AGENDA
CITY OF GUNNISON
PLANNING & ZONING COMMISSION
REGULAR MEETING
Rev 8/16/2012

DATE: **WEDNESDAY, AUGUST 22, 2012**
TIME: **7:00 P.M.**
PLACE: **CITY HALL, COUNCIL CHAMBERS, 201 WEST VIRGINIA AVE.**

7:00pm **I. CALL TO ORDER**

II. PLEDGE OF ALLEGIANCE TO THE FLAG

III. UNSCHEDULED CITIZENS

IV. CONSIDERATION OF THE AUGUST 15, 2012 MEETING MINUTES

V. THREE-MILE COUNTY REFERRAL – SKETCH PLAN APPLICATION FOR A MAJOR IMPACT, MINING OPERATION, PROPOSED AS TOMICHI PIT

VI. COUNCIL UPDATE

VII. COMMISSIONER COMMENTS

VIII. PLANNING STAFF UPDATE

IX. ADJOURN TO WORK SESSION

WORK SESSION

I. DISCUSSION OF THE DRAFT LAND DEVELOPMENT CODE –
- Natural Resource Protection
- Large Scale Retail

TO COMPLY WITH ADA REGULATIONS, PEOPLE WITH SPECIAL NEEDS ARE REQUESTED TO CONTACT THE CITY OF GUNNISON COMMUNITY DEVELOPMENT DEPARTMENT AT 641.8090

This agenda is subject to change, including the addition or deletion of items at any time. Regular Meetings and Special Meetings are recorded and action can be taken. Minutes are on the City website at www.cityofgunnison-co.gov. Work sessions are not recorded and formal action cannot be taken. For further information, contact the Community Development Department at 641-8090.

ALL PLANNING & ZONING COMMISSION MEETINGS ARE USUALLY BROADCAST LIVE ON LOCAL CABLE CHANNEL 15

THIS PAGE INTENTIONALLY LEFT BLANK

MEMBERS	PRESENT	ABSENT	EXCUSED
Carolyn Riggs, Chair	X		
Erik Niemeyer	X		
Erich Ferchau	X		
Andy Tocke	X		
Bob Beda	X		
Greg Larson		X	
Councilor Ed Seymour			X

OTHERS PRESENT: Community Development Director Steve Westbay, Planner Andie Ruggera

I. CALL TO ORDER AT 7:02 PM BY CHAIR CAROLYN RIGGS

II. PLEDGE OF ALLEGIANCE TO THE FLAG

III. CONSIDERATION OF THE JULY 25, 2012 MEETING MINUTES

Commissioner Beda moved and Commissioner Niemeyer seconded to approve the July 25, 2012 meeting minutes as amended.
Roll Call Yes: Ferchau, Tocke, Riggs, Niemeyer and Beda
Roll Call No:
Roll Call Abstain:
Motion carried

IV. UNSCHEDULED CITIZENS

There were none

V. COUNCIL UPDATE

Director Westbay updated the Commission on recent Council business. The Council:

- Appointed Marian Hicks and Thelma Reece as Election Commissioners;
- Appointed SonjaChavez de Baca and Anthony Poponi as City Representatives on the Gunnison Land Preservation Board;
- Updated on the Broadband Project by Jason Swenson;
- Awarded the Jorgensen Skatepark Project Contract;
- Finalized the USA Pro Cycling Challenge Contract with Classic Bicycle Racing, LLC;
- Approved submitting a City statement of opposition to the Tomichi Creek Water Rights Filing and authorized the Mayor to sign the statement; and
- Approved the Stipulation Water Agreement with Taylor River Ranch LLC, regarding the Taylor River Water Rights.

Commissioner Tocke moved to excuse Councilor Seymour from the August 15, 2012 meeting. Commissioner Beda seconded the motion.
Roll Call Yes: Niemeyer, Ferchau, Riggs, Beda and Tocke
Roll Call No:
Roll Call Abstain:
Motion carried

VI. COMMISSIONER COMMENTS

- Commissioner Beda thanked the City for the CityFest event on August 8th and stated it was very fun. Director Westbay stated staff presented the City well and that the event was funded by Greg Geer from The Insurance Center; and
- Commissioner Riggs inquired on the Planning and Zoning Commission Bylaw revisions. Director Westbay stated he contacted the City Attorney Kathy Fogo who recommended not allowing electronic communications due to requirements to maintain logs of such communications. The City Attorney and City staff is working on updating the bylaws and will be presented to the Commission within the next few weeks.

VII. PLANNING STAFF UPDATE

Director Westbay updated the Commission on recent activity in the Community Development Department:

- Staff has been working with Tim Seibert on a Major Change to a PUD application to increase the Commercial/Mixed Use district allowed floor area within Gunnison Rising. Staff anticipates a complete application submittal within the coming weeks;
- Staff has been meeting with Habitat for Humanity regarding a project on south 6th Street;
- Staff is working on a Floodplain Oridinance;
- Budget work has begun; and
- Staff has been working on the Highway Access Control Plan and contracts are being written.

VIII. ADJOURN. Chair Riggs adjourned the meeting to Work Session at 7:25 p.m.

_____
Carolyn Riggs, Chair

Attest:

_____
Andie Ruggera, Secretary

STAFF REPORT
Three-Mile County Referral
Tomichi Pit Land Use Change

TO: Planning and Zoning Commission
FROM: Community Development Staff
DATE: August 22, 2012

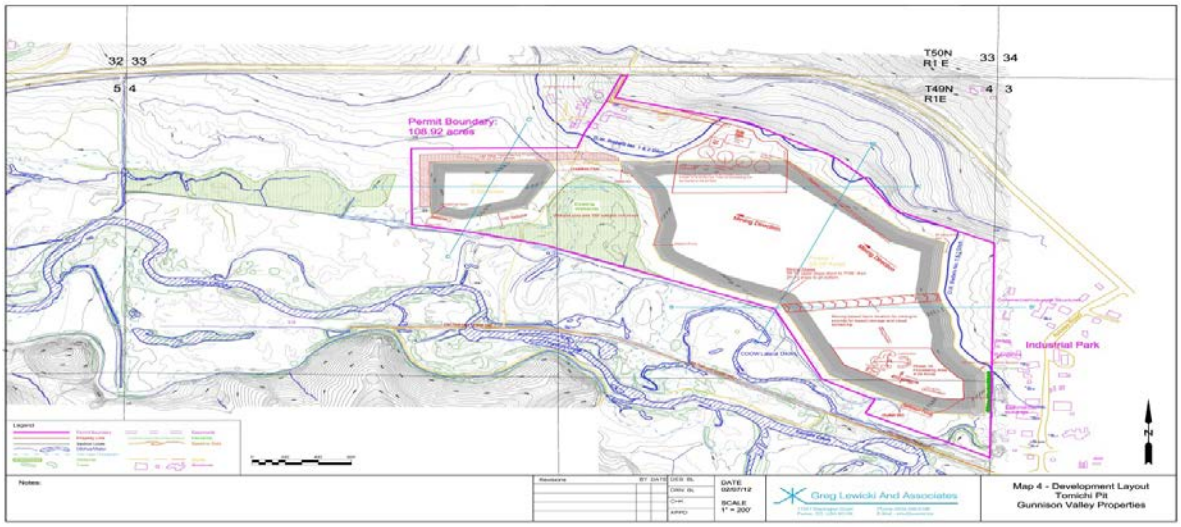
PROCESS

The *Three Mile Plan/Urban Growth Boundary Intergovernmental Agreement* (IGA) specifies the procedure for the review of projects within the Three Mile Planning Boundary and the Urban Growth Boundary. Procedures for such review are outlined in Section III, B.a. of the IGA.

The IGA states "The County Planning Staff shall provide the City Planning Staff with a copy of the complete submittal package at least thirty (30) days prior to the initial action on the application. The City shall provide any comments … at least 5 days prior to the first scheduled hearing…The decision as to whether to review the Proposed Development Application and whether it shall be reviewed by the City Planning Staff, the City Planning Commission, or the City Council, or some or all other groups, shall be at the discretion of the City; provided however that all Major Impact Proposed Development Applications shall be reviewed by the Technical Review Committee."

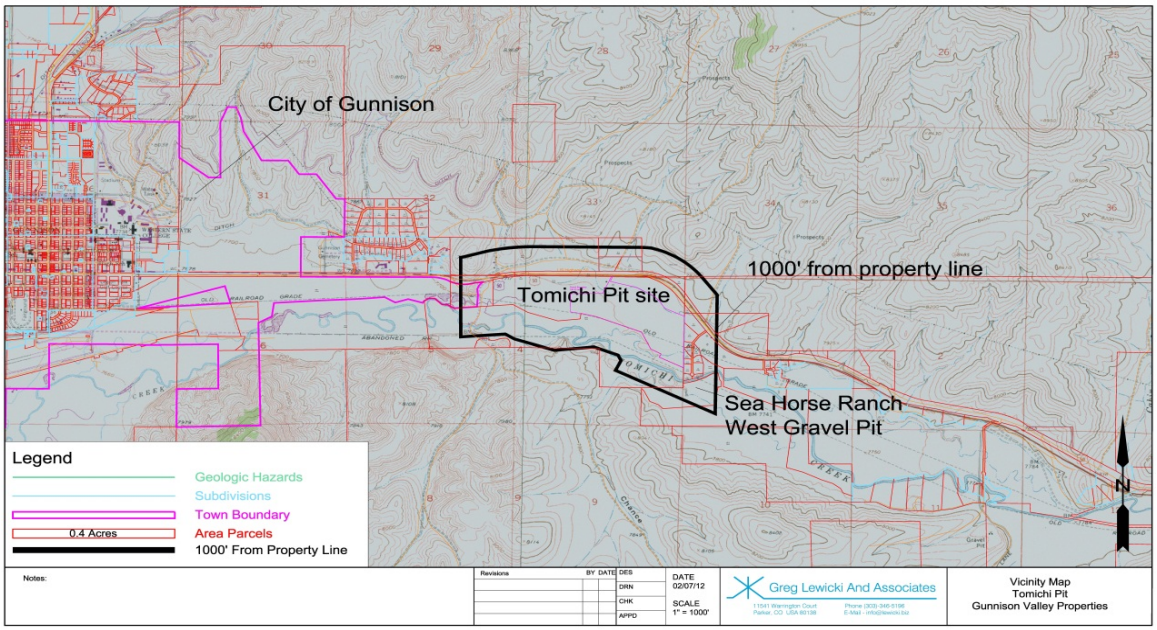
PROJECT DESCRIPTION

The applicant is Gunnison Valley Properties. The applicant is proposing to permit a 108 acre gravel pit, asphalt and concrete production facilities, stock pile areas, office and truck scales and an excavation area comprising of 61 acres. The pit is proposed as a year round operation with operating hours between 6:00 a.m. and 7:00 p.m. The excavation area will be developed and reclaimed in phases. The duration of pit operations is estimated to be 27 years.



Three-Mile Plan Designation. The proposed gravel pit is located within the three-mile area and outside the *Urban Growth Boundary* designated in the *Three-Mile Plan (1997).* Based on the Three-Mile map, the proposed site is located in the rural residential land use area (1 unit per 5-35 or more acres).

Surrounding Uses. Surrounding uses include industrial and residential uses within the Signal Peak Industrial Park, agricultural uses, Varra gravel pit and concrete plant (aka United Companies), and the Tomichi Creek Wildlife Area.



Utilities. The proposed operation will be served by portable toilet facilities – no individual sewage disposal system is proposed. Water consumption will be addressed through an augmentation plan. It is assumed that a well will be drilled on the site. The City has filed a letter of opposition to the proposed water augmentation plan submitted by the LUR applicant. Reasoning for this letter of opposition is to provide the City with the ability to have formal involvement in the augmentation review process.

Stormwater from the operation will be directed to the pit. Groundwater seeping into the pit will be intercepted by dewatering trenches and then conveyed through a settling pond and discharged into Tomichi Creek.

Roads and Access. The peak hour traffic demand generated by the pit is estimated to be 42 passenger car equivalents per hour. The application states that the material sales will be based on the access permit for the site's intersection with US Highway 50. Gunnison Valley

Properties has requested that the highway access to this pit site be included in the upcoming highway access control plan being initiated by the City and Colorado Department of Transportation.

Air Quality. The application contains very little information regarding air quality. The application does state that water will be used to reduce dust. However, other air quality issues may exist. Temperature inversions in the basin trap emissions from the existing gravel pit operations. Adding another gravel pit in the same area will only add to this issue. Additionally, asphalt production results in noxious odors.

Landscape Buffer. The application states that *"…natural screening provided by the topographic rise on the northeast corner of the site will be taken advantage of as much as possible."* A berm is proposed to be established to screen the proposed pit area. Visual impact to the area must be anticipated.

APPLICATION CONSIDERATIONS

The proposed gravel pit site was included in the Phase 1 and Phase 2 review of the Gunnison Rising Annexation. The proposed uses on the site included a 97 acre residential development to the east of Mr. Bratton's house and a 79 acre Business Research Park, which included industrial uses.

During the Phase1 and 2 Gunnison Rising review detailed discussions regarding the development of this site occurred. Concerns stated by the City included but, were not limited to the following:

- visual impact to the City's entrance – an industrial site did not fit the City expectation for its eastern entrance;
- water quality issues with industrial operations were of concern because Tomichi Creek was designated for the Gunnison Rising domestic water supply;
- Potential impact to existing wildlife habitat was discussed. The site is within occupied sage grouse habitat. The Sage/hay meadow interface is an important habitat for early brood rearing; and
- The proposed land uses were automobile dependent.

Ultimately, it was determined that the proposed industrial use was not supported by the City for annexation and the site was removed from the proposed annexation area.

Another point for consideration relates to the market competition for gravel in the basin. Since United Industries purchased the Valco pit (Gold Basin) and the Vara pit (Signal Peak Industrial Park) the cost of materials has increased substantially. Additional competition for gravel materials would likely reduce the cost for gravel materials.

August 22, 2012

Gunnison County Planning Commission
200 W. Virginia Avenue
Gunnison, CO 81230

Dear Commissioners:

Thank you for providing the opportunity to comment on the sketch plan for the proposed Tomichi Pit. The following comments are based on the submitted application material and its relation to the *Gunnison Three Mile Plan and Urban Growth Boundary, City of Gunnison, Colorado* and the *City of Gunnison Master Plan.* Based on the existing Three-Mile Map, the property is designated as Rural Residential (1 unit per 5-35 or more acres) and is located outside of the Urban Growth Boundary.

This site was included in the Phase 1 and Phase 2 review of the Gunnison Rising annexation. The site's proposed uses during the annexation review included a 97 acre residential development to the east of Mr. Bratton's house and a 79 acre Business Research Park, which included industrial uses. Topics discussed by the City during the annexation review included but, were not limited to the following:

- visual impact to the City's entrance – an industrial site at the City's entrance was not received favorably by the majority of the Council;
- ground water quality issues with industrial operations were of concern because Tomichi Creek was designated for the Gunnison Rising domestic water supply;
- potential impact to existing wildlife habitat and impacts to the *Tomichi Creek Wildlife Area* were of concern to City leaders. The site is within occupied sage grouse habitat and the Sage Grouse/hay meadow interface is an important habitat for early brood rearing; and
- the proposed land uses were automobile dependent.

Ultimately, the proposed annexation uses on this site were not supported by the City and the area was removed from the proposed annexation territory. The majority of the concerns raised during the annexation review are still considered relevant to this proposed gravel pit operation.

The application contains very little information regarding air quality. The application does state that water will be used to reduce dust. However, other air quality issues may exist. Temperature inversions in the basin trap emissions from the existing gravel pit operations. Adding another gravel pit in the same area will only add to this issue. Additionally, asphalt production results in noxious odors that could affect adjacent residential uses.

It should also be noted that in September 2012 the City and the Colorado Department of Transportation (CDOT) will initiate an Access Control Plan for US Highway 50, and this proposed gravel pit site will be included in this plan. The Access Control Plan will result in a set of defined intersection locations and general lane geometry design for this highway corridor segment. The Plan will take at least one year to complete and it will include input from Gunnison County.

Additionally, the City has filed a letter of opposition to the proposed water augmentation plan submitted by the LUR applicant. Reasoning for this letter of opposition is to provide the City with the ability to have formal involvement in the augmentation review process. The City holds substantial water rights within the Tomichi basin that may in the future be contemplated to support future City domestic water demands.

Please feel free to contact the City's Community Development Director if you have any questions regarding this letter.

Sincerely,

Carolyn Riggs
Chair, Planning and Zoning Commission

Gunnison Valley Properties, LLC

Tomichi Pit

SKETCH PLAN APPLICATION TO GUNNISON COUNTY

Major Impact Project – Mining Operation

Submitted March 2012
Revised June 2012

PREPARED BY:

Greg Lewicki And Associates

11541 Warrington Court
Parker, CO USA 80138

Phone (303) 346-5196 Fax: (303)-346-6934
E-Mail:info@lewicki.biz

Table of Contents

INTRODUCTION 1
A. COPY OF PROPERTY TAX CERTIFICATE 2
B. GENERAL INFORMATION 2
1. Applicant 2
2. Applicant is the Owner 2
3. Applicant is Not Sole Owner 2
4. Property Owner 2
5. Property Affected - Legal Description 3
6. Date of Application 4
7. Status of Parcel as a Legal Lot 4
8. List of Adjacent Landowners 4
C. IDENTIFICATION OF PRESENT LAND USE AND PREVIOUSLY-APPROVED USES .. 4
D. MINERAL RESOURCES 5
E. PROJECT DESCRIPTION 5
1. Uses And Activities 6
2. Description Of Off-Site Resources 6
3. Seasons And Hours Of Operation 6
4. Phases of Operation 6
F. MAPS 6
G. ROADS AND TRAILS SYSTEM PLAN 7
H. ACCESS AND OTHER EASEMENTS 7
I. FLOOD HAZARD AREAS 7
J. GEOLOGIC HAZARD AREAS 8
K. WILDFIRE HAZARD AREA AND FIRE PROTECTION 8
L. WILDLIFE HABITAT 8
M. WETLANDS 8
N. DEVELOPMENT ON RIDGELINES 8
O. DEVELOPMENT IMPACTING AGRICULTURAL LANDS 9
1. Agricultural Land Owner 9
2. Agricultural Ditch 9
3. Easements 9
4. Livestock Drives and Fencelines 9
P. LAND BEYOND SNOWPLOWED ACCESS 10

Q. DEVELOPMENT IN NATIONAL WILDERNESS 10
R. DEVELOPMENT ABOVE TREELINE 10
S. WATER SUPPLY PLAN 10
1. Quality 10
2. Test for Potability 10
3. Quantity 10
4. Historic Use 11
5. Hydrologist's Report 11
6. Pumping Test Results 11
7. Evidence of Central Water Supply 11
8. Irrigation Needs 11
9. Fireflow 11
10. Potable Water Demand 11
11. Water Rights 11
12. Attorney's Letter about Feasibility 11
T. SEWAGE DISPOSAL 12
U. GENERAL SITE PLAN STANDARDS AND MEASUREMENTS 12
V. SETBACKS FROM PROPERTY LINES AND ROAD RIGHTS-OF-WAY 12
W. LANDSCAPING PLAN 13
X. RECLAMATION AND NOXIOUS WEED CONTROL 13
Y. GRADING AND DRAINAGE PLANS 13
Z. WATER IMPOUNDMENTS 16
AA. SCHOOLS, PARKS, AND COMMON AREAS 16
BB. SOLID AND HAZARDOUS WASTE DISPOSAL 16
CC. PROTECTIVE COVENANTS OR RESTRICTIONS 17
DD. STRUCTUAL DESIGN 17
E. Information Submittals for Minor and Major Impact Projects 19
SECTION 9-404: SITE LOCATION AND SETBACKS FOR MINING OPERATIONS 22
SECTION 9-405: GENERAL DEVELOPMENT STANDARDS FOR MINING OPERATIONS 23
A. Access and Transportation Plan 23
B. Rock Crusher, Asphalt Plant, and Cement Batch Plant 25
C. Impacts on Environmental and Cultural Resources 25
D. Mine Wastes and Hazardous Materials 27
E. Visual Impacts 28

F. General Operations 30
G. Post-Operational Land Use 31
APPENDIX A – DRMS PERMIT APPLICATION 33
APPENDIX B - GUNNISON COUNTY SAGE GROUSE HABITAT EVALUATION 34
APPENDIX C – KIMLEY-HORN TRAFFIC STUDY 35
APPENDIX D – WESTWATER GROUND WATER QUALITY ANALYSIS 36
APPENDIX E – LETTERS AND CERTIFICATIONS 37
APPENDIX F – CULTURAL RESOURCES INVENTORY 38
APPENDIX G – OTHER PERMITS AND PERMIT APPLICATIONS 39
APPENDIX H - MAPS 40

INTRODUCTION

The following is a Sketch Plan application for the Major Impact – Mining Project known as the Tomichi Pit. The permit is being applied for by Gunnison Valley Properties, LLC, the owner of the entire property on which the operation will take place. The Tomichi Pit is designed and intended to be operated as a sand, sand and gravel, asphalt, and concrete production operation for the purpose of supplying the construction needs in Gunnison County. The mining operation is expected to last just over 26 years, with roughly six months of preparation and reclamation activities on top of the mine life. The mining operation may be conducted more swiftly if local market demands increase.

A Colorado Division of Reclamation, Mining, and Safety permit application has been prepared, but not yet submitted to the state. This is to allow the incorporation of changes to the mining and reclamation plans at Tomichi that may occur as part of the Major Impact permit process. The prepared DRMS application has been attached to this sketch plan application to provide a substantial amount of the information regarding the mining and reclamation plans for the Tomichi Pit.

The Stormwater Management Plan for the Tomichi Pit is included in *Appendix G*. This plan is based on the pit design and operational plan in the DRMS permit application, and is subject to change based on changes to that application or changes mandated by Gunnison County.

A. COPY OF PROPERTY TAX CERTIFICATE

A copy of property tax certificate for the property on which the Tomichi Pit will operate has been supplied to the Gunnison County Community Development Department from the Gunnison County Treasurer's Office.

B. GENERAL INFORMATION

1. Applicant

Gunnison Valley Properties, LLC
234 North Main St, Suite 3A
Gunnison, CO 81230

2. Applicant is the Owner

Not applicable.

3. Applicant is Not Sole Owner

Not applicable.

4. Property Owner

Gunnison Valley Properties, LLC
234 North Main St, Suite 3A
Gunnison, CO 81230

5. Property Affected - Legal Description
Located entirely within Section 4 of T49N, R1W of the New Mexico PM.

Using the north section line of Section 4, T49N, R1W of the New Mexico PM, N89d38'34"W a distance of 5268.11', as the basis of bearing.

From the northeast corner of Section 4, T49N, R1W of the New Mexico PM;
N 89°42'33" W a distance of 2234.43' to the point of beginning;
thence S 22°17'51" W a distance of 198.70';
thence S 75°33'21" E a distance of 359.75';
thence S 75°51'30" E a distance of 467.55';
thence S 61°07'27" E a distance of 601.25';
thence S 46°08'30" E a distance of 256.80';
thence S 33°30'43" E a distance of 264.66';
thence S 43°38'03" E a distance of 98.31';
thence N 54°56'24" E a distance of 13.92';
thence S 65°31'02" E a distance of 613.49';
thence N 65°15'56" W a distance of 7.01';
thence S 00°47'30" W a distance of 1146.07';
thence S 00°54'27" W a distance of 631.78';
thence N 64°02'49" W a distance of 837.27';
thence N 26°54'03" E a distance of 126.51';
thence N 61°54'34" W a distance of 362.73';
thence N 26°05'58" W a distance of 647.60';
thence N 69°05'45" W a distance of 1495.25';
thence N 76°40'22" W a distance of 488.05';
thence N 80°39'37" W a distance of 325.09';
thence N 00°22'35" W a distance of 522.53';
thence N 00°22'35" W a distance of 110.00';
thence N 89°37'25" E a distance of 1003.12';
thence N 19°16'06" E a distance of 134.19';
thence N 27°03'36" E a distance of 278.29';
thence N 22°34'29" E a distance of 243.89';
thence S 89°34'26" E a distance of 40.07';
which is the point of beginning,
having an area of 108.924 acres.

6. Date of Application
Original Sketch Plan submission: March 12, 2012
Revision Dates: May 17, 2012; June 22, 2012

7. Status of Parcel as a Legal Lot
Not Applicable

8. List of Adjacent Landowners

Affected Owner's Name	Parcel Location Relative to Proposed Land Use Change Parcel	Current Land Use on Adjacent Parcel
Division of Wildlife	South	Exempt
Donna Bratton	West	Agricultural
Bureau of Land Management	East	Exempt
Rivers Edge Property, LLC	East	Mixed Use
Oldcastle SW Group, Inc.	East	Mixed Use
Oldcastle SW Group, Inc.	East	Commercial
Mick Justin Howard, Et. Al.	East	Mixed Use
Commercial, LLC	East	Commercial
Varra Companies, Inc.	East	Commercial
Lone Oak, LP	East	Agricultural
Steven K Fry	North	Residential
Cameron Dierks	North	Residential
Dale J McDermott	North	Residential
Garnet L Manning (c/o Kelly Bailey)	North	Agricultural
Garnet L Manning	North	Agricultural
Hamilton B. Cooper	East	Residential

C. IDENTIFICATION OF PRESENT LAND USE AND PREVIOUSLY-APPROVED USES

The currently approved land use for this property is Agricultural. The majority of the Tomichi Pit site has been irrigated hay meadow used for hay production and cattle grazing for decades. The site has been historically irrigated by the Biebels No. 1 and 2 Ditch. In recent years the field has been contract managed by local ranchers, producing roughly 1.4 tons/acre a year of hay with a single annual cutting, and supporting 100-150 head of cattle on the average. The management of irrigation on the site historically has been good, with the regular ditch maintenance being conducted by the contract rancher. There are currently several residential and agricultural structures present north of the site. None of these structures will be affected by the mining operation proposed in this Sketch Plan.

The ranch buildings on site can be seen on the Map 3 – Site Plan and the DRMS Maps C-1, C-2, and F. There are several buildings currently on the property, all near the property entrance. There areas and uses are as follows:

Structure (current use)	Approx. Area (sq. ft.)
Two-story house	4000
Small house	900
Hayshed	3000 (no walls)
One car garage	740
Storage shed 1	200
Storage shed 2	200
Storage shed 3	1700
Cattle barn & storage shed	6000 (adjoining buildings)
Pump house	370
Ranch shed	3800
Abandoned log cabin	700

While the ranching activities of the site will be reduced by mining, it is the landowner's desire to maintain the existing structures throughout mine life and beyond. The residences will continue to be used by either its current tenants or others at the landowner's discretion. Agricultural operations on the property will continue outside of the mining operation throughout the life of the mine.

D. MINERAL RESOURCES

This property has substantial sand and gravel resources that will be excavated as part of the mining operation proposed in this plan. There are no known oil, natural gas, or other mineral resources on this site. No patented mining claims exist on this site.

E. PROJECT DESCRIPTION

The goal of the Tomichi Pit is to mine the sand and gravel resource present on site and then construct a high quality wildlife habitat and recreation area for use by citizens of Gunnison County. In order to accomplish this, sand and gravel will be mined from within a permit area of 108.92 acres, beginning in the SE corner of the property. The actual excavation area proposed is 61.6 acres. The total disturbance area is anticipated to be 69.11 acres. The excavation will grow to the north and then west as time goes on, with reclamation occurring concurrently with the mining operations. Once mining and reclamation are complete, the resulting lake, wetlands, and surrounding dryland will be set aside for use by the public as recreation and wildlife habitat.

Mining operations at the Tomichi Pit will involve the extraction, crushing, screening, and washing of an expected average of 200,000 tons of sand and gravel per year. Asphalt and concrete will also be produced at this facility. The estimated resource of the Tomichi Pit is 5.3 million tons, which will take approximately 27 years to mine and reclaim. The Tomichi Pit will be a wet pit, requiring dewatering during its mine life. Dewatering activities are described in more detail in the attached *DRMS permit (Exhibit G*). Lowering the water table within a sand and gravel pit during operations is a commonly used practice in the construction materials mining industry. The water from this dewatering process is clean, and discharged through CDPHE approved discharge points into the local surface water regime. The US Army Corps of Engineers approves of this process in general, as the email from Steve Moore of their Grand Junction office in *Appendix E*. At the Tomichi Pit, some water from this pit dewatering will be used to maintain the local wetlands during mining.

Access to the site will be based on the existing residential and agricultural property access on to US Highway 50, as seen on *Map 4 – Development Layout*. A traffic study was conducted to determine if any improvements to the access are needed as part of a CDOT permit. This study is included in *Appendix C*. The bulk of the traffic generated by the site will be in the form of highway trucks hauling product to construction projects.

The long term plans for this site (beyond mining) are wildlife habitat and recreation areas for the public. *DRMS Map F* shows the proposed configuration of the lakes and wetlands that will be built. The final configuration of these will be determined with input from CPW and Gunnison County.

1. **Uses And Activities**
   The Tomichi Pit site will be used for the production of construction materials such as sand, gravel, concrete, and asphalt. This will require the development of a 69.11 acre operation on site (roads, mining pit, etc.) as part of a 108.92 acre permit area.

2. **Description Of Off-Site Resources**
   The only off-site resources that are necessary to complete the project are the existing state and county roads that access the site.

3. **Seasons And Hours Of Operation**
   The Tomichi Pit will run year-around, although operations will likely be reduced in winter. Most mining will take place from early April to late October when construction projects are most prevalent. Material will be stockpiled on site during the summer for sale during the rest of the year to continue to supply construction industry needs. Some excavation may take place in the off-season, but that is expected to be less than 30% of total annual production.

   Tomichi Pit will operate from 6 am to 7 pm Monday through Saturday year around, but off-season operations may be curtailed by weather or darkness.

4. **Phases of Operation**
   The mining and reclamation slopes of the Tomichi Pit will occur concurrently, although the lakes cannot be filled until the reserve is mined out and the slopes are backfilled. Therefore this project will be phased. The two mining phases can be seen on *Map 4 – Development Layout*. Phase 1 is the main eastern pit area and Phase 2 is the smaller western pit.

F. MAPS

The following maps are part of this sketch plan:

- Map 1 – Vicinity Map
- Map 2 - Natural Features
- Map 3 - Site Plan
- Map 4 - Development Layout
- DRMS Map C-1
- DRMS Map C-2
- DRMS Map C-3

- DRMS Map F
- SWMP Map

These maps contain a large amount of the information required for the Gunnison County Sketch Plan application.

G. ROADS AND TRAILS SYSTEM PLAN

The general location of all roads to the Tomichi Pit can be seen on *Map 4 – Development Layout*, as well as *DRMS Maps C-1, C-2, and F.* No trail system is proposed as part of this application. Access to the site will be via US Highway 50.

H. ACCESS AND OTHER EASEMENTS

All known existing easements are shown on the *DRMS Map C-1*.

I. FLOOD HAZARD AREAS

The FEMA 100 YR floodplain from the National Flood Insurance Rate Maps for the area can be seen on the Map 2 - Natural Features and the Map 3 - Site Plan. Excavation of the sand and gravel pit will take place in part of the 100 YR floodplain, but no fill will take place in the 100 YR floodplain. The Tomichi Pit will act as a large sump to area flooding both during mining, and upon reclamation. It is not part of the Tomichi Pit mining or reclamation plan to construct any facilities or permanent structures in the 100 YR floodplain. A minimum buffer of 100' will always be maintained between the pit and Tomichi Creek to prevent pit capture.

J. GEOLOGIC HAZARD AREAS

The west end of this property is located in the High Water Table geologic hazard area according to the Colorado Geologic Survey report *Geologic Hazards in the Crested Butte-Gunnison Area, Gunnison County, Colorado by James M. Soule (1976),* as shown on *Map 2 – Natural Features*. However, the geologic hazard map does not extend into the area that will be affected by mining operations. For the purpose of the application, it is assumed that the mining area falls within the High Water Table hazard due to the presence of ground water close (~5') to the surface. High Water Table Areas are locations where "ground water is at or near ground surface much of the year". The risks to construction in such an area are minimal, particular for operations like the Tomichi Pit. The Tomichi Pit will not involve the construction of septic systems or basements that would be impacted by the High Water Table. Operations within the pit itself will be protected by active dewatering of the ground water via pumps. Once mining is complete, the reclaimed pit lake and surrounding land will not be affected by the High Water Table hazard.

K. WILDFIRE HAZARD AREA AND FIRE PROTECTION

According to the Gunnison County Wildfire Hazard Map from the Colorado Forest Service, the Tomichi Pit is located in an area of low wildfire hazard. The Tomichi Pit will not increase the risk of wildfire in this area. *Map 2- Natural Features* shows the Wildfire Hazard levels in and around Tomichi Pit.

L. WILDLIFE HABITAT

The Tomichi Pit mining and reclamation plans will be developed and executed within input from Gunnison County and the Colorado Parks and Wildlife to mitigate or prevent adverse impacts to local wildlife. The Tomichi Pit is more than 0.6 miles from any Gunnison Sage-grouse lek, and the project's expected impact on the Gunnison Sage-grouse will be minimal based on the evaluation conducted by the Gunnison County (*Appendix B*). The nearest lek is over a mile away, and therefore not visible on any of the maps attached to this application.

M. WETLANDS

A delineation of wetlands through the property was certified by the US Army Corps of Engineers in 2008 (see *Appendix E*). The delineation can be seen on *Maps 2, 3, & 4*, as well as the DRMS maps. No mining will take place within the wetlands or within 100' of them. A portion of the water generated from pit pumping may be used to replenish the surrounding wetlands to maintain their current condition.

The water table under the wetlands will be lowered by the dewatering activity in the adjacent pit. The potential negative affect this would have on said wetlands is mitigated by using the pit pumped water to irrigate these wetlands. This is a commonly used procedure in gravel mining operations that take place below the water table and near wetlands. Both the USACOE and the Colorado Department of Water Resources affirm the viability of this procedure. Correspondence from these agencies can be found in *Appendix E*.

N. DEVELOPMENT ON RIDGELINES

The development of the Tomichi Pit does not involve the construction of any buildings on any ridgelines. The entirety of the site is within a low lying area south of US Highway 50.

O. DEVELOPMENT IMPACTING AGRICULTURAL LANDS

The Tomichi Pit is being developed both on and adjacent to land that has been historically used for agriculture.

1. Agricultural Land Owner

Only the property owned by Donna Bratton west of the Tomichi Pit has a land use listed with the Assessor's office as Agricultural.

2. Agricultural Ditch

The Biebels No. 1 & 2 Ditch run through the north side of the site; this ditch will not be affected by mining operations. Water pumped from the pit may be discharged into this ditch in order to ensure ditch flows during pit dewatering. The ditch is shown on *Map 4 – Development Layout* as well as *DRMS Map C-1*. The Biebels Ditch has a decreed capacity of 45.99 cfs. Ditch flow ownership is as follows:

1. Gunnison Valley Properties, LLC: 48.90%
2. Colorado Parks and Wildlife: 19.20%.
3. Manning: 0.10%
4. Town of Gunnison: 14.58%

Portions of the water rights owned by Gunnison Valley Properties, LLC in the Biebels Ditch will be used to augment the consumptive uses of mining and reclamation activities at Tomichi. Other water rights in the ditch will not be affected. There is no formal easement associated with the ditch, but a minimum 40 foot buffer from the pit is being applied along the ditch for this application. This is to provide room for maintenance of the ditch during and after mining.

The Colorado Parks and Wildlife uses a return ditch to irrigate portions of their property to the south. This ditch has been historically fed by tail water from the irrigation of the Tomichi site from the Biebels Ditch. The start of this ditch can be seen on *DRMS Map C-1* on the southeast corner of the permit area.

Gunnison Valley Properties, LLC will maintain the flow in this return ditch during mining by discharging some of the water from Outfall 001 (Phase 1 Sediment Pond discharge) into the return ditch channel. During reclamation, a new return ditch will be installed along the south slope of the east lake to convey water to the CPW property as before mining. CPW has informed Gunnison Valley Properties of its support of this plan in a letter which can be found in *Appendix E*.

3. Easements

There is no delineated maintenance easement for the Biebels No 1 & 2 ditch. A 40' wide maintenance buffer will be maintained so from the mining operation.

4. Livestock Drives and Fencelines

Livestock has been brought onto this property on a contract grazing basis only. No stock drive easements are present on the property. All existing fences can be seen on the *DRMS Map C-1*.

P. LAND BEYOND SNOWPLOWED ACCESS

The Tomichi Pit access is via US Highway 50, which is plowed by the Colorado Department of Transportation.

Q. DEVELOPMENT IN NATIONAL WILDERNESS

The Tomichi Pit is not located on any inholding of a National Wilderness Area.

R. DEVELOPMENT ABOVE TREELINE

The Tomichi Pit is not above treeline.

S. WATER SUPPLY PLAN

The Tomichi Pit will consume water in three ways: water used for mining operations, water evaporating from the lake upon reclamation, and water consumed by personnel on the site.

The mining operation will use water to minimize dust generated by traffic on the internal haul road, to minimize dust during crushing and screening operations, and water will be consumed during pit dewatering. Once mining and reclamation are complete, water will be consumed by evaporation across the lake surface. Potable water will be brought on site for personnel to consume during operations.

WestWater and Associates constructed two test ground water wells on the Donna Bratton property to the west of the Tomichi Pit area in the same aquifer. Water from these wells was analyzed for quality and quantity. The report can be found in *Appendix D*.

1. Quality

The ground water quality for the alluvial aquifer has been analyzed by WestWater, and details of chemical analysis can be found in their report. According to their analysis:

"Results of the chemical analyses indicate the water to be excellent for potable consumption. Total dissolved solids are 132-280 mg/L, sulfates are low (13-25 mg/L), hardness is 101-123 mg/L (6-7) grains per gallon), iron is 0-02 mg/L or less, and all metallic and trace elements are at or below recommended health standards."

2. Test for Potability

The groundwater at Tomichi Pit is not intended for use as potable water supply. However, as shown in the WestWater report, the ground water in the alluvial aquifer found on site is "excellent for potable consumption".

3. Quantity

The mining operations at the Tomichi Pit are expected to consume roughly 105 gpm. WestWater's report indicates a natural flow of over 350 gpm from this aquifer. This is more than sufficient to supply mining operations.

Reclamation conditions on the site will not consume water through anything other than evaporation from the lake's surface. This depletion from the aquifer is 132.0 acre-ft annually, and is offset by the 175.3 acre-ft of converted water rights from the Biebels No. 1 and 2 Ditch. A detailed consumptive use and augmentation balance can be found in *Appendix E*.

4. Historic Use

N/A

5. Hydrologist's Report

See WestWater's report in *Appendix D*.

6. Pumping Test Results

See WestWater's report in *Appendix D*.

7. Evidence of Central Water Supply

A central water supply is not needed for the Tomichi Pit. The ground water is more than sufficient to provide for the operational needs during mining, and bottled water for employee consumption will be provided by the operator.

8. Irrigation Needs

Irrigation will not be conducted on any of the disturbed ground at the Tomichi Pit. The Biebels No. 1 and 2 Ditch, which feeds the western portion of the property for irrigation, will not be disturbed by mining. Irrigation of this area of the property, which is outside the permit area, will be maintained. The CPW return ditch portion which passes through the Tomichi Pit area will be removed by mining, but a new ditch will be installed during reclamation, and the pit will discharge water from the west Sediment Pond into the CPW return ditch during the irrigation season. *DRMS Maps C-1, C-2, and F* show these ditches.

9. Fireflow

Based on WestWater's evaluation of the ground water aquifer and the water demands of the operation, there will be an excess of at least 245 gpm available.

10. Potable Water Demand

None of the water generated on site from either ground water sources or surface water runoff is intended for human consumption.

11. Water Rights

An augmentation plan for the Tomichi Pit is being applied for with the State Engineer's Office to cover the ground water consumptive use with water rights from the Biebels No. 1 & 2 ditch. This augmentation plan will use water that is available from water court decree 06CW123.

12. Attorney's Letter about Feasibility

A water right augmentation plan will ensure that consumptive use of water by the mining operation and the reclaimed lake evaporation will be covered by water rights or water

contracts. John T. How a water rights attorney with over 20 years of experience in Colorado, has certified the feasibility of the augmentation plan. His letter can be found in *Appendix E*

Further details can be found in the attached *DRMS Exhibit G*.

T. SEWAGE DISPOSAL

Portable toilet facilities will be installed on site for use by operation personnel. No septic system will be installed as part of Tomichi Pit.

U. GENERAL SITE PLAN STANDARDS AND MEASUREMENTS

The Tomichi Pit has been designed in accordance with the requirements of the Gunnison County Land Use Resolution Section 13.103: General Site Plan Standards and Lot Measurements. No residential structures will be built on this site, and no subdivision is planned. The only facilities to be constructed on site are as follows:

- Office trailer (10'W x 30'L x 10'H))
- Truck scale (10' x 50', installed in access road)

Gravel crushers and screeners, wash plants, asphalt plants, and concrete plants are anticipated to be mobile equipment, and therefore will not involve the construction of any buildings. In the event that a fixed plant is installed, a 5' x 10' control trailer may be installed with said plant. Trailers like this will be wheel mounted.

V. SETBACKS FROM PROPERTY LINES AND ROAD RIGHTS-OF-WAY

Setbacks for the Tomichi Pit operation are addressed under the response to Section 9-404 below.

W. LANDSCAPING PLAN

As stated in the Gunnison County Land Use Resolution, Section 13-111: Landscaping and Buffering does not apply to mining operations.

X. RECLAMATION AND NOXIOUS WEED CONTROL

Reclamation will be concurrent with mining at the Tomichi Pit. The *Exhibit E* of the DRMS application contains the reclamation plan for the Tomichi Pit. *DRMS Map F* shows the reclamation condition for the site.

An *Earthmoving Site Revegetation and Noxious Weed Control Plan* as approved by the Gunnison Basin Weed Specialist will be necessary for the Preliminary Plan.

Y. GRADING AND DRAINAGE PLANS

DRMS Map C-1 shows the baseline conditions for the site, while *DRMS Map F* shows the reclaimed conditions. Map 5 - Surface Hydrology shows a comparison of these two points in the Tomichi Pit's life, with drainage information. A detailed drainage plan is shown below

Drainage, Construction, and Runoff Plan

This plan is designed to satisfy the requirements of Section 13-117 of the Gunnison County Land Use Resolution. All calculations of runoff are based on the 100-Year, 24-Hour storm event for the Gunnison, CO area. The rainfall for this event is taken from the NOAA Atlas 2, Volume III-Colorado.

Baseline Surface Water Drainage

A map showing the stormwater runoff directions that exist on the Tomichi Pit site currently is attached to this document (*Map 5 - Surface Hydrology*). The mining operation at Tomichi Pit will change the baseline conditions on the site in two steps. The first will be the excavation of the sand and gravel pits, the second is the creation of the reclaimed lakes. Runoff quantities have been calculated for each scenario using the same procedure as the baseline conditions. For the mining conditions, the removal of vegetation from the disturbed area increases the curve number for portions of the stormwater basins. This would increase the runoff on site. However, the creation of mine pits allows the site to contain more runoff then it generates. Once the pit slopes are reclaimed, the curve number for the site will lower some. The topographic changes to the site still will trap some runoff in the lake areas.

Most of the pre-mine permit area drains to Tomichi Creek, but a portion of the area runoff is intercepted by various ditches as shown on *Map 5 - Surface Hydrology*. These ditch interceptions have been ignored in all calculations.

Runoff Calculations (SCS Method in Carlson 2012)

Pre-Mine Site Runoff for Entire Permit Area

Project: Baseline Runoff
By: B Langenfeld Date: 04/20/12
Location: Tomichi Pit Checked: Date:
Present

1. Runoff Curve Number (CN)

Cover description	CN	Soil Group	Area(Acre)
Pasture Grassland Range (Good)	74	C	208.958

CN (weighted): 74.0
Total Area: 208.958 Acre

2. Runoff

Return Period:	100-Year	
Rainfall, P:	2.20	in
Runoff, Q:	0.4474	in
Runoff Volume:	**7.7909**	**Acre-Ft**

For mining and reclamation conditions, a portion of the area drains to the lakes, and some undisturbed portion will continue to drain off site.

Runoff to Pits During Mining

```
Project:   Runoff to Pits during Mining
By:  B Langenfeld    Date:  04/20/12
Location:  Tomichi Pit                        Checked:             Date:
Developed

1. Runoff Curve Number (CN)
Cover description                          CN      Soil Group   Area(Acre)
Mined Land, Disturbed (Poor)               87      C            69.105
Pasture Grassland Range (Good)             74      C            114.770

CN (weighted):        78.9
Total Area:        183.875 Acre

2. Runoff
Return Period:                  100-Year
Rainfall, P:                    2.20         in
Runoff, Q:                      0.6383       in
Runoff Volume:                  9.7812       Acre-Ft
```

Runoff to Lakes After Reclamation

```
Project:   Runoff to Lakes Post-Mine
By:  B Langenfeld    Date:  04/20/12
Location:  Tomichi Pit                        Checked:             Date:
Developed

1. Runoff Curve Number (CN)
Cover description                          CN      Soil Group   Area(Acre)
Herbaceous mixture (Good)                  74      C            19.630
Pasture Grassland Range (Good)             74      C            114.745
Water Surface                              98      C            49.500

CN (weighted):        80.5
Total Area:        183.875 Acre

2. Runoff
Return Period:                  100-Year
Rainfall, P:                    2.20         in
Runoff, Q:                      0.7094       in
Runoff Volume:                  10.8703      Acre-Ft
```

Runoff to Leave Site Post-Mine (primarily wetlands between the two lake and some buffer areas)

```
Project:   Runoff that Leaves the Site Post-Mine
By:  B Langenfeld    Date:  04/20/12
Location:  Tomichi Pit                          Checked:             Date:
Developed

1. Runoff Curve Number (CN)
Cover description                          CN      Soil Group   Area(Acre)
Pasture Grassland Range (Good)             74      C            25.081

CN (weighted):        74.0
Total Area:         25.083 Acre

2. Runoff
Return Period:                  100-Year
Rainfall, P:                    2.20         in
Runoff, Q:                      0.4474       in
Runoff Volume:                  0.9351       Acre-Ft
```

Runoff Table

	CN	Area (acres)	Runoff (acre-ft)
Baseline	74	208.96	7.79
Mining (Drains to Pit)	78.9	183.88	9.78
Mining (Pit Capacity)			*2,483.07*
Mining (Leaves Site)	74	25.08	0.94
Reclaimed (Drains to Lake)	80.5	183.88	10.87
Reclaimed (Excess Lake Capacity)			*871.38*
Reclaimed (Leaves Site)	74	25.08	0.94

As shown in the Runoff Table above, there is more than enough capacity in both the mining pits and above the water level in the reclaimed lakes to contain the runoff that drains to them. The net result effect on the overall drainage of the site is a decrease in the runoff that leaves the site. The runoff captured by the pit during mining will either work its way through the alluvium and join the local ground water regime or pass through the pit dewatering system before discharge into the local wetlands and water bodies. The dewatering system provides sediment control through both the placement of the pit pump several feet below the active pit floor and a sediment pond. Runoff that flows into the reclaimed lakes after mining will join the local groundwater regime.

Z. WATER IMPOUNDMENTS

No water impoundments are proposed as part of this Sketch Plan application. No modification of water impoundments are proposed as part of this Sketch Plan application.

AA. SCHOOLS, PARKS, AND COMMON AREAS

No areas of the Tomichi Pit are proposed to be set aside as part of this Sketch Plan application.

BB. SOLID AND HAZARDOUS WASTE DISPOSAL

The Tomichi Pit will not produce any hazardous waste. Solid waste, such as trash, on the site will be removed and disposed of by a contractor.

CC. PROTECTIVE COVENANTS OR RESTRICTIONS

No protective covenants or restrictions are planned for the Tomichi Pit either during mining or in reclamation.

DD. STRUCTUAL DESIGN

Figure DD-1 (on the following page) shows the conceptual cross section of the Tomichi Pit and its intended facilities this diagram shows the height and width of plants and structures relative to the pit depth and local topography.

Figure DD-1

Section 9-403: Permit submittal requirements for mining operations
The Colorado Division of Reclamation, Mining, and Safety 112c Permit application attached in *Appendix A* contains many of the responses to Gunnison County Land Use Resolution requirements contained in Section 9-400. As much as possible, the specific exhibit and subsection is identified where it provides the response to the LUR requirement. However, it is strongly recommended that the DRMS application be reviewed in its entirety by all parties, as it provides a complete picture of the mining and reclamation operations that will take place at Tomichi Pit.

E. Information Submittals for Minor and Major Impact Projects
The DRMS application is contained in *Appendix A*. This application will be submitted to DRMS upon approval by Gunnison County of the Major Impact project application. This is to allow for the DRMS permit application to be revised reflecting commitments and conditions that are part of the final county decision. If it is determined that the DRMS permit application can be submitted earlier, Gunnison Valley Properties may do so.

1. Identification of Mineral or Construction Material
See *DRMS Exhibit D - Section 1: General Mining Plan*

2. Mining Operations Plan
See *DRMS Exhibit D*, *DRMS Map C-2*, and *DRMS Map C-3*.

3. Restoration and Reclamation Plan
See *DRMS Exhibit E*, *DRMS Map C-3*, and *DRMS Map F*.

4. Topography
See *DRMS Maps C-1, C-2, C-3, and F*.

5. Vegetation
See *DRMS Exhibit E - Section 4: Revegetation Plan* and *DRMS Exhibit J: Vegetation Information*.

6. Estimated Costs
As is typical of mining operations, a worst case reclamation scenario was developed for Tomichi Pit, and the cost of reclaiming this scenario was calculated. This will be used by the State of Colorado Mined Land Reclamation Board to determine the financial warranty for the operation. It can be found in *DRMS Exhibit L: Reclamation Costs.*

7. Stormwater Management Plan
A copy of the SWMP for the Tomichi Pit can be found in *Appendix G*.

8. Emission Control Plan
A copy of the proposed Fugitive Dust Permit application to the Colorado Department of Public Health and the Environment Air Quality Control Division can be found in *Appendix G*.

9. Dust Control Plan

A discussion of dust control at the Tomichi Pit can be found in *Section 9-405: C.3. Air Quality* of this application.

10. Access and Transportation Plan

The Access and Transportation Plan found in *Section 9-405: A.* covers the anticipated traffic impacts of the Tomichi Pit. Discussion in this section will only pertain to LUR requirements not address in *Section 9-405: A.*

a. Identification of Proposed Haul Routes

Roads within the Tomichi Pit will be maintained according to MSHA standards for a mining operation. This includes safety berms, minimum road widths, maintaining road quality, and a 10 mph speed limit. Employee parking is identified on *DRMS Map C-2*. Loading of finished product will take place either at the office area or directly at the appropriate plant in the processing area.

b. Alternative Transportation Modes

Since this is a construction materials operation, this standard does not apply.

c. Employee Transportation

Employee transportation to the site will be the smallest contributor of traffic impacts from the Tomichi Pit operation. Parking will be provided for employees.

d. Traffic Study

A Level II traffic study conducted by Kimley-Horn and Associates as part of the submittal of an Access Permit to the Colorado Department of Transportation (CDOT) can be found in *Appendix C.* Improvements to the access will be based on the traffic study and requirements imposed by CDOT.

e. Hours of Operation

Please see *Seasons and Hours of Operation* part E of the application above.

f. Environmental Impact Mitigations

See *Section 9-405: A. and C.*

11. Impacts to Water Quality

See *Section 9-405: C.1.* and *DRMS Exhibit G.*

12. Fire Protection Plan

A SPCC plan will be kept on site in accordance with EPA regulations regarding the types and amounts of chemicals stored on site. A copy of this plan will be filed with the Gunnison Fire Protection District once it is available. The general list of chemicals to be kept on site includes, but is not limited to: grease, diesel fuel, motor oil, truck cleaning agents, and asphalt hot mix. Based on discussions with Gunnison Fire Protection District personnel, the primary concern for a gravel operation is sufficient turn around room for fire trucks. The office area provides ample room for maneuvering for large trucks.

The layout of the roads on site and the structures on site can be seen on *DRMS Map C-2.*

13. Cultural Survey
See *Appendix F* and *Section 9-405: C.4.*

14. Visual Impact Assessment
See *Section 9-405: E.*

15. Blasting License
No blasting will take place at the Tomichi Pit.

16. Water Supply
See part S of this application above.

17. Future Land Uses
See part E of this application above.

SECTION 9-404: SITE LOCATION AND SETBACKS FOR MINING OPERATIONS

The Tomichi Pit is located east of Gunnison, CO, south of US Highway 50, north of Tomichi Creek, and immediately west of an industrial park. The pit and related disturbance boundaries have all been designed to fall outside of Gunnison County setbacks for construction material mining operations. The table below shows the distance from the nearest example of each type of item a setback is required from.

Land Use	Minimum Distance to Tomichi Pit Mining Operations
Public Roads	~350 feet; Trees will be planted between the pit and the this residence, see below
Natural Water Body	100 feet
Federally-Designated Wilderness, Parks or Recreation Areas, or Federal Campgrounds	>1,000 feet; None known within half a mile
Dedicated open space of public park	>1,000 feet
Residential structures	160 feet to the nearest; Concrete and asphalt plants will be kept >300 feet away
Public cemetery	None known within ½ mile
Adjacent property, ROW, or ditch	>30 feet from Biebels No.1 & 2 Ditch (nearest ditch); >50 feet from all property lines
Sensitive wildlife habitat	No sensitive wildlife habitat known within 200 feet of the permit boundary

According to Section 9-404: D.1.a. of the Gunnison County Land Use resolution, the minimum setback from a road centerline for Major Impact Mining Operations is to be 500 feet. Industrial Park Lane, whose center line comes within 350 feet of the Tomichi Pit area, is used primarily by commercial and industrial vehicles. Therefore, Gunnison Valley Properties requests that the setback from this road to Tomichi Pit be reduced to 300 feet from the road centerline. Visual screening will be constructed along the east side of the Tomichi Pit area in the form of trees planted between the pit and the property line. These trees will be at least 10 feet in diameter and around 15 feet tall. They will be planted close enough together to obscure operations. The trees will most likely be a locally available conifer species. They will be maintained throughout the life of the mine by the operator.

SECTION 9-405: GENERAL DEVELOPMENT STANDARDS FOR MINING OPERATIONS

The following information is meant to specifically address Gunnison County standards for Section 9-405 of the Land Use Resolution.

A. Access and Transportation Plan
As part of the Sketch Plan application, Gunnison Valley Properties, LLC has developed the following Access and Transportation Plan in accordance with Section 9-403: D. 10 of the Land Use Resolution.

The Tomichi Pit will limit its sales based on the Colorado Department of Transportation access permit for the site's intersection with US Highway 50. Currently, this is the access for the agricultural and residential structures on site, but will be used by the Tomichi Pit for mine access. It can be seen on *Map 4 – Development Layout*. Based on the Level 2 Traffic Study conducted by Kimley-Horn (*Appendix C*), the peak traffic for the Tomichi Pit will be 42 Passenger Car Equivalents (PCEs) per hour. This will occur at both the AM and PM peak travel hours, when employees arrive/leave the site in addition to trucks hauling sold material offsite. This 42 PCE will be the limit of traffic from the site. This will be the traffic volume for the CDOT access permit as well. Any combination of trucks or cars may make up this limit at peak traffic times.

The Tomichi Pit will operate year around, but most of the activity will take place between April 15th and October 15th each year. Some site maintenance, materials sales, and topsoiling/overburden stripping may take place during the off season. The mine will operate between 6 am and 7 pm Monday through Saturday, unless a specific job requires seven day a week operations. In the case of such job, the County will be notified at least 15 days prior to the initiation of said job. No temporary shutdowns or closures are anticipated during the life of this mine.

The primary impacts of truck traffic related to the mining operation will be dust and noise from the haul trucks entering and leaving the site. Noise impacts will be minimized through best management practices for haul trucks such as: only using jake-brakes in case of emergencies, proximity based back-up alarms, and properly securing tailgates. Trucks on site will be limited to a 15 mph speed limit. Dust generation from traffic will be reduced through periodic road watering and the covering of sand and gravel material in trucks. Trucks hauling sand and gravel off site will be covered.

1. Road Damage and Maintenance
Gunnison Valley Properties, LLC will work with Gunnison Valley Public Works and the Colorado Department of Transportation (CDOT) to ensure that all operation related transportation activities will be in compliance with local, state, and federal requirements. This includes limitations on truck weight, seasonal traffic limits, and paying the cost of maintenance of roads and bridges that is a result of Tomichi Pit's traffic contributions.

2. Traffic Routing

The expected distribution of traffic leaving and entering the site can be found in the attached Kimley-Horn traffic study. All traffic related to Tomichi Pit will travel along US Highway 50. The direction of the main traffic source, haul trucks, will likely be distributed between east bound US 50 and west bound US 50, 30%-70%. Particularly large construction projects may affect traffic direction.

In order to minimize the impact of this traffic increase on the citizens of Gunnison County, several possible traffic routes through the local area were analyzed. These routes were analyzed to find options that avoided developed areas while maximizing the public benefit of short haul routes.

East Bound Traffic

All traffic heading east from the pit access will travel along US 50 for most of its journey, therefore there are no alternative routes to study.

West Bound Traffic

Traffic heading west from the Tomichi Pit may pass through Gunnison, CO on its way further west, or may travel north towards Almont and Crested Butte. Alternative routes are compared for both traffic directions.

There are two main choices for traffic travelling west through the Town of Gunnison: US 50 all the way through town (Route W1) or a detour south of the main part of Gunnison to Rio Grande Avenue (via Adams St., San Juan Ave., and Main St.) and then back to US 50 (Route W2). Route W1 would bring traffic through the middle of Gunnison, while Route W2 would take slightly longer potentially requiring passage through residential areas. Route W1 is the best choice as it moves the truck traffic through town quickly and keeps it away from residential areas more than Route W2 would.

Two main routes exist for Tomichi Pit traffic heading north of Gunnison. The first is from US 50 to head north on CO 135 (Main St.) from the intersection in the center of town (Route N1). The second route would be to avoid the center of town by heading north on Adam St. and then going around the west side of the Western State College campus on Escalante Dr. to Colorado St., which connects to CO 135 on the north side of town (Route N2). Route N1 is the faster of the two options, and would keep truck traffic on roads better suited for such loads, Route N2, while avoiding the center of town, passes close to the college campus as well as Meadow Park. Both routes pass by some residential areas, but the residential areas along Main St. are more used to heavier traffic while those along Colorado St. are not. Therefore, Route N1 is the best option for Tomichi Pit traffic passing through Gunnison and heading north.

3. Mitigation to Provide Dust Control and Effects of Load Loss

Tomichi Pit will use best management practices including tight tailgates, tarps, road watering, magnesium chloride spraying, and others to minimize dust generation by traffic on and off site.

Gunnison Valley Properties, LLC proposes to conduct 24-hr PM10 air sampling once per year during normal operations at the site boundary downwind of the prevailing winds, as determined

by historical wind analysis for at least 4 years. The data obtained will be submitted to Gunnison County. It will be used by the Company to inform the level of PM10 controls needed to meet ambient air quality requirements less background levels. Prior to operations background levels of PM10 will be sampled upwind to establish the ambient air quality. An independent company experienced in this type of sampling will conduct the analysis.

4. Truck and Crusher Noise

Tomichi Pit will take advantage of the best management practices related to truck and crusher noise. These BMPs include minimizing the use of jake-brakes, securing tailgates tightly, limiting truck speed, and keeping the crusher located near tall slopes (ex: pit highwall). Other practices and technologies may be implemented at a later point in the life of the operation with Gunnison County input.

5. Post-Operational Access to Mine Site

The mining access to the site will only be partially reclaimed at the end of mining. This reclamation will consist of removing the portions of roadway on the site that were only needed for mining activities. The improved access to US 50 will remain as the general site access. No impoundments of hazardous material will be necessary as part of the Tomichi Pit's operation or reclamation. Fencing and gated access to the property may be installed during reclamation to protect reclamation activities. Any hazardous materials used on site during mining (diesel fuel, asphalt hot-mix, etc.) will be removed during final reclamation.

B. Rock Crusher, Asphalt Plant, and Cement Batch Plant

A crusher/screener system, asphalt plant, wash plant, and concrete batch plant will all be used at the Tomichi Pit. These facilities will be located on the pit floor for most of the mine's life.

C. Impacts on Environmental and Cultural Resources

1. Water

Details regarding the ground water and surface water systems on site, and the impact on these by the mining and reclamation operations, are discussed in the attached DRMS 112c permit application. As part of that application, a copy of the Augmentation Plan application is submitted to the State of Colorado.

Two test wells were installed on the Bratton property west of the Tomichi Pit in 2001 as part of investigation by WestWater Associates (WWA) into quality and quantity of the water within the alluvial aquifer passing through the area. These are shown in the report in *Appendix D* and *Map 3 – Site Plan*. The aquifer is the same alluvial aquifer as that present at Tomichi. The WWA report made the following conclusions:

1) *Based on geophysics, sampling, construction and testing of these two test wells, we conclude there is significant potential for water production from the Tomichi Creek alluvial aquifer for the proposed development*

2) *Larger diameter, properly designed, constructed, and developed production wells at these two sites will be capable of production rates of 350 - 600 gpm.*

3) *A significant area of development exists for additional wells to be drilled within the development. These well locations, if necessary or desired, should be designated prior to final platting of the property, in order to protect the sites for construction and minimize potential for future contamination.*

4) *Water chemistry from samples analyzed from the two test wells indicate the water quality is very good and acceptable for direct potable consumption. Minor hardness and potentially trace elements of iron and manganese are not expected to be a problem, however, they are easily treatable.*

5) *The Tomichi Creek alluvium beneath this property has major potential for future water production. Water within the aquifer below a depth of 50 feet is relatively safe and protected from surface contamination. However, precautions should be taken throughout the entire drainage to ensure control of potential contaminants. Annual recharge to the aquifer will occur as long as headwaters produce adequate flow to recharge volumes extracted during periods of low flow and minor recharge.*

6) *These wells were constructed as permanent monitoring wells and a routine measurement of water levels in the wells (monthly) should be undertaken to establish baseline data of water level fluctuations and influence of flows in Tomichi Creek.*

The complete WestWater report can be found in *Appendix D*.

All petroleum based and other potentially hazardous chemicals stored on site will be covered by an EPA Spill Prevention Control and Countermeasures (SPCC) Plan.

2. Avoidance of Sensitive Areas

To the best knowledge of Gunnison Valley Properties, LLC, the Tomichi Pit does not affect any sensitive areas as defined in the Land Use Resolution.

3. Air Quality

All air emissions related to the operation of the Tomichi Pit will be regulated by a CDPHE Air Quality Control Division fugitive dust permit, in addition to individual emissions permits for the asphalt plant and concrete batch plant. Tomichi Pit will employ the mitigation method listed below to ensure that dust is well controlled on site:

- Material mined will be wet since it is below the water table
- Water sprays on the crusher to reduce dust
- Watering of active pit areas and haul roads as needed
- Vegetating topsoiled areas as soon as possible
- Watering of product stockpiles as needed

Actual PM10 monitoring will be conducted according to the plan outlined in subsection A.3 above.

4. Significant Cultural, Historical, and Archeological Resources

The vast majority of resources identified by SMCA survey from 2009 will be unaffected by mining or reclamation operations at the Tomichi Pit. A small portion of old railroad grade has been identified (Site 5GN363.7) in the mining areas. This is part of the old Denver, South Park, and Pacific (DSP&P) railroad that passed through Gunnison Valley. This railroad grade will be removed as part of mining, but Gunnison Valley Properties, LLC will work with state and local historical societies to document it or other identified cultural resources prior to disturbance.

D. Mine Wastes and Hazardous Materials

Hazardous materials expected to be present on site during mining consist exclusively of petroleum products and similar materials. These will be stored in accordance with the EPA required SPCC plan for the site. The mining of sand and gravel and production of construction materials at the Tomichi Pit will no generate any waste material that will have a chance to leachate toxic or acidic materials.

Sediment generated by mining will be contained within the site by the mine pit and sediment ponds. Mine water discharges will be regulated by CDPHE process water and stormwater discharge permits.

E. Visual Impacts

The Tomichi Pit is visible from all four cardinal directions, but the best view of the area to be mined is from US Highway 50, and is shown below:

Note: The red line indicates the approximate area where the Tomichi pit operations would take place

The Tomichi Pit will produce two primary visual impacts: the presence off the mining pits themselves, and the processing operations. There will be three primary mitigation methods employed with regards to these impacts.

1. As much of the mining activity on site as possible will be located on the bottom of the pit, 50 feet below the natural ground surface.
2. Trees will be planted on the east edge of the property to provide screening specifically for those neighboring property owners. (See *Map 4 – Development Layout*)
3. A topsoil berm will be maintained between the bulk of the operation and US Highway 50. This berm will be a minimum of 10 feet tall, but may be taller if needed, or excess topsoil storage is required. (See *Map 4 – Development Layout*)

In addition to these specific visual impact mitigation methods, the mine will be reclaimed contemporaneously. This is done by placing overburden and topsoil on mined out slopes as

mining progresses, and building the lake shorelines shown on DRMS Map F. Once mining is complete in at Tomichi, pit dewatering will cease and the lakes allowed to fill with ground water.

1. Mitigation

The visual impact of the mining pits is best addressed with the mitigation of contemporaneous reclamation, vegetation screening, and the visual impact berm. The natural rise in topography on the northeast end of the property will provide some visual protection for traffic on US 50. No portion of the operation will take place on a ridgeline.

a. Minimize Disturbed Area

The total area of disturbance used by this operation will be kept to the minimum necessary to conduct mining and reclamation operations.

b. Minimize Off-Site Impact

The off-site visibility of the operation will be minimized by the location of structures and plants in areas that have the lowest visibility at the time. This includes locating the office, some stockpiles, fuel farm, parking, and truck scales as close to the natural topographic rise on the northeast corner of the property. The stockpiles will be 30 to 35 feet tall at the tallest. Typically stockpiles would be kept on the pit floor to reduce visual impact, but these stockpiles will be located up at the office area to minimize the distance finished product haul trucks have to travel on site, and therefore reduce dust generation.

The plants used to process the mined material will initially be located immediately south of the office area. This is the time during which the visibility of operations from off site will be the greatest. Asphalt plant silos are very tall (~70'), and therefore typically asphalt plants are kept at the bottom of the mining pit. However, this space will not be available until Phase 1A is mined out. Once Phase 1A is mined out, the plants will all be moved to the pit floor in Phase 1A to further reduce visibility of their operation.

c. Phasing

The Tomichi Pit is divided into two phases. The first covers the startup of operations and mining of the east pit. The second phase consists of continued material processing in the east pit, and mining of the west pit. Phase 2 will not be disturbed until Phase 1 is mined out.

d. Expediting Reclamation

Reclamation will be conducted side-by-side with mining throughout the life of the Tomichi Pit. This includes backfilling and grading of mined out pit slopes, topsoiling of said slopes, and seeding of areas once they are topsoiled. The maximum length of slope that will be unreclaimed at any time is expected to be 1200'. This will be the active mining highwall. This highwall will be hidden below the visual protection berm through most of the mine life.

e. Screening and Visibility

As stated above, the natural screening provided by the topographic rise on the northeast corner of the site will be taken advantage of as much as possible. The placement of the processing plants on the pit floor when possible will take advantage of the natural screening the pit depth (50') provides. A visual screening berm will be maintained in advance of the mining highwall to

provide additional mitigation of visual impacts. Once any disturbed ground is backfilled to final contour, it will be topsoiled and seeded, which will maximize the amount of vegetated ground visible during the operation. No trees will be removed as part of this operation, and some new ones will planted on the east side of the pit to reduce visual impact to the industrial park to the east. These can be seen on *DRMS Map C-2*.

f. Roads
The access road and pit roads will be located along the north side of the operation as much as possible to take advantage of the natural topographies visual screening benefits. This will limit its visibility from the highway and neighbors.

g. Blasting
No blasting will take place as part of operations at Tomichi Pit.

F. General Operations

1. Compliance with MSHA
All operations at Tomichi Pit will be conducted in line with all state, federal, and local safety regulations that apply.

2. Hours of Operation
The Tomichi Pit will operate year around, but most of the activity will take place between April 15th and October 15th each year. Some site maintenance, materials sales, and topsoiling/overburden stripping may take place during the off season. The mine will operate between 6 am and 7 pm Monday through Saturday, unless a specific job requires seven day a week operations. In the case of such job, the County will be notified at least 15 days prior to the initiation of said job. No temporary shutdowns, or closures are anticipated during the life of this mine.

3. Phasing of Mining Operations
The Tomichi Pit will be broken down into two main phases, one for each pit. The mining and reclamation plan, as laid out in the DRMS permit, will require concurrent reclamation. This will minimize the unreclaimed portions of the site. Reclamation of Phase 1 will be completed promptly after mining is completed, regardless of when mining begins in Phase 2. Phase 1 is anticipated to take over 24 years to complete, while Phase 2 will require two years.

Phase 1A, as shown on Map 4 will be the first part of Phase 1mined out. Once it is mined out, the processing equipment will move from the office area on the north part of the operation to Phase 1A. The processing equipment (crusher, asphalt plant, concrete plant, and wash plant) will remain in Phase 1A through the remainder of the mine's life. This will keep the processing operations as hidden from neighboring properties as possible.

The worst case reclamation scenario that is used to calculate the state reclamation bond is based on operations ceasing at the end of Phase 2.

4. Fire Protection
The entire Tomichi Pit area falls within the low wildfire hazard area for Gunnison County. Gunnison Valley Properties, LLC will work with the Gunnison County Fire Protection District to ensure that appropriate access and materials are available.

5. Fencing
Existing fences on site that do not have to be disturbed as part of mining activities will be preserved. DRMS Maps C-2 and F show the mining and reclamation conditions of fences on site. Fencing may be added to the site to ensure that non-employees, livestock, and wildlife are kept out of the site for their own safety.

6. Noise
Gunnison Valley Properties, LLC will comply with Colorado state noise standards at the property boundary. The location of the majority of noise sources for the Tomichi Pit almost 50 feet below the surface will reduce noise impacts on neighboring properties. Additionally, Gunnison Valley Properties, LLC will use a variety of BMPs to mitigate or reduce noise generated as part of mining at the Tomichi Pit. These BMPs include:

- berms along the crest of the mining slope around Phase 1A if needed. These would be constructed inside the disturbance boundary shown on the maps.
- minimizing the use of jake-brakes on trucks
- securing truck tailgates tightly, limiting truck speed
- keeping the crusher located near tall slopes (ex: pit highwall)
- keeping processing equipment on the pit floor
- mining up from the pit floor bottom
- quiet back up alarms for mobile equipment such as dozers

Early on in the mining of Tomichi Pit, all processing will take place near the office area. This is unavoidable until Phase 1A is mined out. This initial period will last just over two years based on the expected annual production. Most of the surrounding land uses are commercial, agricultural, or mixed use. There is only one residential land use bordering the permit area, as shown on Map 3.

Prior to operations commencing at the Tomichi Pit, a baseline noise study will be conducted. Annual noise monitoring will then take place at peak operation times of the year to measure the worst case noise impact of the operation.

The operation is 7140 feet from the nearest Gunnison sage grouse lek, which is located south of the permit area on the other side of Tomichi Creek. Gunnison Valley Properties, LLC contacted the Gunnison Valley Wildlife Conservation Coordinator for an evaluation of developing the property in regards to the Gunnison sage grouse. His findings letter can be found in *Exhibit H* of the DRMS permit application.

G. Post-Operational Land Use

The reclamation plan for the Tomichi Pit is shown on *DRMS Map F* and in *Exhibit E* of the DRMS permit application. The goal of reclamation at Tomichi Pit is to provide quality wildlife habitat around a pair of lakes. The reclamation conditions of the site will be accomplished contemporaneously with the mining operation, which will reduce the impact of reclamation activities. Since the initial state of the site will not require any restoration or rehabilitation, the priority for reclamation is to reclaim the Tomichi Pit effectively.

Details regarding weed control can be found in *Exhibit E* of the DRMS permit.

APPENDIX A – DRMS PERMIT APPLICATION

APPENDIX B - GUNNISON COUNTY SAGE GROUSE HABITAT EVALUATION

APPENDIX C – KIMLEY-HORN TRAFFIC STUDY

APPENDIX D – WESTWATER GROUND WATER QUALITY ANALYSIS

APPENDIX E – LETTERS AND CERTIFICATIONS

APPENDIX F – CULTURAL RESOURCES INVENTORY

APPENDIX G – OTHER PERMITS AND PERMIT APPLICATIONS

APPENDIX H - MAPS

MEMORANDUM

TO: Planning and Zoning Commission
FROM: Steve Westbay
DATE: June 27, 2012
RE: LDC Update – Section 5, Natural Resource Protection

Discussion of the draft *Land Development Code* (*LDC*) Section 5, Natural Resource Protection Standards, will be initiated during the work session. This memorandum provides an overview of Section 5 and the specific components and standards proposed for natural resource protection. There are five resource components addressed in this section:

- Stormwater Management
- Slope Protection Standards
- Grading and Erosion Control
- Wetland and Streams Corridor Protection

Stormwater Management

The City has existing stormwater facilities that serve the historically developed neighborhoods. Stormwater from these historic neighborhoods drains into curbs and gutters that directed stormwater into buried pipes. These pipes discharge stormwater into two primary basins with one basin discharging into Mergleman Pond adjacent to Dos Rios and the other the other discharging into a pond located within the airport boundary. On-site detention stormwater management systems have been designed in newer neighborhoods such as Sun Spot, Rainbow Meadows Estates, VanTuyl Village and the Meadows Subdivision; fort the most part these developments do convey into the historic stormwater utility system.

Existing City stormwater standards are found in Chapter 15.110, Improvement Standards of the *LDC*. The City's existing standards contain four paragraphs. The existing City stormwater standards require a plan developed by a registered engineer and the major design parameter requires that the system convey off-site flow at the pre-development rate.

Federal and state governments have enacted stormwater quality standards that apply to small urban areas. Presently, municipalities with populations greater than 10,000 must comply with Phase II of the National Pollutant Discharge Elimination System (NPDES) Program Requirements of the Federal Clean Water Act. Smaller jurisdictions may be subject to these federal regulations, at the discretion of federal and/or state water quality regulators.

Contemporary engineering and science practices of stormwater management, which have been driven by federal mandates of the Clean Water Act, are vast in scope and complexity. Modern engineering standards documents are comprehensive and address a broad range of technical detail. City staff has developed a draft document containing policies and minimum technical criteria for the planning, analysis and design of storm drainage systems within the boundaries of the City of Gunnison. The city's existing stormwater utilities serving the historic Gunnison neighborhoods are, for the most part, adequate for existing and future development within these the historic geographic bounds. New developments outside historic Gunnison will be served by more contemporary designs that focus on detention at both the site level and drainage basin scale.

Slope Protection Standards

Historically, there was no need to consider design and grading standards on hillsides, but the Gunnison Rising annexation contains more complex slope terrain. Additionally, the city boundary encompasses a portion of Tenderfoot Mountain; this real property is owned by the State of Colorado.

The proposed slope protection standards incorporate a table specifying increased lot area and frontage length and reduced density for multi-family development as the slope of the terrain increases. Increased lot frontages are necessary on steeper slopes in order accommodate building-pad grading and driveway design.

The staff is developing a digital slope model for the city limits. Figure 1 is preliminary, and it is anticipated that the model detail can be improved.

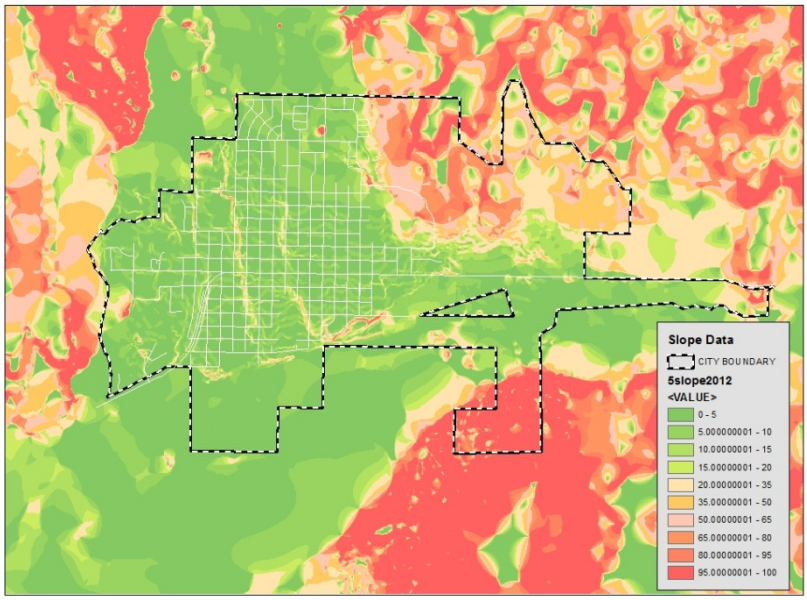


FIGURE 1 SLOPE MODEL

Grading and Erosion Control

Grading standards have a direct relationship to site stormwater drainage design and slope development. Good grading plans tend to fit street and lot layouts into the natural topography. This approach reduces cut and fill work, resulting in lower development costs and easier maintenance. Proposed grading standards establish criteria for the maximum grade change across the slope; defines contemporary retaining wall design standards; and requires restoration of sites after dirt work is complete to mitigate erosion impacts.

Wetland and Streams Corridor Protection

Development of wetland regulations was a Planning and Zoning desire dating back several years. The proposed standards would require that developments along the Gunnison River and Tomichi Creek maintain a 50 foot setback from river corridors and jurisdictional wetlands; lots established prior to the new LDC adoption would be exempt from these standards.

Waivers

The draft LDC incorporates a waiver provision for all natural protection standards. The Council is proposed to be the authorizing authority for all waiver applications.

Section 5. Natural Resource Protection Standards

§5.1 STORMWATER MANAGEMENT

A. Purpose. The City recognizes the need and responsibility for adequate engineering standards to accommodate stormwater runoff. The need has become more apparent with the County goal to concentrate development adjacent to municipal boundaries and the *City of Gunnison Master Plan* goal to develop and concentrate urban land uses within its corporate boundary.

The *City of Gunnison Stormwater Management Manual* provides consistent and accurate engineering design management for all developments within the city boundary. The desire is to develop stormwater management and erosion control facilities by promoting Low Impact Design techniques that mimic natural fluvial dynamics found in the area.

The City has adopted stormwater design standards based on the Denver Urban Drainage and Flood Control District *Urban Storm Drainage Criteria Manuals* (*USDCM*), Volumes 1, 2 and 3, with appropriate revisions to address local conditions. These design standards for stormwater facilities are commonly used in the State of Colorado and provide consistency for engineer and design professionals.

B. Stormwater Design and Construction Standards

1. The *City of Gunnison Stormwater Management Manual* shall be incorporated herein by reference.

2. Design and Construction of all stormwater water facilities shall be in accordance with the *City of Gunnison Stormwater Management Manual* as it may be amended.

3. The drainage system shall be designed and constructed so that only historic runoff rates, not including historic irrigation, shall be released from the site. Drainage flows in excess of this amount shall be retained, detained or handled in a storm sewer system. All costs associated with handling runoff generated by a development shall be paid by the developer.

4. The drainage system shall comply with applicable state and federal requirements.

C. Floodplain. Lands within the City limits and located within an adopted 100 year floodplain are subject to the City's Flood Damage Prevention Regulations found in Chapter 14.60 of the *City of Gunnison Municipal Code*.

§5.2 SLOPE PROTECTION STANDARDS

A. Density Calculation for Residential Development on Steep Slopes in Excess of Ten Percent

1. Applicability. These density calculation provisions shall apply to all new residential development and subdivisions in the City of Gunnison.

a. All Map Amendments proposed after the adoption date of this *LDC* shall be subject to these Slope Protection Standards.

Working Draft

b. Non-residential development districts shall be prohibited on slopes greater than 10 percent.

2. **Definition**. For the purposes of this Section "average slope" shall be measured as set forth in §15.2 of this *LDC* (See Figure 27).

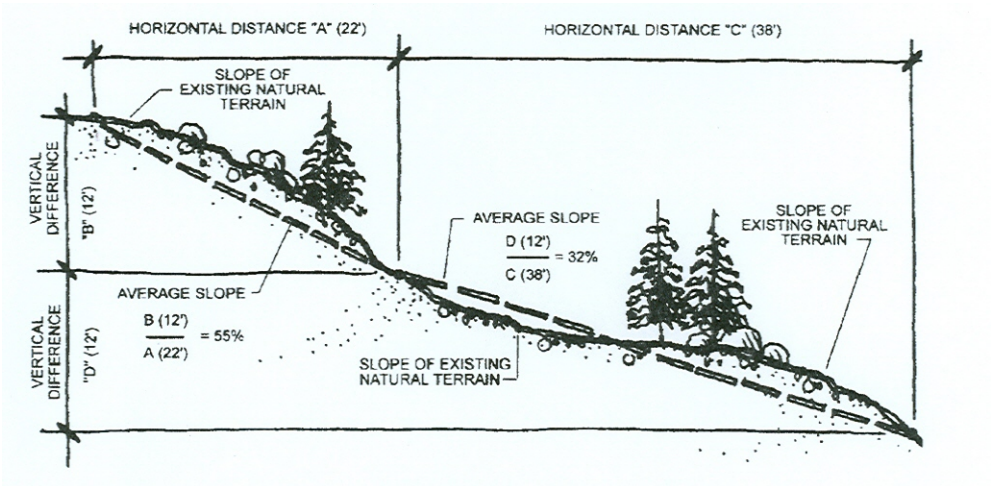


FIGURE 27 SLOPE PROTECTION STANDARDS

3. **General Rule**. Notwithstanding the maximum densities permitted by the underlying zoning district, the minimum lot area and front yard dimension for new residential development on parcels containing slopes 10 percent or greater shall be determined by the following factors presented in Table 5-1.

TABLE 5-1 AREA AND FRONT YARD DIMENSIONS IN SLOPE PROTECTION AREAS

Zone District	Base Minimum Lot Area	Adjusted Minimum Lot Area (Square Feet) at "x" % Slope					
		10 %	15%	20%	25%	30%	35+%
R-1	8,000	12,000	20,000	32,000	64,000	128,000	256,000
R-1M	6,250	12,000	20,000	32,000	64,000	128,000	256.000
R-2	6,250	12,500	25,000	50,000	75,000	Not Permitted	Not Permitted
RMU	6,250	16,250	32,500	Not Permitted	Not Permitted	Not Permitted	Not Permitted
R-3	6,250	16,250	Not Permitted	Not Permitted	Not Permitted	Not Permitted	Not Permitted
Front Lot Length		75	75	80	80	100	100
Density Reduction R-2M Max Units Per Acre		-25%	-50%	NA	NA	NA	NA
Density Reduction R-3 Max Units Per Acre		-25%	NA	NA	NA	NA	NA

B. Development Restrictions on Steep Slopes

1. **Applicability**. These development restrictions shall apply to all new development in the City of Gunnison, except for subdivisions approved for single family residential use prior to the effective date of this *LDC*.

2. **New Structures—Existing Slopes in Excess of Ten Percent**

   a. New development proposed to be built on any portion of a site containing a 10 percent or greater shall be subject to review and approval pursuant to Section 6. This provision applies to development that would otherwise be exempt from the development plan review process.

   b. Staff shall review all such development plans and evaluate them according to the following standards:

      i. Site Disturbance shall be minimized to the maximum extent practicable (§5.2 D., Grading Standards).

      ii. Cuts for utilities and access driveway shall be shared to the maximum extent feasible;

      iii. To the maximum extent feasible, new construction shall not take place on any portion of a parcel that shows evidence of slope instability, landslides, avalanche, flooding alluvial fan or other natural or manmade hazards.

      iv. The applicant shall demonstrate that the slope's ground surface and subsurface are not unstable, that the proposed development will not cause instability or increase the potential for slope failure, and that the development of the slope will not increase the degree of hazard both on-site and on adjacent properties.

   c. For purposes of this section, steepness of slope shall be measured from the points with the highest and lowest elevation within five feet of any portion of the proposed structure.

3. **Structure Clearance from Steep Slopes**. Structure clearance from ascending or descending slopes greater than 30 percent shall comply with the requirements set forth in the applicable *Building Code* provisions.

4. **Grading, Clearing and Excavation−Slope in Excess of Ten Percent**. Clearing, excavation and grading on slopes greater than 10 percent shall not be allowed, unless expressly approved through a site development application.

5. **Roads/Driveway – Slopes in Excess of 10 Percent**. Shared driveway and access to site or lots containing slopes in excess of 10 percent shall be utilized to the maximum extent feasible (also see §4.3, General Site Access).

C. Ridgeline Protection Standards

1. **Applicability**. This Section shall apply to all new development in the city boundary proposed on slopes greater than 30 percent.

Working Draft

2. **Building/Roof Design for Ridgeline Protection Guidelines**. Development subject to this subsection will be designed and sited to minimize the visible intrusion of building and structures above the designated ridgelines or above existing ridge top trees or vegetation, and thus preserve scenic view across or through the site. Techniques to meet this standard should include but are not limited to, careful consideration of architectural design, building massing, siting, building colors and roofing materials, and the use of native landscaping or other permitted screening materials. Stepping the building mass and form with the natural grade is encouraged.

3. **Development Plan**. All development subject to these ridgeline protection standards shall submit a development plan, including a visual analysis of the proposed development, for staff review and approval. The required visual analysis shall include a photographic simulation of the development from viewpoints as determined by staff.

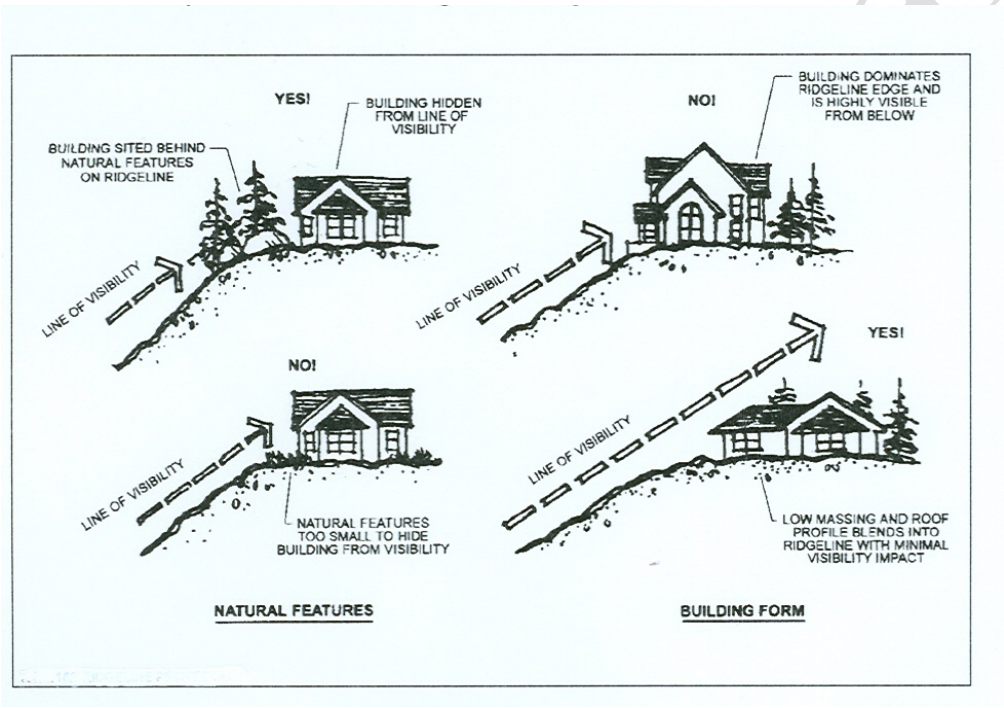


FIGURE 28 RIDGELINE PROTECTION STANDARDS

D. Staff Waivers of Ridgeline Protection Standards

1. Staff may grant such waivers or modifications to the ridgeline protection standard only if it finds based on substantial evidence presented by the applicant, that the following conditions are satisfied:

   a. Application of the ridgeline standard renders the site undevelopable;

   b. Application of the ridgeline standards will result in substantial economic hardship and the economic hardship is not created by the applicant or otherwise self imposed; and

   c. The development conforms to all other development, site design and environmental standards set forth in this Section and in all other applicable ordinances and codes.

2. In granting a waiver from or modification of the ridgeline protection standards set forth in this section, staff may impose conditions if the effect of the conditions is to reduce the adverse impact of the development, including but not limited to a reduction in a maximum building height below what would otherwise be permitted in the applicable zoning district.

§5.3 GRADING AND EROSION CONTROL

A. Applicability. The provisions of this Section apply to all residential and nonresidential development subject to subdivisions and/or site plan applications.

B. Grading Plan. The applicant shall submit a grading plan which illustrates the extent of the land disturbance which is to occur on the property. The grading plan shall illustrate existing site features and shall depict existing and proposed contours, using a contour interval of two feet. Where slopes are greater than 20 percent, five foot contours may be depicted.

C. Plan Preparation. Preparation of an effective grading plan and execution of proper grading involve certain basic steps pertaining to street layout, block grading and lot grading. The objective is to establish the street grades, floor elevations and lot grades in proper relation to each other and to existing topography, considering property protection, and use. The basic steps are as follows:

1. **Fit to Topography**. If the street layout is still subject to design or adjustment, fit it to the topography to obtain the most favorable types of block and lot grading which are compatible with other objectives.

2. **Block and Lot Grading**. Determine type of block grading for each block or portion of a block and, if possible, indicate the general lot grading for each lot by drainage arrows.

3. **Easements**. Determine any easements and other provisions needed for adequate block drainage and erosion control.

4. **General Limitations**. Determine general lot grading limitations for local conditions such as minimum gradients for grass swales and slopes and maximum for sidewalks and driveways.

5. **Specific Limitations**. For each type of house and lot determine the specific lot grading limitations along a typical lot grading control line from the street to the house and determine the minimum street-to-floor rise.

6. **Street Profiles**. If the street profiles are to be designed or adjusted, establish them so as to facilitate the provision of good drainage for both the lots and the streets, giving due consideration to existing topography and lot limitations.

7. **Elevations**. For each property, determine proposed elevations for key points on the lot and for the dwelling floor, giving due consideration to street elevations, existing topography and lot grading limitations.

D. Grading Standards

1. **Grading Prohibited Without Prior Approvals/Permits**. No cutting, filling, stockpiling, excavation, or vegetation removal shall be permitted, whether to provide for a building site,

Working Draft

for on-site utilities, or services for any roads or driveway, prior to final approval of a grading and excavation plan submitted in conjunction with a site development plan application or the issuance of a building permit.

2. **Limits on Changing Natural Grade**. The original, natural grade of a lot shall not be raised or lowered more than 10 feet at any point for construction of any structure or improvement except:

   a. Foundation walls incorporated into the principal structure to allow the building mass step in response to natural grade; or

   b. The site's original grade may be raised or lowered to a maximum of twelve feet if a retaining wall or terracing is used to reduce the steepness or manmade slopes, provided that the retaining wall or terracing comply with the requirements set forth in this Section (see Figure 29).

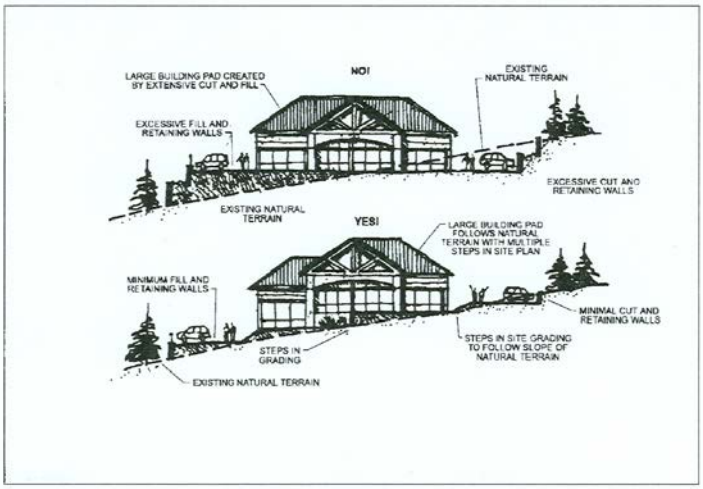


FIGURE 29 LIMITS ON CHANGING NATURAL GRADE

3. **Cutting and Creating Benches**. Cutting and grading to create benches or pads for additional or larger building sites or lawns shall be avoided to the maximum extent feasible.

4. **Grading For Accessory Building Pads Discouraged**. Separate pad for accessory buildings and structures other than garages, such as tennis courts, swimming pools, outbuildings, and similar facilities, shall be discourage except where the average natural slope is 15 percent or less, as measured from the points with the highest and lowest elevation within five feet of any portion of the proposed accessory building structure or building.

5. **Limits on Graded Filled Manmade Slopes**

   a. Slopes of 20 percent or less are strongly encouraged wherever feasible or practicable.

   b. Except as provided below, graded or filled manmade slopes shall not exceed a slope of 30 percent (3:1 slope) unless civil engineering plans incorporating recommendation from a geotechnical report, both of which shall be submitted by an engineer licensed in the State of Colorado, is furnished to the Community Development Director. The plans and reports shall include a written statement establishing that the site has been investigated and that, in the opinion of the qualified professionals, a cut at a steeper slope will be stable and not create a hazard to public or private property both on the site and directly adjacent to the affected site.

   c. If a steeper slope will result in less overall site disturbance, then graded or filled manmade slopes associated with road construction may exceed a slope of 50 percent (2:1 slope), but shall be subject to City review and approval.

Working

6. Retaining Walls

a. Limited use of retaining walls is encouraged to reduce the steepness of manmade slopes and to provide planting pockets on steep slopes conducive to revegetation, subject to the following standards:

b. Retaining walls shall be used to provide breaks in manmade slopes exceeding 30 percent and to provide planting pockets.

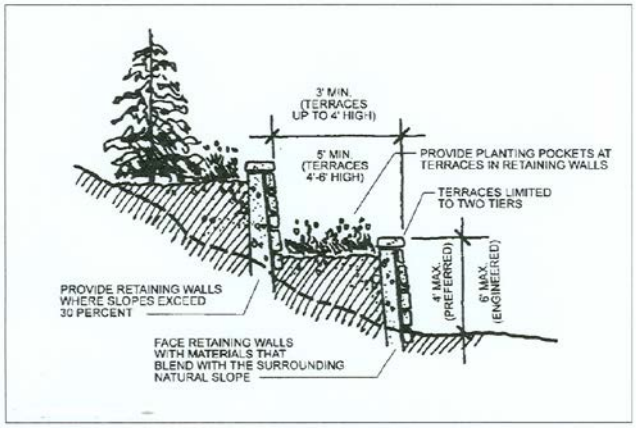


FIGURE 30 RETAINING WALLS

c. Retaining walls may be permitted to support steep slopes but shall not exceed six feet in height from the finished grade except for:

i. a structure's foundation wall;

ii. as necessary to construct a driveway from the street to a garage or parking area; or,

iii. as otherwise expressly allowed by this Section.

d. Any retaining wall or multiple retaining wall design greater than four feet in height shall be designed by an engineer registered in the State of Colorado and the engineer design shall be based on recommendations from a geotechnical engineer soils report. The engineer design shall be submitted to staff for review and approval prior to construction.

e. A three foot minimum horizontal terrace shall be required for any multiple retaining walls that are less than four feet in height. A minimum five foot horizontal terrace shall be required for any multiple retaining walls that are four feet or greater in height. Terraces created between retaining walls shall be permanently landscaped with vegetation.

f. Retaining walls visible from a collector street, arterial street or highway, or from public open areas or parks, shall be screened by vegetation or faced with wood, stone or other earth-colored materials that blend with the surrounding natural landscape.

g. All retaining walls shall comply with applicable *Building Code* provisions, except that when any provision of this Section conflicts with any provision set forth in the *Building Code*, the more restrictive provision shall apply.

h. **Filling or Dredging of Waterways Prohibited**. Filling, draining or dredging of water courses, wetlands, gullies, stream beds or stormwater runoff channels is prohibited, except as authorized with a floodplain development permit or with an approved site development plan.

i. **Detention/Stormwater Facilities**. Where detention basins and other stormwater and erosion control facilities may be required, any diverse visual impact on the natural landscape and topography shall be minimized to the maximum extent feasible.

Working Draft

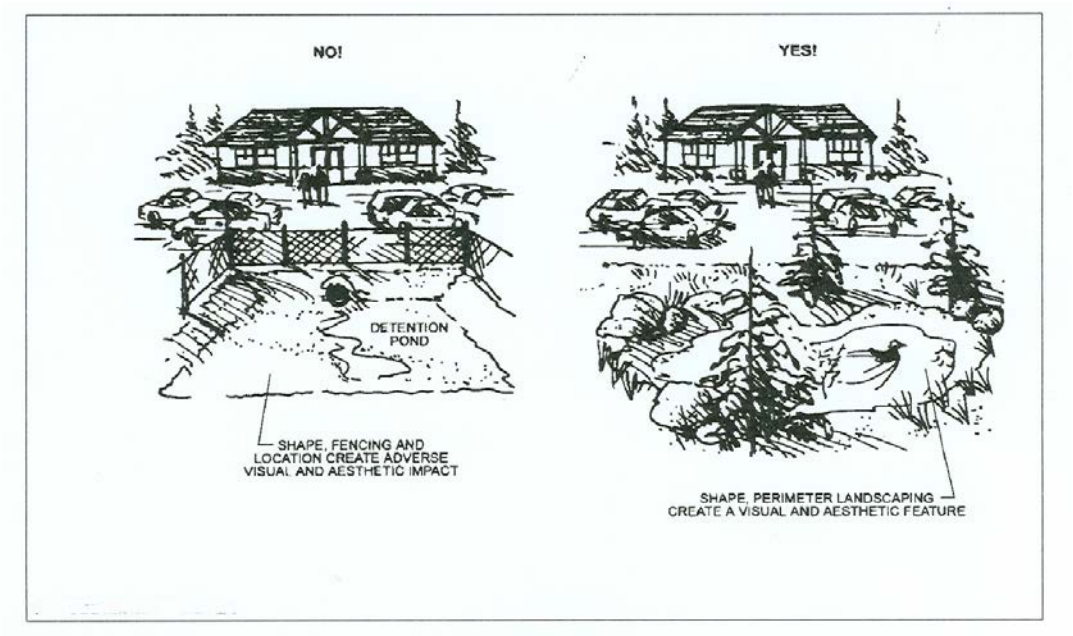


FIGURE 31 DETENTION / STORMWATER FACILITIES

7. Restoration of Disturbed Areas

a. Follow Natural Contours. All disturbed areas shall be restored as natural-appearing land forms, with curves that blend in with the adjacent undisturbed slopes. Abrupt angular transitions and linear slopes shall be avoided.

b. Revegetation Required. Areas disturbed by grading shall be contoured so they can be revegetated and shall be revegetated within one growing season after construction using native species seed mix (see Appendix A). Revegetation shall be sufficient to provide erosion control and prevent the invasion of weeds. Plans for revegetation of cut-and fill and graded slopes shall be included as part of the site development plan application.

c. Timeline. Overlot grading projects affecting an area greater than one acre in size that has been wholly or partially grubbed or wholly or partially graded, construction shall commence and shall be continuous within 60 days after grubbing. Should construction or grading not commence or be continuous within the required 60 day period, the site shall be native seeded within 30 days following the expiration of the required 60 day period. When approved by the Community Development Director, a time extension may be granted for conditions beyond the control of the permittee for items such as flooding or discovery of historic artifacts.

d. Surety. In order to insure conformance with the requirement of paragraph c (Timeline) above, a performance bond or other suitable security in an amount of 125% of the cost to accomplish ground preparation, native seeding fertilizer application, and mulching of the site shall be posted prior to the issuance of a grading permit. Any surety provided pursuant to this subsection shall be returned upon completion of an approved final inspection for the building site; the Community Development Director may require up to a 12 month plant establishment period before releasing surety.

Working D

e. Man-Made Slopes Greater than Twenty–five Percent. On man-made slopes of 25 percent or greater, plant materials with characteristics that minimize erosion and reduce surface runoff shall be selected.

f. Man-made Slopes Greater than Fifty Percent. On man-made slopes greater than 50 percent stabilization measures such as erosion netting, hydro mulching or other advanced slope stabilization technique shall be utilized.

g. Topsoil Stockpiled. To the maximum extent feasible, topsoil that is removed during construction shall be stockpiled and conserved for later use on areas requiring revegetation or landscaping, such as cut-and-fill slopes.

8. Limitations of Disturbance

a. Defined. Limits of Disturbance (LOD) means the areas of a site that may be disturbed by earth movement (grading), or cleared of vegetation, including disturbance or clearance to provide space for construction of principal and accessory uses and structures, driveways, parking areas, roads, drainage and stormwater management facilities or utilities.

b. Establishment of Limits of Disturbance. All site development, preliminary subdivision and final subdivision plans shall include a map clearly depicting the limits of disturbance according to the criteria set forth below. The LOD shall indicate the specific area(s) within a development project where the development activity shall be contained.

c. Criteria for Establishing LOD. While LOD may be multiple and noncontiguous on a site, the following criteria shall be taken into account:

i. avoidance of visual impact, including but not limited to ridgeline protection areas steep slopes and scenic views;

ii. avoidance of steep slopes in excess of 20 percent and provide erosion prevention and control measures including but not limited to protection of natural drainage channels and compliance with an approved stormwater drainage management plan;

iii. preservation of native vegetation, trees, rock outcroppings and formations, and other significant natal site conditions;

iv. wildfire preventions and safety, including but not limited to location of trees and vegetation near structures;

v. mitigation of other geologic hazards, including potential adverse impact down- slope and adjacent to properties;

vi. riparian habitat, stream corridors and wetland protection and buffering;

vii. floodplains, floodways, flood fringes and flood hazards;

viii. significant wildlife habitat areas; and

ix. the practical need of approved construction activity in terms of ingress and egress to

Working Draft

the developed project and necessary staging and operation areas.

d. Limits to Disturbance–Development Standards and Guidelines

i. No construction activity including, without limitation, grading excavation or stockpiling or fill material, shall be permitted within the limits of disturbance, whether to provide for a building site, on-site utilities or services or for any roads or driveway, prior to the approval of any required erosion and sedimentation control plan for the development.

ii. To the maximum extent feasible, no development, grading or vegetation removal or alternation shall occur as part of the development project or associated constriction activity outside the LOD except as provided in subsection iii.c) below.

iii. Disturbance or construction activity may occur outside the LOD with the written consent of landowner and approval of the Staff for the following limited purposes:

a) mitigation of development activities;

b) restoration of previously disturbed or degraded areas;

c) utility installations and emergency public safety activities when such activities and installations cannot reasonably be contained within the LOD or other nearby developed areas;

d) construction of a trail or pedestrian walkway that will provide public access or education or recreational purposes when such trails or walkway cannot reasonably be contained within the LOD or other nearby developed areas; or

e) the enhancement of the habitat values and/or other natural resource values of an identified natural area.

e. Designation on Final Grading and Drainage Plans. Approved LOD shall be shown on the preliminary and final subdivision grading plan and/or on the development plan for each lot or development site. Respective LOD will be described as necessary to accurately define the boundary, as acceptable to the Community Development Director.

f. Standards for Protection during Construction. LOD shall be designated in the field prior to commencement of excavation, grading or construction.

Working Draft

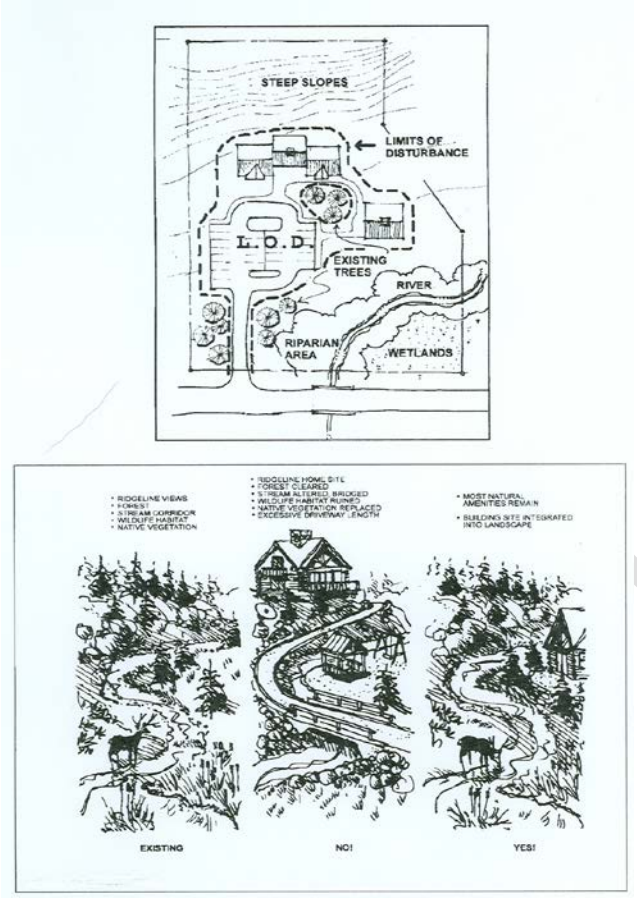


FIGURE 32 LIMITS OF DISTURBANCE

E. Construction Stormwater Management Plan. All grading plans will include the submittal of a Construction Stormwater Management Plan (CSWMP). At a minimum, the CSWMP must contain the requirements listed in the Colorado Department of Public Health and Environment document General Permit Application and Stormwater Management Plan Preparation Guidance available at www.cdphe.state.co.us/wg/PermitsUnit/stormwater, under the Stormwater Construction category. The Community Development Director is authorized to accept alternative plan submittals, waive submittal requirement determined not to be applicable or require additional data to ensure that an efficient construction sediment and stormwater control plan is submitted.

§5.4 WETLAND AND STREAMS CORRIDOR PROTECTION

A. Purpose and Intent. The following requirements and standards are intended to promote, preserve and enhance the important hydrologic, biological, ecological, aesthetic, recreational and educational functions that stream and river corridors, associated riparian areas and wetlands provide.

B. Applicability. This Section shall apply to all new development, except for the following development or activities.

1. Agricultural activities such as soil preparation, irrigation, planting, harvesting, grazing and farm ponds;

2. Maintenance and repair of existing public roads, utilities and other public facilities within an existing right-of-way or easement;

3. Removal of noxious weeds;

4. Maintenance and repair of flood control structures and activities in response to a flood emergency; and

5. Wetland and wildlife habitat restoration, creation and/or enhancement that improve the wetland function provided that the proposed activity is approved by the appropriate agency such as the U.S. Army Corps of Engineers or the Colorado Division of Wildlife.

C. Other Regulations

1. This Section does not repeal or supersede any existing federal, state or local laws, easements, covenants or deed restrictions. When this Section imposes a higher or more restrictive standard than found in another applicable ordinance, statute or regulation, this Section shall apply.

2. No person shall engage in any activity that will disturb, remove, drain, fill dredge, clear, destroy or alter any area, including vegetation, within a wetland that falls in the jurisdiction of the federal government and its agencies, except as may be expressly allowed under applicable federal laws or regulations.

D. Boundary Delineation

1. **Stream and River Corridor Boundaries**. Stream and river corridors shall be delineated at the annual high-water mark, or if not readily discernible, the defined floodway.

2. **Mapped Wetland Boundaries.** The initial boundary delineation of wetlands shall be established by reference National Wetlands Inventory prepared by the U.S. Department of the Interior, Fish and Wildlife Service (www.wetlands.fsw.gov), or other data provided by the applicant.

3. **Unmapped Wetlands.** The review of a development proposal may discover a potential wetland that has not been mapped or for which the boundaries have not been clearly established. In such instances, the Applicant shall retain a qualified wetland expert to delineate the boundaries of the wetland according to accepted professional standards.

E. Buffer/Setback Areas

1. Major Ditch and River Corridors

a. Building/Structure Setbacks

i. **Major Ditches**. All buildings and accessory structures shall be setback at least 30

Working Draft

feet horizontally (plan view) from the outside edge of adjacent ditch banks. Where defined banks are not readily discernible, the setback shall be measured from the center of the ditch (See Figure 33 Wetland/Stream Setback).

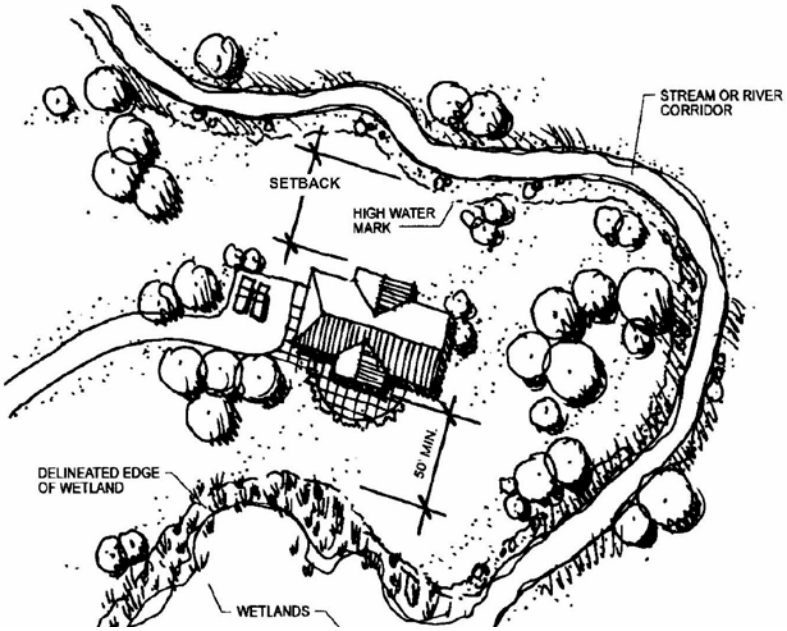


FIGURE 33 WETLAND/STREAM SETBACK

ii. Gunnison River and Tomichi Creek Corridors

a) **General Rule.** All buildings and accessory structures shall be setback at least 50 feet horizontally (plan view) from the annual high-water mark of river corridors, or, if not readily discernible, from the delineated floodway.

b) **Exception for Lots Developed Prior to the Adoption of this Code.** All buildings and accessory structures shall be setback at least 30 feet horizontally (plan view) from the annual high-water mark of river corridors or, if not readily discernible, from the defined floodway (see Figure 33).

b. Parking Lot Setbacks. Parking lots shall be setback at least 50 feet horizontally (plan view) from the annual high-water mark of stream or river corridors, or not readily discernible, from the defined floodway of the stream or river.

2. Wetlands

a. To the maximum extent feasible, wetlands shall not be included as part of a platted development lot.

b. All buildings, accessory structures and parking lots shall be setback at least 50 feet horizontally (plan view) from the delineated edge of a wetland (see Figure 33). Development on lots that were approved for single-family residential use prior to the adoption of this *LDC* shall be exempt.

3. **Private Open Areas and Landscaping Credit.** All stream corridor and wetland setback areas shall be credited toward any relevant private open areas requirements or landscaping and buffer requirements.

F. Development Standards

1. **Prohibited Activities**. No person shall engage in any activity that will disturb, remove, fill, drain, dredge, clear, destroy or alter any area, including vegetation, within stream or river corridors wetlands and their associated buffer/setback areas, except as may be expressly allowed in this Section.

2. **Utilities.** Utilities may be allowed in a buffer/setback area only if the City determines that there is no practical alternative. Any disturbance of the buffer area shall be reclaimed by final grading and revegetation. Provisions for reclamation of the disturbed area shall be included in any development or improvements agreement for the project, with adequate collateral to guarantee that the reclamation will be completed. Utility corridors in buffer/setback areas shall be located at the outside edge of the area and access roads for maintenance of utilities shall be located outside the buffer/setback area. Access for maintenance of utilities in buffer/setback areas should be at specific points rather than parallel to the utility corridor.

3. **Recreation, Education or Scientific Activities**. Structures and improvement for recreational, educational or scientific activities such as trails, fishing access and wildlife management and viewing may be permitted in a buffer/setback area provided that a management plan that establishes long-term protection of the buffer/setback area is submitted and approved.

G. Preservation of Vegetation. All existing vegetation within the stream/river corridor or wetland buffer/setback area shall be preserved, and where necessary to provide adequate screening or to repair damaged riparian areas, supplemented with additional native planting and landscaping.

H. Wetland Mitigation Requirements

1. Restoration shall be required according to an approved wetland mitigation plan when a wetland or its buffer is altered in violation of law or without specific permission or approval by the Decision-Making Body.

2. All approved alterations of wetlands must be mitigated by replacement or enhancement on the site or within the same drainage basin on a one-to-one basis with equivalent or better biologic and hydrologic functions.

§5.5 NATURAL RESOURCE PROTECTION STANDARDS WAIVER

In order to provide flexibility in the administration of this *LDC* by the City certain natural resource protection standards contained in this Section 5. may be considered for a waiver pursuant to the directives established in §8.10 of this *Land Development Code*.

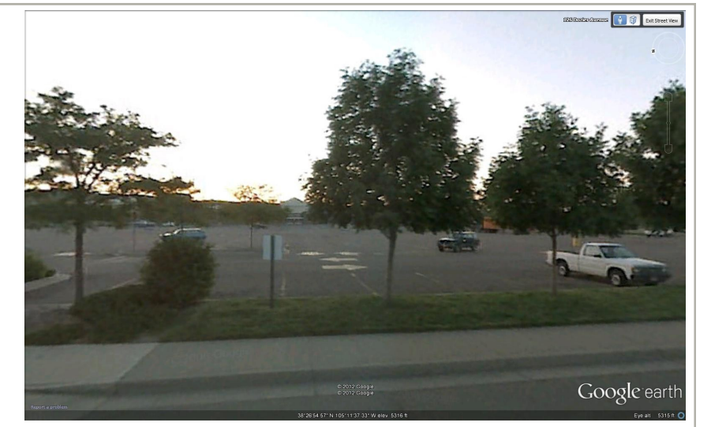
Working Draft

Alamosa, CO

Big Box Standards: facades, roofs, materials and colors, parking lot orientation, rear and sides of building, outdoor storage, trash collection and loading, pedestrian flows, delivery/loading operations, street planting. Design standards, parking standards, landscaping standards and street standards are contained in the large scale retail standards. (February 2008)

Canon City, CO

Has no big box standards or design standards. They do have parking, landscaping and street standards. (March 2007)



Cortez, CO

Has no big box standards or design standards. They do have parking, landscaping and street standards. (date unknown)

Craig, CO

Has no big box standards. Design standards: lots, blocks, streets, parking, sidewalks, easements, utilities, architecture, parks and public sites, landscaping, buffering, screening, fences, lighting, stormwater, potable water. They do have parking, landscaping and street standards. (March 2012)

Delta, CO

Has no design standards or big box standards. It may be that the information is just not available on their web site. (date unknown)

Durango, CO

Big box standards are covered by the overlay districts. Overlay Districts and design criteria for: downtown, historic district, river corridor, commercial use, PUD traditional neighborhoods. Their design standards address lots, blocks, streets, alleys, potable water, sewer, utilities, public improvements. Their parking, landscaping and street standards are covered in the General Design Standards. (September 2007)

Estes Park, CO

Does not have big box standards. They do have Downtown/Historic district standards. Also riverfront; viewsheds; blocks treated as an entity regarding color, building horizontal elements and height; facades; renovation to corner buildings should be more elaborate than other buildings; 60% transparent glass on frontage; franchise architecture is not allowed. Very specific guidelines. They have natural resource protection, parking, landscaping and street standards. (February 2012)

There is not a Walmart in Estes Park

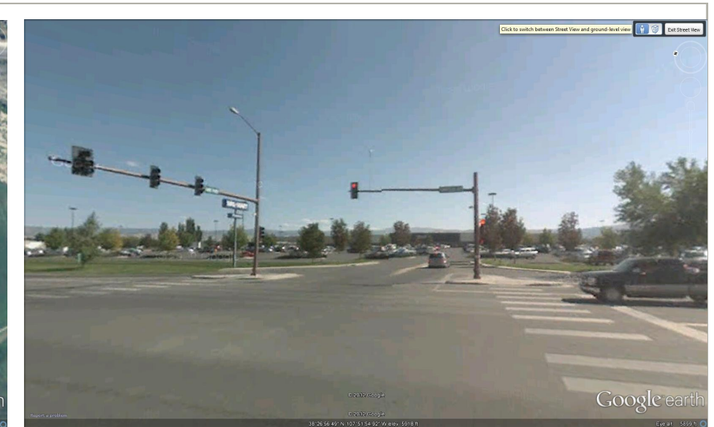
Manitou Springs, CO

Does not have big box standards. They do have Downtown/Historic district standards. A Major Change of Appearance Certificate is required for renovations. They have general development, parking, landscaping and street standards.

There is not a Walmart in Manitou Springs, but there is one just a few miles away in Colorado Springs.

Montrose, CO

Large Retail Site Development Application required; development standards for highway corridors; supplemental development standards for large scale retail addresses facades, parking, landscaping, setbacks, roofs, entryways, buffers from residential areas, lighting. They have general development standards, parking, landscaping, and street standards. (August 2011)



Pagosa Springs, CO

Design Review Board reviews developments over 5,000 sq. ft. except residential. Commercial and mixed use design standards includes site layout, pedestrian environment, building desing, mass and form; materials; architectural style; 4-sided design; entrance; highway buffer; building orientation. They have Hot Springs, Town Center and River Frontage District standards. Their design standards include site development, sensitive area protection, access, parking, landscaping and street standards. (date unknown)

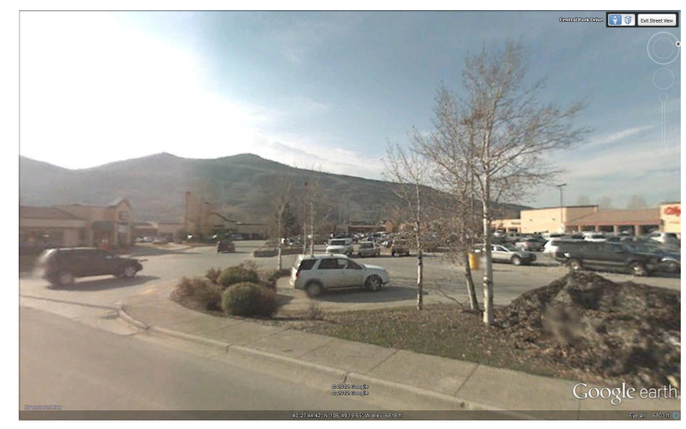
There is not a Walmart in Pagosa Springs

Salida, CO

The Highway Overlay District addresses facades and exterior walls, articulation, 360 degree architecture, cohesive design, façade treatments (pattern and color). (2005)

Steamboat Springs, CO

Their big box standards address impact assessment; bicycle and pedestrian facilities; building impact; color; landscaping; lighting; natural resource protection;. They have Design Standards for all districts which address: mass, character, frontage, height, yards, sidewalks, signs, parking, landscaping and streets. (June 2008)



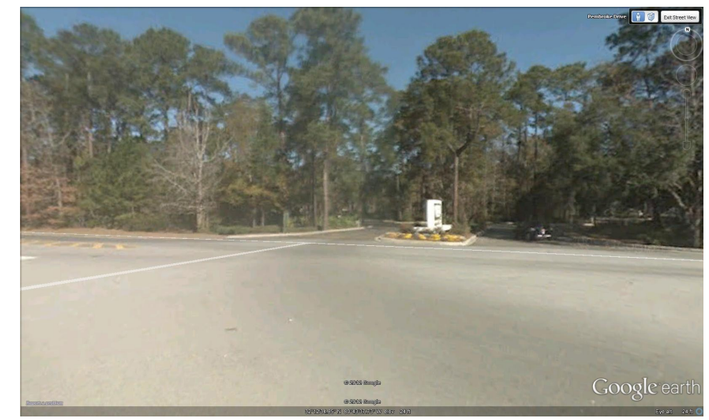
Woodland Park, CO

Design standards to encourage the use of materials that are compatible with the natural forested surroundings (mountain-western architecture). Design Standards for all districts address: frontage, height, yards, sidewalks, signs, pedestrian facilities, screening, parking, landscaping, and streets. (1995)

Below are contrasting examples of a master-planned community and a community that prides itself on having no zoning:

Hilton Head Island, SC

Hilton Head Island is a planned community with very strict design guidelines. The Island Character Vision Statement is that Development shall exhibit a harmonious relationship with the natural environment by blending the principles of sensitive site planning, skillful architectural design and an emphasis on landscaping that preserves and enhances the native vegetation.



Pahrump, NV

This town was originally developed with no zoning or land use guidelines. In about 2004 they finally adopted zoning codes. Until that time there was no central business district and there is no "downtown." Commercial, industrial, agricultural and residential uses were mixed in a very non-coherent way. The Walmart, a casino, and large grocery store now form the central part of the town on the highway corridor.

§4.10 LARGE SCALE RETAIL

A. Purpose. These standards are intended to ensure that large scale retail establishment development is compatible with its surrounding area and contributes to the unique community character of Gunnison.

B. Applicability. The standards of this Section shall apply to all retail uses in structures with more than 50,000 gross square feet, including single or multi-building developments with more than 50,000 square feet in any one structure. Large retail sales developments include;

1. single large retail sales buildings;
2. multiple large retail sales buildings; or
3. large retail sales building(s) with pad/liner sites comprising a complex that is planned, developed, owned, or managed as a single association.

C. Single Building Site Development Intent. The single building site design standards are intended to create an attractive building in an appealing and functional setting. The integration of structure, surfaces, and natural site features will:

1. respect the surrounding commercial and residential neighborhoods by appropriate buffering, screening, and lighting;
2. achieve defined edges with landscape, streetscape, and signage to frame a building that uses a variety of architectural features to reflect the character of the community;
3. establish a safe and coherent pedestrian and vehicular network within the site and between adjacent neighborhoods in accord with existing and projected traffic patterns;
4. provide for energy conservation and efficient use of utility services, minimizing adverse environmental impacts from such effects as storm-water runoff, light pollution, noise, odor, and waste; and
5. comply with the *City of Gunnison Master Plan*.

D. Single Building Site Development Standards

1. **General**. Site development shall be designed and constructed in accordance with all of the provisions of Section 4, General Development Standards, as well as all other applicable standards of the *LDC*.
2. **Orientation**. Building wall planes shall be oriented parallel to primary street frontages and accessways.
3. **Front Parking**. No more than 50 percent of the required off-street spaces shall be located between the front lot line and a line segment parallel to the entire lot frontage and intersecting the closest point of the building front. All remaining off-street parking shall be located outside of the area delineated by this standard.

Working Draft

E. Multiple Building Site Development Intent. The multiple building site design standards are intended to create attractive primary and secondary retail buildings in an appealing and functional setting. The integration of structures, surfaces, and natural site features will:

1. respect the surrounding commercial and residential neighborhoods by appropriate buffering, screening, and lighting;

2. achieve defined edges by the use of landscape, streetscape, signage, and siting of secondary buildings to frame the primary building. All buildings shall use a variety of architectural features in a common theme;

3. establish a safe and coherent pedestrian and vehicular network within the site and between adjacent neighborhoods in accord with existing and projected traffic patterns;

4. provide for energy conservation and efficient use of utility services, minimizing adverse environmental impacts from such effects as storm-water runoff, light pollution, noise, odor, and waste;

5. comply with the *City of Gunnison Master Plan*; and

6. provide that primary commercial buildings serve as "anchors" for commercial and mixed-use zones. Anchor buildings may be flanked by a variety of supporting, pedestrian-oriented retail storefronts and secondary commercial uses located on pad sites provided that they meet the following design elements:

a. The siting and design of smaller retail stores (pad sites or liner buildings) creates an inviting appearance along arterial and highway corridors and within the neighborhood by reducing the project's apparent visual scale and by expanding the range of activities and businesses found within the neighborhood.

b. The layout of pad site or liner buildings relate coherently to the public streets and surroundings (outward) as well as to the main center (inward), and specific siting decisions shall further the general intent of creating a sense of place, focal points, community amenities, and arrival into a commercial center.

c. The location, orientation of the entry, and architecture of pad site buildings frame the entry into the neighborhood and contribute to the development's aesthetic appeal by placing storefront spaces closer to the street and creating a street scene.

d. Smaller retail stores are sited in a liner building configuration or on discrete pads or building pad groups that complement overall site layout and function; they shall not be randomly sited inconsistently with other site plan elements.

e. The architecture of pad site structures or liner buildings is compatible with the development's anchor buildings.

F. Multiple Building Site Development Standards. Where multiple buildings are proposed, the building footprints may be configured as individual pads, pads wrapping the anchor(s), or contiguous liner buildings wrapping edges of the development. Multiple building layouts shall be

Working Draft

completed in accordance with the following requirements.

1. **Location Standards**. Pad sites shall be clustered together to define street edges and entry points or to enclose and create community amenities and visual interest between buildings. Pad site building wall planes shall be no more than 100 feet from primary street frontages, major collector streets, or entrance driveway. Isolated pad buildings will be reviewed on a case-by-case basis but shall be adjacent to roads or entrance driveways as required herein.

2. **Orientation**. Buildings shall be oriented parallel or perpendicular to primary street frontages or entrance driveways.

3. **Front Parking**. No more than 20 percent of the required off-street spaces of any pad site building shall be located between the front lot line and the building's front elevation. All remaining off-street parking shall be located outside of the area delineated by this standard. Additionally, no more than 50 percent of the parking dedicated to the large scale retail establishment (anchor building) shall be located between the front lot line and that building's front elevation.

4. **Phasing**. If a large retail sales development is built in phases, the phasing shall be established as part of the design review. Site improvements each respective phase including, but not limited to landscaping, circulation, parking, and drainage shall be guaranteed by a development improvement agreement secured by corporate surety bond, irrevocable letter of credit, cash, and/or other means acceptable to the Director. The applicant shall submit to the Director estimates of the cost of completion of each required improvement, made by the applicant's engineer, along with the schedule of construction and completion thereof. The collateral amount shall equal 125 percent of the prescribed cost as determined to be satisfactory by the Director of Community Development**.**

G. Vehicular Circulation

1. **Transportation Impact Study Requirements**. A detailed Transportation Impact Analysis (TIA) shall be prepared in accordance with §4.1 H. of this *LDC*. Those guidelines include a description of all necessary procedures and analysis as well as steps to identify any transportation mitigation measures.

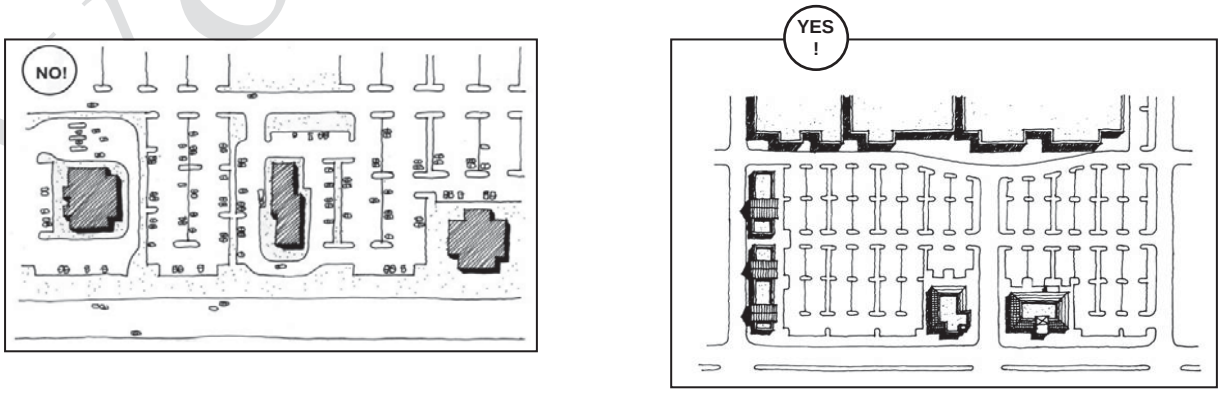


FIGURE 19 BUILDING ORIENTATION FOR MULTIPLE BUILDING DEVELOPMENT

Working Draft

2. **Access to Collector Streets**. Access onto collector streets that serve adjacent residential areas is prohibited unless it can be shown that the site traffic will not have a negative impact on adjacent residential areas and the access is approved by the City. Additionally, the City may require a license plate cut-through traffic study to be completed after the project completion if residential neighborhood traffic is perceived to have significantly increased. Negative impacts on adjacent residential areas are defined to include but not be limited to:

   a. any increase in delivery truck traffic in the adjacent residential area (10 or more delivery truck trips per day serving the development); and

   b. an increase in cut-through traffic in the adjacent residential area by those that do not live within the adjacent residential area that exceeds the greater of: (a) 20 percent of the existing residential traffic volume on a given roadway or (b) 200 cars per day.

   c. Traffic impacts that exceed either of the thresholds in 1 and 2 above will require mitigation of the impact or the closure of the access in question. The costs of cut-through and/or truck monitoring study and any mitigating measures shall be the responsibility of the owner or owners of the large scale retail establishment.

3. **Internal Drive Connectivity**. Any building, lot, parcel, or other real property that is intended to serve the general public, and that is designed as part of the development plan for a large scale retail establishment, shall be provided with vehicular access from the internal circulation system.

4. **Passenger Loading Zones**

   a. In addition to passenger loading zones required by the *International Building Code* as amended and adopted by the city, each large scale retail establishment shall provide at least one pull-up space directly adjacent to the large scale retail establishment main entrance. Specific location shall be coordinated with the City Fire Marshal.

   b. The loading zone length shall be a minimum 50 feet length and 10 feet width. The loading zone shall be signed as a physically disabled loading zone.

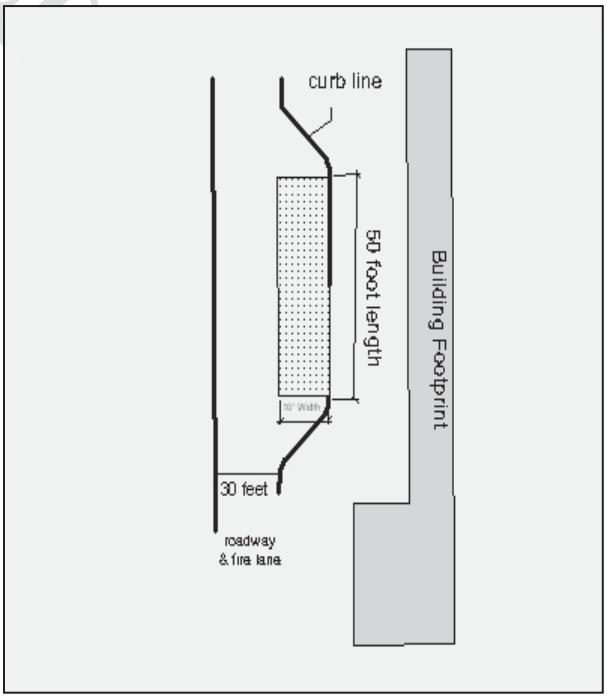


FIGURE 20 PASSENGER LOADING ZONES

5. **Traffic Control.** All accesses shall be designed and constructed with appropriate traffic control and signage conforming to the Federal Highway Administration *Manual on Uniform Traffic Control Devices*, latest edition.

6. **Speed Change Lanes**. Speed change lanes shall be required on collector or arterial roadways when the design hour traffic volume to or from the access will equal or exceed the standards

Working Draft

in the *Colorado State Highway Access Code*, assuming the most appropriate access category. The design of any required speed change lanes shall also comply with the recommendations of the *Colorado State Highway Access Code*.

7. **Restricted Turning Movements**. Where a site driveway accesses an arterial roadway, left turning movements into and/or out of the driveway may need to be restricted based on the findings of the approved traffic study. The preferred method for restricting left turns is the construction of a median that limits the driveway to a one-half or three quarter access. Turn restriction islands in the throat of a driveway may only be considered if median construction is not possible (e.g., adequate right-of-way width is not available and cannot be acquired; adjacent mature trees would have to be removed). The decision to consider a turn restriction island instead of the construction of a median shall be made by the decision-making authority. If allowed, the design of a turn restriction island must be approved by a representative of the City who is a licensed civil engineer with a specialty in traffic engineering.

H. Pedestrian Circulation Facilities. The provisions of Section §4.5shall apply to all large scale retail developments.

1. ~~**Connectivity**. New developments shall be laid out and designed to provide sidewalks, accessways, bikeways, and multi-use trails that connect with existing or planned sidewalks, multi-use trails, and destinations such as parks, schools, and shopping areas. Accessways shall connect building fronts within a site, building fronts on adjacent sites where cross-site access is possible, and from public rights-of-way onto the large scale retail development.~~

2. ~~**Easements and Multi-use Trails**. Multi-use trails, where required, shall have a minimum 15 foot wide, public right-of-way or easement for bicycle and pedestrian uses dedicated to the public. A 10 foot wide treadway shall be constructed in the center of the right-of-way or easement conforming to the City standards.~~

3. ~~**Multi-Use Trail Location Guidelines**. Bikeways shall be located to integrate with the existing and future city street and park system. Important criteria used in determining facility types and locations follow.~~

   a. ~~compatibility with adopted plans, including, but not limited to, the *City of Gunnison Master Plan* and the *Parks, Recreation and Open Space Master Plan*;~~

   b. ~~safety in terms of existing street width;~~

   c. ~~existing and potential demand for use;~~

   d. ~~spacing in relation to other pedestrian circulation facilities;~~

   e. ~~location of schools and other public facilities frequented by bicycle riders; and~~

   f. ~~location of parks.~~

4. ~~**Bike Racks**. Bike racks shall be provided at the rate specified in §4.4 F.10. The location of required bike racks shall be based on consideration of the safety and convenience of users.~~

Working Draft

~~Bicycle racks should be of the "Cora" type as depicted in the *Transportation Element of the Gunnison Master Plan* or as approved by the decision-making body. Cut sheets may be required prior to approval.~~

5. ~~**Internal Pedestrian Circulation Design Standards**. Unless otherwise modified herein, pedestrian circulation facilities shall comply with §4.5, Pedestrian Circulation Facilities. If there are any conflicts between these standards and §4.5, the more restrictive standard shall apply.~~

   a. ~~Detached sidewalks at least eight feet in width shall be provided along all lot boundaries that abut public streets. These sidewalks shall be detached a minimum of ten feet from all collector and arterial streets, and six feet from all other streets.~~

   b. ~~Multi-use trails shall be constructed in accordance with the adopted provisions of the *Gunnison Trails Master Plan* as amended. The City may also require multi-use trails along the front lot line or front yard of any large retail sales development along either Highway 50 or Highway 135 frontage, or in a configuration that connects with *City of Gunnison Trails Master Plan*.~~

   c. ~~Continuous internal accessways, no less than eight feet in width, shall be provided from the public sidewalk or right-of-way to the principal customer entrance of all large scale retail establishments and pad or liner buildings on the site. At a minimum, accessways shall connect focal points of pedestrian activity such as, but not limited to, street crossings, building, and store entry points.~~

   d. ~~Snow shedding from roof structures adjacent to sidewalks or accessways is prohibited. Cold roof designs that retain snow on the roof or avalanche guards are required on all roof planes that may shed snow on sidewalks or walkways. Additional mitigation may be required where icicles may form on eaves adjacent to walkways or sidewalks.~~

   e. ~~Any large scale retail establishment development sharing a common lot line with another nonresidential district parcel shall provide an internal pedestrian walkway to the common property boundary.~~

   f. ~~Continuous sidewalks in conjunction with walkways across the internal access roads shall connect internally and externally to all buildings (pad sites, liner buildings, and anchor buildings) proposed by the site development plan.~~

   g. ~~Accessways, no less than eight feet in width, shall be provided along the full length of the building along any facade featuring a customer entrance, and along any facade abutting public parking areas. Additional sidewalk width shall be provided as needed to accommodate outdoor seating areas adjacent to restaurants to maintain an eight foot wide clear pedestrian circulation area.~~

   h. ~~All internal accessways shall be distinguished from driving surfaces through the use of durable, low-maintenance, surface materials such as pavers, bricks, or scored concrete to enhance pedestrian safety and comfort, as well as the attractiveness of the walkways.~~

~~I. Central Features and Community Space. Each retail sales establishment subject to these standards shall contribute to the establishment of community and public spaces by providing at least two of~~

Working Draft

~~the following: patio/seating area, pedestrian plaza or pocket park with benches, commuter parking area, window shopping walkway, outdoor playground area, information kiosk area, water feature, clock tower, or other such deliverately shaped area, focal feature, or amenity that, in the judgment of the decision-making body, enhances such community and public spaces. Any such areas shall have direct access to the public sidewalk network and such features shall not be constructed of materials that are inferior to the principal materials of the building and landscaping.~~

I. Residential Protection. The provisions of this Section are specifically designed to mitigate impact of large scale retail establishments and related development on existing residential uses and all residential districts (R-1, R-1M, R-2, RMU, or R-3 district).

1. **Building Location.** No building shall be erected within 100 feet of the lot line of property that is in a residential zone district or that contains a single-family, attached single-family or duplex use; provided, however, that this provision shall not apply across the street from a residential zone district.

2. **Buffering and Landscaping**. Buffers shall provide sufficient landscaping to protect adjacent land uses. Buffers may include walls, fences, and berms. Landscaping and buffering shall comply with the standards of §4.6 and shall be provided across the street from or adjacent to any property located in a residential district or containing a single-family, attached single-family or duplex dwelling.

J. Building Design Standards

1. **Intent.** Building design shall be tailored specifically to the site, the neighborhood and the physical context of the general area. The use of building wall and roof articulation, materials, architectural elements, color, and texture features shall ensure visual interest and compatibility with the surrounding neighborhood and comply with Section 6. , Development Review Procedures; §4.10 C, Single Building Development Intent; and, §4.10 E, Multiple Building Site Development Intent.

2. **Ground Floor Façades**

   a. Ground floor façades abutting public streets and/or parking lots shall have arcades, display windows, entry areas, awnings, or other such features. Animating features such as these must total no less than 60 percent of the horizontal length of the façade.

   b. Liner and pad site buildings shall have separate, exterior customer/resident entrances. Such entrances are preferred on both street and parking lot sides. The street level façade of liner or pad site buildings shall ~~be transparent between the height of three feet and~~ have transparent fenestration, entry areas, awnings or other features eight feet above the walkway grade for no less than 60 percent of the horizontal length of the building façade of such additional stores.

Working Draft

FIGURE 21 GROUND FLOOR FACADES

3. Articulation

a. Exterior Wall Plane. No single exterior wall plane shall constitute more than 60 percent of any primary facade of 100 feet or more in length. Variations of less than one foot in depth are not considered to break the plane.

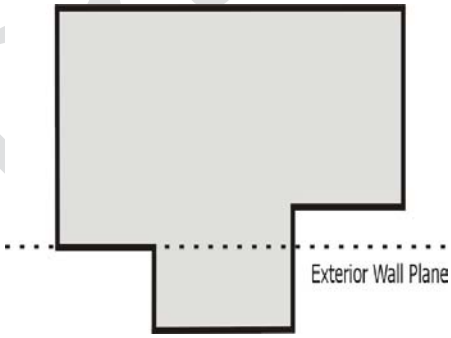


FIGURE 22 EXTERIOR WALL PLANE

b. Primary Façades. Any primary façade shall include projections or recesses (articulation) in accordance with this subsection. No uninterrupted horizontal length or uninterrupted curve of such facade shall exceed the lengths set forth below:

i. Buildings of less than 20,000 square feet in floor area shall require one articulation of not less than five feet in depth for every 50 feet in length. Such articulation shall extend at least five feet horizontally.

ii. Buildings 20,000 square feet or more in floor area shall require one articulation of not less than 10 feet in depth for every 100 feet in length. Such articulation shall extend at least 10 feet horizontally.

c. Secondary Façades. Any façade, other than a primary façade, shall include no less than three of the following elements:

i. an expression of architectural or structural bays through a change in plane of no less than 12 inches in width, such as an offset, reveal or projecting rib, as shown in Figure 23;

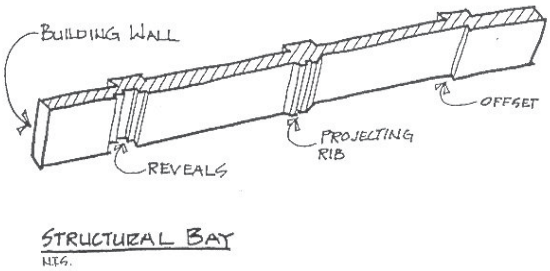


FIGURE 23 SECONDARY FAÇADE

ii. horizontal separation between projecting ribs, reveals and offsets may vary

depending on the building wall manufacture specifications, but shall not be greater than 20 feet on center;

iii. material module change;

iv. color change; or

v. textural change.

K. Architectural Elements. Primary facades of large scale retail establishments shall have clearly defined architectural detail featuring no less than three of the following:

1. canopies or porticos;

2. overhangs;

3. recesses and projections;

4. arcades;

5. raised, corniced parapets over the door;

6. peaked roof forms;

7. arches;

8. outdoor patios;

9. display windows;

10. architectural details such as tile work, architectural banding, and moldings, which are integrated into the building structure and design; ~~or~~

11. integral planters or wing walls that incorporate landscaped areas and/or places for sitting; or

12. other elements proposed by the developer and accepted by the Community Development Director.

FIGURE 24 ARCHITECTURAL ELEMENTS

L. Building Entrances. The public access points of large scale retail establishments shall have clearly defined, highly visible entrances featuring at least three of the following elements:

1. canopies or porticos;

2. overhangs;

3. recesses and projections;

FIGURE 25 BUILDINGS ENTRANCES

Working Draft

4. arcades;

5. raised, corniced, parapets over the door;

6. peaked roof forms;

7. arches;

8. outdoor patios;

9. display windows;

10. architectural details such as tile work, architectural banding, and moldings, which are integrated into the building structure and design; ~~or~~

11. integral planters or wing walls that incorporate landscaped areas and/or places for sitting; or

12. other elements proposed by the developer and accepted by the Community Development Director.

M. Materials and Colors

1. Predominant exterior building materials on all sides shall be of high quality, including the following or other materials of similar appearance and characteristics: brick, sandstone, other native stone; tinted/textured concrete masonry units; brick, stone or native veneer; architectural concrete with form, line, texture, mass, and space (negative and positive) elements that establish aesthetic quality; metal for beams, lintels, trim elements and ornaments; wood and log; and glass.

2. Color shades shall be used to unify the development. Façade colors shall be low reflectance, subtle, neutral, earth tone colors. The use of high-intensity colors, metallic colors, black, or fluorescent colors shall be prohibited.

3. Building trim and accent areas may feature brighter colors, including primary colors.

4. Wall surface materials shall not include smooth-faced concrete block, smooth-faced concrete panels or other similar products, aluminum or vinyl siding, or prefabricated steel panels.

5. Metal may be utilized as a roofing material and/or as an accent to other siding materials, provided that all such metal materials used shall have a non-metallic luster.

6. Use of neon as an architectural building accent is prohibited.

7. other elements proposed by the developer and accepted by the Community Development Director.

Working Draft

N. Roofs. Roofs shall comply with the provisions of §4.6.I.4., and shall have no less than two of the following features:

1. parapets, the average height of which shall not exceed 15 percent of the height of the supporting wall, shall not at any point exceed one -third of the height of the supporting wall, and shall feature three-dimensional cornice treatment;

2. overhanging eaves, extending no less than three feet past the supporting walls;

3. sloping roofs that do not exceed the average height of the supporting walls, with an average slope greater than or equal to one foot of vertical rise for every four feet of horizontal run and less than or equal to one foot of vertical rise for every one foot of horizontal run;

4. three or more roof slope planes.

5. other elements proposed by the developer and accepted by the Community Development Director.

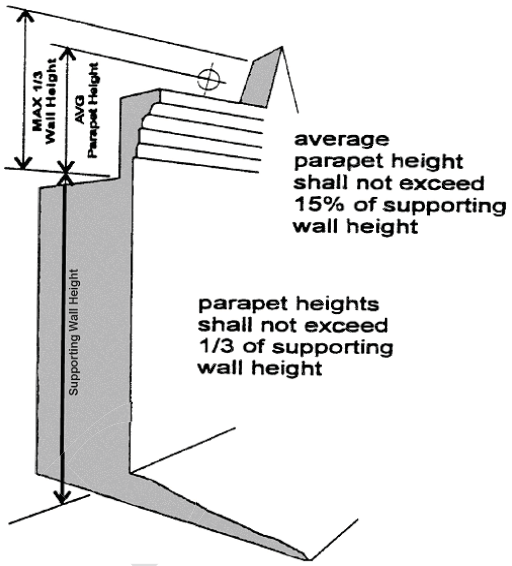


FIGURE 26 PARAPETS

O. Abandoned Buildings. No certificate of occupancy shall be issued for any new building or space that is subject to the provisions of this Section, without compliance with the following requirements. All properties developed for commercial purposes including those abandoned by the applicant in favor of new development regulated by this section, whether they are occupied or not, shall be regularly maintained so they are not allowed to fall into a state of disrepair or neglect. This maintenance requirement shall be established by a covenant or other document considered satisfactory to the City Attorney, memorializing this requirement. At a minimum the following maintenance functions shall occur:

1. ~~the building shall remain fully illuminated inside within 100 feet of all public entrances, and outside including all parking lot areas, consistent with the historic practice;~~

2. glazing shall not be boarded and broken windows shall be replaced immediately;

3. vegetated landscaping shall be watered, trimmed and mowed during the growing season. In addition, dead vegetation shall be replaced immediately;

4. graffiti shall be immediately removed from the site;

5. painted or stained building surfaces shall be painted or stained at least every three years or when the surface starts to peel, crack, or fade;

Working

6. ~~snow removal shall occur within 24 hours after all snow storms~~ Emergency vehicle access shall be maintained.

§4.11 DEVELOPMENT STANDARDS WAIVER

In order to provide flexibility in the administration of this *LDC* by the City certain development standards contained in this Section 4 may be considered for a waiver pursuant to the directives established in §8.10 of this *Land Development Code*.

Working Draft