied in accordance with this Agreement and other
applicable law;
g. ad valorem taxes levied in accordance with this Agreement and other applicable
law;
h. revenue or general obligation bonds issued in accordance with applicable law.

Section 4.2 Prerequisites for All Tax Levies. The Authority shall not establish or
increase any tax unless first submitted to a vote of the registered electors of the Authority in
which the tax is proposed to be collected. Moreover, prior to levying any tax within the
boundaries of the Authority, the Board of Directors shall:

a. Adopt a resolution determining that the levying of such taxes or fees will fairly
distribute the costs of the Authority’s activities among the persons and businesses benefited
thereby and will not impose an undue burden on any particular group of persons or businesses;
and

b. Obtain the prior written consent of the governing party or parties having
jurisdiction over the property on which the taxes or fees are proposed to be levied or imposed.

Section 4.3 Sales and Use Taxes. Any sales or use tax imposed or levied by the
Authority on any transactions within the boundaries of the Authority shall not exceed the rate of
one percent. Prior to levying any sales or use tax, the Authority shall designate a financial officer who shall coordinate with the Colorado Department of Revenue regarding the collection, administration, and enforcement of any sales and use tax to be levied in the manner established by C.R.S. § 29-1-204.5, as it may be amended from time to time, and by other applicable law. The Authority shall apply the proceeds of all sales or use taxes solely towards the purposes, functions, or services authorized by this Agreement.

Section 4.4 Ad Valorem Taxes. The Authority may levy an ad valorem tax on all properties within the Authority’s boundaries at a rate not to exceed five mills on each dollar of valuation for assessment of the taxable property within such boundaries. To levy an ad valorem tax, the Board shall certify to the Boards of County Commissioners of Garfield County, Eagle County and Pitkin County the levy of ad valorem property taxes in accordance with the schedule prescribed by C.R.S. § 39-5-128, as it may be amended from time to time. Thereafter, said Counties shall levy and collect the ad valorem taxes in the manner prescribed by law. All taxes levied under this Section 4.4, together with interest thereon and penalties for default in payment thereof, and all costs of collecting them shall constitute, until paid, a perpetual lien on and against the property taxed, and such lien shall be on a parity with the tax lien of other general taxes.

Section 4.5 Other Sources of Revenue. The Parties shall provide, at a minimum, funding for the Authority for the first three (3) full calendar years, beginning on __________, 2017, in the total aggregate amount of ______________ Thousand 00/100 Dollars ($_________ ) for each year. The Parties acknowledge that such funding may not be adequate to completely fund the Authority for such years. Funding from each party shall be subject to annual availability and appropriation by the governing body of each jurisdiction.

a. Proportional Shares of Funding. The Parties agree that the responsibility for funding the obligations set forth in section 4.5 herein should be shared by the Parties in the following percentages:

- Garfield County 15%
- Eagle County 15%
- Pitkin County 15%
- Glenwood Springs 13.75%
- Basalt 13.75%
- Carbondale 13.75%
- New Castle 13.75%

b. Payment Dates. The Parties shall pay their respective sums due to the Authority no later than January 30th of each year. In addition to the foregoing, the Parties may, from time to time, pay the Authority with proprietary revenues or other public funds for services rendered or facilities provided by the Authority, as contributions to
defray the cost of any purpose set forth in this Agreement, and/or as advances for any purpose subject to repayment by the Authority.

ARTICLE V
AUTHORITY PROPERTY

In the event of termination or dissolution of the Authority, all right, title and interest of the Authority in General Assets (as hereinafter defined) shall be conveyed to the jurisdictions that are Parties to this Agreement at the time of termination, as tenants-in-common subject to any outstanding liens, mortgages, or other pledges of such General Assets. The interest in the General Assets of the Authority conveyed to each party shall be that proportion which the total dollar amount paid or contributed by such jurisdiction to the Authority for all purposes during the life of the Authority bears to the total dollar amount of all such payments and contributions made to the Authority by all such jurisdictions during the life of the Authority. The term "General Assets" as used herein shall include all legal and equitable interests in real or personal property, tangible or intangible, of the Authority.

ARTICLE VI
TERMINATION OR ADDITIONAL MEMBERS

Section 6.1 Termination of Authority. This Agreement may be terminated by the approval of two-thirds (six Directors) of the full Board of Directors or when less than two Parties are willing to remain as parties to this Agreement. Upon termination, each Party hereto shall be released from all further liability and obligations hereunder. Notwithstanding the foregoing, the right of the Board or the Parties to terminate this Agreement shall be abrogated if the Authority has bonds, notes or other obligations outstanding at the time of the proposed termination unless provision for full payment of the same has been made by escrow or otherwise.

Section 6.2 Termination of Participation. Any party may terminate its participation in this Agreement as of the end of any calendar year by giving at least 90 days' written notice to the other Parties provided that such withdrawing party shall pay all of its obligations hereunder or any effective funding agreement to the effective date of the termination of its participation.

Section 6.3 Amendment to Provide for Additional Members. This Agreement may be amended to add one or more additional parties upon: (a) resolution of the Board of Directors providing for such amendment; and (b) approval of such amendment by the governing body of the prospective additional party and each then-existing party.
ARTICLE VII
GENERAL PROVISIONS

7.1 Effective Date. The Effective Date of this Agreement shall be the date of the last party to sign.

7.2 Entire Agreement. This Agreement embodies the entire agreement about its subject matter among the Parties and supersedes all prior agreements and understandings, if any, and may be amended or supplemented only by an instrument in writing executed by all Parties to this Agreement.

7.3 No Third Party Beneficiaries. The Parties to this Agreement do not intend to benefit any person not a party to this Agreement. No person or entity, other than the parties to this Agreement, shall have any right, legal or equitable, to enforce any provision of this Agreement.

7.4 Signatory Authority. Each person signing this Agreement in a representative capacity, expressly represents the signatory has the subject party’s authority to so sign and that the subject party will be bound by the signatory’s execution of this Agreement. Each party expressly represents that except as to the approval specifically required by this Agreement, such party does not require any third party’s consent to enter into this Agreement.

7.5 Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed to be an original and all of which together shall constitute one original Agreement.

7.6 Severability. If any term or provision of this Agreement shall be adjudicated to be invalid, illegal or unenforceable, this Agreement shall be deemed amended to delete therefrom the term or provision thus adjudicated to be invalid, illegal or unenforceable and the validity of the other terms and provisions of this Agreement shall not be affected thereby.

7.7 Notices. Except as otherwise provided in this Agreement, all notices or other communications by the Authority or any Party, any Board member or officer shall be in writing; shall be sufficiently given and shall be deemed given when actually received and addressed as follows:

Board of County Commissioners of Garfield County
Board of County Commissioners of Eagle County

Board of County Commissioners of Pitkin County

City of Glenwood Springs

Town of Basalt

Town of Carbondale

Town of New Castle

7.8 Interpretation. Subject only to the express limitations set forth herein, this Agreement shall be liberally construed (a) to permit the Authority and the Parties to exercise all powers that may be exercised by a multijurisdictional housing authority pursuant to Colorado law; (b) permit the Parties hereto to exercise all powers that may be exercised by them with respect to the subject matter of this Agreement and applicable law; and (c) to permit the Board of Directors to exercise all powers that may be exercised by the board of directors of a multijurisdictional housing authority pursuant to Colorado law and by the governing body of a separate legal entity created by contract among the Parties pursuant to C.R.S. § 29-1-203.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement the day and year set forth below.

AGREED:

13
(SEAL) BOARD OF COUNTY COMMISSIONERS
GARFIELD COUNTY, COLORADO

Deputy Clerk to the Board

__________, Chairperson
Date: ____________

Approved as to form:

__________, County Attorney

(Seal) BOARD OF COUNTY COMMISSIONERS
EAGLE COUNTY, COLORADO

Deputy Clerk to the Board

__________, Chairperson
Date: ____________

Approved as to form:

__________, County Attorney

(Seal) BOARD OF COUNTY COMMISSIONERS
PITKIN COUNTY, COLORADO

Deputy Clerk to the Board

__________, Chairperson
Date: ____________

Approved as to form:

14
County Attorney
CITY OF GLENWOOD SPRINGS, COLORADO

____________________, Mayor
Date: ______________

Approved as to form:

____________________
City Attorney

TOWN OF BASALT, COLORADO

____________________, Mayor
Date: ______________

Approved as to form:

____________________
Town Attorney

TOWN OF CARBONDALE, COLORADO

____________________, Mayor
Date: ______________

Approved as to form:

____________________
Town Attorney
(SEAL)

TOWN OF NEW CASTLE, COLORADO

__________________________, Mayor
Date: ______________

Approved as to form:

__________________________
Town Attorney

17
Proposal

2017 Housing Needs Assessment

Prepared for:
Roaring Fork Valley Regional Housing Authority

Prepared by:
Economic & Planning Systems, Inc.
in association with

September 28, 2017

EPS #173102
October 25, 2017

Ms. Katherine T. Gazunis
Executive Director
Garfield County Housing Authority
1430 Railroad Avenue, Suite F
Rifle, CO 81650

Subject: 2017 Housing Needs Assessment; EPS #173102

Dear Ms. Gazunis:

Thank you for the opportunity to propose on this very important project. Our team, Economic & Planning Systems (EPS) and RRC Associates, have collectively spent decades working for public and private sector clients in Roaring Fork Valley and its commute shed identifying affordable housing issues, needs, trends, patterns, developing policy, and assessing feasibility concerns.

Although we are not advocates per se, we have frequently advocated through our work the need for a regional housing solution in the Valley. We are, thus, already fully invested in the seeing through the success of this effort, and would sincerely welcome the opportunity to work on this important project.

Furthermore, as a sign of our team’s commitment to this project and in hope of its ultimate outcome (the creation of a regional housing authority), key personnel, each of whom have spent a minimum of a decade (and up to three decades) working with the communities of the Roaring Fork Valley, assigned to this project are:

- Andrew Knudtsen (Managing Principal of EPS), project oversight;
- Chris Cares (Principal of RRC), survey oversight; and
- David Schwartz (Vice President of EPS), Project Manager

We would like to acknowledge that in this proposal, we have made all efforts to be as detailed as possible with regard to the complexity and variability of the scope and geography. Our budget also reflects this, but serves as a first draft of an effort that may be further tailored to your needs and objectives.

As specified in the RFP, our team collectively has the capacity to complete this project within the identified timeframe.

Thank you again for the opportunity to submit a proposal for this project, and we eagerly look forward to the opportunity to work with you on this project.

Sincerely,

ECONOMIC & PLANNING SYSTEMS, INC.

Andrew M. Knudtsen
Managing Principal
PROPOSAL

Project Understanding

The Roaring Fork Valley has become synonymous with high housing costs, a tight and constrained housing supply, and an ever-expanding commuteshed. Moreover, the discontinuity of affordable housing practices, goals, policies, and initiatives by numerous counties and municipalities makes tackling affordable housing needs and issues an even more challenging problem to solve.

Today and for the past few decades, it is clear that housing needs for the workforce are not being met sufficiently. Years of applying best practices in most of the Valley’s communities has helped many, but left still many more needs unmet. We understand that this RFP has been issued to provide a solid foundation from which a regional solution can finally address a regional problem. That is, to answer a series of critical questions that create a firm understanding and quantification of the nuances of housing need throughout the Valley:

- What are the housing needs associated with a growing workforce and population?
- What happens as the supply becomes more constrained?
- What happens when workers retire and want to age in place?

The shaded areas in the following map of Colorado indicate in which counties (including municipalities) Economic & Planning Systems (EPS) and RRC Associates have affordable housing studies, needs assessments, policy and strategic plans in the Roaring Fork Valley and beyond (over just the past decade). As detailed in our qualifications, we’ve collectively completed surveys, housing studies, strategic plans, and policy studies for all communities in the RFV. Indeed, we’ve been advocating for a regional solution for years, but most of all, we care about the health, economies, and quality of life of the residents and workers who have chosen to make the Roaring Fork Valley their home (and those who would like to make it their home).
Objectives
The EPS Team understands that objectives of this study are to: 1) provide an in-depth analysis of workforce housing needs in RFV; 2) provide an age-specific analysis and projection by income level; and 3) provide a robust foundation from which we can communicate the story and issues to local governments, stakeholders, and the public.

Approach
To address these objectives, and the specific elements called out in the RFP, EPS proposes the following general approach.

- Multi-faceted survey effort – resident/employer/employee surveys, employer interviews
- Best-available data assembly
- Geocoded data to visually communicate housing issues and demand drivers
- Materials and Presentation to concisely communicate the story to stakeholders and the public

Scope of Work
The following is the EPS Team's proposed scope of work to address each of the issues outlined in the RFP.

Task 1: Project Initiation
The EPS team will conduct a Project Kick Off meeting with the client team to review scope, deliverables, and timing. We are available to travel to the area, or to conduct a conference or video call via phone, depending on schedules, availability, and timing. We envision this project initiation as a critical step in defining and identifying issues and questions of highest priority, timing and scheduling, as well as questions of project and analytical importance, such as the length of the housing demand projection, the degree to which we engage the community and stakeholders, etc.

Task 2: Survey Efforts

Task 2.1 – Household and Employer Survey
Roaring Fork regional residents and business owners will find the results of the Housing Needs Assessment to be relevant to the extent that the analysis reflects local and current conditions. Accordingly, the EPS/RRC Team proposes to use a number of research methodologies, including household and employer surveys, and interviews and other outreach techniques to address the data requirements of the study. Given that secondary sources can be dated and incomplete, local survey research will provide an accurate portrayal of the community and a good basis from which to project housing needs. Because RRC has conducted many of the past surveys in the region, the current effort can replicate questions and provide a historical comparison of results (including cross-tabs).

Further, RRC brings strong experience in conducting employer surveys in mountain communities using combinations of paper and on-line techniques. RRC has also conducted surveys for RFTA that will provide additional data, particularly on some of the local commuting patterns.
Task 2.2 – Household Survey

Because one of the best methods available to document factors affecting demand is primary research, the EPS Team will field a comprehensive household survey with a sufficient number of distributed surveys to cover incorporated communities and residents of unincorporated areas in the potential study zones. As described below, and addressed in our budget, we have assumed that the 2017 Needs Assessment will focus on one of three potential geographic areas. Our assumption is that surveying techniques and the survey instruments would be similar across all of the areas that are being considered, but we note that the employment centers (for example, Aspen, Snowmass and Glenwood Springs) represent areas of larger employment, more businesses and destinations for commuting, and as such will required some special consideration in the overall study design, sampling and analysis. Statistically valid surveys are the best and most complete source for quantitative up-to-date information on various aspects of housing demand including the interrelated factors of incomes, housing affordability, resident opinions and desires, various aspects of the commuting-decision process. As described further below, we also propose surveying employers to better understand and document the impacts of housing on businesses. Both the Household and Employer surveys will include several questions to address commuting patterns and the reasons for not living in the location of employment. Our team will design the survey instruments (with input from staff), field the survey, and tabulate results. The survey data will be used to explain the unique household characteristics and housing problems facing households within a variety of income categories.

Task 2.3 – Employer Survey

The EPS Team will also survey employers in the chosen geographic areas to assess housing need and economic impacts on employers related to housing, and to develop foundational data as requested in the RFP. Our team has found from numerous previous efforts that an employer survey provides an important perspective, particularly on the level of need by type of industry and the impact housing costs and availability have on local businesses. Additionally, for this needs assessment, where there is interest in understanding seasonal employment patterns, the Employer Survey Task will be especially important. The Survey will be designed to provide metrics that will support projections of employment for different categories of businesses, including the ski resorts, as requested in the proposal.

Additional Discussion of the Design and Implementation of Employer and Employee Surveys

As sometimes done in previous studies in the region, our team proposes to conduct the Household and Employer surveys in a coordinated manner. Following are some of the primary anticipated parameters of the research effort.

- **Questionnaire design:** Household and Employer survey instruments from past studies provide a good foundation for designing the surveys for the 2017 study. We propose to draw on prior surveys as a starting point (recognizing that continuity in the questions will facilitate comparisons back to the previous surveys), and update them based on the team’s and local knowledge. Of particular importance is our team's experience with modeling and future projections; we will ensure that we are collecting measures that are appropriate to supporting the modeling efforts and to developing a regional data-based housing foundation. We anticipate circulating survey drafts to participating representatives and will draw on input received before finalizing the surveys.
• **Anticipated sample sizes:** The final sampling program will be determined based on additional discussions. However, as an initial indication of our expectations we provide the following summary. As described below, the sample will include a combination of mailing, emailing, door hanging, and reminder techniques to obtain a high quality and representative sample of households and businesses in the selected study areas.

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<tr>
<th>TASKS</th>
<th>Surveys to be sent out (approx.)</th>
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<td>Scenario 1: RVF study area (Aspen to New Castle)</td>
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<td>Employer survey</td>
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<td>Total</td>
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<tr>
<td>Scenario 2: RVF + Colo River Valley (Silt - Parachute)</td>
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<tr>
<td>Employer survey</td>
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<td>Household survey</td>
<td>4,500</td>
</tr>
<tr>
<td>Total</td>
<td>5,800</td>
</tr>
<tr>
<td>Scenario 3: RVF + CRV + Western Eagle Co. (Eagle - Dotsero)</td>
<td></td>
</tr>
<tr>
<td>Employer survey</td>
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<tr>
<td>Household survey</td>
<td>5,500</td>
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<tr>
<td>Total</td>
<td>7,300</td>
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</tbody>
</table>

In designing the surveying effort, we anticipate that the fieldwork will occur in winter 2018, ideally at a time when the geographic areas are at full employment (January through March). However, there will likely be a need to address some of the summer seasonal work patterns in both the Household and Employer surveys.

• **Communications and follow-up:** We propose to use public service announcements, press releases, and similar communication efforts to increase awareness and participation in both the Household and Employer surveys. Additionally, follow-up calls to employers proved helpful in the last study to enhancing response rates. Our team anticipates using a staff member from RRC based in Carbondale to assist with the regional coordination, outreach, and survey distribution/fieldwork as needed.

• **Data entry, data processing, analysis, and reporting:** RRC Associates will be responsible for survey data entry and data processing. Having managed the data processing for the two previous studies, RRC is prepared to "merge" the datafiles of the old and new studies to facilitate comparisons of the results. RRC is also familiar with statistical weighting techniques to ensure the data is representative of the local population, if necessary.

Analysis and reporting of survey results will be jointly completed by the members of the team. Where appropriate, past survey findings and macro trends in historic and anticipated population change will be addressed in our work.

• **Survey distribution method for the Household Survey:** The Household Survey will be distributed based on a purchased mailing list of households in the selected geographic areas. We anticipate offering respondents the opportunity to respond by either mail (to a paper form sent to their home) or via the web by following directions provided in a cover letter accompanying the paper survey. Our team has found that electronic response is preferred by many respondents and we therefore try to offer a choice in response methods.
Our Household survey process anticipates sampling methods to attempt to reach both English and Spanish-speaking residents through a combination of survey distribution techniques (if desired). We have used door-to-door Spanish survey distribution in selected areas in past needs assessment surveys to augment participation levels and we believe this method may be appropriate in the Roaring Fork regional context. This approach would be explored with client representatives.

We also suggest that the potential to offer a drawing for incentive prizes for participating in the Household survey be considered. We have used grocery gift cards or other locally sourced prizes as incentives in some past surveys. This incentive program has been found to boost response in similar studies in the Valley, as well as in other locations.

- **Survey distribution method for the Employer Survey:** We propose to use similar survey distribution methods to those used in past studies. These include:
  - Assembling a list of employers throughout the study area (based on ES202 employer address files, and/or other lists as may be available).
  - Drawing a sample of employers that is representative of the universe of all employers, taking into account employer size (number of employees) and location. Special care will be taken to include the largest employers in the survey, who account for a disproportionate share of jobs in the region. The employer sampling frame will also consider and account for the geographic areas selected for the study. Household and employer sampling will take into account unique attributes or considerations of the included communities, and past experience with surveys where available.
  - Contacting identified employers through the mail or via email. We are prepared to conduct special outreach efforts, including phone or in-person interviews to ensure participation of a representative sample of largest and key employers

**Task 3: Housing Supply Conditions Analysis**

The EPS Team has crafted this task to assemble and analyze the full extent of housing occupancy and supply characteristics for the selected geographies. In the framework of understanding and quantifying what the workforce, age-level, and income-level housing needs are and are projected to be over time, the collection and assembly of robust and reliable primary and secondary data sources is critical.

**Task 3.1 – Occupancy Inventory**

The first component of the supply-side analysis is to quantify the relevant characteristics of occupancy using both primary and secondary data sources. The EPS Team will document the following conditions and trends using U.S. Census data, including the most recent 5-year American Community Survey (ACS) data for socioeconomic variable apportionment purposes, as well as 1-year ACS estimates for control total purposes. For many, if not all of the following variables, e.g. identifying magnitudes of households with multiple job holdings, we will combine the quantitative findings of our primary data collection. This combination of data sources will create a robust foundation and simultaneously provide cross-validation of both sources.

- All households by tenure
• By income with AMI breakdowns (very low, low, moderate income levels, etc.)
• Overcrowding
• Cost-burden
• Household types (# children, seniors, disability, etc.)
• Job holdings per household
• Seasonal population

Task 3.2 – Housing Costs and Construction Trends
The second component of the supply-side analysis will be to quantify the trends and changing conditions of housing costs and residential construction. The outcome of this task will be a geospatial visualization of housing construction by type and valuation, and of housing costs (depicted by for-sale pricing and rental rates by unit type and size, as relevant) over the past 5 years. The purpose of this component is to provide a quantitative and visual framework for communicating the urgency of the story and issues to local and regional stakeholders. The EPS Team will work with each of the municipalities and counties to collect residential building permit data, ensuring that date issued, addresses, valuations, unit counts, and floor area information are available. We will also gather information necessary to categorize these construction trends by affordability (AMI) level, senior housing, LIHTC type, deed-restricted ownership, and tenure. We will also collect and analyze a 5-year trend in for-sale housing, utilizing our broker contacts in the valley to obtain address/record-level MLS data over time. To obtain the same level of information for the rental market, the EPS Team will access its subscription-based (Costar/Apartments.com) database of all U.S. rental properties, vacancy characteristics, rental rates by number of bedrooms, locations, and count of units.

Task 3.3 – Housing Supply Pipeline
The last component of the housing supply and occupancy characteristics task is to document the residential development pipeline, i.e. projects that are in-process, approved, or yet undeveloped, etc. The EPS Team will geocode all of the pipeline projects and identify respective number of market-rate versus affordable units, their tenure, and anticipated price points through interviews with planners and developers. The outcome of this task is to provide a visualization of quantitative information about the limitations and affordability components of supply in the foreseeable future.

Task 4: Demand Drivers and Conditions
The purpose of this task is to quantify relevant characteristics of demand, i.e. the drivers and factors influencing housing demand. The outcomes of this task will illustrate a robust intersection of both primary and secondary data sources and serve to build and communicate the critical elements of the “story” to regional stakeholders and the public. Here, the EPS Team will develop quantitative and qualitative cross-sections of different demographic (e.g. locational, household type, and age levels) and economic (e.g. locational, industry-related, household income and financial capacity factors) drivers of demand.

Task 4.1 – Employment and Wage Trends
The outcome of this task is to generate a visual quantification of employment by industry throughout the RFV that depicts the magnitude and seasonality of employment, multiple job
holding patterns among seasonal versus year-round workers, and the cross-commuting patterns (and associated income levels). In this analysis, the objective is to document and visually depict trends in employment, wages, multiple job-holdings, seasonality, and cross-commuting patterns. The EPS Team will utilize both primary (surveys) and secondary sources (Colorado Department of Labor and Employment, Quarterly Census of Employment and Wages microdata; and Census Longitudinal Employment Household Dynamics). And as called out specifically in the RFP, this task will identify magnitudes of workers/employers who commute outside their communities to another location in the RFV, the distribution of distances travelled, and their respective household incomes.

**Task 4.2 - Worker/Resident Profiles and Characteristics**

The outcome of this task is to fully identify the critical residential preferences of households and workers throughout the selected geographies. This includes documenting the number, distributions, and patterns of households by a variety of characteristics:

- Place of residence
- Place of work
- Type of household, age, children, etc.
- Number of job holders
- Interest in relocating
- Future preferences for independent versus assisted living facilities
- Desire and ability to purchase (down payment availability);
- Factors that influence their desire to purchase a home elsewhere
- Cross-section of modes of transport (drive alone, car/vanpool, public transportation, etc.)
- Cross-section of commuters (i.e. where they live, why not in place of employment, wages, etc.)

**Task 5: Housing Issues, Demand, and Needs**

Utilizing the data collection and analysis from the previous several tasks and efforts, the EPS Team will synthesize data and analysis into area-wide and location-specific metrics. The analysis and synthesis of the entire project’s efforts will be presented visually to portray the critical issues, such as cost-burden, overcrowding, seasonal workforce dynamics, unmet employer needs, financial capacity characteristics of households by AMI, and a projection of housing needs by income and type. In addition to outlining the preceding components, this task will provide a robust framework and rationale for projecting demand drivers and housing needs in the valley. This task is specifically crafted to meet the 1st and 2nd stated purposes from the RFP: "to provide an analysis of the...future needs for workforce housing...in relation to AMI"; and to "provide...a projection of growth of the senior population...".

**Task 5.1 - Housing Demand Issues and Factors**

The EPS Team will provide area-wide and location-specific metrics in terms of overcrowding and cost-burden by AMI level, as well as more employment-commuting-specific metrics such as unmet needs of employers by location, the impacts of seasonal workforce on housing supplies area-wide and in specific locations. The analysis will also visually depict the age-level and income characteristics by location, so as to provide a basis for understanding the "starting point" of housing needs for the future in terms of the magnitude of housing demand by type, location, price point, capacity for down payment, and preferences for senior living.
**Task 5.2 – Projection of Housing Need**

With the client team, we will identify a suitable timeframe for projecting various trends of housing demand drivers such as growth of the workforce, employment by industry, etc. The EPS Team has been completed numerous economic and demographic forecasting studies for a wide variety of projects, from projections of economic and demographic growth for investment purposes, the calibration of regional transportation growth models, housing and demographic demand studies, etc. We propose to provide a customized methodology suitable to this project and its projection timeline to identify growth in employment, anticipated changes to seasonality conditions, and commuting patterns. The outcome will be to develop a projection of housing needs by type, tenure, projected AMI levels, and age-related needs (e.g. independent living, assisted living).

**Task 6: Deliverables**

Depending on the interests of the client team, the EPS Team is prepared to provide whatever degree of written report and documentation is necessary for successful communication of the story and issues to stakeholders and the public.

**Task 6.1 – Executive Summary and Presentation**

At a minimum, the EPS Team will provide an Executive Summary of the analysis and findings, as well as a full presentation with detailed, graphics, maps, and analytical results. Understanding that the purpose of this effort is to generate support for the establishment, organization, and funding of a regional housing authority, the EPS Team understands that audiences and stakeholders will have limited capacity to digest extensive written documentation, but will likely have the capacity to comprehend a concise written document and visuals from a presentation that convey the story, message, and issues in a persuasive structure.

**Task 6.2 – Detailed Report with Appendix (Optional)**

To the extent the client would like a full report that provides a full and detailed narrative of the data collection efforts, sources, methodologies, analysis, and findings, the EPS Team can provide a written report with multiple appendixes that will provide complete transparency of the work completed to satisfy the most discriminating readers.

**Task 6.3 – Public/Stakeholder Presentations as Needed (Optional)**

As mentioned earlier (and illustrated by our qualifications), the EPS Team has collectively spent decades working for public and private sector clients in Roaring Fork Valley and its commute shed identifying affordable housing issues, needs, trends, patterns, developing policy, and assessing feasibility concerns. And although we are not advocates per se, we have frequently advocated through our work the need for a regional housing solution in the Valley. We are already fully invested in the seeing through the success of this effort, and would welcome the opportunity to make presentations to communities or stakeholders at the completion of the study.


**PROJECT BUDGET**

The EPS Team has made a best effort to construct a budget based on a variability in the complexity, scope, and geography of this project. We would like to iterate that we are flexible in working with the client on a budget and level of effort that are workable for the project's objectives. That said, this budget details each task and level of effort by staff, with the optional full detailed report, as well as additional levels of effort necessary to address issues and analysis for the Cost Areas B and C.

### Table 1
Proposed Project Budget

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<td>Task 5.2 - Final Model/Report with Appendices (Optional)</td>
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<td>Task 6 - Public/ Stakeholder/ Presentations as Hired (Optional)</td>
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**Direct Costs**

- Data Acquisition: $2,000
- Cost Area A - printing, postage, etc.: $0
- Cost Area B - printing, postage, etc.: $0
- Cost Area C - printing, postage, etc.: $0
- Subtotal: $2,000

**Total Project Cost (only Cost Area A, excluding Task 6.2)**

- Cost Area B: $54,375
- Cost Area C: $58,225
- Subtotal: $112,600

**Note:** This estimate is subject to change based on further analysis and client input.

Source: Economic & Planning Systems, Inc.

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*Project Budget*
**PROJECT TIMELINE**

Based on the scope of services, we estimate completing this project within 9 to 12 months of project initiation, dependent on a variety of factors.

**Figure 1**
Proposed Project Timeline

- **Task 1: Project Initiation**
  - 12-16 weeks

- **Task 2: Survey Efforts**
  - 6-8 weeks

- **Task 3: Housing Supply Conditions Analysis**
  - 4-6 weeks

- **Task 4: Demand Drivers and Conditions**
  - 8-10 weeks

- **Task 5: Housing Issues, Demand, and Needs**
  - 6-8 weeks

- **Task 6: Deliverables**

**Major Milestones**
- Project Initiation, design of survey instrument, client review
- Review with stakeholder group to present and discuss findings, solicit input, discuss direction
- Completion of all analysis and opportunity for discussion and stakeholder input
- Submit draft report for staff review, available for presentation

*Economic & Planning Systems, Inc.*
Relevant Experience
RELEVANT EXPERIENCE/REFERENCES

About EPS

Economic & Planning Systems, Inc. (EPS) is a land economics consulting firm experienced in the full spectrum of services related to real estate development, the financing of public infrastructure and government services, land use and conservation planning, and government organization.

EPS was founded on the principle that real estate development and land use-related public policy should be built on realistic assessment of market forces and economic trends, feasible implementation measures, and recognition of public policy objectives, including provisions for required public facilities and services. The firm’s areas of expertise are as follows:

- Real Estate Economics
- Public Finance
- Land Use and Transportation
- Economic Development and Revitalization
- Fiscal and Economic Impact Analysis
- Housing Policy
- Public-Private Partnership (P3)
- Parks and Open Space Economics

Since 1983 EPS has provided consulting services to hundreds of public- and private-sector clients in Colorado and throughout the United States. EPS is located in Denver, Colorado, and Oakland, Sacramento, and Los Angeles, California. EPS clients include cities, counties, special districts, education and other non-profit institutions, multi-jurisdictional authorities, property owners, developers, financial institutions, and land use attorneys.

The professional staff of 46 includes specialists in public finance, real estate development, land use and transportation planning, government organization, and computer applications. The firm excels in preparing concise analyses that disclose risks and impacts, support decision making, and provide solutions to real estate development and land use-related problems.

Housing Experience

Adequate and affordable workforce housing is critical to the sustained vitality of any regional economy. The high cost of housing has caused the dislocation of many individuals integral to the functions of the economy and community in many mountain and rural areas in the West. In such places, the provision of below-market rate housing of various forms is important to the strength and diversity of the economic base, the optimal use of land and transportation resources, and the environmental and social health of the community and region.

EPS conducts market analyses for market-rate housing, affordable housing, and housing for special populations. We evaluate the financial conditions associated with the production of affordable or special needs housing. EPS also evaluates the physical and economic linkages between jobs and housing and the impacts that employment growth has on housing needs. We also analyze the impacts of land use and growth control measures on the ability of the private sector to meet the demand for housing.
Adequate and affordable housing is critical to the sustained vitality of any regional economy. In resort economies, the high cost of housing has caused the dislocation of many individuals integral to the functions of the economy and community. In such places, the provision of fees to mitigate these economic forces is integral to the strength and diversity of the economic base, the optimal use of land and transportation resources, and the environmental and social health of the community and the region.

EPS has a depth of affordable housing related experience. In addition to conducting evaluations to support municipal fee programs, EPS has completed numerous affordable housing market and feasibility studies; evaluations related to the physical and economic linkage between jobs and housing; and analysis of the impacts that employment growth has on housing needs. We have also analyzed the impacts of land use and growth control measures on the ability of the private sector to meet the demand for housing.

**Representative Projects**

- CDOT Employee Housing Assessment, *Eagle & Summit Counties, Colorado*
- Aspen Affordable Housing Strategic Plan, *Aspen, Colorado*
- Aurora Housing Authority Housing Needs Assessment, *Aurora, Colorado*
- Workforce Housing Needs Assessment, *Basalt, Colorado*
- Lower Roaring Fork Housing Initiative, *Basalt, Carbondale, Glenwood Springs, Colorado*
- Housing Study and Strategy, *Chaffee County, Colorado*
- Housing Needs Assessment, *Lake County, Colorado*
- Affordable Housing Strategy, *Telluride, Colorado*
- Senior Housing Needs Assessment, *Gilpin County, Colorado*
- Smart Growth Trends in the Northern Rockies, *Colorado, Idaho, Montana*
- Inclusionary Zoning Ordinance Feasibility Update, *Denver, Colorado*
- Affordable Housing Density Bonus Incentive Feasibility, *Portland, Oregon*
- Housing Policy and Inclusionary Zoning Feasibility Study, *Nashville, Tennessee*
- Development of Province-Wide Online Inclusionary Zoning Policy Tool, *Ontario, Canada*
- Boulder Affordable Housing Density Bonus Analysis, *Boulder, Colorado*
- Douglas County Housing Nexus Study, *Douglas County, Colorado*
- Artisan Park Development and Disposition Consulting Services, *San Antonio, Texas*
- Comprehensive Housing Market Study, *Kane County, Illinois*
- Flagstaff Housing and Community Sustainability Study, *Flagstaff, Arizona*
- Housing Needs and Strategy, *Big Sky, Montana*
- Vail Chamonix Housing Feasibility Analysis, *Vail, Colorado*
- Wasatch Choices 2040 Housing Needs Assessment, *Wasatch Front, Utah*
- Stapleton Foundation Affordable Housing Study, *Denver, Colorado*
- Affordable Rental Housing Market Opportunities, *Phoenix, Arizona*
- Teton County Housing Needs Assessment, *Teton County, Wyoming*
- Colorado Affordable Housing Trust Fund Economic Impact Analysis, *Denver, Colorado*
- City of Aurora Consolidated Plan, *Aurora, Colorado*
Representative Projects

CDOT Workforce Housing Study
Eagle County and Summit County, Colorado

The Colorado Department of Transportation (CDOT) contracted EPS to complete a workforce housing study that evaluated housing strategies for three maintenance facilities in Eagle County and Summit County, Colorado. The purpose of the study was to create a master plan for a long-term affordable housing solution in these submarkets that met CDOT’s current and future housing needs and developed a master plan for meeting those needs.

The study was comprised of three major components that included a market overview, employee housing survey, and development feasibility analysis. The market overview included a detailed analysis of rental and for-sale residential trends and conditions in the areas surrounding the CDOT maintenance facilities. In addition, this component of the study included an analysis of the economic composition of these areas that showed peak to trough employment trends between 2000 and 2015 and the extent of the economic recovery in each county.

Aspen Affordable Housing Strategic Plan
Aspen, Colorado

The City of Aspen had an inventory of acquired or available sites suitable for development of affordable housing as well as two dedicated revenue streams designed to support this type of development (a sales tax and real estate transfer tax). However, because of intense community debate about the impacts from growth and sprawl and the costs of affordable housing subsidies, there had been no new affordable housing proposals for several years and no clear direction on how to proceed.

The City of Aspen retained EPS to provide a strategy for increasing the inventory of affordable housing in the City. The primary purpose of the strategy was to help the City understand where it could leverage its resources and capitalize on the greatest opportunities in a cost-effective manner. EPS grounded the strategy with a housing needs assessment, which provided aggregate targets for housing production, as well as goals for specific income levels. EPS evaluated multiple housing development options, including those involving the public and private sectors. Based on detailed pro forma models developed for seven sites and three prototypical infill projects, EPS prioritized the development opportunities using policy-based evaluation criteria, which included the relative subsidies required for each site. In addition, a financial analysis of the costs and revenues associated with the aggregate housing program over a 10-year period was provided to document how the City could accomplish its goals. Based on the analysis provided by EPS, the City adopted the recommended 10-year action plan and proceeded with the highest priority project. The City also restructured the Housing Authority and staff based on recommendations contained in the plan.
Housing Conditions and Policy Update
Basalt, Colorado

EPS was retained to identify how market and economic conditions since the recession had changed and to what extent housing supply was or was not meeting demand. EPS conducted a targeted employee survey to collect primary data on residence preferences and assessed how widening gaps between local housing costs and lower-paid employees and their households were contributing to the need for a locally-funded affordable housing solution. The work included a full analysis of supply and demand conditions, such as trends in demographics, employment, wages and income, and commuting, as well as the housing inventory. EPS found that exacerbated cost-burden conditions, a drastic increase in low-wage jobs, housing prices in excess of the local workforce, and the lack of new affordable inventory in the pipeline contributed to a workforce development problem. Recommendations were made related to actions that the Town could take to mitigate the causes and effects of these problems.

Telluride Foundation Workforce Housing Study
Town of Telluride, Colorado

EPS was contracted by the Telluride Foundation to evaluate the need for workforce housing in the Telluride region and develop a feasibility model designed to illustrate the potential for workforce housing development through public private partnerships. Similar to many mountain communities across the west, the Town of Telluride is continually faced with the challenge of providing affordable housing for its local workforce. While the Town and surrounding areas, that include Mountain Village and San Miguel County, have worked to provide affordable housing for the local workforce, there continues to be a need.

This study was defined by two major components. The first included an evaluation of the need or demand for workforce housing that identified the size of the local workforce by income group. This was compared to the corresponding supply of housing that was available to each income group in order to determine where gaps in the supply of housing existed.

The second aspect of this project included a detailed feasibility analysis of potential workforce housing development projects in Telluride, Mountain Village, and San Miguel County. The goal of the feasibility analysis was to provide the Foundation and city and county staff with an understanding of the potential for workforce housing development through public private partnerships. To do this, EPS built a multi-faceted development feasibility sensitivity model to identify the extent to which public private partnerships could be leveraged to incent the development of workforce housing.
Chaffee County Housing Strategy
Salida, Buena Vista, and Poncha Springs, Colorado

In 2006, Chaffee County was a relatively undiscovered area of Colorado situated among 14,000-foot mountain peaks in the Arkansas River Valley and within 2.5 hours of the growing Denver and Colorado Springs metropolitan areas. The area is rich in recreational attractions yet has housing that is considerably less expensive than other Colorado mountain communities. With the publication of several articles in national newspapers and magazines, including being listed as one of Outside Magazine’s best small towns, second home construction and tourism have grown. Chaffee County is also increasingly appealing to retirees from the Front Range urban areas. These market and demographic forces are changing the area and increasing the cost of housing for local residents and workers.

EPS prepared a new Housing Needs Analysis for Chaffee County, building on previous work completed in 2006. The focus of this update was more on implementation measures and policies, as the major themes and trends in the communities are stable but affordability challenges have increased substantially. There are also a number of new opportunities for expanding the affordable and attainable housing supply. These include partially developed subdivisions with heavily discounted land as a result of the great recession and the City of Salida’s Vandaveer ranch property. EPS created prioritized list of actions, strategies, and policies judged to have the most potential for implementation in Chaffee County. Key recommendations included options for dedicated local funding, supporting a land trust, and forming a regional housing authority if sufficient participation can be brought from each government entity.

Senior Housing Needs Assessment
Gilpin County, Colorado

Gilpin County is a small rural county in the Front Range of Colorado’s Rocky Mountains of approximately 5,200 people. County officials and service providers were concerned that the County’s senior population may not have adequate housing and provision of services. As a rural county, the majority of its County’s senior population is believed to be aging in place in their single family detached units. These homes are scattered throughout the County and are not close to medical services, shopping, or other daily necessities. The County has a large supply of undeveloped lots in platted subdivisions which are believed to provide ample reasonably priced housing for working people. However, due in part to the lack of urban services outside Black Hawk and Central City, there are few areas suitable for senior housing.

The County contracted with EPS to complete a housing needs assessment in fulfillment of the CDOH’s housing template to determine not only housing needs and gaps, but those needs specifically related to the serve current and projected senior population through housing and programmatic solutions. A key issue was the level of market support for senior housing in Gilpin County, and whether sufficient demand existed to justify constructing new senior housing or the
expansion of existing or non-existing services. The team of consultants led by EPS conducted primary and secondary research including a household and agency/service-provider survey, as well as senior population focus groups and interviews, to determine the levels of supply and demand in housing and services to the senior population in order to provide the community with an actionable plan for addressing those needs as they exist and are projected to change in the future.

**Sonoran Institute Smart Growth in Northern Rockies**

Colorado, Montana, Idaho

The Sonoran Institute contracted with EPS as the lead consultant to understand the degree of potential demand for smart growth housing products in rural western regions, specifically Western Colorado and the Northern Rockies. Smart growth concepts have had good market traction in many progressive communities located throughout the west. However, the recession from 2007 through 2009 and protracted recovery changed the economic and market landscape. The primary objective of this study was to document the economic and demographic drivers of selected representative communities, link these drivers to housing supply and demand and recent market performance, and provide direction about future needs and trends based on economic forecasting for the representative communities.

Some of the key questions addressed include: identifying what segments of the market gravitate to smart growth products; what degree these segments will grow or contract in the future; and what might cities or towns do, related to policy, planning, and visioning to better position a community to increase the amount of smart growth in the future. EPS’s analysis expanded on the body of knowledge regarding smart growth in the western U.S., using national level understanding as a platform for departure. The study integrated primary and secondary data, including a household survey in six communities to formulate a planning and policy document that provides guidance to the Sonoran Institute as it partners with private sector (developers, lenders, brokers, or designers) and public sector (cities or towns, city councils, BoCC members, and appointed officials).

**Telluride Affordable Housing Strategy**

Telluride, Colorado

The Town of Telluride faced the challenge of maintaining its affordable housing inventory for local residents and employees in the face of escalating housing prices. The Town was concerned that the employment base would be inadequate to support local businesses in the future. Additionally, the Town was concerned that residents, including children growing up in Telluride, would be unable to afford to remain in the community.

The Town retained EPS to develop a housing strategy to identify production targets and evaluate funding sources. For the initial task, EPS quantified the current and future supply and demand for housing. Existing housing programs in the Telluride Region were evaluated, as well as employment projections, commuting patterns, and residency goals. EPS developed production targets that included number of units, type of unit, and sales/rental rates based on the analysis.
of local demographics. EPS then worked with Town staff to assess vacant sites, establish ranking criteria, and identify a top tier of potential sites. The final task involved a financial analysis and an implementation program prioritizing capital and operating investments against revenue sources.

**Demographics and Housing Opportunities Study**

**Windsor, Colorado**

As the economy of the North Front Range between Denver and Fort Collins has expanded, the Town of Windsor has experienced strong population growth and demand pressures. Its prime location and access to I-25 make it an ideal community for workers across the region. Since 2000, the Town has taken a progressive and comprehensive approach to addressing the community's growing needs, particularly in regards to developing a suitable inventory of workforce housing. After adoption of the Town’s Comprehensive Plan in 2002, the Economic Incentives Resolution for housing was passed in 2004, which granted incentives to developers who provide workforce housing in their development. In 2007, the Town commissioned EPS to study workforce housing needs and community preferences, after which the Town took further action to incent two new significant workforce housing projects.

By 2014, with the national recession past and a recovery well underway, the Town selected EPS to update how demographics and the economy had changed, project how they might change in the future, evaluate where development could occur, and identify what the impacts to the Town’s ability to deliver municipal services would be under scenarios where growth occurred as greenfield or infill. With economic, demographic, and housing market as well as current land use and zoning contexts, EPS built a land use efficiency and supply model to analyze how projected growth might affect the Town under a range of land use assumptions. To address and leverage these likely future conditions, EPS recommended a range of land use, zoning, and housing policy changes to manage its future in a fiscally-responsible manner.

**Artisan Park Development and Disposition Consulting Services**

**San Antonio, Texas**

EPS has been contracted by the San Antonio Housing Authority (SAHA) to assist in formulating and implementing a strategy to engage private developers in the development of a property owned by SAHA, Artisan Park. These services will evaluate the site's development potential and the revenues that could be generated from it for SAHA's affordable housing mission, to recommend the optimal strategy to engage with the development community to deliver the project and to assist in the solicitation and negotiations with a master developer or individual vertical builders, as appropriate.
The analysis will provide SAHA with a more comprehensive and up-to-date understanding of development potential and value, which will be important to know prior to soliciting proposals from master developers. It will also determine whether a master developer is the best approach to delivering the project, or if there are more efficient approaches that could yield better financial outcomes to SAHA.

**Garfield County Cattle Creek Crossing Market Analysis**

*Garfield County, Colorado*

Cattle Creek Crossing is a 240-acre site located in the Roaring Fork Valley in Garfield County, Colorado. At the time of entitlements, it was one of the last remaining large-scale tracts of vacant land located between the towns of Aspen and Glenwood Springs. The vision of the developer was to create a mixed use, master planned community with 1,000 dwelling units that ranged from rental apartments to river front estate homes. The plan also included a town center with 40,000 square feet of retail and office uses. Two central questions faced the developer: how to gauge the depth of demand across a broad spectrum of potential residents, and how to provide an optimal distribution of products to maximize revenue.

The developer retained EPS to conduct a market study for the project and to advise the development team regarding market segmentation, pricing, product definition, and absorption. EPS used a combination of qualitative and quantitative research methods to document the conditions for each of the submarkets throughout the Roaring Fork Valley. The analysis covered deed restricted workforce housing as well as luxury product priced at $1.5 million and above. EPS identified the market niches of greatest activity, documented thresholds for the relevant buyer profiles, and recommended a unit mix and corresponding pricing that positioned the development competitively and achieved the targeted returns of the developer.

**Tree Farm Market Study**

*Eagle County, Colorado*

EPS was retained to complete a residential and commercial market analysis for a 72-acre planned development with sketch plan approval from Eagle County for 319 housing units and 96,375 square feet of commercial space. The primary purpose of the market study was to evaluate the proposed use, propose adjustments in the product mix and pricing based on current and forecasted market conditions, and determine a likely development timeframe and phasing plan, and identify any impacts on the County.

EPS evaluated conditions and trends in the Mid Valley relevant to market rate, affordable, and resident-occupant housing products. The residential analysis assessed demographics, building activity, the development pipeline, product mix, and affordable trends. The study included an analysis of the competitive developments in the Mid Valley, an inventory of the unsold, unbuilt and approved housing units. The commercial market analysis included an inventory of retail commercial, office commercial, and service commercial/industrial space in the Mid Valley. EPS estimated existing retail expenditure and total personal income, inflow and leakage of retail sales by store type, and existing store sales for the Mid Valley. The analysis also included a forecast of demand for retail space, and retail development potentials for the project by store type. The industrial analysis evaluated the inventory of competitive space, live/work unit developments, historical development conditions, and estimated the development potentials for industrial space and live/work space.
EPS Other Current Contract Work

This list of EPS' current projects is shared by a total of 8 professional staff, not just the individuals assigned to this project.

Portland OR On-Call Economic & Real Estate
San Antonio VIA GPC Task Order 4
Blueprint Denver Plan Update
Longmont TOD Advisory Services
Casper WY Annexation Fiscal Analysis
Reno NV Master Plan Phase II
San Antonio VIA Rapid Transit Corridors
Telluride Valley Floor Economic Analysis
Summit County Wintergreen Market Study
Dallas TX NTTA Economic Impact
Lakewood Housing Study
Downtown Denver Multi Modal Access Plan
Denver TOD 40th & Colorado Market Study
San Antonio TX Tomorrow Planning Area
Castle Rock Economic Development Plan
San Antonio TX VIA Randolph Park and Ride
Denver RTD SH 119 BRT Corridor Study
Denver Sun Valley Pro Forma
Westminster 71st and Federal Gorman
MT UT NM Gart Investment Fund Market
Brighton Economic Development Strategy
Ridgway Market and Feasibility Analysis
Colorado Springs Hotel Market Study
Wheat Ridge TIF Request Project Review
Pueblo Evraz Facility TIF Study
Avon Fiscal Peer Comparison

Colorado Springs Airforce Academy P-3
Denver Highline Canal Implementation Strategy
South I-25 Traffic and Revenue Study
Lake County Housing Needs
Fort Collins On-Call Financial Services
Norman OK Comprehensive Plan
Trinity River TX 10-Year Strategic
Centennial Comprehensive Plan
Ontario Canada Inclusionary Zoning
Colorado Nonprofit Economic Impact Study
Casper WY Amoco Brownfields Market Analysis
Fort Collins City Plan, Transportation
Gardner KS Main Street Corridor Plan
Denver RTD Real Estate Services
Greeley Comprehensive Plan
Bozeman MT Economic & Demographic
Lincoln NB Infrastructure Economic
Adams County Local Financing Study
Billings MT Downtown and East Urban
Englewood Growth Forecasts
Casper WY Conference Center Feasibility
Aurora Northeast Transportation Study
Littleton Bellevue Corridor Plan
Nashville TN Transfer of Development
Northern Colorado Housing Density Analysis
Grand Forks, ND UND Real Estate Asset
Housing Needs Assessments / Housing Studies

Needs assessments comprehensively examine market conditions and quantify housing problems and opportunities faced by communities or regions. While each is customized to address our client's unique needs, they typically consider housing costs relative to income, housing problems including overcrowding and substandard conditions, the relationship between jobs and workforce housing, existing rental and ownership market conditions, demographics, special needs populations and the impacts of commuting and regional influences on housing demand. Our reports identify opportunities and provide the framework for developing solutions to address quantified needs. In addition, we have worked with many clients to develop strategic housing plans which are tailored to the specific needs of the community or region.

In the past two decades RRC, often in collaboration with Clarion Associates, EPS and/or Rees Consulting, has completed needs assessments, nexus studies, and/or other specialized housing evaluations for numerous clients (a sample is shown below); many of them have utilized our services multiple times to assess needs and potential solutions as they have changed over the years.

Colorado Mountains and Rural Areas
- Aspen and Pitkin County
- Eagle County and Vail, Avon, Edwards, Eagle, Basalt and Gypsum
- Summit County and Breckenridge, Silverthorne, Keystone, Copper
- Gunnison County with Crested Butte, Mt. Crested Butte and Gunnison
- Clear Creek County with Georgetown and Idaho Springs
- Grand County with Winter Park, Tabernash, Granby and Grand Lake
- Garfield County and Glenwood Springs
- San Miguel County with Telluride and Mountain Village
- Routt County with Steamboat Springs, Hayden and Oak Creek
- Teller County and Cripple Creek, Victor and Woodland Park
- Lake, Coster and Fremont Counties

Colorado Urban Areas
- City of Boulder
- Boulder County and Broomfield region with cities of Boulder, Louisville, Longmont, Lafayette, Erie and Superior
- City of Longmont
- Elbert County
- City of Westminster
- City of Broomfield
- Weld County and the City of Greeley

Western States
- Santa Fe County and City of Santa Fe, New Mexico
- Hobbs, New Mexico
- Valley County and Adams County, Idaho
- Central Oregon Region covering counties of Deschutes, Crook and Jefferson
- Blaine County, Idaho
- Eastern Sierra Region covering Mono and Inyo Counties and cities of Mammoth Lakes and Bishop, California
- Teton County and Jackson, Wyoming
NEEDS ASSESSMENTS

A SAMPLING OF SURVEY-BASED STUDIES TO SUPPORT AFFORDABLE HOUSING, PARKS AND RECREATION, AND PLANNING NEEDS ASSESSMENTS

Blaine County Housing Studies
Broomfield Connection
Carson City Housing Master Plan
Central Oregon Regional Housing Agency
Chaffee County Housing Study
City of Aspen Nexus Studies
City of Boulder (numerous studies)
City of Brighton Parks and Recreation
City of Castle Rock Community Survey
City of Girdwood
City of Grand Junction Parks and Recreation
City of Grass Valley Housing Study
City of Lafayette Housing Study
City of Pueblo Community Survey
City of Santa Fe Housing Study
City of Steamboat/Routt County Housing Studies
Denver Urban Renewal Authority
Douglas County Housing/Growth Mgt Elements
Eagle County Housing Studies
Fraser Valley Metropolitan Recreation District
Grand County Housing Study
Grand Junction Downtown Housing Survey
Gunnison County Housing Studies
Healthy Mountain Communities
Homeowner Nexus Studies - Florida
Jefferson County Housing Survey
Jefferson County Open Space Parks
Larimer County Open Lands
Oklahoma City Community Appearance Survey
Park County Master Plan Survey
Pitkin/Garfield County Housing Studies
Teton County Housing Studies
Town of Mammoth Lakes Housing Needs Assessment
Town of Mountain Village Community Surveys
Telluride/San Miguel County Housing and Community Surveys
Town of Frisco
Town of Breckenridge/Summit County Community Surveys
Town of Estes Park
Town of Vail Housing, Nexus and Community Surveys
Limon Housing Project
Roaring Fork Transit Agency (RFTA)

Sun Valley/Ketchum, Idaho
Broomfield, Colorado
Carson City, Nevada
Redmond, Oregon
Salida, Colorado
Aspen, Colorado
Boulder, Colorado
Brighton, Colorado
Castle Rock, Colorado
Girdwood, Alaska
Grand Junction, Colorado
Grass Valley, California
Lafayette, Colorado
Pueblo, Colorado
Santa Fe, New Mexico
Steamboat Springs, Colorado
Denver, Colorado
Douglas County, Nevada
Vail/Avon, Colorado
Fraser/Winter Park, Colorado
Winter Park/Hot Sulphur Springs, Colorado
Grand Junction, Colorado
Gunnison, Colorado
Carbondale, Colorado
Lee County, Monroe County, Collier
Boca Raton, and Palm Beach City, Florida
Jefferson County, Colorado
Jefferson County, Colorado
Larimer County, Colorado
Oklahoma City, Oklahoma
Park County, Colorado
Aspen, Colorado
Teton County, Wyoming
Mammoth Lakes, California
Mountain Village, Colorado
San Miguel County, Colorado

Frisco, Colorado
Breckenridge, Colorado
Estes Park, Colorado
Vail, Colorado
Limon, Colorado
Aspen, Colorado
RRC Research Experience: Roaring Fork and Lower Colorado Valleys

RRC Associates has had working relationships with a variety of city and county governments, other public agencies, and private entities in the Roaring Fork and Lower Colorado valleys, often extending over a period of several years. RRC has conducted housing needs assessments, other housing research, and a variety of community surveys over the past several years, including the following.

- **Aspen Residential Employment Generation Study, 2015**: This study evaluated employment impacts associated with the construction and ongoing operation/maintenance of residential homes in the City of Aspen, with segmentation by type of unit (single family/duplex vs. condo/townhome) and occupancy type (full-time resident vs. other users). The results of the study were used to update housing mitigation regulations for new residential development.

- **Town of Snowmass Community Surveys, 2015, 2013, 2007**: These surveys of Snowmass residents, second homeowners and employees evaluated satisfaction with a variety of Town services, programs and facilities.

- **Roaring Fork and Lower Colorado Regional Travel Patterns Studies, 2014, 2004, 1998**: Working with a team of consultants, RRC helped conduct studies of the winter and summer travel patterns of employees and households in the Roaring Fork Valley. RRC was responsible for implementing employer, employee, and household travel pattern surveys in the winter and summer seasons across the three-county study area, as well as associated data processing, weighting and statistical tabulations. The surveys documented modes of travel (including bicycling and walking) for commuting, work, and personal purposes, as well as factors influencing travel mode decisions, and satisfaction with transportation infrastructure and services. The 2014 edition of the study was overseen by the Roaring Fork Transportation Authority.

- **Aspen/Pitkin County Affordable Housing Fee Methodology, 2012**: Working on a consultant team, RRC helped provide the City of Aspen/Pitkin County/Ashen-Pitkin County Housing Authority with a methodology for calculating fees that could be assessed by the City of Aspen in lieu of the provision of required affordable housing, and by Pitkin County though its affordable housing impact fee program.

- **Aspen bedroom equivalent research, 2011**: RRC helped the City of Aspen by doing the calculations needed to shift impact fees for new residential development from being assessed on a per-bedroom basis to a per-square-foot basis.

- **Glenwood Springs Comprehensive Plan Survey, 2010**: This research provided insight on residents’ preferences and priorities regarding a variety of planning topics.

- **Aspen/Snowmass Village/Pitkin County housing surveys of residents, employees, homeowners and employers, 2008**: Working on a consultant team, RRC helped provide the City of Aspen, Town of Snowmass Village, and the Aspen Pitkin County Housing Authority with a survey-based housing study that provided a variety of data concerning local residents, including their demographics and their evaluations of different aspects of the community. RRC used the information to help prepare a housing needs assessment for Snowmass Village, and the results were also used for a variety of other housing planning purposes.
- **Basalt Housing Needs Assessment, 2008**: Working on a consultant team, RRC conducted much of the research (including household and employer surveys) which underlaid the assessment.

- **Eagle County Housing Needs Assessment, 2008**: Working on a consultant team, RRC conducted much of the research (including household and employer surveys) which underlaid the assessment.

- **State of Aspen, 2007-08**: RRC produced the Housing and Economic chapters of this study, as well as helped manage overall project design and delivery. The results helped set a factual foundation for comprehensive plan updates then underway.

- **Mid Valley Community and Recreation Survey, 2007**: This survey, encompassing residents and second homeowners of the Mid Valley Metro District, Crown Mountain District, and Cerise Ranch, evaluated a variety of issues pertaining to recreation offerings in the region.

- **New Castle Community Survey, 2007**: This mailback survey focused on growth, economic development, infrastructure, community services, parks, and other community development topics.

- **Aspen Skiing Company employee housing survey, 2006**: This research probed employees' preferences activities and preferences regarding housing, and helped inform the Skiing Company's initiatives to enhance housing options for employees.

- **Other studies**: RRC has also conducted a variety of other surveys and studies in the region, especially surveys of visitors in winter and summer for some of the region's destination marketing Organizations and private tourism businesses.
References

CDOT Workforce Housing Study
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Housing Conditions and Policy Update
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Sonoran Institute Smart Growth in Northern Rockies
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Executive Director, Community Builders
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City of Aspen
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Aspen, CO 81611
Phone: (970) 429-2780
jessica.garrow@cityofaspen.com

David Johnson, Director of Planning
Roaring Fork Transportation Authority
0051 Service Center Drive
Aspen, CO 81611
(970) 384-4979
djohnson@rfta.com
Key Personnel
KEY PERSONNEL

The following is an organization chart depicting the EPS Team staff assigned to this project and their roles. Experience and qualifications of each staff are provided separately in their résumés below.
Andrew Knudtsen, CCIM
Managing Principal

Education
Bachelors of Environmental Design, Magna Cum Laude
Univ. of Colorado, 1987

Previous Employment
2012-current
Managing Principal, Economic & Planning Systems, Inc.

2001-2012
Associate to Principal
Economic & Planning Systems

1998-2001
Principal
The Housing Collaborative, LLC

1990-1998
Special Projects Planner, Town of Vail

1988-1990
Planning Associate
City of Boulder

Affiliations
CCIM – Certified Commercial Investment Manager; Certificate No.: 18731

ULI – Member of the Explorers Committee

State of Colorado Governor’s Blue Ribbon Affordable Housing Panel

Publication

Presentations
Rail-Valuation "Value Capture for the Rest of US" Seattle, WA

Appraisal Institute "Transit Oriented Development: Value Capture and Market Positioning" San Diego, CA

Urban Land Institute "Quantifying Sustainability" Washington, D.C.

Sonoran Institute Summit "Real Estate Premiums and Sustainable Development Trends" Bozeman, MT

About
Andrew Knudtsen draws from 20 years of experience addressing community housing needs, evaluating local resource allocation, and leveraging market trends to identify emerging opportunities and address existing deficits. As a planner and economist, his work spans a number of disciplines from which he draws in order to develop comprehensive housing strategies for communities.

Andrew has expertise in evaluating project feasibility for new development as well as redevelopment projects. He has quantified economic viability using pro forma modeling that has been structured to test a wide range of market factors and assumptions about developer risk tolerance. He has worked with numerous clients to provide data and findings that can be incorporated into decision making processes, including projects sponsored by public sector entities that involve significant community investment. He has used his market and feasibility expertise to support Housing Authorities and municipalities in their efforts to construct housing projects and achieve viability using a range of different revenue streams.

Selected Project Management Experience
Teton County Housing Needs Assessment, Teton County, WY
Housing Needs Assessment for a three-county region, with the focus on regional economics. The study documented ways to address their economic interests through housing programs and polices, including a detailed fees-in-lieu mitigation analysis.

Affordable Housing Strategic Plan, Aspen, CO
Assessed regional need for affordable housing then evaluated the City’s revenues dedicated for affordable housing. EPS constructed a cash flow model to determine the adequacy of funding relative to need, which included multiple site-specific pro forma to document opportunities that provided the greatest leverage of City funds.

San Miguel County Housing Demand Analysis, San Miguel County, CO
Provided direction to a consortium of communities within the region, addressing depth of demand for affordable housing by tenure and income level. Identified production targets based on the community profile, the existing housing inventory, and economic projections.

Vail Housing Development Technical Services, Vail, CO
Provided feasibility analysis of proposed public private project. Evaluated project revenues based on market depth by AMI level and provided cost estimates using active comparable projects from the region. Worked with Town to evaluate need for project subsidies and to set policy regarding the priority of housing relative to other municipal services.

Affordable Housing Density Bonus Incentive Policy, Portland, OR
EPS built a model to calibrate the value of density bonuses under a wide range of development scenarios and sensitivities against the cost of providing affordable housing. Recommendations were to modify the Central City’s policy such that public value was captured through affordable housing while developers still profited from seeking additional density.
Town of Telluride Housing Strategy, Telluride, CO
Conducted a high level needs analysis and then applied findings to local development opportunities. Evaluated public and privately held sites and incorporated quantitative and qualitative metrics to establish hierarchy among land options. The study was well received by the Telluride community and solidified the decision making process for future housing developments.

Windsor Housing Needs Analysis, Windsor, CO
Worked with the Town of Windsor to define extent of affordable housing need and addressed Town’s role in regional housing market. Evaluated commuting patterns and ways Town could address local employer’s needs, given the community’s central location to multiple employment centers in the region and extensive commuting activity.

Cattle Creek Crossing Market Study, Garfield County, CO
Provided direction to a private developer regarding housing needs with specific recommendations for demand by product type and price point. The analysis was used to define affordable housing segments spanning from 40 percent of AMI up to 200 percent of AMI and identified the depth of market demand by segment.
David Schwartz
Vice President

About
David has specialized in data-driven housing policy studies, forecasting, and economic impact and industry analyses. He has consulted to public and private clients – land owners, developers, attorneys, non-profits, cities, counties, states, regional planning organizations, consortiums of governments, economic development entities, and industry trade associations. His background in math/statistics, urban economics, and land use controls guide his work for clients.

Selected Project Experience
Affordable Housing Market Study, Vail, CO
Assessment of changing supply and demand conditions at critical market-rate and affordable housing price points within the Vail Valley. Provided recommendations for affordable unit pricing, size, and projected absorption rates.

Housing Needs Assessment, Ouray & San Juan Counties, CO
Evaluated needs using household and employer surveys, focusing on objectives of multiple jurisdictions and varying degrees of interest in adopting regulatory versus self-help policies.

Housing Strategy Plan, Big Sky, MT
Documented housing conditions and challenges, best practices with wide range of stakeholders, community groups, and survey. Recommended short and long-term strategies.

Affordable Housing Density Bonus Incentive Policy, Portland, OR
EPS built a model to calibrate the value of density bonuses under a wide range of development scenarios and sensitivities against the cost of providing affordable housing. Recommendations were to modify the Central City’s policy such that public value was captured through affordable housing while developers still profited from seeking additional density.

Housing Policy and Inclusionary Zoning Feasibility, Nashville, TN
With stakeholder, public, and elected leadership, EPS documented the economic and housing affordability conditions, problems, and policy options; built a feasibility model of policy requirements and incentives as well as sensitivities; policy and organizational recommendations, modifications to existing zoning regarding density.

Housing Supply and Demand Study, Lakewood, CO
The study examined the extent that the city’s current supply would or would not meet shifting demand preferences, and how broader infrastructure, transportation, economic development and community planning efforts contribute. It incorporated a survey of the city’s workforce and involved study sessions with the mayor and city council to discuss housing and economic fundamentals, policy decision rubrics, and realistic policy options.

planOKC Housing Demand Forecast, Oklahoma City, OK
A comprehensive study to assess housing demand and preferences. Made policy and investment recommendations to capitalize on economic drivers, and identified community’s willingness to make tradeoffs and willingness to pay.
Housing Affordability Policy Study, Fort Collins, CO
With stakeholder meetings and Council work sessions, EPS assessed conditions, regulatory and non- regulatory structures, and housing problems. Recommendations were structured to suit public policy objectives and outcomes.

Community Needs Assessment, Aurora, CO
Community outreach included stakeholder interviews, focus groups, and community meetings. Evaluated workforce and economic development issues, special population needs, public, cultural and recreational facilities, infrastructure, public safety, code and law enforcement, and urban renewal.

Evaluation of Financial Participation in USPS Redevelopment, Portland, OR
The objectives were to determine whether using TIF funds for land acquisition, the purchase of development rights, or some combination of the two would be preferable, how to maximize the number of units built, and how to ensure that adequate parking is provided regardless of participation scenario.

Housing Diversity Study, Denver Regional Council of Governments
Documented demographic, economic, financial, insurance, and legal (such as the effects of changes to legislation concerning contractor general liability insurance) context to assess the degree to which each contributed to the absence of for-sale multi-family construction in the Denver Metro Area.

Urban Land Institute/Enterprise Foundation Technical Assistance, Denver, CO
Provided technical assistance to ULI and Enterprise in their efforts to amend the City of Denver's Zoning Code and Inclusionary Housing Ordinance (IH). Provided pro forma model to evaluate potential returns to developers under a number of scenarios. Provided incentive threshold needed to effectively incentivize affordable housing.

Kane-Elgin Consolidated Plan and Analysis of Impediments, Kane County, IL
Documented economic, demographic, and housing conditions for Kane County, the City of Elgin, and the City of Aurora to complete a Five-Year Consolidated Plan and an Analysis of Impediments to Fair Housing Choice for the Consortium.

Economic Impact of SEIU Local 49 Union Policy Proposal, Portland, OR
EPS evaluated the impact the proposal would have on availability of supply to this workforce, the impact of a variety of scenarios to development operational feasibility, and the extent to which other critical assumptions might compensate for such "costs", such as land value, increased office lease rate potentials, or additional requests for FAR.

Smart Growth Demand in Northern Rockies, CO, MT, and ID
Document successes and failures of smart growth in the Northern Rockies. Survey data, interviews, and secondary data were used to document socio-economic drivers of demand and provide direction to Rocky Mountain communities.

Inclusionary Housing Ordinance Study, Denver, CO
Re-established basis for the City's policy and recommended restructuring its in-lieu payments and incentives; assessed developer impacts of proposed changes; project was integrated into a larger stakeholder, policy-maker, and City Council process.

Housing Policy Review, Park City, UT
Reviewed market and policy context, collected primary employee generation rate information from local businesses, assessed needs and gaps, recommended policy modifications with legal subconsultant.

Employee Generation Rate Study, Aspen, CO
Surveyed businesses throughout the City to identify employment generation rates by type and size of use. Updated the City's zoning code ordinance governing affordable housing mitigation rates.

Affordable Housing Needs and Policy Analysis, Basalt, CO
Documented economic, demographic, and housing market conditions, including a survey of major employer employees to identify metrics of housing need for the 3-mile planning area.
Inclusionary Housing Rental Policy Update, Boulder, CO
Formulated update to policy and explored financial performance implications on developments of policy changes.

Affordable Housing Funding and Production Study, Denver, CO
Modeled historic gaps, needs, funding levels, and apportionment scenarios to assist Councilmembers and Mayor in identifying a housing production target with proposed dedicated property tax to for new housing construction, rehabilitation, acquisition, and supportive services.

HUD Consolidated Plan and Analysis of Impediments, Pueblo County, CO
Provided direction to the City, County, and United Way regarding the allocation of community funds and how best to address community needs. Prioritized needs based on technical research, survey results, and community outreach efforts. Completed the City's Five-Year Consolidated Plan.

Senior Housing Needs Assessment, Gilpin County, CO
Evaluated needs with focus on senior housing and demand from within and outside of the county using surveys and focus groups. Developed strategies to address this increasing need for senior housing facilities, programs, and resources.
Tim Morzel
Senior Associate

About
Timothy Morzel has a broad base of experience in land use economics, planning, and real estate development. He has a diverse skill set for solving complex problems related to land use economic issues, conducting real estate market analysis, building financial and economic modeling tools, and assessing regional economic conditions and trends.

Selected Project Experience

Telluride Foundation Workforce Housing Study, Telluride, Colorado
Evaluated the need for workforce housing in the Telluride region and developed a feasibility model to illustrate the potential for development through public private partnerships. Identified the extent to which P3s could be leveraged to incent the development of workforce housing in Telluride, Mountain Village, and San Miguel County.

Housing Policy Study, Windsor, CO
Assessed market, economic, and demographic conditions related to housing demand and growth, including land use constraints and supply, regulatory structure, policies, and growth strategies. Developed recommendations on positioning the Town to effectively facilitate and accommodate growth to meet changing demographic and economic conditions.

Denver Housing Authority Redevelopment of Sun Valley, Denver, CO
Completed market analysis for a mixed-use, mixed-income redevelopment of a public housing project. Constructed a feasibility model to test alternative development scenarios. Identified the combination of uses and levels of Area Median Income (AMI) to reach feasibility. Provided sensitivity analysis to define gap financing targets. Developed criteria to evaluate alternatives and to create an implementation plan.

Foothills and Pearl Redevelopment Market and Feasibility Study, Boulder, CO
Market analysis for a mixed-use master planned commercial center in Boulder. Determined the supportable product mix and types, pricing, absorption for the 16 acre of site. Developed a project specific financial model designed to test a range of development and market assumptions, which quantified returns based on different land use combinations, development densities, and varying absorption periods.

Base Village Fiscal Impact Study, Snowmass Village, CO
Developing a fiscal impact model with Town staff and local development group for use in development review. The model will be used to evaluate the impact of alternative development scenarios on the Towns municipal revenues and service costs.

Tree Farm Market and Fiscal Impact Study, El Jebel, CO
Evaluated the feasibility of the Tree Farm project in El Jebel and developed a fiscal impact model to estimate the project’s projected impacts on Eagle County revenues and other major taxing districts. The analysis included a summary of current market conditions in El Jebel and the surrounding area, which includes the Town of Basalt, Carbondale, and Glenwood Springs.
C. CHRIS CARES

Chris possesses a diverse background in public and private planning. A founding partner of RRC Associates, he specializes in practical applications of research using a variety of techniques including survey and qualitative research, modeling and applied analysis to solve problems in city planning, administration, and business applications. Chris and the RRC team are frequently called upon to apply survey research tools to support policy-oriented studies including housing needs assessments, parks and recreation studies, planning initiatives and other strategic analyses by communities and resort operators. Chris has overseen hundreds of community/citizen surveys in towns and counties throughout the United States. With RRC’s assistance these results have often been incorporated into master plans, policy documents or regulations.

Professional Experience

1983 to present  MANAGING DIRECTOR/FOUNDING PARTNER, RRC Associates, Boulder, CO

Representative Projects

Housing Needs Assessments / Strategic Plans and Surveys
- Aurora Consolidated Plan
- Boulder, Lafayette, Longmont, Broomfield and Westminster, CO
- Carson City, NV
- Eagle County and Town of Vail, CO
- Gilpin County, CO Housing Survey
- Gunnison County, CO
- Mammoth Lakes, CA
- Oklahoma City, OK
- Pitkin/Garfield County, CO
- Pueblo, CO United Way Survey Research
- (Household/Key Informant) and City of Pueblo
- Routt County, CO
- San Miguel County/Ouray County, CO
- Santa Fe, NM
- Town of Vail Nexus Study
- City of Aspen Workforce Housing Analysis

Parks and Recreation Surveys / Needs Assessments
- Broomfield, CO
- Cedar Rapids, IA
- Eagle-Vail, CO
- Erie, CO
- Grand Junction, CO
- Oklahoma City, OK
- Larimer County, CO
- Jefferson County, CO
- Louisville, CO
- Palm Springs, CA
- San Diego County, CA
- State of New Mexico
- Steamboat Springs, CO
- Spokane, WA
- Superior, CO

Tourism and Ski Area Visitor Research (examples include National Ski Areas Association, Colorado Tourism Office, Vail Resorts, Copper Mountain, Telluride Ski and Golf Company, Crested Butte Mountain Resort, Aspen Skiing Company, Town of Breckenridge and Breckenridge Tourism Office)

Education

Master of City Planning: Harvard University, 1975
Bachelor of Arts, Political Science: University of Rochester, 1972
University of Michigan, 1971

Further Work Experience

1977-81  PLANNER/ASSOCIATE, Gage Davis Associates—Boulder, CO
1976-77  PLANNER, City of Boulder—Boulder, CO
DAVID E. BECHER

David has diverse experience managing and conducting many types of market research and planning projects for public and private sector clients in his more than two decades at RRC. With an educational background in urban and regional planning, public administration, and business administration, David works extensively in the areas of survey research, economic and demographic research, community planning, and affordable housing.

**Education**

Master of Business Administration: University of Colorado/Boulder, 2003
Master of Urban and Regional Planning: University of Colorado/Denver, 1997
Master of Public Administration: University of Colorado/Denver, 1997
Bachelor of Arts, Philosophy/Environmental Studies; Williams College, 1990

**Professional Experience**

2008 to present  DIRECTOR OF RESEARCH, RRC Associates, Boulder, CO

**Projects**

**Community Planning/Affordable Housing**
- Snowmass Housing Needs Assessment, CO
- Boulder Downtown & Hill Capacity Analyses, CO
- Telluride Region Growth Study, CO
- Boulder Regional Economic Analysis, CO
- Monroe County Employment Generation Study, FL
- Aspen Employment Generation Study, CO
- Teton County Housing Nexus Study, WY
- Colorado Indicators Pilot Project, CO

**Community Survey Research**
- Boulder Valley Comprehensive Plan Survey, CO
- Durango Housing and Transportation Survey, CO
- North Lake Tahoe Community Survey, CA
- Erie Community Survey, CO
- Breckenridge Community Survey, CO
- Steamboat Springs Community Survey, CO
- Roaring Fork Valley Transportation Survey, CO

**Skier Research**
- NSAA National Demographic Study, US
- NSAA Kotke Survey, US
- Colorado Ski Country USA
- Crested Butte, CO
- Jackson Hole, WY
- Vail Resorts, CO/CA/UT
- Mt. Bachelor, OR
- Kicking Horse, BC
- Canadian Ski Council, CA

**Economic & Fiscal Impact Analysis**
- Snowbasin Cost/Benefit Analysis, UT
- Winter X Games Economic Impact Analysis, CO
- Economic Impact of Skiing in Colorado, CO
- Economic Impact of Skiing in Wisconsin, WI
- River Run Fiscal & Economic Impact Analysis, ID
- South Lake Tahoe Retail Market Analysis, CA
- Montrose Regional Economic Analysis, CO
- Rendezvous Fiscal Impact Analysis, CO
- Crested Butte Planning & Economic Model, CO
- Bend Concert Series Economic Impact, OR
- State of Aspen: Economy & Housing Chapters, CO
- Mammoth Lakes Budget Projections, CA
- Floyd Hill Master Plan — Market Assessment, CO

**Tourism / Visitor Research**
- Aspen Summer Visitor Research, CO
- Snowmass Strategic Tourism Plan, CO
- Jackson Hole Airport User Research, WY
- Sun Valley Airport User Research, ID
- North Lake Tahoe Visitor Research, CA
- Downtown Boulder Visitor Research, CO
- Vail Special Events Research, CO
- Park City Special Events Research, UT
- Central Reservations Assoc. of Destination Resorts — booking pattern, consumer, & hotel research
- DestiMetrics lodging booking pattern research
- American Hotel & Lodging Association — Unionization & Visa analyses
TOWN OF CARBONDALE
PUBLIC WORKS
511 Colorado Avenue
Carbondale, CO 81623

Board of Trustees Work Session Agenda Memorandum

Meeting Date: December 19, 2017

TITLE: Carbondale Weed Management Plan

SUBMITTING DEPARTMENT: Public Works


BACKGROUND
The Colorado Noxious Weed Act became law in 1990 and has been subsequently amended over time. Part of that Act requires that each municipality adopt a Noxious Weed Management Plan for all lands within the municipality. In 2010, a draft Carbondale Noxious Weed Management Plan was presented to the Board of Trustees for approval. At that time, the plan mirrored Garfield County’s plan, but the plan was never adopted.

In July of 2015, the Board appointed a task force to develop a noxious weed management plan. The attached plan was developed and circulated amongst various boards and commissions for their comment and recommendation.

DISCUSSION

Environmental Board:

A review of board and commission minutes indicates that the plan was discussed with the Environmental Board on April 25, 2016. Although the minutes are somewhat vague, the minutes reflect that “The Board discussed the plan in detail and made several suggestions to the plan. John stated that he would make the necessary adjustments to the plan.” The minutes also indicate that a motion was made to “have the Weed Management Plan forwarded on to the other advisory boards and then on to the BOT’s with the necessary changes” and that that motion passed.

The Environmental Board Minutes from the April 24, 2017, indicate that Gwen Garcelon provided an update on the plan. At that meeting, the following motion was made and passed: “To endorse the current weed management plan revision and recommendation process with the addition of a citizen task force.” The minutes also indicated that Gwen would continue to work on the plan and return to the Eboard with the draft for review, and that once the details were ironed out, the plan would go before the BOT for final
review. A review of agendas for the remainder of 2017 did not indicate that this plan was discussed further.

Parks and Recreation Commission:

Minutes from the May 4, 2016, Parks and Recreation Commission were much more detailed and indicated that there were some differences of opinion between the boards and commissions on the content of the plan. The minutes reflect that the Commission “discussed improvement to the plan that would need to happen before approval could be given”. The minutes also included the following suggested improvements:

- Remove the medicinal uses of weeds and add it as an appendix or as a field guide
- Better options to control weeds
- Solutions for existing problem parks
- Provide tools that the board can use

A review Parks and Recreation agendas for the remainder of 2016 and 2017 did not indicate that the plan was discussed further.

Staff Efforts Related to Weed Management:

During 2017, staff continued to manage weeds in Town-owned or managed rights-of-way by mainly mechanical means (pulling weeds). In addition, staff was made aware of an all-natural herbicide called Avenger. Avenger is basically concentrated citrus oil that dissolves the natural wax-like coating on leaves which in turn allows the dry climate and sunlight to kill the weeds. This product was used on a trial basis on some areas at the bike park and the ballfield at North Face Park this year with positive results.

Staff also applied a vinegar/water solution to some areas at the bike park and ballfield. A review of the areas showed that the vinegar/water solution was much less effective.

RECOMMENDED MOTION
This information is provided for the Board’s information.

Prepared by: Kevin Schorzman

[Signature]

Town Manager
TOWN OF CARBONDALE
INTEGRATED
WEED MANAGEMENT PLAN
4/27/16

Resolution XX
June 2016

Prepared by
Town of Carbondale Public Works Department
The Weed Task Force
And
The E-Board
# TOWN OF CARBONDALE
## INTEGRATED-WEED MANAGEMENT PLAN

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SECTION I

INTRODUCTION

It is the goal of Town of Carbondale to develop and implement a comprehensive integrated weed management program on all Town-owned property. Though it addresses public property it is intended to be exemplary to the private properties in town in their treatment of nuisance weed infestations.

1.01 Purpose:
The purpose of the Integrated Weed Management Plan is to provide guidelines for effective land management to ensure healthy soils which are resistant to opportunistic non-native plants. The Plan outlines and prioritizes protocols that further soil preservation, environmental health, and public health through a "prevention, early detection, early treatment" philosophy. The Plan is to be a working document that identifies protocols and offers a new paradigm for the implementation of the Colorado Noxious Weed Act and the Garfield County Weed Management Plan on public lands within the Town of Carbondale pursuant to Chapter 9.29 of the Carbondale Municipal Code. It shall reside as a "subdocument" which details integrated management protocols to the Public Works Master Plan [the Parent Document]. It contains the Town of Carbondale Undesirable Weed List. The Plan shall be reviewed every (3) years in the beginning.

• The Plan references the following external documents. url's listed in the appendix:

  • Town of Carbondale Revegetation Guidelines & Soil Protection Protocols
  • State of Colorado Noxious Weed List
  • Garfield County Noxious Weed Management Plan
  • Garden Smart Colorado
  • Other Natural Land Management Paradigms

1.02 Mission Statement:

• The health of our environment and community is a high priority to the residents and staff of the Town of Carbondale. The Plan prioritizes environmental and community benefits from non-toxic solutions. It recognizes that multiple tools must be tailored to site specific needs to achieve the most effective weed management.

• The Plan recognizes that invasive plant species commonly dominate disturbed/poor soils and tend to persist on the landscape until the soil is improved and an optimal species is planted. The intent of the plan is to provide an integrated approach for building healthy soils that support healthy, desirable plant species.

• The Plan acknowledges the responsibility of local government to assure that undesirable plants are effectively managed on public and private lands. Further, it is the responsibility of all landowners to use proactive and preventative methods for the healthy management of undesirable plants. The protocols utilized will
prevent the spread and establishment of state, county and town declared undesirable or nuisance weed populations.

- Exemplary actions by the town will benefit the community, improving our environment and our health.

1.03  **Enactment Authority:**

The Colorado Weed Management Act (C.R.S. 35-5.5-101, et. seq.) was signed into state law in 1990 and amended in 1996. Now known as the Colorado Noxious Weed Act (Act), it states that noxious weeds pose a threat to the natural resources of Colorado. The Act also directs that the governing body of each municipality shall adopt a Noxious Weed Management Plan for all land within the municipality. In addition to and independent of the powers elsewhere delegated by law, the governing body of the municipality may adopt and provide for the enforcement of such ordinances, resolutions, rules, and other regulations as may be necessary and proper to enforce said plan and otherwise provide for the management of noxious/undesirable weeds within the municipality, subject to the following limitations; No municipal ordinance, resolution, rule, other regulations, or exercise of power shall apply to unincorporated lands of facilities outside the corporate limits of the municipality, except such lands or facilities which are owned by or leased to the municipality.

The Mayor and Board of Trustees shall provide for the administration of the Integrated Weed Management Plan authorized by the Act through the use of agents, delegates, or employees and may hire additional staff or provide for the performance of all or part of the Integrated Weed Management Plan through outside contract. Any action initiated for the control of undesirable plants shall first consider soils amendment and seeding by appropriate plants. Any agent, delegate, employee, staff, or contractor applying or recommending the use of chemical management methods shall be certified by the Department of Agriculture for such application or recommendation.

1.04  **Local Advisory Board**

The Act directs the governing body of the municipality to appoint a local Weed Advisory Board. The local governing body may appoint itself, or a commission of landowners, to act as the local advisory board for that jurisdiction. In the Town of Carbondale, the Board of Trustees acts as the Weed Advisory Board, after weighing the council and advice of the E-Board. (“The Environmental Board shall provide analysis and recommendation to the Town Board of Trustees” regarding the “use of pesticides and herbicides”.

Resolution #7, 1998, thus establishing the E-board)

The power and duties of the Weed Advisory Board are as follows:

1. Develop a recommended Weed Management Plan for the integrated management of designated undesirable weeds and recommended management criteria for undesirable weeds within the Town of Carbondale. The Management Plan must be reviewed at regular intervals but not less often than once every three years by the Advisory Board.
2. Declare undesirable weeds for the Town and any state noxious weeds designated by rule to be subject to integrated management.

3. To provide notification through the Public Works Director to landowners requiring them to submit an integrated weed management plan to manage designated undesirable weeds on their properties.

4. Carry out sufficient measures, through the Public Works Director, including project oversight and enforcement, as may be necessary to ensure the survival of healthy replacement plants and thus the effective eradication of list A species and populations of list B species designated for eradication or suppression by the commissioner.

5. Anytime chemicals are recommended for weed management, the Public Works Director or the Trustees / Weed Advisory Board / E-Board will first consult with a Natural Land Management Specialist.

The Natural Land Management Specialist is to determine the most chemical-free, cost effective management technique. Said specialists are Published Individuals, that are motivated to not use chemicals that could be harmful to plants, children or pets. They are to be listed in Section V 5.01, Reference Documents. Their qualifications will be vetted by the Public Works Director with the Trustees/E-boards advise.

1.05 Duties of Affected Landowners or Occupants

**Compliance: Private Lands:**

A. Inspection.

(1) The Town of Carbondale, through its delegates, agents, and employees, shall have the right to enter upon any premises, lands, or places, whether public or private, during reasonable business hours for the purpose of inspecting for the existence of undesirable weed infestations, when at least one of the following has occurred: (a) The landowner has requested an inspection; (b) A neighboring landowner or occupant has reported a suspected undesirable weed infestation and requested an inspection; or (c) An authorized agent of the local or state government has made a visual observation from a public right-of-way or area and has reason to believe that a undesirable weed infestation exists.

(2) (a) No entry upon any premises, lands, or places shall be permitted until the landowner or occupant has been notified by certified mail that such inspection is pending. Where possible, inspections shall be scheduled and conducted with the concurrence of the landowner or occupant. (b) If, after receiving notice that an inspection is pending the landowner or occupant denies access to the inspector of the local governing body, the inspector may seek an inspection warrant issued by a municipal, Town, or district court having jurisdiction over the land. The court shall issue an inspection warrant upon presentation by the local governing body, through its agent or employee, of an affidavit stating: i) the information which gives the inspector reasonable cause to believe that any provision of this
article is being or has been violated; ii) that the occupant or landowner has
denied access to the inspector; and iii) a general description of the location of
the affected land. No landowner or occupant shall deny access to such land
when presented with an inspection warrant.

B. Management.

(1) If following inspection pursuant to section 5.01(A), land is found to contain
designated undesirable plants, the landowner shall be given written notice,
personally or by certified mail. The notice shall name the undesirable plants,
identify the location of the plants, advise the landowner to control the
undesirable plants, and specify the best available control methods of integrated
management. The notice shall include an offer to consult with the landowner in
the development of a management plan for the control of undesirable plants on
the land. The notice also shall state that the landowner shall, within a
reasonable time not to exceed 10 days, either (I) comply with the terms of the
notification; (II) acknowledge the terms of the notification and submit an
acceptable plan and schedule for the completion of the plan for compliance; or
(III) request an arbitration panel to determine the final management plan.

(2) If the landowner chooses action option I, the Town of Carbondale Public Works
Department, or its representative, will re-inspect the land to confirm compliance.

(3) If the landowner chooses action option II, the Town of Carbondale Public Works
Department, or its representative will review the proposed weed management
plan and determine its efficacy. If the plan is acceptable, no further action will
be taken except to monitor compliance, including re-inspection.

(4) If the landowner chooses action option III, an arbitration panel will be selected
by the Board of Town Trustees, in accordance with CRS 35-5.5-109(4)(b). The
state statute currently anticipates that the arbitration panel shall be comprised of
a weed management specialist or weed scientist, a landowner of similar land in
the same Town, and a third panel member chosen by agreement of the first two
panel members. The landowner or occupant shall be entitled to challenge any
one member of the panel, and the local governing body shall name a new panel
member from the same category. The decision of the arbitration panel shall be
final. A hearing shall be set for a time and date as soon as practical after the
panel is complete. The Town of Carbondale Public Works Department, or its
representative, shall give written notice, personally or by mail, of the hearing to
any complainant. The landowner is entitled to appear before the panel,
individually and/or by representative, as is any complainant. The arbitration
panel will be required to determine the final management plan not more than
two calendar weeks after the hearing is completed. In the event of non-
compliance with any management plan, in addition to remedies set forth in
paragraph 5.01C. The arbitration panel shall have the ability to award cost of
the arbitration to the prevailing party including arbitration panel fees and
expenses. These fees and expenses may include, but are not limited to, salary,
wages, travel, and per diem expenses.

C. Failure to Comply.
Public Nuisance.
If the landowner fails to comply with the notice to control the designated nuisance plants, fails to submit an acceptable management plan, fails to comply with an accepted management plan, or fails to comply with a management plan as determined by the arbitration panel, the Board of Town Trustees, at a public hearing at least 10 days after notice thereof to the property owner, may declare the infested property a public nuisance for which the remedies for abatement of a public nuisance shall be available as provided in C.R.S. 35-5.5-113. Once declared, such nuisances are subject to all laws and remedies relating to the prevention and abatement of nuisances.

Other remedies.
In addition to, or as an alternative to the nuisance remedy Town of Carbondale may compel management of the weeds in the following manner: the Town of Carbondale Public Works Department, or its representative, shall give written notice of a hearing before the Board of Town Trustees to the landowner by personal delivery or by certified mail which will include the date and time of the hearing, 10 days prior to the hearing date. The notice will include (i) description of the land, (ii) name of the undesirable plants and their location(s) on the land, (iii) date the Town of Carbondale Public Works Department, or its representative, will perform weed control on the land, (iv) method of control to be applied, (v) a statement that the land will be assessed the entire cost of the weed control plus 20% surcharge for the cost of inspection and other incidental costs, which total will be a lien on the land (or the tract of which it is a part) until paid, and (vi) a statement should the landowner refuse admission to the land for application of the weed control, the Town will seek civil and/or criminal penalties and court-enforced abatement of a public nuisance. Such an assessment under this section shall have priority over all other liens except general taxes and prior special assessments may be certified by Town of Carbondale Public Works to the Town Clerk and collected and paid over in the same manner as provided for collection of taxes. Costs of providing for and compelling weed management shall not be assessed until the level of management called for in the notice or as developed by the arbitration panel has been successfully achieved.

3. Other Occupants.
Whenever the land is known to the Town of Carbondale Public Works Department, or its representative, to be occupied by someone other than the record owner, written notices also shall be given to the occupant, and the occupant shall be informed that C.R.S. 35-5.5-109 and this regulation imposes on occupants the same responsibilities for undesirable plant control as it imposes on landowners.

4. Notice.
Whenever notice is given by mail, it shall be deemed given when deposited in a regular depositary of the United States Postal Service, postage prepaid. Notice to landowners shall be mailed to the last known address as shown in the Town's Assessment Roll unless the landowner has provided the Town of Carbondale Public Works Department a different address for notice. Notice to occupants shall be mailed to the land's physical address unless the occupant has provided the Town of Carbondale Public Works Department with a different address for notice.

5. Condition Precedent.
No private land management shall be compelled without first applying the same or greater management measures to Town land or rights-of-way that are adjacent to the private property.

1.06 Town of Carbondale Undesirable Weed List:

The State of Colorado list of plant species that are designated as undesirable weeds are designated by law and shall be managed under the provisions of the Colorado Noxious Weed Act and the provisions within this Management Plan.

The State has designated 71 plants as State Noxious Weeds. The commissioner has classified undesirable weeds into three categories, including:

"List A", contains 18 rare undesirable weed species that are subject to eradication wherever detected statewide in order to protect neighboring lands and the state as a whole (see appendix A);

"List B", contains 39 undesirable weed species with discrete statewide distribution that are subject to eradication, containment, or suppression in portions of the state designated by the commissioner in order to stop the continued spread of these species (see appendix A);

"List C", contains 14 weed species that are widespread and well-established undesirable weed species for which control is recommended but not required by the state, although local governing bodies may require management (see appendix A).

In addition to the list of weeds designated by the State of Colorado, the Town of Carbondale Weed Advisory Board has specified certain plants as undesirable weeds in our area.

The Town of Carbondale Designated Undesirable Weed List includes the following:

1. Absinth Wormwood (Artemisia absinthium)
2. Canada Thistle (Cirsium arvense)
3. Chicory (Cichorium intybus)
4. Common burdock (Arctium minus)
5. Dalmatian toadflax (Linaria dalmatica)
6. Diffuse knapweed (Centaurea diffusa)
7. Hoary cress (Cardaria draba)
8. Houndstongue (Cynoglossum officinale)
9. Jointed goatgrass (Aegilops cylindrica)
10. Leafy spurge (Euphorbia esula)
11. Musk thistle (Carduus acanthoides)
12. Oxeye daisy (Chrysanthemum leucanthemum)
13. Plumeless thistle (Carduus acanthoides)
14. Purple loosestrife (Lythrum salicaria)
15. Russian knapweed (Acroptilon repens)
16. . Russian olive (Elaeagnus angustifolia).
17. Salt cedar (Tamarix ramosissima)
18. Salt cedar (Tamarix parviflora)
19. Scotch thistle (Onopordum acanthium)

20. Spotted knapweed (Centaurea maculosa)

21. Yellow starthistle (Centaurea solstitialis)

22. Myrtle Spurge

23. Cypress Spurge

24. Yellow toadflax (Linaria vulgaris)
SECTION II
WEED IDENTIFICATION

TOWN OF CARBONDALE’S 21 UNDESIRABLE WEEDS

Undesirable weeds threaten many of the reasons we live, work, and recreate in the Town of Carbondale. The Town’s Weed Advisory Board encourages us to become more knowledgeable about undesirable weeds. Our natural resource and agricultural heritage depend on our involvement.

2.01 Description of Designated Undesirable Weeds:

To find the Medicinal Uses of any plant, type, Medicinal Uses, then the plant’s name in a Google search engine.

The medicinal information contained within is for educational purposes only. This information has not been evaluated by the Food and Drug Administration.

This information is not intended to diagnose, treat, cure, or prevent any disease.

Absinth Wormwood (Artemisia absinthium)

Absinth wormwood is a perennial forb or herb with a strong sage fragrance dying back to the ground every year. It is commonly 3 feet tall at maturity, but can grow over 5 feet. Leaves are light to olive green, 2 to 5 inches long, with fine silky hairs giving the plant a grayish appearance. Flowers stalks appear at each upper leaf nod, producing numerous flower heads, appearing from late July through August. The seed is less than 1/16 inch long, smooth, flattened, and light gray-brown. Medicinal: in low doses leaves, flowering tops will Anthelmintic (kills intestinal worms), antiseptic, antispasmodic, aromatic, carminative, cholagogue (stimulates flow of bile), febrifuge (reduces fever), narcotic, stimulant, stomachic, tonic. Go to www.botanical.com/ and search for wormwo37.html

The Governor has identified Absinth wormwood for eradication in the Carbondale area
**Canada Thistle (Cirsium arvense)**

Canada thistle is a member of the Aster family and was introduced from Europe. It is a creeping perennial, which reproduces by seeds and fleshy, horizontal roots. The erect stem is hollow, smooth and slightly hairy, 1 to 5 feet tall, simple, and branched at the top. The flower color is primarily lavender, pink, or purple. Canada thistle emerges in May in the Town of Carbondale. It is one of the most widespread and economically damaging undesirable weeds in Colorado. Infestations are found in cultivated fields, riparian areas, pastures, rangeland, forests, lawns and gardens, roadsides, and in waste areas. Because of its seeding habits, vigorous growth, and extensive underground root system, control and eradication are difficult. **Medicinal:** The roots have been used as a poultice and a decoction of the plant used as a poultice on sore jaws. A hot infusion of the whole plant has been used as an herbal steam for treating rheumatic joints. A decoction of the whole plant has been used both internally and externally to treat bleeding piles. The roots are cooked and eaten for food. Said to taste like Jerusalem artichokes. [www.wildflowers-and-weeds.com/weedsinfo/Cirsium_arvense.htm/](http://www.wildflowers-and-weeds.com/weedsinfo/Cirsium_arvense.htm/)
Chicory (Chicorium intybus)

Chicory belongs to the Sunflower family. Chicory, a simple perennial, reproduces only by seed. The plant has a deep fleshy root and tufted basal leaves that resemble those of a dandelion. The stem is multi-branched and can reach over five feet tall. The flowers are bright blue, purple, or occasionally white, and occur along the stems of the plant. The plant is closely related to the cultivated endive and is grown in some areas for the succulent leaves and the fleshy roots. The roots are dried and used as a substitute for coffee. Other names for chicory are succory, blue daisy, blue sailors, and coffeeweed. Chicory is scattered throughout the Town of Carbondale. **Medicinal:** The rootstock, flowering herb helps with appetite, astringent, carminative, cholagogue, digestive, diuretic, hepatic, laxative, tonic.

[www.botanical.com](http://www.botanical.com) Then search for chicor61.html/
Common Burdock (Arctium minus)

Common burdock is a member of the Aster family. It is an introduced biennial, which reproduces by seeds. In the first year of growth the plant forms a rosette. The second year the plant grows erect. Burdock grows to 6 feet tall, has enormous leaves and a prickly bur. The flowers are purple and white in numerous heads. Burdock grows along roadsides; ditch banks, and neglected areas. This plant is a very serious threat to sheep as the burs can significantly damage the quality of their wool. Burdock will cause eye infections in cattle. Medicinal: Roots, leaves and seeds, the whole plant can help skin disorders, diaper rash, cradle cap, gout. Purifies the blood, restores liver and gallbladder function, kidney, and bladder disorders, syphilis, gonorrhea, diabetes. Relives inflammation. This herb is not narcotic. www.botanical.com Then search for burdock87.html
Dalmatian Toadflax (Linaria genistifolia)

Dalmatian toadflax is a member of the Figwort family. It was introduced as an ornamental from Europe, and is common in Carbondale and the Crystal and Roaring Fork River valleys. It is a creeping perennial with stems from 2 to 4 feet tall. The flowers are snapdragon-shaped, bright yellow, with orange centers; the leaves are waxy and heart-shaped. Dalmatian toadflax is especially well adapted to arid sites and can spread rapidly once established. Because of its deep, extensive root system and heavy seed production, this plant is difficult to manage. **Medicinal Action and Uses**—Astringent, hepatic and detergent. It has some powerful qualities as a purgative and diuretic. Boiled in milk, the plant is said to yield an excellent fly poison. The flowers have been employed in Germany as a yellow dye.

[www.botanical.com](http://www.botanical.com) Then search for toadfl19.html
Diffuse Knapweed (Centaurea diffusa)

Diffuse knapweed is a member of the Aster family. Diffuse knapweed was introduced from Europe and is a biennial or short-lived perennial forb, which reproduces only by seed. The plant usually produces a single main multi-branched stem that is 1 ½ to 2 feet tall. The flower is white or pink with bracts. The largest infestation of diffuse knapweed in Garfield County is south of Glenwood Springs at the Glenwood Airport and old rodeo grounds. Medicinal Properties: Stimulant, styptic

http://www.wildflowers-and-weeds.com/weedsinfo/Centaurea_spp.htm/
Hoary Cress (Cardaria draba)

Hoary cress, also known as whitetop, is a member of the Mustard family, and was probably introduced from Europe in alfalfa seed. It is a creeping perennial, which reproduces by seed and creeping roots. The extensive root system spreads horizontally and vertically with frequent shoots arising from the rootstock. It grows erect from 10 to 18 inches high and has a gray-white colored leaf. The flowers are white and numerous in compact flat-topped clusters which give the plant its name. Hoary cress is one of the earliest perennial weeds to emerge in the spring, producing flowers in May or June. It grows in waste places, cultivated fields, and pastures, and is capable of vigorous growth. It is found throughout the Town of Carbondale. **Medicinal:** The plant is antiscorbutic. The seeds have been used as a cure for flatulence and food poisoning caused by eating suspect fish. 

Houndstongue (Cynoglossum officinale)

Hounds tongue is a member of the Borage family. It is a biennial that was introduced from Europe. It reproduces by seed and appears as a leafy rosette in its first year. The plant grows 1 1/2 to 3 feet high with reddish-purple flowers. Houndstongue is commonly known as the “Velcro weed” because of its small nutlets that are rapidly spread by people, domestic animals, wildlife and vehicles. *Houndstongue* grows on ranges, pastures, trails and roadsides and is toxic to horses and cattle, as it contains alkaloids that may cause liver cells to stop reproducing. **Medicinal:** Root, herb, leaves are astringent, anodyne, anti-inflammatory, demulcent and used for coughs, catarrh, indigestion, colic, chronic bronchitis, neuritis, neuralgia, colds, and lung problems.

http://medicinalherbinfo.org/herbs/HoundsTongue.html/
Jointed Goat grass (Aegilops cylindrica)

Jointed goatgrass is a member of the Grass family, Barley tribe. It is a non-native grass introduced from Turkey in the late 1800s. It is a winter annual, reproducing by seed and grows 15 to 30 inches tall in erect stems which branch at the base to give the plant a tufted appearance. Seeds of jointed goatgrass are attached to their rachis segment and shed in June and July, during and prior to wheat harvest. The seeds are very similar in size and shape to wheat seed and therefore are difficult to screen out. **Benefits**: Jointed goatgrass does have some benefits in the sense that its **germplasm** can be used in winter wheat to improve its tolerance to environmental stresses, diseases and insects. Cattle in parts of the Central Great Plains are able to graze on it as well as winter wheat, and jointed goatgrass can even be ground into feed for other animals. Aegilops means an herb of which goats are fond.
Leafy Spurge (Euphorbia esula)

Leafy spurge, a member of the Spurge family, was introduced from Europe. It is a creeping perennial that reproduces by seed and extensive creeping roots. The roots can extend as deep as 30 feet from a plant that grows 1 to 3 feet tall, with pale green shoots and small yellow-green flowers. **The plant, including the root, has milky latex that is damaging to eyes and sensitive skin.** Leafy spurge is an extremely difficult plant to control because of its extensive sprouting root. It is adapted to a wide variety of Colorado habitats and is very competitive with other plant species. If it becomes established in rangeland, pasture, and riparian sites, it may exclude all other vegetation due to its competitive nature. The plant is found scattered in the Wallace Creek area and there are a few plants found on the I-70 right-of-way west of Glenwood Springs. **Medicinal:** In small doses, roots, seeds and leaves are emetic, purgative. For external use it is of service in chronic rheumatism and paralysis as a counter-irritant, alone, or combined with cantharides, merezon bark, etc., or as a plaster when mixed with Burgundy pitch or resin. It is a violent irritant and caustic poison. It may produce delirium. It is a preferred food of goats. [www.botanical.com](http://www.botanical.com) Then search for spurge84.html
Musk Thistle (Carduus nutans)

Musk thistle is a member of the Aster family. Introduced from Eurasia, it is a winter annual or biennial, which reproduces by seed. The first year’s growth is a large, compact rosette from a large, fleshy, coryck taproot. The second year stem is erect, spiny, 2 to 6 feet tall and branched at the top. The waxy leaves are dark green with a light green midrib and mostly white margins; flowers are purple or occasionally white. Musk thistle is also known as “nodding thistle” and is commonly found in pastures, roadsides, and waste places. It prefers moist bottomland soil, but also can be found on drier uplands. It is found throughout the Town of Carbondale. **Edible:** Pith of stem - boiled. A pleasant taste, it is eaten like asparagus. Said to be delicious. The dried flowers are used as a curdling agent for plant milks etc. The down of the plant is used to make paper. The seed of all species of thistles yields a good oil by expression. This species contains 41 - 44% oil. Seeds can be harvested and consumed as a liver detoxing agent. [www.theselfsufficienthomeacre.com/.../musk-thistle-friend-or-foe.html](http://www.theselfsufficienthomeacre.com/.../musk-thistle-friend-or-foe.html)
Oxeye Daisy (Chrysanthemum leucanthemum)

Oxeye daisy, a member of the Aster family, is a native of Eurasia. It is an erect perennial plant with white ray and yellow disk flowers, which bloom from June through August. Oxeye daisy is commonly sold in wildflower seed mixes or transplanted as an ornamental despite its tendency to crowd out more desirable vegetation. It is scattered throughout the Town of Carbondale. **Medicinal:** The whole plant, and especially the flowers, is antispasmodic, antitussive, diaphoretic, diuretic, emmenagogue, tonic and vulnerary. It is harvested in May and June then dried for later use. The plant has been employed successfully in the treatment of whooping cough, asthma and nervous excitability. Externally it is used as a lotion on bruises, wounds, ulcers and some cutaneous diseases. A decoction of the dried flowers and stems has been used as a wash for chapped hands. A distilled water made from the flowers is an effective eye lotion in the treatment of conjunctivitis. **Edible:** Leaves - raw or cooked. The young spring shoots are finely chopped and added to salads. Rather pungent, they should be used sparingly or mixed with other salad plants. Root - raw. Used in spring.

[www.botanical.com](http://www.botanical.com) then search for daisyo04.html
Plumeless Thistle (Carduus acanthoides)

Plumeless thistle is a member of the Aster family. Introduced from Eurasia, it is a winter annual or biennial, which reproduces by seed. This plant can be distinguished from musk thistle by its smaller flowers from ½ to 1 inch in diameter. The leaves of plumeless thistle lack the prominent white margin present on musk thistle leaves. The plant may grow to a height of 5 feet or more. Flowers are reddish-purple and are either solitary or clustered. Taproots are large and fleshy. Plumeless thistle is an extremely prolific seed producer. It is found in pastures, river valleys, and along roadsides. It is found throughout the Town of Carbondale and is becoming a problem in portions of Garfield County. **Benefits:** food for the larva of the American Painted Lady butterfly, Black Swallowtail, Delaware skipper, Palamedes Swallowtail, Palmetto Skipper, Three-Spotted Skipper, Twin-Spot skipper and other butterflies. Goldfinches also like the seeds.

**Purple Loosestrife (Lythrum salicaria)**

Purple loosestrife is a member of the Loosestrife family. It is a perennial introduced from Europe. The erect, square stem can reach 1 ½ to 8 feet tall with magenta-colored flowers. Purple loosestrife is a highly aggressive invader species that can be found in most wetland sites throughout the state. If left unchecked, a wetland will eventually become a monoculture of loosestrife, posing a severe threat to waterfowl habitat and impeding water flow in irrigation ditches. There are no confirmed locations in the Town of Carbondale. **Medicinal:** the aerial parts Lythrum salicaria or purple loosestrife is primarily cultivated for its therapeutic uses. Similarly, beekeepers also grow this herb since the flowers of purple loosestrife produce sufficient nectar. Historically, the leaves of purple loosestrife were employed to cure ulcers, wounds and lesions. [www.botanical.com](http://www.botanical.com) Then search for loopur40.html
Russian Knapweed (Acropition repens)

Russian knapweed is a member of the Aster family introduced from Europe. It is a creeping perennial that reproduces by seed and creeping, horizontal roots. The ridged stems are stiff and 1 to 3 feet high, with thistle-like flowers that are lavender to white. It is very difficult to control or eradicate once it becomes established. It grows in cultivated fields, along ditch banks, fencerows, roadsides, and in waste places. Russian knapweed is toxic to horses. It is most common in the Dry Hollow, Silt Mesa, and Missouri Heights areas. Medicinal: The root, flowers are stimulant, styptic.

www.wildflowers-and-weeds.com/weedsinfo/Centaurea_spp.htm/
**Russian Olive (Elaeagnus angustifolia)**

Russian Olive is a member of the Oleaster family. A hardy, fast-growing tree from Europe, Russian Olive has been promoted for windrow and ornamental plantings. This tree may reach heights from 10 to 25 feet. The trunks and branches are armed with 1 to 2 inch woody thorns. The leaves are covered with small scales, which give the foliage a distinctive silvery appearance. The fruit is berry-like, and is silvery when first formed but turns brown at maturity. It is Common in the Town of Carbondale.

**Medicinal:** The seed oil is use for bronchitis and catarrh. Hot flowers compressed onto aching wounds. Persons near death have been turned around by a flower infusion.

Salt Cedar (*Tamarix ramosissima, Tamarix parviflora*)

Salt cedar is a member of the Tamarisk family. It is a deciduous or evergreen shrub or small tree, 5 to 25 feet tall. Tamarisk may live 50 to 100 years. It has a wide range of tolerance to saline and alkaline soil and water. It copes with high concentrations of dissolved solids by absorbing them through its roots and excreting salts through glands in its stem and leaves. The excreted salts eventually form a saline crust on the soil. A single plant of saltcedar will use about 200 gallons of water per day while it is actively growing. The bark on the saplings and stems is reddish-brown. Leaves are small and scale-like, on highly branched slender stems. *Ramosissima* is 5-petaled and pink to white. *Parviflora* is 4-petaled. Introduced from Eurasia, tamarisk is becoming widespread along the river-ways close to the Town of Carbondale as well as along the Colorado River from Glenwood Canyon to the Mesa Town Line. **Medicinal:** The tamarisk trees are unusual in that they produce a substance called manna, which galls from the trees wood have all been used in medicine in a variety of countries. The French tamarisk has been used for its astringent qualities, and notably the galls contain 40 per cent tannin, so it has been used to treat diarrhea and dysentery, to staunch the flow of blood from wounds and speed up the healing process, and as a laxative. It also has antimicrobial properties, so is good for cleaning wounds.

[www.liveandfeel.com/articles/saltcedar-health-benefits-1755/](http://www.liveandfeel.com/articles/saltcedar-health-benefits-1755/)
Scotch Thistle (Onopordum acanthium)

Scotch thistle is a member of the Aster family. It is a biennial that was introduced from Europe or eastern Asia and can reach a height of 8 feet. The rosette forms the first year and can have leaves up to 2 feet long and 1 foot wide. The second year the plant produces flowers that are reddish-purple to violet. It is found primarily along roadsides and railroads, but can become an impassable obstacle to livestock on rangeland and pastures. Common in Carbondale and between Glenwood Springs and New Castle.

Edible: Flower buds – cooked. A globe artichoke substitute, Stems – cooked used as a vegetable cooked in water like asparagus. Medicinal: The flowering plant is cardiotonic. It is used in some proprietary heart medicines. The juice of the plant has been used with good effect in the treatment of cancers and ulcers. A decoction of the root is astringent. It is used to diminish discharges from mucous membranes.

www.botanical.com/ then search for thistl11.html
Spotted Knapweed (Centaurea maculosa)

Spotted knapweed is a member of the Aster family. Native to Central Europe, it is a simple perennial that reproduces from seed and forms a new shoot each year from a taproot. The plant can have one or more shoots up to 4 feet tall. Flower color is usually lavender to purple. Spotted knapweed occupies dry meadows, pastures, stony hills, roadsides, and the sandy or gravel flood plains of streams and rivers, where soils are light textured, well drained, and receive summer precipitation. Spotted knapweed tolerates dry conditions, similar to diffuse knapweed, but will survive in higher moisture areas as well. There is a small infestation south of Battlement Mesa and scattered, isolated patches are increasing in Garfield County. **Medicinal:** the roots and seeds are used for wounds and skin infections, as a treatment for gout and used as a tonic, a diuretic and to induce sweating.

http://www.herbalmedicinefromyourgarden.com/greater-knapweed-health-benefits/
Yellow Starthistle (Centaurea solstitialis)

Yellow starthistle is a member of the Aster family. It is an annual, 2 to 3 feet tall that was introduced from Europe. Flowers are yellow, located singly on ends of branches, and armed with sharp straw-colored thorns up to ¼ inch long. "Chewing disease" results when horses are forced to eat yellow starthistle. Currently, there are no confirmed reports of starthistle in the Town of Carbondale; however single plants have been reported in the past. There are known infestations in neighboring counties. 

Medicinal: Thistles are far from useless. When beaten up or crushed in a mill to destroy the prickles, the leaves of all Thistles have proved excellent food for cattle and horses. This kind of fodder was formerly used to a great extent in Scotland before the introduction of special green crops for the purpose. The young stems of many of the thistles are also edible, and the seeds of all the species yield a good oil by expression.  

www.botanical.com/ then search for thist11.html
Yellow Toadflax (Linaria vulgaris)

Yellow toadflax is a member of the Figwort family and is sometimes called common toadflax or “butter and eggs.” It was introduced from Europe as an ornamental and has now become a serious problem to rangelands and mountain meadows. It is a perennial reproducing from seed, as well as from underground rootstalk. The flowers are bright yellow with deep orange centers that resemble the snapdragon. Yellow toadflax does well in all types of soils. Its displacement of desirable grasses not only reduces ecological diversity, but also reduces rangeland value and can lead to erosion problems. Because of its early vigorous growth, extensive underground root system, and effective seed dispersal methods, yellow toadflax is difficult to control. Yellow toadflax infests thousands of acres in the Flat Tops Wilderness. Yellow toadflax is becoming common in Carbondale and must be controlled.

**Medicinal:** It acts mainly on the liver and was once widely employed as a diuretic in the treatment of edema. It is little used now, but undoubtedly merits investigation. The whole plant is antiphlogistic, astringent, cathartic, detergent, depurative, diuretic, hepatic, ophthalmic and purgative. It is gathered when just coming into flower and can be used fresh or dried. The plant is especially valued for its strongly laxative and diuretic activities. It is employed internally in the treatment of edema, jaundice, liver diseases, gall bladder complaints and skin problems. Externally it is applied to hemorrhoids, skin eruptions, sores and malignant ulcers. The plant should be used with caution. It should preferably only be prescribed by a qualified practitioner and should not be given to pregnant women. Dosage is critical, the plant might be slightly toxic. The fresh plant, or an ointment made from the flowers, is applied to piles, skin eruptions etc. The juice of the plant, or the distilled water, is a good remedy for inflamed eyes and cleaning ulcerous sores. A homeopathic remedy is made from the plant. It is used in the treatment of diarrhea and cystitis.

[www.botanical.com](http://www.botanical.com)  Then search for  toadfl19.html
2.02 Integrated Weed Management –

Treatment Methods for Optimum Community Health:

The following recommendations are intended to be a reference for weed management in the Town of Carbondale. The information is not intended to be a complete guide to weed management. Before using any chemical in Carbondale, it is necessary to get advice from a Natural Land Management Specialist referred through the Public Works Director or the Trustees / E-board. If chemicals are still considered necessary, the E-Board’s consideration, and permission from the Trustees are needed because Carbondale pursues an herbicide and pesticide avoidance policy when possible. If you’ve obtained permission to use herbicides from the board of Trustees you should thoroughly read the label. Any use of an herbicide inconsistent with the label is neither legal nor recommended.

The management techniques prioritized in this plan includes prevention, cultural, mechanical, and biological strategies. Toxic chemical strategies are only to be considered after consulting a Natural Land Management Specialist, referred through the E-Board.

Prevention

As with the focus on preventative medicine for effective human health care, focus on soil health is the most effective strategy for the health of our land. Management of weeds is best achieved when the soil has abundant populations of micro flora and fauna. Chemical treatments weaken the immune system of the land, making it susceptible to weed infestation and thus should be avoided.

Microbes, Fungi, Mycelium, Bacteria’s and Zoospores are important inhabitants of soil. Upward of 500 different micro/macrosopic organisms inhabit a shovelful and form the backbone of healthy symbiotic plant systems. Chemical treatment may destroy these delicate organisms. Grasses cut too short make the organisms vulnerable to drying and overheating unless watered frequently.

Cultural Techniques

To maximize a desirable cultivation an area densely seeded with desirable species covered with a 1/2” plus layer of Compost or Compost Tea, watered and allowed to fully cycle through its growth, flower, seed, dying back and then laying down under snow will repair the worst clays or sands.

When appropriate, a controlled burn on a field or hillside and seeding the area with desirable species shortly afterward, and watering or when rain is promised, can be an effective way to be rid of the weed and change the composition of plants in an area, in Spring or Fall. This method may be preferable to mechanically plowings, harrowing, composting, seeding and watering.

Mowing, Grazing, Mulching can effectively control weeds.

Inserting plugs of a desirable native plant in an appropriate environment can be an effective biological technique.

Introducing aggressive native plants or insects may help to overwhelm the undesirable plants.

The most suitable plants are locally adapted native species on healthy soil, and will usually out compete plants better suited to poor, dry & disturbed earth.

Paradigm Adaption

Carbondale designated the Dandelion the town flower. This was a cultural adaption promoting tolerance and appreciation of the nutritious and healing properties of the plant. Many of the plants on the state list have beneficial and medicinal properties. Learning the properties is a first step to understanding and ultimately controlling them.

Mechanical

Pulling weeds before flowering is the most familiar of the mechanical controls which when done thoroughly and followed by compost and seeding can offer multi year protection.
The optimum method or methods for weed management will vary depending on a number of site-specific variables. Factors to be considered should include soil type and stability, grade, associated vegetation, existing and proposed land use, proximity to water, availability of irrigation water, weed type and stage of growth, and density of the undesirable plant. The management method selected should be the least environmentally damaging, yet practical and reasonable in achieving the desired results. When considering plant management on a property, work on the areas that may transport undesirable seeds. These areas include ditches, streams, roadsides, driveways, trails, livestock concentrated areas, and equipment storage sites.

**Biological**

Biological weed control involves the utilization of natural enemies for the control of specific species.

**Chemical**

The following recommendations are intended to be a reference for weed management in the Town of Carbondale. The information is not intended to be a complete guide to weed management. Before using any chemical in Carbondale, it is necessary to get advice from a Natural Land Management Specialist and permission from the Trustees because Carbondale wishes to pursue a herbicide and pesticide avoidance policy when possible. If you’ve obtained permission to use herbicides from the board of Trustees you should thoroughly read the label. Any use of an herbicide inconsistent with the label is neither legal nor recommended.

Changes in herbicide registrations occur constantly. The herbicide label is the legal document on herbicide use. *Read and follow all directions carefully.* The use of a pesticide in a manner not consistent with the label can lead to injury of crops, humans, animals, and the environment.

Specific chemical recommendations are available from the Garfield County Vegetation Manager, and/or licensed applicators and are not listed in the Plan.
Town of Carbondale Undesirable Plant List

ABSINTH WORMWOOD
Description: Perennial forb or herb. Light green to gray bush structure 3 feet in height.
Comments: Absinth wormwood must be eradicated in the Carbondale area.
Biological control: None known at this time.
Cultural control: Do not give Absinth wormwood the opportunity to grow.
Mechanical control: Repeated mowing prior to seed set may weaken the plant but seed production can still occur on low branches next to the ground. Hand-pulling is nearly impossible. Hand digging is possible but you must place the plant in a tightly sealed bag for disposal. The plant will re-grow from roots left in the ground.
Chemical control: (Approval from the Trustees required) Contact Garfield County Vegetation Manager or a licensed applicator for specific recommendations.

CANADA THISTLE
Description: Perennial. Reproduces from vegetative buds in root system and from seed.
Comments: Canada thistle is best managed through an integrated management system that emphasizes competitive, desirable plants.
Biological control: Three insects currently available. It is best to release a complex of insects (different insects that will stress different parts of the plant.) Ceutorhyncus litura — a weevil that stresses the crown of the plant. Urophora cardui — a stem and shoot gall fly and Cassidina rubiginosa — leaf beetle.
Cultural control: Maintain soil fertility and moisture at optimum levels to favor grass growth.
Mechanical control: Research indicates that mowing of Canada thistle may be effective when done repeatedly at two week intervals over a period of several years. Pulling and digging up Canada thistle is ineffective as the plant has such an extensive root system.
Chemical control: (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

CHICORY
Description: Simple perennial.
Comments: Chicory is becoming established in the Town of Carbondale and is spreading rapidly in other parts of the County.
Biological control: Close grazing by sheep will control the chicory in pastures.
Cultural control: Re-seed disturbed areas adjacent to chicory infestations with appropriate perennial grasses.
Mechanical control: Deep tillage is an effective control.
Chemical control: (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

COMMON BURDOCK
Description: Biennial. Prolific seed producer.
Comments: Burs may become entangled in the hair of livestock, wildlife, or pets allowing seed to be distributed to new areas.
Biological control: None currently available.
Cultural control: Minimize soil disturbances, encourage desirable plant growth.
Mechanical control: Top growth removal through mowing or cutting is effective as is pulling or digging out the plant at flowering or early seed formation. 1st year root are delicious.
Chemical control: (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

**Dalmatian Toadflax**

Description: Aggressive perennial, escaped ornamental.
Comments: Widespread in Glenwood Springs.
Biological control: The defoliating moth, Calophasia lunula, has been released on Dalmatian and yellow toadflax. It may defoliate up to 20% of the leaves of the plant.
Cultural control: Re-seed disturbed areas adjacent to toadflax infestations with appropriate perennial grasses.
Mechanical control: Repeated mowing 2-3 times per year will slow spread and reduce seed production.

Education: The key to Dalmatian toadflax management is to create awareness among homeowners, nurseries, landscapers, and landscape architects that Dalmatian toadflax is an undesirable weed and therefore should not be specified in plantings, sold in nurseries or planted in home gardens or large-scale landscape projects.

Chemical control: (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

**Diffuse Knapweed**

Description: Biennial, reproduces by seed.
Comments: Increasingly common in Town of Carbondale. The largest infestation is at the Glenwood Springs Airport.

Biological control: Two seed head flies, *Urophora affinis* and *U. quadrifasciata*, are available. They reduce seed production. A root-boring moth, *Agapeta zoegana*, causes considerable damage to roots.
Cultural control: Reseeding of disturbed sites with fast growing grasses helps prevent diffuse knapweed establishment.
Mechanical control: Hand pulling has been effective, if done persistently over time.
Chemical control: (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

**Hoary Cress**

Description: A very competitive, deep-rooted perennial that reproduces by root segments and by seed.
Comments: Common in the Town of Carbondale.

Biological control: None currently available.
Cultural control: Mowing or cultivation effectiveness will be increased if other plants like perennial native grasses or alfalfa are seeded in the hoary cress stand as competitors. Maintain range and pasture in good condition. Promote healthy grass growth through proper irrigation and fertilization. Do not overgraze.
Mechanical control: Removal of top growth is somewhat effective. Repeated treatments may reduce seed production and spread.
Chemical control: (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.
**HOUNDSTONGUE**

**Description:** Biennial. Prolific seed producer. Seed nutlets break apart at maturity and cling to clothing or animals.

**Comments:** Widespread throughout the Town of Carbondale.

**Biological control:** None currently available.

**Cultural control:** Re-seed disturbed sites with fast growing native grasses. Maintain range and pasture in good condition. Promote healthy grass growth through proper irrigation and fertilization. Do not overgraze.

**Mechanical control:** Houndstongue is a prolific seed producer, and the seeds are readily spread by their ability to stick to wildlife and domestic animals. Physical removal of the plant at flowering or in early seed formation, by pulling or digging, will break the cycle of the plant.

**Chemical control:** (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

**LEAFY SPURGE**

**Description:** A perennial up to three feet tall that reproduces by vigorous root stalks and seed.

**Comments:** Leafy spurge is primarily found in Wallace Creek in western Garfield County. An extremely difficult-to-control perennial weed that will require re-treatments to achieve adequate control. Development of a management plan is helpful to manage large areas of leafy spurge.

**Biological control:** Sheep or goats will graze leafy spurge. If livestock graze leafy spurge after seed formation, hold animals in a corral for at least seven days before moving them to an uninfested area to avoid seed spread. Several flea beetles (Aphthona spp.) are available from the Colorado Department of Agriculture Insectary in Palisade. These insects are available upon request at no charge to the public. The larvae bore into leafy spurge roots and the adults feed on the leaves. Also available from the Insectary are Oberea erythrocephala, a stem and root crown mining long-horned beetle, and Spurgia esulae, a shoot tip gall midge.

**Cultural control:** Any activity that encourages vigorous grass growth is very important. Overgrazing stresses grasses and makes them less competitive to leafy spurge.

**Mechanical control:** Mowing leafy spurge at 14 to 21 day intervals may cause higher susceptibility to fall applied herbicides.

**Chemical control:** (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

**MUSK THISTLE**

**Description:** Musk thistle is a biennial and the key to its successful management is to prevent seed formation.

**Comments:** Scattered throughout the Town, heaviest in the Crystal River Valley.

**Biological control:** The musk thistle seed head weevil, Rhinocyllus conicus, is widespread in Colorado. Larvae of this insect destroy developing seeds but are not 100 percent effective by themselves. The weevil normally impacts seed production by about 50 percent. Herbicides can be combined with weevils if the insects are allowed to complete their life cycles. Another weevil, Trichosirocalus horridus, attacks the crown area of musk thistle rosettes and weakens the plant before it bolts. This weevil has reduced stand density in areas where it has become well
established. A leaf feeding beetle, *Cassidia rubiginosa*, causes considerable
damage by skeletonizing leaves. It is recommended to release more than one
type of insect on a weed since each type may work on different parts of the plant.

**Cultural control:** Musk thistle, like other biennial thistles, thrives on disturbance. The best
management is to minimize disturbance. If it does occur be certain to revegetate
with competitive perennial grasses.

**Mechanical control:** The most effective type of mechanical control is to hand pull this plant prior to
flowering. This can be unrealistic on large acreage or when the ground is very
dry. Another option is to use a shovel to cut the root below the surface of the
soil, taking care not to disturb the soil more than necessary. If this is done prior
to flowering the plant can be left in place after it is cut. If it has already flowered
the plant should be removed and placed in a bag and disposed of. Mowing is not
effective on this species unless repeated numerous times throughout the growing
season since musk thistle will flower and produce seed even after one or two
mowings.

**Chemical control:** (Approval from the Trustees required) Contact Garfield County Public Works
or a licensed applicator for specific recommendations.

### OXEYE DAISY

**Description:** A rhizomatous perennial, escaped ornamental.

**Comments:** A rapidly spreading weed in Town of Carbondale.

**Biological control:** None currently available.

**Cultural control:** None available.

**Mechanical control:** multiple mowing before flowering or shallow tilling are effective.

**Education:** The key to oxeeye daisy management is to create an awareness among
homeowners, nurseries, landscapers, and landscape architects that oxeeye is a
undesirable weed and therefore should not be specified in plantings, sold in
nurseries or planted in home gardens or large-scale landscape projects.

**Chemical control:** (Approval from the Trustees required) Contact Garfield County Public Works
or a licensed applicator for specific recommendations.

### PLUMELESS THISTLE

**Description:** A biennial, prolific seed producer.

**Comments:** Common in southern Town of Carbondale, rapidly spreading south of Battlement
Mesa.

**Biological control:** The same seed head weevil, *Rhinocyllus conicus*, that attacks musk thistle also
feeds on plumeless thistle seeds. Another musk thistle weevil, *Trichosirocalus
horridus*, has been released on plumeless thistle in Town of Carbondale. This
weevil appears to be ineffective on plumeless.

**Cultural control:** Plumeless thistle, like other biennial thistles, thrives on disturbance. The best
management is to minimize disturbance and revegetate with competitive
perennial species

**Mechanical control:** Mowing is generally not effective on plumeless due to the plant’s capacity for
rapid re-growth. Hand cutting is not effective unless there are repeated follow-up
treatments. Hand cutting should only be conducted if there is a commitment to
follow-up efforts. Plumeless tends to branch out where it is cut and then it re-flowers. Pulling plumeless can be very effective, especially if done after a light
rain. Hand pulling, with a good set of gloves, is preferable to shoveling.
Shoveling disturbs the ground thus creating a potential seedbed for future
infestations.
Chemical control: (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

**PURPLE LOOSESTRIFE**

Description: An introduced perennial. This escaped ornamental is also a prolific seed producer, able to produce over 10,000 seeds per square yard.

Comments: The US Fish and Wildlife Service and the Colorado Division of Wildlife are extremely alarmed about the proliferation of purple loosestrife in wetland and riparian habitats.

Biological control: Biological control may eventually bring weed populations under control, but it will not eliminate or prevent the spread of undesirable weeds. A survey of loosestrife populations in Europe has resulted in the selection of five insects, which may have potential as biocontrols. Three of these species have completed initial screening tests conducted by the International Institute of Biological Control, in Switzerland and one, *Hyllobius transversovittatus*, a root mining weevil which attacks the vascular tissue of the plant, was subsequently released in New York in 1991.

Cultural control: Remove and replace with alternate perenial replacing.

Mechanical control: Mechanical methods include hand pulling, mowing, and flooding. Hand pulling is effective when infestations are detected early. The root system must be completely removed, since the root sections can sprout and form new plants. For this reason hand pulling is only effective on small plants.

Education: The key to purple loosestrife management and other escaped ornamentals is to create an awareness among homeowners, nurseries, landscapers, and landscape architects that purple loosestrife is a undesirable weed and therefore should not be specified in plantings, sold in nurseries or planted in home gardens or large-scale landscape projects.

Chemical control: (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

**RUSSIAN KNAPWEED**

Description: A perennial with an extensive underground root system.

Comments: This weed is very common in Town of Carbondale. Like other creeping perennials, the key to Russian knapweed control is to stress the weed and cause it to expend nutrient stores in its root system. An integrated management plan should be developed that places continual stress on the weed. Currently, the best management plan includes cultural control combined with mechanical and/or chemical control techniques. A single control strategy, such as mowing or an herbicide, usually is not sufficient. *The plant is toxic to horses, however they must consume it over a period of time before poisoning will occur. Once poisoning occurs horses are unable to chew and advance food to the back of their mouths, swallowing is impaired and horses can drink only if they immerse their head in water far enough to get water to the back of their mouths. Poisoning is irreversible and death by starvation will occur.*

Biological control: None currently available.

Cultural control: Russian knapweed tends to form monocultures by eliminating other plants. Therefore, sowing desirable plant species is necessary after the weed is controlled. Research indicates that the native grasses, streambank wheatgrass and thickspike wheatgrass will establish in an area after Russian knapweed is suppressed with herbicides. If the Russian knapweed stand is not too old and
grasses are still present, stimulating grass growth by irrigation (where possible) should increase grass competition with knapweed and keep it under continual stress.

**Mechanical controls:** Repeated mowing combined with herbicide applications will gradually stress the plant.

**Chemical control:** (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

**RUSSIAN OLIVE**

**Description:** A tree that may reach heights from 10 to 25 feet.

**Comments:** Very common along the Colorado River and in the Town of Carbondale.

**Biological control:** None available.

**Cultural control:** Plant native trees or less aggressive introduced trees. In riparian areas establish native riparian vegetation.

**Mechanical control:** Small trees may be controlled mechanically by using an appropriate tool or shovel.

**Chemical control:** (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

**SALT CEDAR**

**Description:** Shrub or small tree.

**Comments:** Widespread throughout the river basins around the Town of Carbondale.

**Biological control:** There are experimental projects being conducted in a few areas in the West involving the release of mealybugs and leaf beetles. These are not cleared for general release. The recent listing of the Southwestern Willow Flycatcher (a native species that nests in salt cedar) under the Endangered Species Act has challenged efforts to move forward with release of insects for biocontrol.

**Cultural control:** Establish native riparian vegetation.

**Mechanical control:** Historical salt cedar management projects have included root plowing and raking, dozing, mowing, and prescribed burning. These methods provide only short-term benefits and are labor intensive.

**Chemical control:** (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

**SCOTCH THISTLE**

**Description:** A biennial.

**Comments:** Common in Garfield County, the worst infestations are located between Glenwood Springs and New Castle.

**Biological control:** None currently available.

**Cultural control:** Reseed disturbed sites with appropriate perennial grasses.

**Mechanical control:** Digging the plant at the rosette stage is effective.

**Chemical control:** (Approval from the Trustees required) Contact Town of Carbondale Public Works or a licensed applicator for specific recommendations.

**SPOTTED KNAPREED**

**Description:** A short-lived, non-creeping perennial that reproduces from seed and forms a new shoot each year from a taproot.

**Comments:** One of the most invasive, aggressive weeds to plague the western United States. Small infestation located in the Battlements.
Biological control: The seedhead flies, *Urophora affinis* and *Urophora quadridasciata*, have been released in many Front Range counties. These insects cause plants to produce fewer viable seeds and abort terminal or lateral flowers. Root feeding insects may have more of a detrimental effect on knapweed populations than seed feeding insects. Larvae of the yellow winged knapweed moth feed in the roots of both knapweed species.

Cultural control: If desirable grass competition is evident in spotted knapweed stands, judicious herbicide application that does not injure grasses may release them to compete effectively with the weeds. Irrigation may help stimulate grass competition in these cases. Seeding suitable perennial grasses is necessary to prevent weed re-invasion.

Mechanical control: None available.
Chemical control: (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

**YELLOW STARThistle**

Description: Annual, prolific seed producer.
Comments: In California alone, this plant has infested more than 20 million acres. There are no known infestations in the Town of Carbondale; however there have been reports in the past of single-plant infestations.

Biological control: A seed-feeding beetle, *Bangasterus orientalis*, has been released in California and Idaho. Seed weevils and seed flies have also been released. In Town of Carbondale, we hope to detect and eradicate any infestations of starthistle before biocounters are necessary.

Cultural control: Vigorous competitive grass is essential to maintain a plant community’s resistance to starthistle invasion.

Mechanical control: Mowing or cutting starthistle is rarely effective.
Chemical control: (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.

**YELLOW TOADFLEAX**

Description: An escaped ornamental perennial reproducing by seed and rootstalk.

Biological control: One insect species *Calophasia lunula* a defoliating moth has been released on yellow toadflax. It may defoliate up to 20 percent of the leaves.

Cultural control: Attempt to maintain competitive communities of desirable species. Re-seed any open ground with perennial grasses to prevent invasion by other weed species.

Education: The key to management of yellow toadflax and other escaped ornamentals is to create awareness among homeowners, nurseries, landscapers, and landscape architects that yellow toadflax is a undesirable weed and therefore should not be specified in plantings, sold in nurseries or planted in home gardens or large-scale landscape projects.

Mechanical control: Digging and pulling where feasible can provide effective control of toadflax if conducted annually for 10 to 15 years.
Chemical control: (Approval from the Trustees required) Contact Garfield County Public Works or a licensed applicator for specific recommendations.
SECTION III

JURISDICTIONAL OVERVIEW OF AREAS OF INFESTATION
IN TOWN OF CARBONDALE

1. Overview:

The Town has adopted a “prevention, early detection, early treatment” philosophy. Early detection is identifying and documenting recently introduced weed species into an area. Early treatment with seeding and soil improvement is the follow-up that could possibly treat new infestations.

2. Town Land:

Town property is categorized as Roads, Right-Of-Ways, Parks, Trails, and Open Space. Currently we have 26 miles of roads and 135 acres of parks, athletic fields and open space.

These properties will be managed according to the guidelines set forth in the Carbondale Integrated Weed Management Plan.
SECTION IV

PLAN OF WORK

1 Objectives and Goals:

Goals and Objectives of the Town of Carbondale Integrated Weed Management Plan

A. Develop and implement a comprehensive integrated weed management program on all Town-owned property.
B. Educate the public and commercial entities concerning integrated weed management and soil health and health issues.
C. Foster a spirit of cooperation among federal, state and local government agencies and private landowners.
D. Work with other government agencies and departments to institute “Best Management Practices” and/or policies that emphasize soil health and prevention as integrated weed management tools.
E. As much as possible, promote and use integrated management techniques that prioritize an herbicide-pesticide free environment.
F. Establish and maintain healthy plant communities with native or beneficial vegetation.
G. Prevent the spread of undesirable weeds to healthy lands.
H. Contain, mow, burn, compost, reseed and water weed-infested areas.
J. Implement “Title 35 Article 5.5, The Colorado Weed Management Act.”

Management Goals for Weed Species

Management goals will vary from species to species, by location, and over time. For some species, such as yellow star thistle, complete eradication of existing infestations and total suppression of newly identified infestations is feasible and appropriate. Containment of existing intentional plantings, exclusion of seed from new wild land or open space mixes, and elimination of targeted escaped infestations are three different management goals for certain ornamentals such as oxeye daisy. Russian knapweed, salt cedar, and Russian olive infestations are so widespread that they must be managed, in many cases, merely for containment and reduction in the rate of spread. Eradication of these stands may only be viewed as impossible in some instances, or as a long-range objective. In all cases, revegetation, either from the existing seed bank or through supplemental planting, must be included as a management goal. Without revegetation, disturbed or denuded soils invite weed infestation.

4.02 Prevention and Detection:

Prevention is the highest priority weed management technique on non-infested lands. Among government officials, land managers, farmers, ranchers, and the general public there is growing recognition that protecting weed-free plant communities is the most economical and efficient land management practice. The benefits are obvious. Weed-free plant communities:
• Provide essential wildlife habitat and forage.
• Save ranchers and farmers many billions of dollars in labor costs and lost production.
• Ensure aesthetic and recreational qualities of an area.
• Prevent soil erosion and improve water quality.
• Insure soil health and desired plant viability.

The spread of undesirable weeds is most likely to occur where soil has been disturbed either by human activities (road and trail cuts, construction sites, the spread of gravel, road fill and topsoil contaminated with undesirable weed seed, or overgrazing) or by natural events (fire, avalanches, mudslides, flooding). Disturbed land provides opportunity for undesirable weeds. Exotic plants and seeds such as oxeye daisy, purple loosestrife, chicory, toadflax, and Russian olive escape from our yards and gardens. Since they are attractive and establish themselves quickly, they are popular with landscapers and gardeners for ornamental planting and may be purchased through nurseries. They have the same ability to dominate and spread, however, as other better-known undesirable weeds.

Still other known methods of weed introduction include:

• Contaminated seed, feed grain, hay, straw, and mulch.
• Movement of contaminated equipment, cars, bikes, etc. across uncontaminated lands.
• Animal fur, fleece, human clothing.
• Dried flower arrangements.

Prevention is best accomplished by ensuring that new weed species seed or vegetative reproductive plant parts of weeds are not introduced into new areas, and by early detection of any new weed species before they become widespread.

STRATEGIES to prevent the introduction or establishment of undesirable weeds in areas not already infested include:

• Identification and mitigation or eradication of small, new infestations.
• Continuous monitoring and evaluation of soil health and irrigation to prevent recurrence.
• Identification of existing conditions, disturbances, and activities that represent a potential threat to native habitat.
• Identification of recently introduced weed species that represent a future threat.
• Timely revegetation and reclamation of disturbed sites using appropriate native plant species.
• The use of weed free seeds and mulch.
• Town wide promotion of the Colorado Weed Free Hay and Forage program.
• Prioritization of weed management along areas of entry and dispersal.
• Discouraging the sale of weedy ornamental plants and seed packets that contain weed seeds.

SOIL HEALTH AND DESIRABLE PLANT DENSITY IS THE MOST EFFECTIVE NOXIOUS WEED CONTROL AVAILABLE.
4.03 Town of Carbondale Gravel Purchase Guidelines

The Town shall require the following before agreeing to purchase any gravel for Town projects:

A. The gravel pit shall be inventoried and mapped by the pit operator for all plant species on Town of Carbondale’s undesirable weed list on an annual basis.

B. The gravel pit operator shall provide the Town with a weed management plan. Undesirable weeds shall be treated prior to seed formation.

C. The gravel pit operator must supply the Town with a detailed treatment record.

4.04 Education and Awareness:

Education must play a major role in implementing this weed management plan. Groups targeted for public education include the following: farmers and ranchers, homeowners associations, private citizens, developers, gardeners, landscapers, nurseries, public and private land management agencies, recreational users, youth groups, schools, oil and gas companies, pipelines, and other utilities.

A partnership of the public and private sectors, along with awareness of what undesirable weeds are and the problems they cause, is essential to maintain or create plant communities that are free of undesirable weeds. Knowledge about how to identify weeds, how and where weeds are spread, and what it takes to manage weeds is needed. Continuation and expansion of current educational programs as well as the development of new programs is a priority of the Town of Carbondale Undesirable Weed Management Plan. The Town of Carbondale Public Works Department and/or other governmental agencies will provide this instruction. Workshops will be held throughout the year to enhance public awareness. Opportunities for education include:

- Widespread distribution of informative printed material.
- Offering soil health tours and demonstrations of how to produce healthy soils.
- Offering weed tours and talks to the public.
- Offering medicinal and edible plant tours.
- Contacting area nurseries, landscapers, and landscape architects, to emphasize the problems created by escaped ornamentals.
- Cooperation with local media to disseminate weed information.
- Custom weed management recommendations for individual landowners along with supplying soil enhancement techniques and native plant lists.
- Private applicator certification, applicator safety, and laws/regulations.
- Proper calibration of spraying equipment.

4.05 Land Stewardship:

The Colorado Noxious Weed Act requires that all property owners use integrated or chemical methods to manage undesirable weeds. Weed management must be ongoing, requiring an integrated approach in which proper land stewardship practices are utilized. Most weed species, if detected early, can be managed for the long term with soil health.
**STRATEGIES:**

- Identify your plants, and their growth variables.
- Judge the soils health and water availability.
- Understand the target weed. Does it reproduce by seed, roots, or both is it annual, biannual or perennial?
- Maintain inventory maps.
- Can it be isolated to plow, compost and reseed.
- Develop a Desirable / Native Plant database.
- Review the towns Undesirable Weed Database.
- Develop site-specific plant management plans in cooperation with other individual landowners and public agencies.
- Develop a decision-making process that uses site-specific information to make decisions about treatment choices.
- Develop a long-term strategy for soil health including regular monitoring of treatment areas.
- Alleviate the situation, or practices, that allowed the soil to deteriorate and weeds to spread.
- Take the necessary action.

MAINTAINING ECOSYSTEMS THAT ARE DIVERSE, SUSTAINABLE, RESILIENT AND FREE OF WEEDS IS GOOD STEWARDSHIP. LANDOWNERS WHO DO NOT MANAGE THEIR SOILS TO PROMOTE DESIRABLE PLANTS INSTEAD OF WEEDS PLACE THEIR NEIGHBORS’ LANDS AT RISK.

### 4.06 Revegetation and Rehabilitation:

A crucial part of any integrated weed management plan is the introduction of site appropriate vegetation.

Establishing a desirable plant community after undesirable weeds have been removed from a highly infested area requires timely cultivation and reseeding. Since the seeds from undesirable weeds may lay dormant for many years, removing all visible signs of the undesirable weeds does not ensure against their return. **Everything is everywhere.** Revegetation by **soil improvement and sowing appropriate desirable plants**, is the best remedy to prevent the germination of weed seeds. It is important to inspect the land regularly to identify and treat small, new infestations by improving the soil and planting desirable plants. For the highest chance of successful revegetation, managed irrigation of dry areas, fertilization, and reseeding are beneficial in establishing desirable plant communities.

Native plants are most appropriate when the goal is restoration (trying to restore native habitat). Weed-free seeds of native Colorado grasses, wildflowers or plant species appropriate to the site may be purchased, but the best source for seeds is from native species that grow in the immediate vicinity of the area to be planted. They will be best adapted to local conditions and will help maintain local integrity and genetic viability. Using native plants or seeds to reclaim disturbed land reduces degradation of native ecosystems, reduces the need for herbicides and conserves water resources. Native plants will provide a broad biological diversity and help keep Colorado looking like Colorado with a unique regional landscape that sets us apart from other areas of the country.
When the goal is revegetation (reseeding for quick ground cover establishment or erosion control), it may be appropriate to use introduced, non-aggressive grasses and forbs. One should consider the benefits to the soil by utilizing native, appropriate vegetation.


**STRATEGIES:**

- Study all vegetation in the area and surrounding areas.
- Preserve plant species native to Colorado.
- Test the soil for pH balance and micro biome health by using the Haney soil test.
- Retain, improve and utilize as much on-site topsoil as possible.
- Select a predominant species that is appropriate to the site. Then choose a few complimentary species to provide a balanced plant community.
- Choose plants that are healthy, vigorous and pest free.
- Use weed-free seeds. Use non-hybrid seeds. Avoid commercial seedpackets containing exotic plant species.
- Choose plants that are horticulturally appropriate, i.e. plant species that are adaptable to climate, soil and topographical conditions of the designated area.
- Chose native plants to improve indigenous habitat, enhancing the area for human and animals.
- Consider the use of water, its availability and the vegetative requirements.
- To landscape for wildlife, choose native plants that provide cover, forage, browse, seeds for birds and rodents, and shade.
- Be site-specific; revegetation strategies may vary for small lots, farms, ranches or construction sites.
- Establish a vegetative cover that is diverse, effective and long lasting, capable of self-regeneration and appreciated by wild life and people.
- Stabilize the surface with proper ground cover.

**4.07 Requirements:**

- At the discretion of the Board of Town Trustees, as part of the Planning and Zoning development approval process, for land disturbances outside the building envelope, the Town may require, a preliminary plan and prior to Final Plat, the following items:
  - A Soil Plan to include:
    - Provisions for salvaging and storing on-site topsoil.
    - A timetable for utilizing topsoil and/or aggregate piles.
    - A plan that provides for soil cover if any disturbances or stockpiles will sit exposed for a period of 90 days or more.
Revegetation Plan to include:

- Plant material list (be specific, scientific and common names required).
  - Planting schedule (to include timing, methods, and provisions for watering, if applicable).
  - A map of the area impacted at preliminary plan (where the soil will be disturbed).
- A revegetation bond. (Agricultural practices are exempt from revegetation requirements unless they are in association with a subdivision or land use proposal).

A revegetation security may be required if, in the determination of the Board of Town Trustees, the proposed project has:

- A potential to facilitate the spread of undesirable weeds.
- A potential to impact watershed areas.
- A potential for visual impacts from public viewing corridors
- Steep slopes (15% or greater) or unstable areas.
- Disturbs large areas (Half an acre or greater).

The revegetation security will be in an amount to be determined by the Board of Town Trustees, their engineers and pertinent professionals that will be site-specific and based on the amount of disturbance. The Town of Carbondale shall hold the security until vegetation has been successfully reestablished according to the following Reclamation Standards. The Board of Town Trustees will designate the public works director to evaluate the reclamation prior to the release of the security.

4.08 **Reclamation Standards for town and private lands**

1. Site stability
   
   A. The reclaimed area shall be stable and exhibit none of the following characteristics:

   1. **Large rills or gullies.** (Though appropriately sized and placed rills can be used to hold water and create a favorable microclimate to encourage plant growth on especially unfriendly surfaces. (See Coal Basin Revegetation Practices Sopris Ranger USFS))
   2. Perceptible soil movement or head cutting in drainages.
   3. Slope instability on or adjacent to the reclaimed area.

   B. Slopes shall be stabilized using appropriate reshaping and earthwork measures, including proper placement of soils and other materials.

2. Soil Management
   Topsoil management shall be salvaged from areas to be disturbed and managed for later use in reclamation.

3. Erosion Prevention
The surface area disturbed at any one time during the development of a project shall be kept to the minimum necessary and the disturbed areas reclaimed within ninety days to prevent unnecessary or undue degradation resulting from erosion.

A. The soil surface must be stable and have adequate surface roughness to reduce run-off, capture rainfall and snow melt, enhance seeding and allow for revegetation.

B. Application of certified undesirable weed free mulch or erosion netting may be necessary to reduce soil movement, retain soil moisture, and promote revegetation.

C. Soil conservation measures, including surface manipulation, reduction in slope angle, revegetation, and water management techniques, shall be used.

D. Sediment retention structures or devices shall be located as close to the source of the sediment generating activities as possible to increase their effectiveness and reduce environmental impacts.

4. Revegetation

When the final landform is achieved, the surface shall be stabilized as soon as possible by vegetation or other means to reduce further soil erosion from wind or water, provide forage and cover, and reduce visual impacts. Specific criteria for evaluating revegetation success must be site-specific and included as a part of the reclamation plan.

A. Vegetation production, species diversity, and cover, shall support the post-disturbance land use. Areas where the post-disturbance land use does not include lawns, gardens, and flower beds; shall approximate the surrounding undisturbed area or be revegetated to a desired plant community with a composition of species and plant cover typical to that site.

B. The vegetation shall stabilize the site and support the planned post-disturbance land use, provide natural plant community succession and development, and be capable of renewing itself. This shall be demonstrated by:

1. Using certified undesirable weed free seed.
2. Successful onsite establishment of the species included in the planting mixture and/or other desirable species.
3. Evidence of vegetation reproduction, either spreading by rhizomatous species or seed reproduction.
4. Evidence of overall site stability and sustainability.

C. The revegetation plan shall provide for the greatest probability of success in native or desirable plant establishment and vegetation development by considering environmental factors such as seasonal patterns of precipitation, temperature and wind; soil texture and fertility; slope stability; and direction of slope faces.

D. To insure the establishment of a diverse, preferably native and long-lasting vegetative cover, the permittee shall employ appropriate techniques of site preparation and protection, species diversity should be selected for long-term land uses and to provide for a reduction in visual contrast.

E. Where revegetation is to be used, a diversity of vegetation, preferably native species that shall be used to establish a resilient, self-perpetuating ecosystem capable of supporting the post-disturbance land use. Species planted shall include those that will provide for
quick soil stabilization, provide litter and nutrients for soil building and are self-renewing.

F. Integrated Weed Management (IWM) methods shall be employed for all undesirable weed species on the Town of Carbondale List. IWM methods shall be used whenever the inhabitation of the reclaimed area by undesirable weeds threaten nearby areas. Where revegetation is impractical or inconsistent with the surrounding undisturbed areas, other forms of surface stabilization shall be used.

Contact the Public Works Director for the Town of Carbondale public works department, at 970-963-1307 for information on integrated weed management and reclamation. Contact Natural Resources Conservation Service, at 970-945-5494, ext. 101, for reclamation and seeding recommendations.

Mapping and Inventory:
Mapping is a valuable tool in integrated weed management. It is most effective when conducted with an integrated soil analysis such as the Haney test. As such, the public works director will establish and maintain visual maps of past and present infestations of undesirable weeds on Town land. This will provide a graphic representation of weed management and soil amendment progress and needs. The primary goal of mapping will be to record the desirable or undesirable plant species present, areas inhabited, density of habitation, soil health and other site factors pertinent to successfully managing the land.
SECTION V.
RESOURCE DIRECTORY AND SOURCES OF INFORMATION

5.01 Reference Documents

Town of Carbondale Revegetation Guidelines

The Natural Land Management Specialist is to determine the most chemical-free management technique. Said specialists are Published Individuals, that are motivated to not use chemicals that could be harmful to plants, children or pets. They are to be listed in Section V 5.01, Reference Documents. Their qualifications will be vetted by the Public Works Director with the Trustees/E-boards advise.

Natural Land Management Specialist, Stephanie Syson
Dynamic Roots - High Altitude Herbals
www.dynamicroots.com/about.html/

Eagle County Natural Land Management Specialist

Garfield County Natural Land Management Specialist

Palisade Insectory  Biological Control insects
https://www.colorado.gov/pacific/agconservation/biocontrol/

Colorado Native Plant Revegetation Guide
https://cpw.state.co.us/Documents/CNAP/RevegetationGuide.pdf/

Garden Smart Colorado-Colorado Native Plant Society
https://conps.org/wp-content/uploads/2015/05/Garden_Smart_Colorado.pdf/

Colorado Native Plant Society
https://conps.org/gardening-with-native-plants/

Pitkin County Revegetation Guide
http://pitkincounty.com/DocumentCenter/Home/View/2108/

State Of Colorado Noxious Weed List
https://www.colorado.gov/pacific/agconservation/noxious-weed-species/

Garfield County Noxious Weed List

Native Plant Conservation Initiative
http://www.nature.nps.gov/npci/

National Wildlife Federation, Garden to help wildlife
http://www.nwf.org/

How to Garden finely
http://www.finegardening.com/how-to/managing-soil/

Jerome Osentowski’s Educational Videos on Natural Weed Control 4
https://www.youtube.com/watch?v=HEI Ae1ghhNQ
- https://www.youtube.com/watch?v=zpT ZCf67YZE
- https://www.youtube.com/watch?v=f0c-U4jA pRA
- https://www.youtube.com/watch?v=vPeLrMSr-pY

info on the Haney Test from the USDA

5.02 Government & Other Organizations

Garfield County Vegetation Manager
Steve Anthony 945-1377 x 4305

Bureau of Land Management
Colorado River Valley Field Office
2300 River Frontage Road  Silt, Colorado 81652
8: a.m. to 4:30 p.m
970-876-9000 v  970-876-9090 f

Colorado Department of Agriculture
XX State Weed Coordinator
305 Interlocken Parkway
Broomfield CO 80021
303-869-80021
https://www.colorado.gov/agmain/;

Colorado Department of Ag. Insectaries
P.O. Box 400, 750 37.8 Rd.
Palisade, CO  81526
(970) 464-7916
https://www.colorado.gov/pacific/agconservation/node/58531#BiocontrolContact

Colorado Parks and Wildlife
50633 US Hwy 6 & 24
Glenwood Springs, CO  81501
(970) 947-2920

Colorado Department of Transportation
Sarah Tunget
226 S. 6th St., Room 317  
Grand Junction, CO 81501  
(970) 683-6250  
https://www.codot.gov/programs/environmental/landscape-architecture/

Colorado State University  
Extension Weed Science Specialist  
116 Weed Lab  
Ft. Collins CO 80523-1177  
(970) 491-7568  
http://bspm.agsci.colostate.edu/outreach-button/weed-science-information/

Colorado State University  
Master Gardening Program  
Cooperative Extension  
PO Box 1112  
Rifle, CO 81650  
(970) 625-3969  
www.extension.colostate.edu/garfieldcounty/

Colorado Weed Management Assoc  
PO Box 419  
Hotchkiss, CO 81419  
Phone: 970-361-8262  
http://www.cwma.org/HealthyLandscapes.html

Eagle Town Weed Dept  
PO Box 250  
Eagle, CO 81631  
(970) 328-3546  
http://www.eaglecounty.us/Weeds/Weed_Control/

Town of Rifle Public Works  
PO Box 1112  
Rifle, Co 81650  
(970) 625-3969

Natural Resources Conservation Service  
Bookcliff Soil Conservation District  
Mount Sopris Soil Conservation District  
Southside Soil Conservation District  
http://www.mountsopriscd.org/  
PO Box 1302  
Glenwood Springs, CO 81601  
(970) 945-5494

Pitkin Land Management  
http://www.pitkincounty.com/423/Land-Management/  
76 Service Center Road
Aspen, CO 81611
(970) 920-5214

Roaring Fork Transportation Authority
http://www.rfta.com/
PO Box 1270
Carbondale, CO 81623
(970) 704-9282

White River National Forest
http://www.fs.usda.gov/land/whiteriver/landmanagement/
900 Grand Ave.
Glenwood Springs, CO 81601
(970) 945-2521

5.03 Herbicide Information

Colorado Weed Management Association
http://www.fortnet.org/CWMA
http://www.cwma.org/

Bureau of Land Management
http://www.blm.gov/education.html

Pesticide Information
http://164.159.187.239/NWRSFiles/Internet_resources/Pesticide.html/

Noxious Weeds, Exotic and Invasive Plant Management Resources
http://164.159.187.239/NWRSFiles/InternetResources/Weeds.html/

Weed Science Society of America
http://pike2.agu.uic.edu/wssa/

Colorado Natural Heritage Program
http://colostate.edu/Orgs/CNHP/

Colorado Natural Areas Program
http://elbert.state.co.us/cnap/

Chemical Label Information
http://greenbook.net/

Search engine for labels
www.edms.net/

5.04 BOOKS

Weeds of the West
University of Wyoming Bulletin Room
(307) 766-2115

Colorado Flora, Western Slope
William Weber and Ronald Wittman

Native Plant Revegetation Guide for Colorado see book here
http://epw.state.co.us/Documents/CNAP/RevegetationGuide.pdf/

Colorado Natural Areas Program
http://epw.state.co.us/aboutus/Pages/CNAP.asp/
(303) 866-3437

Trees and Shrubs of Colorado
By: Jack Carter
Available in most bookstores
Troublesome Weeds of the Rocky Mountain West

Colorado Weed Management Assoc.
Available through Town of Carbondale
(970) 625-3969

Biology and Management of Noxious Rangeland Weeds
University of Arizona Press
1230 N. Park Ave. Suite 102
Tuscon, AZ 86719
1-800-426-3797
SECTION VI

5.05 DEFINITIONS

1. **Act** – The Colorado Noxious Weed Act, Title 35 C.R.S., Article 5.5 as amended.
2. **Adjacent** – Having a common boundary that meets or touches at some point.
3. **Aggressive** – Fast growing, tending to spread quickly and overpowering adjacent healthy communities.
4. **Agriculture** – Uses involving the cultivation of land, production of crops, and/or the keeping of livestock and the preparation of these products for man’s use and disposal.
5. **Alien Plant** – A plant species that is not indigenous to the State of Colorado nor welcome.
6. **Annual** – A plant that lasts one growing season, completing its life cycle from seed to seed in one year.
7. **Biennial** – A plant that lives in two calendar years. The first year is usually a vegetative form, such as a rosette of leaves. The second year the plant grows a flowering shoot, sets seeds and dies.
8. **Biological Management** – The use of organisms to disrupt the growth of noxious weeds.
9. **Bolt** – To flower or produce seeds prematurely or develop a flowering stem from a rosette.
10. **Bract** – A reduced or modified leaf often surrounding the base of a flower.
11. **Browse** – Tender shoots, twigs, and leaves of trees and shrubs fit for food for wildlife.
12. **Chemical Management** – The use of agents or plant growth regulators to disrupt or inhibit the growth of undesirable weeds. Anything that doesn’t fit into Cultural, Biological, Mechanical or Preventative strategy got weed control.
13. **Commissioner** – The commissioner of the State Department of Agriculture or his or her designee.
14. **Cultural Management** – Methods or management practices which favor the growth of desirable plants over undesirable weeds, including maintaining optimum fertility and plant moisture status in an area, planting at optimum density and spatial arrangement in an area, and planting species most suited to a particular area.
15. **Designated Noxious Weed** – A non-native, invasive plant or plant parts that is identified as a threat to native plant communities and included on the Town of Carbondale Noxious or Undesirable Weed list.
16. **Desirable Plants** – Plants considered to be Native, advantageous and beneficial to the Town.
17. **Escaped Ornamental** – A plant originally intended for horticultural or landscape situations that has escaped its intended boundaries.
18. **Exotic Plant** – A plant that is not a regular member of the native or natural community in which it is found.
19. **Forb** – A broad-leaved, non-woody plant other than grass that dies back to the ground after each growing season.
20. **Forage** – Food for animals, especially when taken by browsing or grazing. Sharing the space.
21. **Town of Carbondale Weed Advisory Board** – A group of individuals appointed by the Board of Trustees of Town of Carbondale to advise on matters of management of undesirable weeds, or the Mayor and Board of Trustees acting as the advisory board.

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22. **Herbaceous** - Applies to plants of soft texture whose stems die back to the ground after each growing season; green and leaf like, not woody.

23. **Infestation** – Growth of an undesirable plant, which has become harmful or bothersome. Referred to in this document as (densely inhabited)
   - **Heavy Infestation** – Dense, 25-100 percent canopy cover.
   - **Moderate Infestation** – Widely scattered plants, 5-25 percent canopy cover.
   - **Light Infestation** – Occasional plant per acre, less than 5 percent canopy cover.

24. **Noxious Weed Management Plan** – A plan developed by the State and Local Weed Advisory Board and E-board Board and implemented by the Board of Trustees in order to control the spread of undesirable weeds by non chemical methods.

25.

26. **Integrated Management** – The planning and implementation of a coordinated program utilizing a variety of methods for managing undesirable weeds, the purpose of which is to achieve desirable plant communities. Such methods may include but are not limited to education, preventive measures, good stewardship, biological, cultural, mechanical management, and chemical/herbicide management.

   a) **Biological Management** means the use of an organism to disrupt the growth of undesirable weeds or enhance the growth of a desirable plant.

   b) **Cultural Management** means methodologies or management practices that favor the growth of desirable plants over undesirable weeds, including maintaining an optimum fertility and plant moisture status in an area, planting at optimum density and spatial arrangement in an area, and planting species most suited to an area.

   c) **Mechanical Management** - means methodologies or management practices that physically disrupt plant growth, including tilling mowing, burning, flooding, mulching, hand-pulling, hoeing, and grazing. Always to be followed by soil enhancement and planting of desirable species.

   d) **Chemical Management** means the use of herbicides or plant regulators to disrupt the growth of undesirable weeds.

27. **Invasive** – Aggressive, capable of invading a plant community and creating a monoculture. That is unetable, that does not add to the beauty or comfort of the community, livestock, wildlife or earth.

28. **Invasive Ornamental** - A plant originally intended for horticultural or landscape situations that has escaped its intended boundaries and is capable of invading a plant community and creating a monoculture.

29. **Landowner** – Any owner of record of state, municipal or private property including an owner of any easement, right-of-way, or estate within the Town.

30. **Lobe** - A division or segment of a leaf or other plant part, especially a rounded one.

31. **Local Undesirable Weed** – Any plant of local importance, which has been declared an invasive or undesirable plant by the Town of Carbondale Weed Advisory Board.

32. **Management** – Any activity that prevents a plant from establishing, reproducing, or dispersing itself. But enhances desirable seeds to settle in a spot that is, maybe not favorable, but well founded and supportive of life. (composted and watered)

33. **Management Plan** – A plan developed by the local Weed Advisory/E-board Board and implemented by the Board of Trustees in order to control the spread of undesirable weeds by chemical methods.
34. Mechanical Management – Methods or management practices that physically disrupt plant growth including tilling, mowing, burning, flooding, mulching, and hand-pulling, shoveling, hoeing and chopping.

35. Monoculture – A single homogeneous crop without diversity, like a lawn.

36. Native Plant – A plant species that is indigenous to a particular locale and relies on other native or sympathetic species for a healthful environment.

37. Neighboring – Any property located within a one-half mile radius of the boundary of a subject property and lies upwind and upstream.

38. Noxious Weeds are referred to in this document as Undesirable – An alien plant or parts of an alien plant that has been designated as being invasive and undesirable and has been declared a undesirable weed by the State and Town Weed Advisory Board and meets one or more of the following criteria:
   a) aggressively invades or is physically destructive to economic crops or native plant communities;
   b) is detrimental directly or indirectly to the environmentally sound management of natural or agricultural ecosystems;
   c) is poisonous to livestock and wildlife;
   d) is a carrier of detrimental insects, diseases, biomes or parasites shown to negatively affect peoples health.

39. Natural Land Management Specialist--A published specialist, expert in the natural, non-chemical management of plants, noxious, undesirable or otherwise weeds, who has at least 3 years experience.

40. Ornamental - A decorative, aggressive, non-native plant often sold through nurseries or spread through seed collection; a threat to native plant species because it has no natural predators and thus competes against the plants of the natural ecosystem.

41. Perennial - A plant that grows for three years or more. Usually flowering and producing fruit each year. The above ground part of the plant may die, but new growth comes from the roots or the crown each spring.

42. Petiole - A slender stem that supports the blade of a foliage leaf.

43. Rhizome - An elongated subterranean plant stem that produces shoots above and roots below, and is distinguished from a true root by possessing buds, nodes and scale-like leaves.

44. Rosette - A cluster of closely crowded leaves in a compact circle, usually at ground level.

45. Undesirable Weed -- A plant on the state’s noxious weed list.

46. Undesirable Weed Management – The planning and implementation of an integrated program to manage undesirable or problematic plant species.

47. State Noxious Weed – Any weed identified by the commissioner of the State of Colorado Department of Agriculture after surveying the Local Weed Advisory Boards and prioritizing the top ten problematic plants. Said survey is to be conducted every three years.

48. Subject Lands - All public and private lands within unincorporated Town of Carbondale with the exception of:
   a) any municipal property owned or leased to an incorporated municipality;
   b) any land managed or administered by a federal agency.
49. **Surfactant** - A compound that improves the emulsifying, dispersing, spreading, wetting, or other surface modifying properties of liquids.

50. **Weed Inspector** – The agent or employee appointed to conduct the duties and functions as defined under this plan.

51. **Weed Office** – The office of the Weed Inspector, or Public Works Director, out of which all undesirable weed administration and enforcement activities are conducted.

52. **Wildflower** – The flower of a wild or uncultivated plant or the plant bearing it.

50. **Xeriscape** – Landscaping with water conservation as a major objective.
MINUTES
ENVIRONMENTAL BOARD
April 25, 2016

CALL TO ORDER:

Julia Farwell called the meeting to order at 6:04 pm.

ROLL CALL:

The following members were present for roll call:

Patrick Hunter  Matt Gwost
Julia Farwell    Jason White
Rob Hollis      Natalie Fuller

Mark O'Meara, Town Liaison
Lisa Nieslanik, Board Administrator
A.J. Hobbs, BOT Liaison

PERSONS PRESENT NOT ON THE AGENDA:

Alyssa Reindell of Evergreen Events gave the Board information about the Biocycle Conferences that she is participating in. She learned how larger cities are dealing with organic waste. In general larger cities have staff that manage and help mandate participation. She stated that Evergreen Events captures the same amount of organic waste per household as Austin TX; 12 pounds. 12,000 pounds per week. She added that Evergreen Events have expanded into Glenwood Springs.

Jason asked Alyssa about the South Canyon Waste site. Alyssa stated that they had toured the site and South Canyon does not want food waste because of the bear problems that they have. They use cardboard for septic tank waste and then reuse the cardboard as landfill cover.

CONSENT AGENDA

Approval of Environment Board Meeting Minutes March 28, 2016.

Matt Gwost moved to approve the minutes of March 28, 2016. Natalie Fuller seconded the motion, and it was approved with:
6 yes votes: White, Farwell, Gwost, Fuller, Hollis and Hunter.

Waste Diversion Day

Julia asked the Board members who was able to attend the event and stated she would send out a schedule for shifts.

6:30 Scott Mills and Chris Ellis arrived

Weed Declaration and Weed Management Plan

John Hoffman presented the document to the Board and asked for feedback and comments.

Chris Ellis moved to recommend that the BOT's approve the Weed Declaration document as amended. Julia seconded to motion and it was approved with:
8 yes votes: Fuller, White, Hunter, Hollis, Farwell, Mills, Gwost and Ellis.
John went on to present the Weed Management Plan. The Board discussed the plan in detail and made several suggestions to the plan. John stated that he would make the necessary adjustments to the plan.

Jason moved to have the Weed Management Plan forwarded on to the other advisory boards and then on to the BOT's with the necessary changes. Scott Mills seconded the motion and it was approved with:
7 yes votes: Fuller, Hollis, Gwost, Ellis, Mills, White and Farwell.
1 no vote: Hunter

John Hoffman continued with his presentation of the Revegetation Guide.

Patrick Hunter moved to approve the Revegetation Guide. Natalie Fuller seconded the motion and it was approved with:
8 yes votes: Fuller, White, Hunter, Hollis, Farwell, Mills, Gwost and Ellis.

E-Plan

Lucy from CORE stated that they had laid out the framework for the E Plan and were updating it. They are meeting several more time to get more specific information on a Climate Action plan and Energy Use plan. Jason White will continue to give updates at future meetings.

Meeting adjourned 9pm.
MINUTES
ENVIRONMENTAL BOARD
APRIL 24, 2017

CALL TO ORDER
Julia Farwell called the meeting to order at 6:22 pm on April 24, 2017 in the Town Hall meeting room.

ROLL CALL
The following members were present for roll call:

E-board Members:  
Jason White, Member  
Julia Farwell, Chair  
Patrick Hunter, Member  
Scott Mills, Member  

Town Staff Present:  
Mark O’Meara, Town Liaison  
Heather Henry, BOT Liaison  
Angie Sprang, Board Administrator  

Observers & Guests:  
Alyssa Rendell  
Gwen Garcelon  

PERSONS PRESENT NOT ON THE AGENDA
No one present wished to address the board.

CONSENT AGENDA
Motion Passed: Patrick Hunter moved to approve Eboard meeting minutes from March 27, 2017. Scott Mills, seconded the motion, and it was unanimously approved.

NEW BUSINESS
Weed Plan Update
Gwen Garcelon presented an update on Carbondale’s weed management plan, which is a work in progress. Discussion ensued. Within the current weed management plan process, the Eboard administers plan. Meaning that the Eboard reviews and recommends plan revisions/changes to the Board of Trustees. Gwen Garcelon proposed that the Eboard also work with a pre-selected group of professional experts who’ve offered to volunteer their time and expertise. This pre-selected group of experts will be referred to as the “Weed Management Citizen Task Force.”

Motion Passed: Jason White moved to endorse the current weed management plan revision and recommendation process with the addition of a citizen task force. Scott Mills, seconded the motion.
Three in favor: Jason White, Julia Farwell, Scott Mills. One opposed: Patrick Hunter.

Gwen Garcelon will continue to work on the weed management plan proposal, and will return the Eboard with the draft for review. Once the details are ironed out, the plan will go before the BOT for final review.

DOLA Training
In the interest of time, this item was reserved for the May 22, 2017 meeting.

UPDATES ON ITEMS IN PROGRESS
Dandilion Day Update - Keelin
This item was reserved for a later date.
ADJOURNMENT
The April 24, 2017, regular meeting adjourned at 7:10 p.m. The next regular meeting is scheduled on May 22, 2017 at 6:00 pm.

Respectfully submitted,
Angie Sprang
Board & Commissions Clark
MINUTES
CARBONDALE PARKS & RECREATION COMMISSION
May 4, 2016

Becky Moller called the Parks & Recreation Commission meeting to order on May 4, 2016, at 7:00 pm.

1. **Roll Call:**

Members Present

Becky Moller  
Tracy Wilson  
Kathleen Wanatowicz  
Rob Comey

Eric Brendlinger, Recreation Center Manager  
Lisa Nieslanik, Boards and Commissions Clerk

Arrived after Roll Call:

2. **Approval of P&R Commission Meeting Minutes of April 6, 2016.**

*Tracy Wilson moved to approve the minutes of April 6, 2016. Rob Comey seconded the motion and it was approved with: 4 yes votes: Moller, Wilson, Comey and Wanatowicz*

3. **Citizens present not on the agenda**

None

4. **Park Rental Policy**

Tabled

5. **Integrated Weed Management Plan**

John Hoffman, Gwen Garcelon and Stephanie Sisson presented the plan to the Board. They informed the Board that the E Board has approved the Declaration, the Weed Mitigation Plan and the Revegetation Guidelines. They went over each of the plans with the Board.

The Board asked Larry for his thoughts. He replied that he does not have the resources to accomplish the revegetation plan.

Rob Comey asked who would determine if an area needs improvement.

John stated that when the use of herbicides is needed that a natural land management specialist would determine how to proceed.
Rob questioned how the plan would have helped a project like the Bike Park.

Gwen stated that the plan would have provided alternative approaches and gives guidelines and ways to manage the weeds.

Tracy stated that they have tried volunteer days, topsoil does not work for rideable surfaces and goats are not allowed with Town limits. She is also concerned that it all goes through the E Board for approval. They have not been realistic on past requests. Time windows were missed for spraying and hydroseeding due to the slow process with the E Board.

Becky added that the E Board takes too long with replies and weeds grow very quickly. She also questioned why there were so many pages that address private property and the medicinal uses of the weeds. She added that the plan does nothing to help deal with existing problems like Promenade Park, the Dog Park and the Bike Park.

John stated that they wanted to inform the public about medicinal uses for many of the weeds.

The Board discussed improvements to the plan that would need to happen before approval could be given and gave the following suggestions:

- Remove the medicinal uses of weeds and add it as an appendix or as a field guide
- better options to control weeds
- solutions for existing problem parks
- provide tools that the Board can use

Gwen stated that they could create a map listing and outlining problem weeds in each of the parks. She would like to walk through some of the parks with Board members and see where the plan could make a difference.

Larry stated that he does not like the plan. He needs a better explanation of what a land management expert is and autonomy for public works to find one.

7. **Staff Updates**

Larry – Public works poured a new basketball court at Miners Park. He showed an email from Jimmy Byrne who is asking if lines can be painted on the court.

The Board discussed the idea and asked Larry to get a cost of painting the courts.
Eric – The quarterly reports were included in the packets. Membership is stable. They are expanding the afternoon classes which will be included with a membership. The heaters have been installed at the pool and they are gearing up for the summer season.

_Tracy Wilson moved to adjourn the meeting at 9:05 pm. Rob seconded the motion and it was approved with:_

_4 yes votes: Wanatowicz, Comey, Moller and Wilson._
To: Carbondale Board of Trustees  
From: Carbondale Environmental Board  
Subject: Carbondale Weed Advisory Board Roles  
Date: September 11, 2017

To Whom it May Concern,

With regard to the *DRAFT Town of Carbondale Integrated Weed Management Plan* that was brought to the Board of Trustees in 2016, it is the intention of the Carbondale Environmental Board (herein Eboard) to transfer our advisory role for the Carbondale Weed Advisory Board to a more expert group. We would be happy to provide feedback; we do not intend to be the sole decision making body.

Excerpt from the *DRAFT Town of Carbondale Integrated Weed Management Plan, 4/27/2016*  
1.04 Local Advisory Board  
"The Act directs the governing body of the municipality to appoint a local Weed Advisory Board. The local governing body may appoint itself, or a commission of landowners, to act as the local advisory board for that jurisdiction. In the Town of Carbondale, the Board of Trustees (BOT) acts as the Weed Advisory Board, after weighing the council and advice of the E-Board. The Environmental Board shall provide analysis and recommendation to the Town Board of Trustees regarding the “use of pesticides and herbicides”. Resolution #7, 1998, thus establishing the E-board). Attached.

The Eboard appreciates the Town’s leadership in the creation of the volunteer Eboard in 1998; including the close working relationship for the last 19 years on topics of interest. The Eboard recognizes that weeds are one of the most passionate topics in Carbondale, as citizens are proud of the “no-spray” ethos that is practiced by Town Staff in the management of parks and open spaces. Current members believe that we do not have the collective expertise to provide educated, professional opinions on matters regarding the very important issue of applying pesticides and herbicides throughout Carbondale.

The Eboard strongly believes that the Town’s no-spray management ethos should be more clearly solidified with the following steps:
1) Final completion and BOT adoption of the Town of Carbondale Integrated Weed Management Plan.

2) The formation of a weed management task force, or other appropriate name, made up of expert public volunteers and/or volunteer members from other Town advisory boards to address integrated weed management in a professional manner.

3) The establishment of a Town policy that more clearly defines the application and procedures of herbicides and pesticides on Town-owned properties, and coordinates with other regional plans.

It is also the Eboard’s hope that the Town will lead by example, and provide guidelines and assistance to business owners and residents to proactively eradicate weeds as environmentally responsible as possible for the benefit of public health and quality of life.

• The Eboard is happy to discuss this topic in more detail with any of the parties involved.

Sincerely,

[Signature]

Julia Farwell, Eboard Chair
Cathy Derby

From: Dan Richardson
Sent: Thursday, December 14, 2017 8:16 AM
To: Cathy Derby
Cc: Trustees
Subject: Re: Economic development questions

Cathy,
Will you please include the following comments/questions in the packet for next week’s discussion on economic development, in addition to Erica’s request? Also, Trustees - please invite those who you feel would add to the discussion.

A while back potatoes were the basis of the economy in Carbondale. Later it became coal, Some say we’re now a bedroom community dependent on the surrounding economies. What would you say is the basis of our economy today? What does this board want the economy to look like tomorrow? How do we differentiate our efforts to shape the economy of our community versus the revenue base for the Town?

More specifically, what challenges and opportunities exist today for existing businesses/organizations, budding entrepreneurs, and businesses/organizations interested in relocating to Carbondale? How do we want to address those challenges and opportunities?

Dan Richardson,
Mayor of Carbondale
(970) 510-1345

On Dec 13, 2017, at 12:02 PM, Erica Sparhawk <esparhawk@carbondaleco.net> wrote:

Hi Dan and Jay,

For the meeting next week on economic development, can we have some figures or information about the start-up costs for a new business in Carbondale. I learned A LOT when I doing my side gig of getting the Dandelion Market back up and running.

Items like:
- Tap fees
- Remodeling building permits (plumbing, etc)
- Other fees I’m not thinking about.

If you could share the amounts (I know we just passed new fees last night) that a new restaurant or something might experience, that’d be helpful. Then, explaining what that covers for us at the Town level. I’m interested more in the cumulative and big picture, not necessarily whittling down on particular fees. I think this is a question that some of our businesses have. Even if we don’t do anything to reduce those, I think it’d be good if we all knew how to explain them, etc.

Thanks!
Erica