ARCHULETA COUNTY
BOARD OF COUNTY COMMISSIONERS
Special Meeting Tuesday June 28, 2016
CSU Extension Building at the Archuleta County Fairgrounds,
344 US Highway 84, Pagosa Springs, Colorado

CALL TO ORDER THE SPECIAL MEETING OF JUNE 28, 2016 AT 1:30 PM

NEW BUSINESS

A. **Consideration Of Resolution 2016 - _____ Implementing Stage One Fire Ban Into Effect Wednesday, June 29, 2016 For The Areas South Of US Highway 160 And West Of US Highway 84 Until Such Time As Conditions Are Safe To Lift The Ban**

This is in consideration of a fire ban to be effective Wednesday, June 29, 2016 12:01 a.m. for the areas South of Highway 160 and West of Highway 84 until such time as the conditions are safe to lift the fire ban.

Presentor	Thad McKain
Presentor's Title	Director of Emergency Management

Documents: ARCHULETA RESOLUTION STAGE 1 FIRE RESTRICTIONS JUNE 2016.PDF

LAND USE REGULATION HEARING

PUBLIC HEARING FOR TWO RIVERS GRAVEL PIT MAJOR SAND & GRAVEL PERMIT, LOCATED IN SECTION 11, T33N R2W NMPM AT 12500 COUNTY ROAD 500. (2015-035SG)

C&J Gravel Products, Inc, of Durango, Colorado, represented by Nathan Barton, Wasteline, Inc., have applied for a Major Sand & Gravel Permit for the proposed Two Rivers Pit, to be located on property owned by the James A. Constant Jr Revocable Trust and Leila B. Constant Revocable Trust; NW¼NE¼, S½NE¼ and NE¼SE¼ of Section 10 and N½SW¼ and S½NW¼ Section 11, T33N R2W NMPM at 12500 County Road 500 (Trujillo Rd), Pagosa Springs, CO. C&J Gravel proposes to construct and operate a sand and gravel mining and processing facility on approximately 62.6 acres of the 100 acres of the property east of the San Juan River, in accordance with Colorado Division of Reclamation Permit M-2015-004.

Proposed haul routes on County Primary Roads would distribute traffic approximately 72% northbound on CR 500 to Cascade/Buttress/South Pagosa Blvd, 18% on CR 500 through the Town of Pagosa Springs, and 10% southbound on CR 500.

At a special meeting on June 8, 2016, the Archuleta County Planning Commission voted unanimously (5-0) to recommend disapproval of the application. At their regular meeting on March 1, 2016, the Board of County Commissioners continued the noticed public hearing to May 17, 2016. At that meeting, this hearing was opened and continued once more to this special meeting on June 28, 2016.

Presentor	John Shepard, AICP

Presentor's Title Planning Manager

Documents: 2015-035SG_TWORIVERSPIT_BOCC-20160628_STAFFREPORT.PDF

A. **Binder Tab 1. Area Maps**

Documents: A1-AREA_MAPS.PDF

B. **Binder Tab 2. Agency Review**

Documents: A2-AGENCY_REVIEW_COMMENTS.PDF

C. **Binder Tab 3. Public Comment**

Documents: A3A-LETTERS_A-E.PDF, A3B-LETTERS_DIAMONDT.PDF, A3C-LETTERS_G-R.PDF, A3D-LETTERS_S-Z.PDF, A3E-POWERPOINT_TIMBERRIDGE.PDF

D. **Binder Tab 4. Applicant Narrative As Revised (1/29/16) And Addendum (4/29/16)**

Documents: A4-2015-035SG_TRP_APPLICATION_TEXT_(AS REVISED).PDF, A4B-2015-035SG_TRP_COUNTY_INFO-20160429.PDF

E. **Binder Tab 5. DRMS Reclamation Permit 2015-004**

Documents: A5-CMRS_M2015004-TRP_FULL.PDF

F. **Binder Tab 6. Traffic Impact Assessment (5/09/16)**

Documents: A6-2015-035SG_TRP-TIA_20150509-NARRATIVE.PDF, A6B-2015-035SG_TRP-TIA_20150509-EXHIBITS.PDF

G. **Binder Tab 7. Applicant Mitigation Proposal (5/13/16)**

Documents: A7-2015-035SG_TWORIVERSPIT-MITIGATION_PROPOSAL-20160513.PDF

H. **Binder Tab 8. Applicant Submittal To Planning Commission (6/08/16)**

Documents: A8-2015-035SG_TRP_SUBMITTAL_TO_PC-20160608.PDF

ADJOURNMENT OF THE SPECIAL BOCC MEETING

This Special Meeting at CSU Extension Building at the Archuleta County Fairgrounds, 344 US Highway 84, Pagosa Springs

All Regular and Special Meetings are Recorded

RESOLUTION NO. 2016 - _____

RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF ARCHULETA COUNTY, COLORADO, IMPLEMENTING FIRE RESTRICTIONS, AUTHORIZING THE SHERIFF TO ALLOW EXCEPTIONS, AND AUTHORIZING THE SHERIFF OR THE BOARD OF COUNTY COMMISSIONER TO IMMEDIATELY AMEND, RESCIND, OR ENACT FIRE RESTRICTIONS FOR THE YEAR 2016

WHEREAS, the Board of County Commissioners of Archuleta County is empowered under C.R.S. §30-11-107(e) to provide for the management of the business and concerns of the County; and

WHEREAS, pursuant to C.R.S. §30-15-401(1)(n.5), the Board of County Commissioners of Archuleta County has the power to adopt an ordinance to ban open fires to a degree and in a manner that is deemed necessary to reduce the danger of wildfires; and

WHEREAS, the Board adopted Ordinance 2003-8 on June 5, 2003 entitled "An Ordinance of the Board of County Commissioners of Archuleta County, Colorado, Providing for the Enforcement of Fire Bans Within the Unincorporated Areas of Archuleta County, Colorado"; and

WHEREAS, the criteria for a Stage 1 Fire Restriction is set forth in the "2016 Southwest Annual Operating Plan" and the "Southwest Colorado Fire Danger Operating Plan"*; and*

WHEREAS, the Board of County Commissioners of Archuleta County has received competent evidence that there exists a high danger of forest, grass or other wildland fires within the unincorporated areas of Archuleta County; and

WHEREAS, the Archuleta County Sheriff and the Fire Chiefs of the County's Fire Protection Districts have requested that the Board impose Stage 1 Fire Restrictions for all private lands in unincorporated areas of Archuleta County, south of Highway 160 and west of Highway 84; and

WHEREAS, the Town of Pagosa Springs, the Southern Ute Indian Tribe, San Juan National Forest, are also in the process of instituting Stage 1 restrictions within the same boundaries; and

WHEREAS, the enactment of this Resolution is necessary for the preservation of public health, safety, and welfare throughout Archuleta County.

NOW, THEREFORE, BASED UPON THE EVIDENCE AND TESTIMONY PRESENTED AT THE PUBLIC MEETING HELD THIS 28th DAY OF JUNE 2016, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF ARCHULETA COUNTY, COLORADO THAT:

1. Fire restrictions are necessary on all private lands in unincorporated areas of Archuleta County south of US Highway 160 and west of US Highway 84 to the New Mexico State line and **will go into effect at 12:01 a.m. on Wednesday, June 29, 2016**.

2. Fire restrictions prohibiting open burning, burn barrels, and agricultural burning in the unincorporated areas of Archuleta County south of Highway 160 and west of Highway 84, are hereby enacted. Provided, further, this resolution is not intended to have and force or effect on land owned by the United States Forest Service, or the Southern Ute Indian Tribe.

3. The following acts are prohibited until further notice:

   (a) Building, maintaining, attending, or using a fire, campfire, coal or wood burning stove, any type of charcoal fueled broiler, or open fire of any type in undeveloped areas. The fire restrictions do not include charcoal fires in suitable containers or gas grills for barbecues at private residences or fires within designated campground pits with protective grates; however, such fires should not be left unattended and should be fully extinguished after use. The fire restriction also does not include camp stoves, grills, or lights fueled by bottled gas, or pressurized liquid fuel, specifically designed for the purpose of camp cooking or illumination which shall not be left unattended and shall be fully extinguished after use.

   (b) Smoking, except within an enclosed vehicle or building, in a developed recreation site, or while stopped in an area at least 3 feet in diameter that is barren or cleared of all flammable vegetation.

   (c) Using explosive material (i.e., fireworks, blasting caps, or any incendiary device which may result in the ignition of flammable material). The fire restrictions do not include local community fireworks displays that have been, or may be, approved and permitted by the Archuleta Country Sheriff.

   (d) Operating or using any internal combustion engine is prohibited unless it is equipped with a working spark-arresting device. The device must be properly installed, maintained and must meet either:

      i. Dept. of Agriculture, Forest Service Standard 5100-1a; or
      ii. Appropriate Society of Automotive Engineers (SAE) recommended practice J355(b) and J350(a)

(e) The following requirements apply to all welding and cutting operations. Firefighting hand tools shall be readily available. During welding, a combination of fire extinguishers with a combined capacity of 40 lbs or a pressurized water supply shall be immediately accessible. When welding or cutting in an area that a fire may ignite, a person shall be designated as a fire watch. The area surrounding the work shall be inspected at least one (1) hour after the hot work is completed.

(f) Oil and gas operations are required to comply with the requirements of the Colorado Oil and Gas Conservation Commission Rules for Fire Prevention and Protection, Rule 606A.

(g) Any gas escaping from a well during drilling operations shall be, so far as practical, conducted to a safe distance from the well site and flammable vegetation, and burned. Operators are also required to notify Archuleta County Combined Dispatch at 970-731-2160 in advance of any flaring when it is anticipated, and in all other cases as soon as possible, but no more than two hours after the flaring has occurred.

5. The fire restrictions hereby proclaimed are effective June 29, 2016 at 12:01 a.m. and shall remain in effect until amended or rescinded by the Archuleta County Sheriff or the Archuleta Board of County Commissioners.

6. The Sheriff may grant written permission to allow open fires upon request, provided that it is proven to their satisfaction that such exception to the fire restrictions does not constitute a high danger of forest, grass, or other wildland fire; or

7. For the year 2016, the Archuleta Board of County Commissioners or the Archuleta County Sheriff may immediately amend, rescind, or instate any fire restrictions within unincorporated Archuleta County with a public statement as to the parameters of the fire restriction. The fire restriction can be immediately effective. A discussion of the fire restriction will be promptly scheduled for a regular Board of County Commissioners meeting, at which time; the Board shall either confirm or rescind the said restriction.

APPROVED AND ADOPTED this 28th day of June, 2016.

ATTEST:

BOARD OF COUNTY COMMISSIONERS
ARCHULETA COUNTY, COLORADO

_____
Clerk to the Board

_____
Michael Whiting, Chair

(SEAL)

Archuleta County
Development Services—Planning Department
1122 HWY 84
P. O. Box 1507
Pagosa Springs, Colorado 81147
970-264-1390
Fax 970-264-3338

MEMORANDUM

TO: Archuleta County Board of County Commissioners

FROM: John C. Shepard, AICP; Planning Manager

DATE: June 28, 2016

RE: Two Rivers Gravel Pit Major Sand & Gravel Permit, located in Section 11, T33N R2W NMPM at 12500 County Road 500. (2015-035SG)

EXECUTIVE SUMMARY

C&J Gravel Products, Inc, of Durango, Colorado, represented by Nathan Barton, Wasteline, Inc., have applied for a Major Sand & Gravel Permit for the proposed Two Rivers Pit, to be located on property owned by the James A. Constant Jr Revocable Trust and Leila B. Constant Revocable Trust; NW¼NE¼, S½NE¼ and NE¼SE¼ of Section 10 and N½SW¼ and S½NW¼ Section 11, T33N R2W NMPM at 12500 County Road 500 (Trujillo Rd), Pagosa Springs, CO. C&J Gravel proposes to construct and operate a sand and gravel mining and processing facility on approximately 62.6 acres of the 100 acres of the property east of the San Juan River, in accordance with Colorado Division of Reclamation Permit M-2015-004.

Proposed haul routes on County Primary Roads would distribute traffic approximately 72% northbound on CR 500 to Cascade/Buttress/South Pagosa Blvd, 18% on CR 500 through the Town of Pagosa Springs, and 10% southbound on CR 500.

At a special meeting on June 8, 2016, the Archuleta County Planning Commission voted unanimously (5-0) to recommend disapproval of the application. At their regular meeting on March 1, 2016, the Board of County Commissioners continued the noticed public hearing to May 17, 2016. At that meeting, this hearing was opened and continued once more to a special meeting on June 28, 2016.

REVIEW PROCEDURE

The *Archuleta County Land Use Regulations* Section 9.1 governs Sand, Soil and Gravel Mining. Sec. 9.1.5 provides that all sand, soil and gravel mining operations other than those qualifying for a Minor Sand and Gravel permit, are reviewed as a Conditional Use Permit (CUP, Section 3.2.3). Conditional Uses have potential for causing adverse impacts on other uses, requiring review and evaluation of their effects on surrounding properties and Archuleta County at large. Where conditions cannot be devised, or it is not possible to mitigate adverse impacts, an application shall not be approved.

Mitigation required by state and federal agencies will be reviewed to insure that plans adequately address potential impacts. As stated in Sec. 9.1.8, Archuleta County does not intend to duplicate or conflict with federal or state requirements. The Colorado Mined Land Reclamation Act, which governs State mining permits and declares the State's policy to encourage mining and subsequent reclamation, does not preempt local regulation (CRS §34-32-101 *et seq*). However, counties also cannot preemptively ban mining either (see, for example, *Colo. Mining Ass'n vs Summit County Comm'rs*, 199 P.3d718 (Colo 2009), cited in *Colorado Land Planning and Development Law*, Donald L. Elliott, Esq. editor).

The Planning Commission reviewed this application's conformance with the *Archuleta County Land Use Regulations*, and made a recommendation to the Archuleta County Board of County Commissioners, who will make a final decision on the proposal.

Revised public notice was published in the *Pagosa Springs Sun*, posted on site, and mailed to neighboring property owners within 500' of the underlying parcel. Notice was also posted as a courtesy on the Archuleta County website. All correspondence received since application submittal is attached to this staff report.

DISCUSSION

Applicants propose to open the Two Rivers Pit to mine sand and gravel on a 320-acre parcel owned by Jac & Lee Constant off Trujillo Road (County Road 500), at the junction of the San Juan and Rio Blanco rivers approximately 12.5 miles south of the Town of Pagosa Springs, past the Archuleta County Landfill. Colorado Division of Reclamation, Mining & Safety (CDRMS) has approved a permit area limited to 102.6 acres east of CR 500, of which 62.6 acres may be disturbed, primarily east of the river. The mining area is proposed on the bench above the east bank of the river, in an area of mixed forest, scrub and grass. An access road will be constructed to the existing bridge (permitted as an Agricultural structure in 2013) and up a rough agricultural access to the top of the bench, built to the County's "primitive road" standard. Applicants propose to mine about 2 acres of land per year, in a systematic phasing plan, producing about 70,000 tons of construction materials (sand and gravel). Applicants state that areas mined will then be reclaimed following the phasing plan, typically 2-3 years after mining. At no time will mining encroach closer than 200 feet to the Constants' property line, and no closer than 200 feet to the San Juan River. Employee sanitation, over the 30-year pit life, is proposed to be provided with portable toilets and hand-carried water. All equipment, including conveyors, screeners and crushers, would be temporary facilities that move with mine phasing. Applicants mention the possibility of concrete plants and/or hot-mix asphalt facilities on site, however, these are not permitted uses in the Agricultural/Ranching (AR) zoning district. Given the area to be permitted, operations are anticipated to extend 25-30 years; however, there is no reason Applicants cannot increase mining at any time.

The *Archuleta County Community Plan* of 2001 provides guidance for future development. Chapter 2 encourages new development to avoid disrupting environmentally sensitive areas. Policy 8 states "Locate new gravel pits to minimize visual and environmental impacts. Require site reclamation and site mitigation." The Future Land Use Map designates the junction of the San Juan River and the Blanco River for Very Low Density Residential development, with Critical

Wildlife Habitat located southeast of the river. This area is also within the historical boundaries of the Southern Ute Indian Reservation. While the Community Plan is not regulatory, the first review criteria for a CUP is the relationship and impact of the use on development objectives of Archuleta County.

Private property in this area is zoned Agricultural/Ranching (AR). Resource Extraction, Processes and Sales is a Conditional Use in the AR zone. Archuleta County has functionally classified CR 500 from Town Limits to the County Landfill as a Minor Arterial Road; Cascade, Buttress, S. Pagosa Blvd, and Meadows Drive are classified as Major Collector Roads; and CR 500 south of the Landfill is classified as a Rural Access Road; all of which are on the Primary Road network intended to provide primary access to all county users. Cascade was originally accepted for County maintenance in 1991, with initial restrictions established by the Board of County Commissioners on truck traffic related to a nearby gravel pit to reduce public maintenance costs. These restrictions were later lifted. In 2003, a CUP was approved for a smaller gravel operation on a different portion of the Constants' property, but expired after one year without startup. The most recent Sand & Gravel permit in Archuleta County was approved to reclaim an old pit near Arboles (Lee-Crossfire 2014-21).

Submittal requirements for a Conditional Use Permit are outlined in Section 3.2.3.2 of the Land Use Regulations, and for sand, soil and gravel mining operations in Section 9.1.7, including a copy of the application submitted to the Colorado Division of Minerals and Geology—now Colorado Division of Reclamation, Mining & Safety (CDRMS). On September 23, 2015, CDRMS approved Two Rivers Pit application M-2015-004. The Application includes:

- Original submittal accepted by staff in December 2015,
- Two separate supplements to the narrative in January and April 2016,
- Traffic Impact Assessment and offer of mitigation in May 2016.

Several small maps have been provided to illustrate the Applicants' proposal. While certain plans and analysis are required for submittal, they do not easily align with the review criteria in the Land Use Regulations and some interpretation is required. In Item 14 of the original submittal narrative, Applicants provide an Itemized Listing of how their proposal meets the requirements of the *Archuleta County Land Use Regulations*.

Performance Standards for sand, soil or gravel mining are outlined in Section 9.1.6 of the Land Use Regulations.

9.1.6.1 Compatibility with Surrounding Uses:

(1) Applicants believe the proposal complies with this requirement that surrounding areas are primarily agricultural, forestry or industrial. Gravel pits are a permitted use in Agricultural areas. The pit itself, while a 30-year project, will likely only have a few acres disturbed at any one time, and provide a buffer of at least 200 feet from the nearest property line and the San Juan River. However, no permanent screening has been proposed to mitigate impacts. Surrounding uses are primarily agricultural, forestry and tribal lands, although there are also several residences nearby. AE Grether Land & Cattle is located to the north. Diamond T Ranch is located to the east and south, with a home located directly south of the proposed pit. The James Waterman residence is

located to the south on the San Juan River. Pinion Hills Ranch, a 45-lot development, is about ½ mile south of the site. The underlying property is adjacent to tribal fee lands, and the site is within the boundaries of the Southern Ute Indian Tribe lands. Although Applicants' CDRMS permit stated they were working with the SUIT Environmental Office, SUIT Tribal Planning has asked for more time to review the full proposal. Adjacent property owners have objected to the application as submitted.

(2) Truck traffic is a major concern on County Road 500, including both the adequacy of the existing road network and the sufficiency of proposed mitigation. Haul routes would typically be limited to County Primary Roads, such as CR 500 and Pagosa Blvd. Applicants state that, over 25-30 years, a variety of trucks will haul materials from Two Rivers Pit, including single dump trucks, semi-dump trucks, and trucks with pups (tandems), with average haul of 25 tons per vehicle. Applicants initially estimated 120 hauling days per year (no guarantee of limited operations) with average truck traffic of 23.33 trucks per day. Existing traffic counts found 238 ADT on CR 500 at the Landfill, and 157 at the Constant ranch, in June 2014. While the application does not discuss the logistics of tracking truck movement, staff understands the operator intends to have a portable scale in place that can be used for all loaded trucks.

Traffic Impact Assessment

Archuleta County Road & Bridge Design Standards (2005) Sec. 27.0.6.1 states that "Where new development is proposed along existing County roads, the Applicant's proposal shall include an analysis of the projected traffic volumes, along with information on existing road widths, curves, intersections, and surface drainage." Supplemental information provided by the Applicants' engineer, discussed some of these issues on County Road 500 and in the Town of Pagosa Springs. On request of the County Engineer, a full *Traffic Impact Assessment (TIA)* was completed by Roadrunner Engineering, LLC, on May 9, 2016. Using a higher estimate of annual tonnage produced, the study projected 37 Average Daily Trips (ADTs) of truck traffic, 9 passenger car/light truck trips per day, and 1 other single unit truck trip on average. Traffic would be split 72% northbound on Cascade/Buttress/South Pagosa Blvd, 18% through the Town of Pagosa Springs, and the remaining 10% southbound on CR 500. Roadway impacts were evaluated using 18,000 equivalent single axle loading (ESAL) procedures to estimate proportionate share impacts to the roadways. The *TIA* estimates the Two Rivers Pit would account for 34% of traffic on CR 500, and 45% of traffic on S. Pagosa Blvd over 20 years. The Traffic Impact Assessment also analyzed accident records along the haul routes and sight distances on CR 500, proposing three locations for safety improvements.

Although the mining operation will not directly access dense residential or recreational areas, the only direct access to US Hwy 160 is through such areas. County maintained Primary Roads would typically be appropriate haul routes. Applicants are not proposing to use Meadows Drive as a haul route, even though it is a County Primary road, due to the difficulty of accessing US Highway 160 without a stop light. Bristlecone and Capriccio, while also Primary Roads, are not proposed as haul routes, since this route is privately maintained through the Timber Ridge subdivision.

The existing road network is limited. CR 500 is a narrow gravel road, especially south of

the Landfill, and not built to accommodate heavy industrial truck traffic. Closer to Town, the current paving project on CR 500 was not designed for heavy truck traffic, nor were Town of Pagosa Springs streets. Large trucks cannot easily navigate turning movements at intersections in town, such as at S. 8th north of the high school, S. 8th at Highway 160, nor at S. Pagosa Blvd and Highway 160. The Town may be required to update their access permits with CDOT if this proposal is approved. On the primary traffic route, restrictions on Cascade were lifted at some point, but adjacent property owners are very concerned about the existing truck traffic (especially garbage trucks and contractors going to the County Landfill), speeding, and the lack of trails for pedestrians, bikes, horses, etc. No analysis has been provided about the adequacy of the existing gravel on Cascade and Buttress, nor the pavement on S. Pagosa Blvd (County Public Works notes that this asphalt currently shows a limited lifespan). In sum, the existing infrastructure may simply be inadequate to support any new development in the general area.
The County Engineer, Town of Pagosa Springs and Southern Ute Indian Tribe offered detailed comments on traffic impacts (see Agency Reviews below).

(3) Applicants state that visibility of the mining site from adjacent property and the public road will be limited by the sequence of mining operations and terrain, and protected soil stockpiles. This criteria suggests a remote location such as proposed "away from growth centers". A visualization from CR 500 is provided. This may not be sufficient to screen immediately adjacent property—screening pit operations by moving stockpiles is not necessarily an attractive mitigation effort. Adjacent property owner Diamond T Ranch has objected to the proposal.

(4) Applicants state that visibility of equipment will be similarly limited. All processing will be done with portable equipment, including screeners and crushers. No washing or drying is planned. Any equipment left in place for more than one (1) year would be considered permanent, and require additional permit approvals.

(5) Applicants state that noise and vibration will not exceed the performance measures in Section 5.4.2.1, which is about 45db. This provision would apply to impacts on the immediate neighbors from site operations. Noise from truck traffic on haul routes would be subject to the more general County Noise Ordinance (#2003-8A). Monitoring these standards is the responsibility of the developer.

9.1.6.2 Air Quality:

(1) Applicants state they will control dust on access roads, stripped areas, and excavations. The original application includes a copy of a Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division (APCD) Air Pollutant Emission Notice (APEN). Archuleta County and the Town of Pagosa Springs were under sanction by the US Environmental Protection Agency (EPA) for air quality (Particulate Matter "PM" or gravel dust) in the 1970s and 1980s, and have violated state standards several days in five of the past six years. The County Engineer's initial review found that the

increase in traffic from the Two Rivers Pit will exceed the current standard for application of Magnesium Chloride on County Road 500, which is one of the measures the County and Town have taken to avoid noncompliance with EPA standards. The Town of Pagosa Springs also asked for increased dust control on County Road 500 upwind from town. Public comments have requested consideration of dust control along the entirety of the haul routes. Subsequent analysis by the County Public Works Director and County Engineer notes that the extent of the gravel haul routes would require additional gravel, and an additional program for magnesium chloride application, to simply maintain status quo.

(2) Applicants state they will be prepared to increase watering in response to high winds or dust complaints. Comments contend that Applicants have not secured water rights for operations, including controlling dust. Applicants provide information on water management in Exhibit G of their CDMRS application, and have noted that they are confident they can convert existing surface owner water rights, or file for new water rights since the San Juan River is under-appropriated at this location.

(3) Applicants state they will vegetate stripped areas and stockpiles as required.

9.1.6.3 Visual Amenities and Scenic Quality:

(1) Applicants state that no permanent equipment will be located on site. All equipment would be temporary, and move with the phasing plan.

(2) Applicants state that a weed control program will be maintained. NRCS offered review comments on excavation and re-vegetation (noted below).

(3) No landscaping or buffer screening is proposed. Buffers or screening may be necessary to mitigate impacts on adjacent property (See Sec 9.1.6.1(3) above and Sec 5.4 below).

(4) New mining operations "will not be visible along highways." CR 500 is not classified as a highway. The lower ridgeline will block initial operations from view. Operations affecting the upper ridge will be visible from the county road.

(5) The proposed mining operation is not located near any other current operations. As of May 24, 2016, CRMS lists 14 active mining permits in Archuleta County.

9.1.6.4 Crushing, Processing, Batching and Hot Mix Operations:

(1) Colorado Dept. of Public Health and Environment (CDPHE) permits may be required for processing equipment. The application includes a copy of Applicants' Air Pollutant Emission Notice (APEN) permit.

(2) Applicants state that visual impacts from equipment to adjacent residences will be mitigated, as provided in 9.1.6.1(3) above.

(3) No operations will take place in the floodplain. The existing bridge received a permit with floodplain review previously.

(4) Applicants state that any recirculation ponds associated with processing equipment will be lined or use enclosed tanks, but does not specify how this requirement will be met.

(5) Applicants state that stationary sources will meet CDPHE standards.

(6) While the Land Use Regulations require submission of CDPHE inspections of batch plants, Applicants state that no inspections are currently required.

The following two sections are listed under Sec. 9.1.6.4, but apply to all of the above review criteria:

(7) Applicants anticipate operations will last greater than 20 years. The maximum County Sand & Gravel permit term is 20 years, with at least a 5-year review. A lesser term may be necessary based on compatibility and size of the project. Any major changes would require a new Sand & Gravel Permit review.

(8) Applicants agree to provide a copy of their DRMS bond. The Land Use Regulations require a performance guarantee, in addition to this bond, to assure compliance with local conditions. A similar requirement for Oil & Gas permits provides that the form of the guarantee is to be approved by the County Attorney.

A Conditional Use must also meet the development standards in Section 5. Relevant sections include:

5.2 Environmental Standards: Provisions shall be made to preserve natural features of the site (5.2.1.1) and archeological, cultural or historical resources (5.2.1.2). Mining will obliterate the upper ridge line. Applicants address Historic and Cultural Resources in Exhibit M of their CDMRS application. There are known to be historic wagon roads in the vicinity, but no evidence of an on-site assessment was provided.
Applicants provide information on water management in Exhibit G of their CDMRS application. Disturbance of more than one acre requires a Colorado Discharge Permit System (CDPS) storm water discharge permit (5.2.1.3). The aquifer is approximately 500 feet below surface, so there should not be a need for pumping. No additional site disturbance is proposed in wetlands (5.2.1.5) or floodplain (5.2.2.3). Post-mining, the land will be reclaimed with maximum 3:1 slopes.
The Wildlife Habitat Overlay provided in Sec. 5.2.1.6 is not defined; therefore, no specific standard for impacts on wildlife would apply to this application outside general Conditional Use Permit criteria (3.2.3.4(6)). Applicants address wildlife issues in Exhibit H of their CDMRS application. The neighboring Diamond T Ranch did offer extensive

comments from a consulting biologist on wildlife impacts. The Future Land Use Map in the *Community Plan* does not show the site within a major Wildlife Corridor.

5.3 Infrastructure Standards: This tract of land is split by County Road 500. A County Road & Bridge Access Permit will be required (5.3.2). Road improvements (on site or off-site) must be comply with the *Road & Bridge Design Standards* and be approved by the County Engineer (5.3.3). Unless waived by the County Engineer, a Drainage Study is required (5.3.4); discussion of drainage is included in application material and April submittal; however, more detailed information will be required.
Applicants' engineer evaluated the bridge, which was permitted as an agricultural structure, and found the bridge to be property designed and constructed for use by trucks and other equipment property loaded. Applicants' revised Engineering Report states that the on-site access will meet Archuleta County's "Primitive Road" standards; however, detailed plans were not submitted.

5.4 Site Development Standards: Section 5.3.7 provides for Sewage Facilities. Portable toilets are typically limited to temporary operations, not used for a 30-year project. It may be necessary to provide permanent sanitary facilities with water and onsite sewage treatment. All mining operations shall comply with Industrial Performance standards in Section 5.4.2, including the volume of sound generated, vibration, smoke, particulate, heat and fumes. (See 9.1.6.1(5) above).
Storage of flammable materials must meet Fire Code requirements. All outdoor storage, including equipment not moved at least every 24 hours, must be screened from adjacent properties and roads. Any lighting must meet the "Dark Sky" provisions (5.4.4). Buffers or screening may be necessary to mitigate impacts on adjacent property, with standards suggested in the Land Use Regulations (5.4.6).

In addition to the specific standards of the Land Use Regulations, there are additional review criteria for a CUP in Section 3.2.3.4 to consider:

(1) The relationship and impact of the use on the development objectives of Archuleta County.
(2) The effect of the use on light and air, distribution of population, transportation facilities, utilities, schools, parks and recreation facilities, and other public facilities.
(3) The effect of the use upon traffic, with particular reference to congestion, vehicular and pedestrian circulation, safety and convenience, traffic flow and control, access, maneuverability, and removal of snow from the roads, sidewalks and parking areas.
(4) The effect of the use upon the character of the area in which the proposed use is to be located, including the scale and bulk of the proposed use in relation to surrounding uses.
(5) The adequacy of the design features of the site to accommodate the proposed use, including but not limited to accessibility, service areas, parking, loading, landscaping and buffering, lighting, etc.
(6) The effect of the use upon the natural resources and wildlife habitat areas.
(7) Such other factors and criteria as the Planning Commission and the Board of County Commissioners deems applicable to the proposed use.

Before acting on the application, the Board must make necessary findings under Section 3.2.3.5:

(1) That the proposed location of the use, the proposed access to the site, and the conditions under which the use would be operated or maintained will not be detrimental to the public health, safety, or welfare, or materially injurious to properties or improvements in the vicinity.

(2) That, if required by the proposed use, there are adequate and available utilities and public services to service the proposed use, without reduction in the adequacy of services to other existing uses. These utilities and public services may include, but are not necessarily limited to, sewage and waste disposal, water, electricity, law enforcement, and fire protection.

(3) That the proposed use will be compatible with adjacent uses, including but not limited to site design and operating factors, such as the control of any adverse impacts including noise, dust, odor, vibration, exterior lighting, traffic generation, hours of operation, public safety, etc.

On the 13th of May, Applicants made a revised offer for mitigation of impacts, which they value at approximately $1,030,000 over 20 years, including:

- Archuleta County to receive 5,000 ton credit, material of choice, as up-front payment for 5 years of impacts to roads.
- Three (3) year contract to provide road base at $5.00 per ton loaded or $4.00 per ton stockpiled.
- First three (3) years C&J Gravel to pay $0.50 per ton mitigation fee. After the 3rd year, $0.37 per ton.
- C&J to pay for and install safety lights described in the *TIA*, approximately $25,000 cost.

AGENCY REVIEWS

The project was forwarded for agency reviews, as specified in Section 2.2.5. Comments received include:

- County Engineering initially requested a formal Traffic Study, with concerns noted above in discussion of Sec. 9.1.6.1(2) performance standards. The *Traffic Impact Assessment* (*TIA*) confirmed the proposed gravel pit would impact the County road system, with mitigation offered. County Engineering also noted that more detailed plans are necessary to approve the proposed access roads, as well as a full drainage report to County standards. Regarding Air Quality Control, due to the Applicants' increase in traffic, the Engineering Department will require Applicant to participate in the annual Magnesium Chloride program for the 3.2 miles of County Road 500 between the Landfill and the proposed gravel pit. The current cost to the public is $3,063 per mile.
- The County Public Works Director and County Engineer provided additional analysis for questions raised at the Planning Commission's public hearing. The road system identified to support the proposed project does not meet infrastructure standards. One typical loaded gravel truck does about the same damage to pavement as 2,156 cars. An asphalt road designed to last 20 years with moderate traffic would last a little over five years with regular daily traffic as proposed in the Traffic Impact Assessment. The

analysis discussed potential mitigation to address the likely impacts to the transportation system over a 20 year permit. This is not intended to inform the discussion, and is not a formal statement of required mitigation.

- The County Building Official reviewed the Fire Safety Plan, since the site is not located in a Fire District. Access must comply with 2009 International Fire Code Sec. 503.2.6 Bridges and Elevated Surfaces.
- The Army Corps of Engineers stated their jurisdiction would only apply if additional work is done on the river or wetlands.
- USDA NRCS provided comments on stockpiling topsoil, re-vegetation, and other considerations.
- The Town of Pagosa Springs Planning Director provided several concerns with heavy truck traffic, both in January and May 2016 (also noted above in Sec. 9.1.6.1(2)), and met with both the Applicant and County Staff. S. 8th and Apache Street are primarily residential streets, not designed for heavy truck traffic. Proposed gravel traffic would also impact the newly paved portion of CR 500. Signal Warrant Analysis should also include Pagosa Blvd and Highway 160 (inside Town limits). Operations should avoid downtown during morning and afternoon school bus traffic. The Town is also concerned with air quality, and is requesting frequent (at least monthly) application of dust control on at least the closest 3 miles of the gravel portion of CR 500, to reduce impacts of wind-borne particulate downtown. If the proposal is approved, the Town Council may consider an ordinance to require permits for trucks of certain size and weight.
- The Chairman of the Southern Ute Indian Tribe and Tribal Planning offered detailed comments on the application. There are concerns with impacts on wildlife and water quality, air quality, cultural investigations, construction and project management, and traffic impacts. Runoff must be contained on site and not impact the ditch or San Juan River. The Tribe also noted that the Traffic Impact Assessment did not address any potential traffic impacts on SUIT routes. "At this time, the Tribe believes more information is required before the project is continued."

Many members of the public have contacted the Development Services Department since January regarding this application. Concerns of immediately neighboring property owners include compatibility of pit operations, truck traffic, and impacts on wildlife. Representatives of adjacent property owner Diamond T Ranch submitted extensive comments in objection. The majority of concerns received regarded impacts of proposed haul routes on the Primary Roads through developed subdivisions, including current substandard conditions of these roads, dust/PM air quality and traffic safety. Residents on the gravel portion of the haul routes, in particular Cascade and Buttress, would bear the brunt of traffic and dust from increased traffic. Many residents apparently were unware of the function of the County Road Network to provide access to all members of the public. Several members of the public provided detailed critiques of the application and supplemental materials. Support for the project was also received, citing the need for gravel and construction materials without driving from Durango, and in support of private property rights.

In summary, Applicants have submitted application materials as required by the *Archuleta County Land Use Regulations*, including a copy of the CDRMS application which has been

approved by the State. Applicants have explained how they believe their operations and phasing meets requirements for mitigating impacts on adjacent property. Primary concerns center on the first two Performance Standards:

- Compatibility of the site with surrounding uses;
- Adequacy of existing access for sand and gravel traffic, and if "such traffic will be mitigated".

At a special meeting on June 8, 2016, the Archuleta County Planning Commission held a public hearing, with presentations by the Applicants, and received public comments that included group presentations from representatives of the Diamond T Ranch and residents of Meadows Subdivision, and individual testimony in support and objection. Applicants were provided an opportunity for rebuttal. The Archuleta County Planning Commission then voted unanimously (5-0) to recommend disapproval of the application, finding that the Applicant has not met the Land Use Performance Standards by not providing mitigation that adequately addresses the impact on the roads, and the nature of the community, that is required in Sec. 9.1.6.1(1) and 9.1.6.1(2).

RECOMMENDATION AND FINDINGS

If the Board concludes that, based on evidence provided the Applicants have met the goals and objectives of the Land Use Regulations, then **staff would recommend the Board of County Commissioners find that:**

a. The application does meet the performance standards for a Major Sand & Gravel Permit, in Section 9.1.6 of the *Archuleta County Land Use Regulations*, and
b. The application does meet the review criteria for a Conditional Use Permit, in Section 3.2.3.4 of the *Archuleta County Land Use Regulations*, and
c. The application does meet the required findings for a Conditional Use Permit in Section 3.2.3.5 of the *Archuleta County Land Use Regulations*, and

That the Board approves the Two Rivers Gravel Pit Major Sand & Gravel Permit, located at 12500 County Road 500, with the following conditions:

1. This Major Sand & Gravel Permit shall be valid for no longer than twenty (20) years without a full renewal.
2. This Permit will be reviewed at the end of the 2018 construction season—Applicant shall submit a Conditional Use Permit application by December 31, 2018, demonstrating how the Applicants have complied with all conditions of approval, the *Archuleta County Land Use Regulations*, and the *Archuleta County Road & Bridge Design Standards*. No operations would be further authorized until this CUP or a new Sand & Gravel Permit is approved.
3. Location of concrete plants and/or hot-mix asphalt facilities are not permitted in the A/R zone.
4. Applicants shall submit a detailed Site Development Plan, meeting the requirements of Sec. 3.2.3.2(3) of the *Archuleta County Land Use Regulations*, for review and approval by Archuleta County Development Services, prior to any development on the property.

5. Applicants shall submit full Construction Drawings (24”x36”), signed and sealed by a Professional Engineer, for onsite access built to *Archuleta County Road & Bridge Design Standards*, for review and approval by the Archuleta County Engineer prior to any development on the property.
6. Applicants shall submit a Drainage Study meeting the requirements of Sec. 5.3.4 of the Land Use Regulations for historic and developed runoff, including calculations on retention basin volume, for review and approval by the County Engineer.
7. Applicants shall submit proof of an approved Colorado Discharge Permits System (CDPS) or National Pollutant Discharge Elimination System (NPDES) permit (or equivalent) prior to beginning operations.
8. Applicants shall provide permanent sanitary facilities with water and onsite sewage treatment, to be approved by Archuleta County Development Services and San Juan Basin Environmental Health.
9. An enhanced buffer and screening shall be provided along the Southern property line in the pit permit area, starting no closer than 25’ to the property line, and to a permanent height sufficient to screen the view from the Diamond T Ranch residence of any pit operations, as provided in Sec. 5.4.6.3 of the Land Use Regulations.
10. The bridge and traffic control shall be maintained as recommended by Applicants’ engineer in the application material.
11. Operations shall be limited to Monday-Saturday, 7am – 7pm, or daylight hours.
12. Haul Routes shall be limited to County Primary Roads included in the Traffic Impact Assessment—CR 500 and Cascade/Buttress/S. Pagosa Blvd—and those streets approved by the Town of Pagosa Springs Planning Department, then by the most direct route to destination. Archuleta County Development Services may approve alternate haul routes with advance request in writing.
13. Applicant will create a delivery zone map, as recommended by the Town of Pagosa Springs.
14. All trucks shall be weighed on scales prior to leaving the site, stating weight loaded, which haul route they used to access the site, destination of their load and which haul route they will use to make delivery. Records of trips and Haul Routes used shall be maintained and provided to Archuleta County Development Services on request.
15. Applicants shall participate in the County Road & Bridge annual Magnesium Chloride application program, for the 3.2 mile portion of County Road 500 between the Landfill and the gravel pit property.
16. Applicants shall work with County Road & Bridge and the Town of Pagosa Springs to provide supplemental dust suppression as necessary, up to once a month, on the three (3) miles of County Road 500 south of the paved portion of the road.
17. Reclamation shall follow USDA NRCS comments as provided.
18. Applicants shall apply for a Development Agreement for review by the County Attorney and approval by the Board of County Commissioners, specifying the form of acceptance of the offer of mitigation.
19. The County shall hire a qualified Civil Engineer, at Applicants’ expense, to determine more specific impacts on paved roads, and additional mitigation for inclusion in the Development Agreement.

20. The Board of County Commissioners will require a performance guarantee as part of the Development Agreement in addition to the bond required by the CDRMS, to insure that conditions of the permit will be complied with, as provided by Sec 9.1.6.4(8) of the *Archuleta County Land Use Regulations*.

If the Board concludes that, based on evidence provided the Applicants have **NOT** met the goals and objectives of the Land Use Regulations, then **staff would recommend the Board of County Commissioners find that:**

a. The application does NOT meet the performance standards for a Major Sand & Gravel Permit, in Section 9.1.6 of the *Archuleta County Land Use Regulations*, and
b. The application does NOT meet the review criteria for a Conditional Use Permit, in Section 3.2.3.4 of the *Archuleta County Land Use Regulations*, OR
c. The application does NOT meet the required findings for a Conditional Use Permit in Section 3.2.3.5 of the *Archuleta County Land Use Regulations*, and

That the Board of County Commissioners DENIES the Two Rivers Gravel Pit Major Sand & Gravel Permit, for reasons including the following considerations:

1. The Application is not compatible with surrounding non-agricultural uses, as required by Sec. 9.1.6.1(1).
2. Upon review by the County Engineer, mitigation for truck traffic through residential, recreational or commercial areas has not been adequately addressed, as required by Sec. 9.1.6.1(2).
3. Impacts of the site and processing equipment on adjacent surrounding residences is not mitigated to the extent reasonably possible, as required by Sec. 9.1.6.1(3), 9.1.6.3 and 9.1.6.4.
4. Air quality impacts of dust from the site or public and private access roads have not been adequately mitigated, as required by sec. 9.1.6.2 and 9.1.6.4.
5. The Application does not meet the Environmental Standards in Section 5.2.
6. The Application does not meet the Infrastructure Standards in Section 5.3.
7. The Application does not meet the Site Development Standards in Section 5.4.

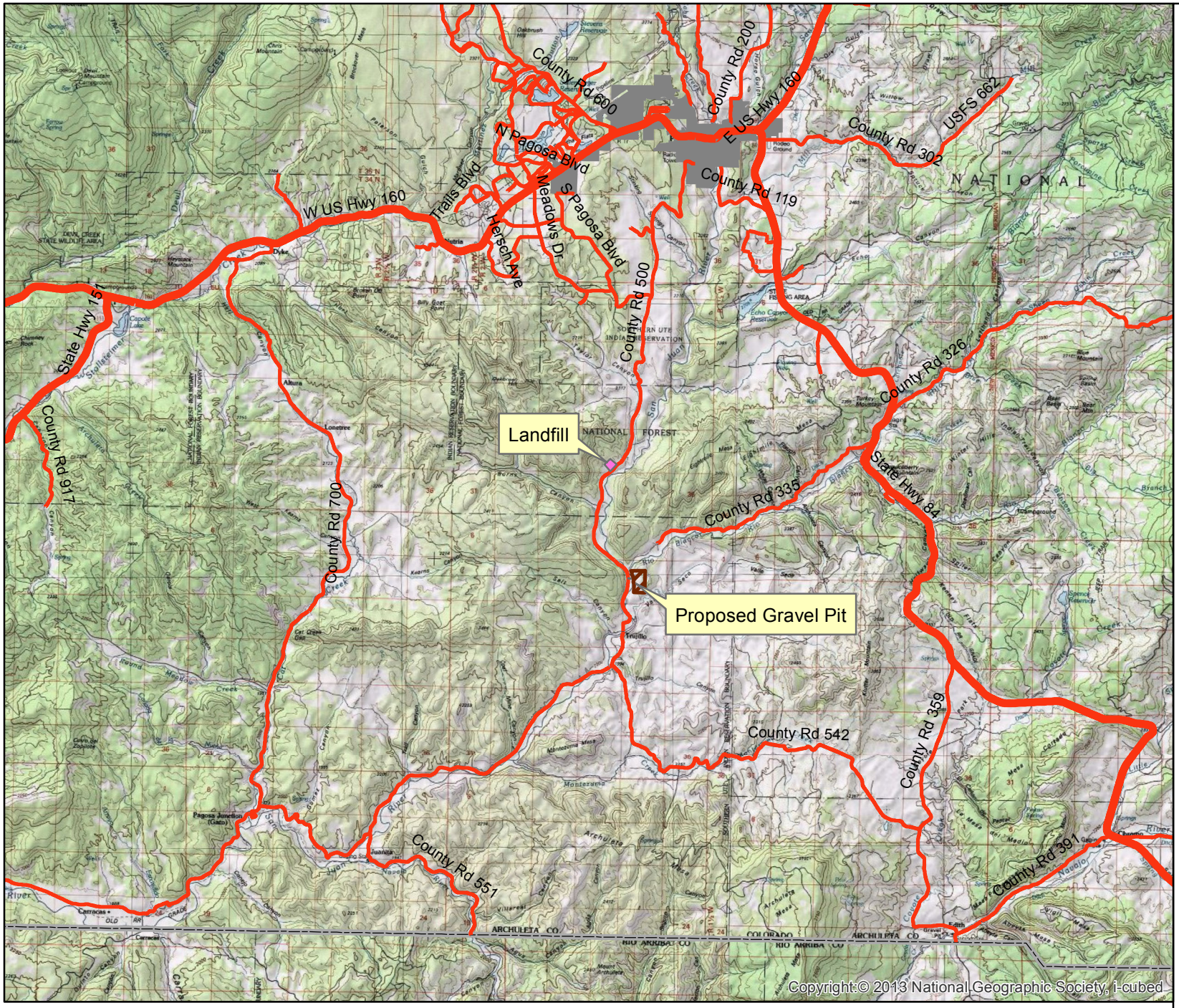
PROPOSED MOTIONS

I move to Approve the Two Rivers Gravel Pit Major Sand & Gravel Permit, with Findings A, B and C, and conditions 1-20 **of the staff report.**

Or: **I move to DENY the Two Rivers Gravel Pit Major Sand & Gravel Permit, with Disapproval Findings [**A/B/C**], and** considerations 1, 2, 3, 4, 5, 6, 7 **of the staff report.**

ATTACHMENTS.

Attachment 1: Area Maps
Attachment 2: Agency Review
Attachment 3: Public Comment
Attachment 4: Applicant Narrative as Revised (1/29/16) and Addendum (4/29/16)
Attachment 5: DRMS Reclamation Permit 2015-004 (1/23/15)
Attachment 6: Traffic Impact Assessment (5/09/16)
Attachment 7: Applicant Mitigation Proposal (5/13/16)
Attachment 8: Applicant Submittal at Planning Commission Hearing (6/08/16)



Location Map

Two Rivers Pit
Major Sand & Gravel
Permit
2015-035SG

Legend

- Highway
- Primary Road
- Landfill
- Gravel Pit Area

N

1 0.5 0 1 Miles

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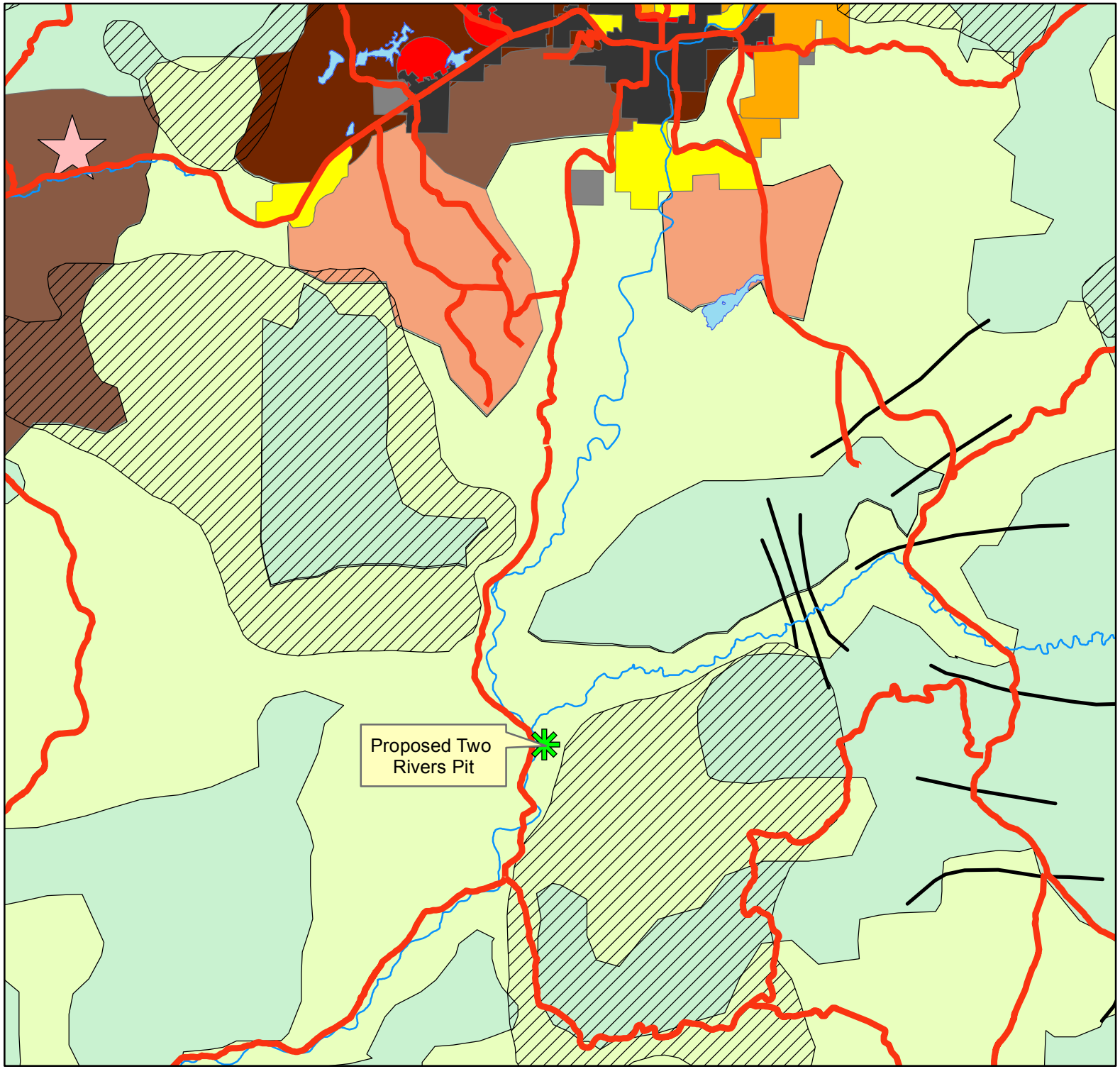
Archuleta County Development Services
11Jan2016

Archuleta County Community Plan Detail: Future Land Use



Legend

- Major Roads
- Rivers & Streams
- Lakes
- Critical Wildlife Habitat
- Migration Corridor
- Pagosa (2009)
- Tier 1
- Tier 2
- Industrial Park
- Commercial Area

Future Landuse

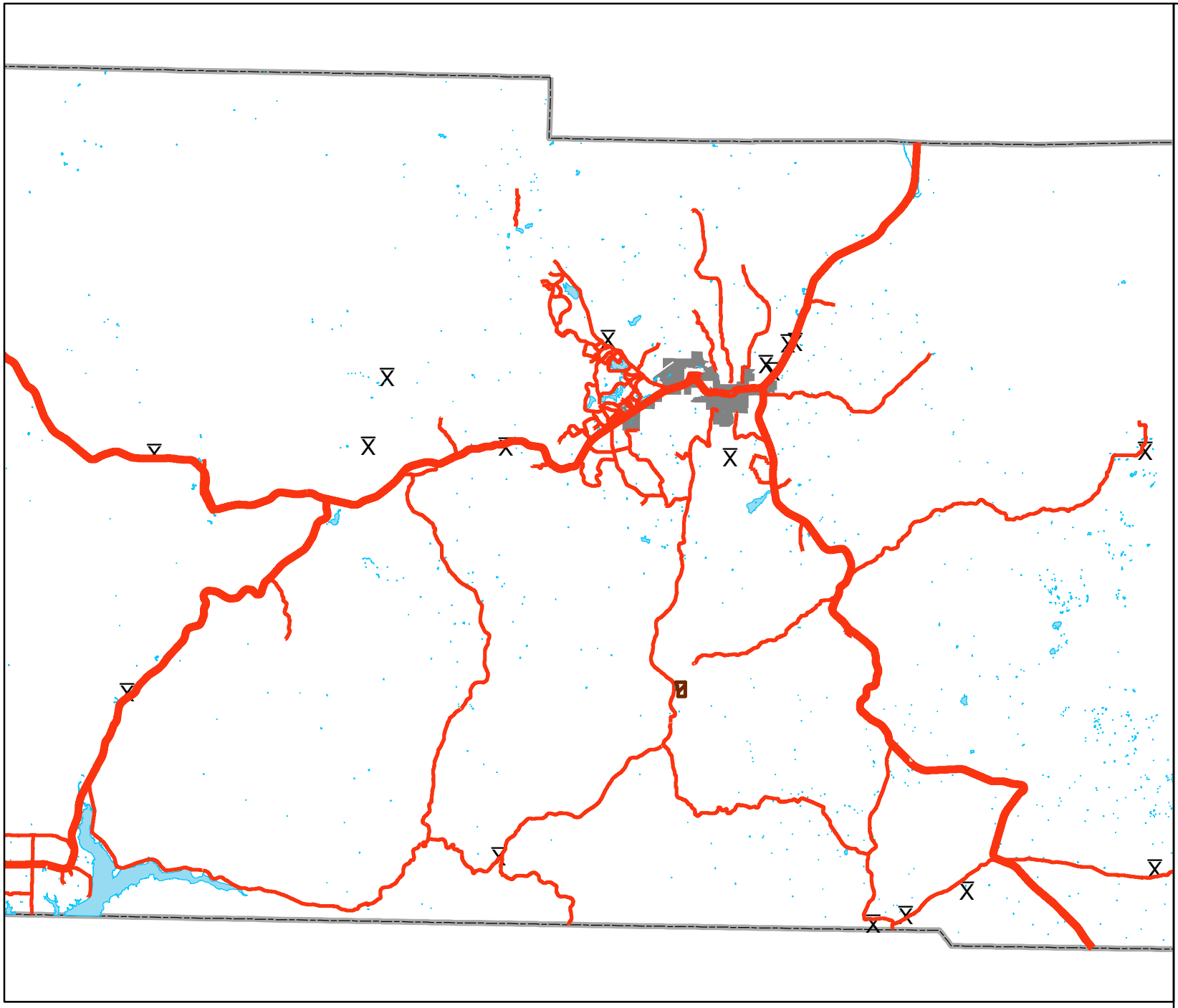
- High density residential
- Medium density residential
- Low density residential
- Very low density residential
- Public land
- Village Center

N
W E
S

Detail of map developed 21 Sept 2011

Archuleta County Development Services
16 June 2016

1.5 0.75 0 1.5 Miles



Site Map

Two Rivers Pit
Major Sand & Gravel
Permit
2015-035SG

Legend

- Highway
- Primary Road
- Active DRMS Permits
- Archuleta County
- Gravel Pit Area

N

2 1 0 2 Miles

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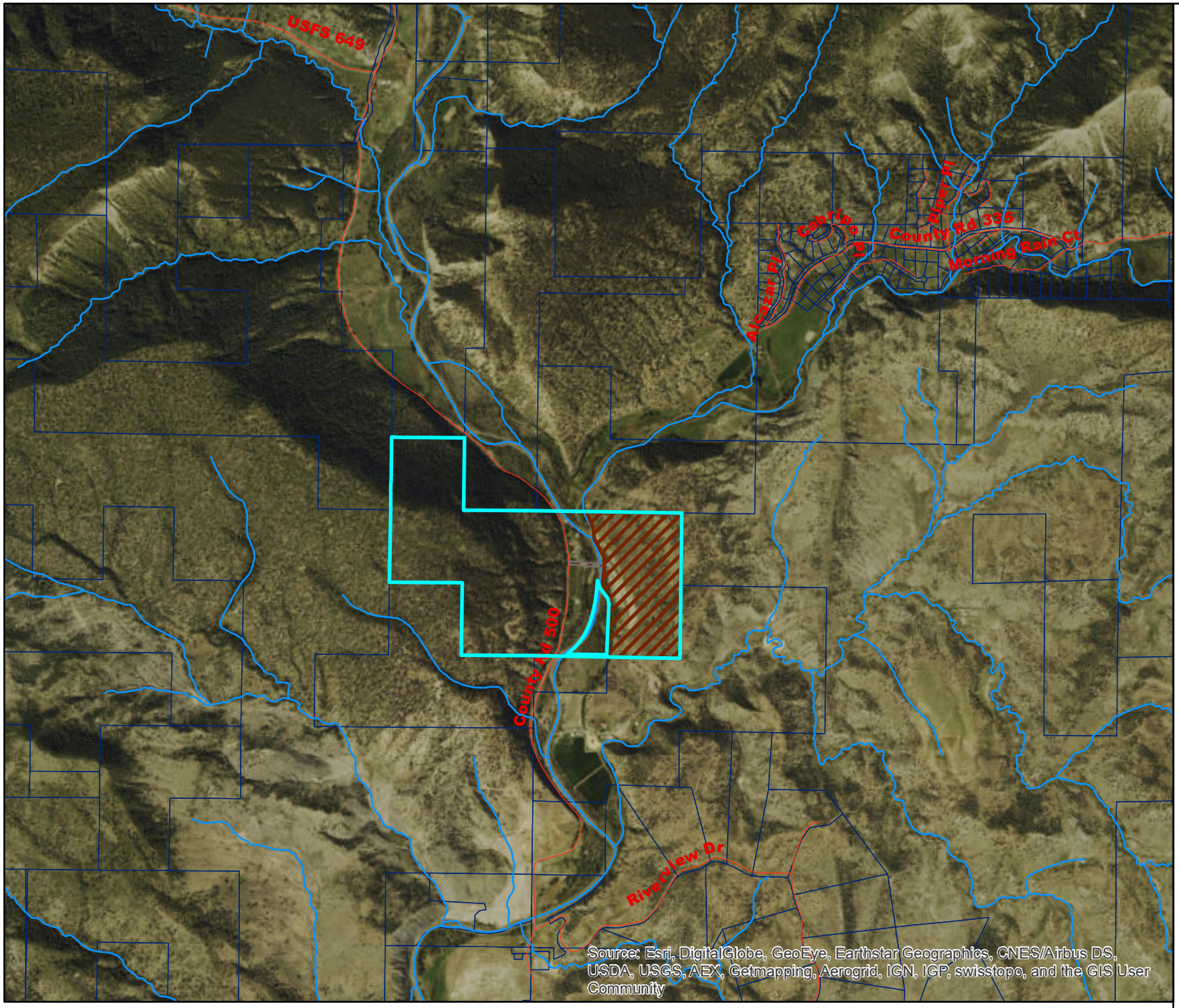
Archuleta County Development Services
06June2016



Site Map

Two Rivers Pit
Major Sand & Gravel Permit
2015-035SG

Legend

- Roads
- Rivers
- Parcels
- Project Location
- Gravel Pit Area

N

1,000 500 0 1,000 Feet

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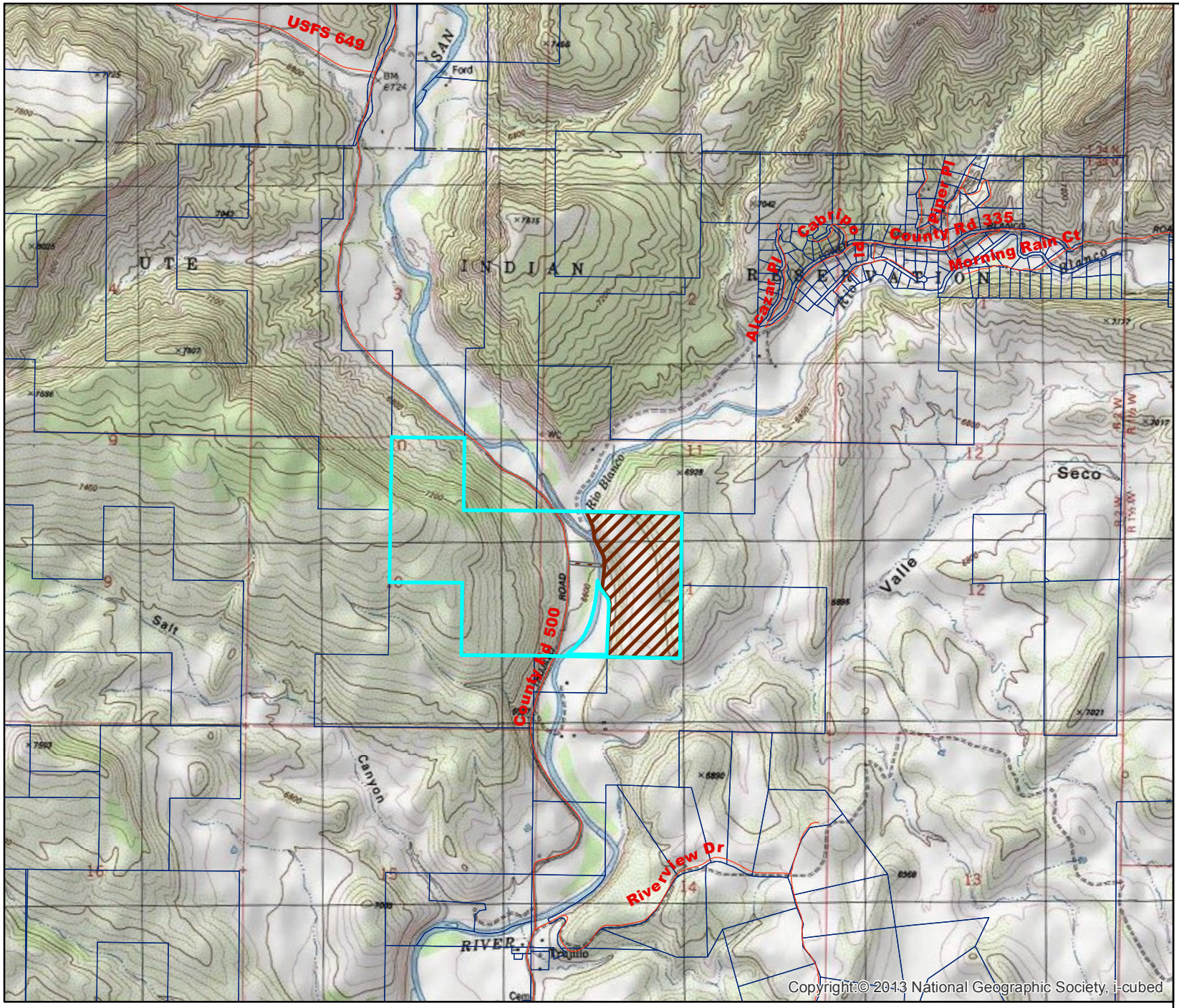
Archuleta County Development Services
11Jan2016



Site Map

Two Rivers Pit
Major Sand & Gravel
Permit
2015-035SG

Legend

- Roads
- Parcels
- Project Location
- Gravel Pit Area

N

1,000500 0 1,000 Feet

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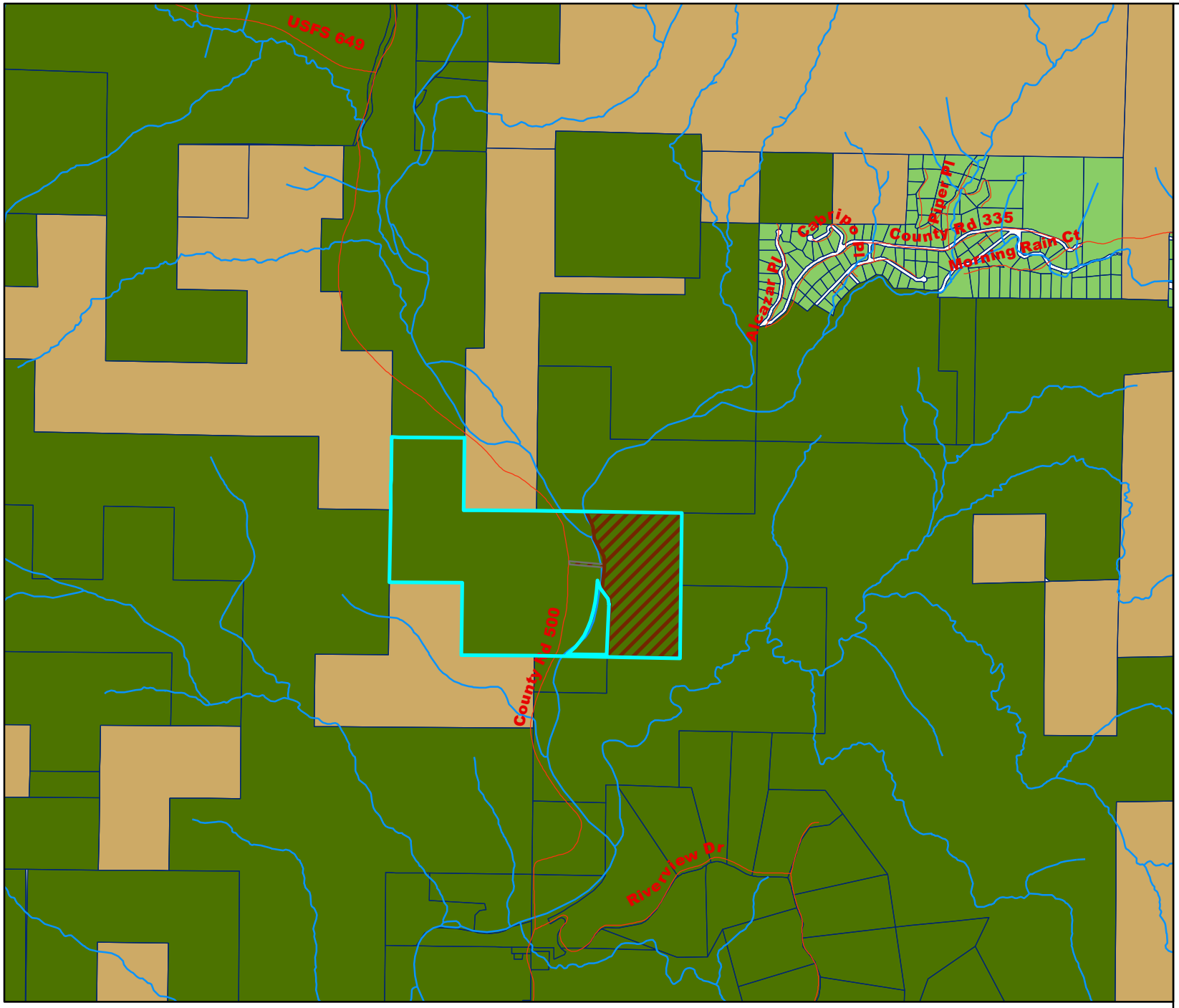
Archuleta County Development Services
11Jan2016



Site Map

Two Rivers Pit
Major Sand & Gravel
Permit
2015-035SG

Legend

- Roads
- Rivers
- Parcels

Zoning Map 2011

Zoning Districts

- Agriculture Forestry (AF)
- Agriculture Ranching (AR)
- Agricultural Estate (AE)
- Rural Residential (RR)
- Residential (R)
- Mobile Home Park (MHP)
- Commercial (C)
- Industrial (I)
- PUD
- Project Location
- Gravel Pit Area

N

1,000500 0 1,000 Feet

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Archuleta County Development Services
11Jan2016

ARCHULETA COUNTY

PUBLIC WORKS DIVISION

To: John Shepard, AICP
Planning Manager

From: Susan Goebel-Canning, PE
Public Works Director

Date: Two Rivers Gravel Pit Conditions

Subject: June 17, 2016

The County has interest in a local operation which can provide a sufficient source of quality hard gravel in Archuleta County. In order to not negatively impact the road infrastructure, the location of such operation must be in an area that has an adequate road system capable of supporting the heavy trucks carrying gravel. The Archuleta County road system identified to support the proposed Two Rivers Gravel Pit project does not meet such standards.

The County Engineer, Robert Perry, has provided an assessment of the impact of the proposed Two Rivers project on CR 500. Mr. Perry's findings indicate that the existing road system is currently strained under present day conditions and allowing trucks to route gravel through this road network would cause severe damage and significantly shorten its lifespan. The analysis was performed using an Equivalent Single Axle Load (ESAL) comparison. This recognized engineering practice compares damage to the pavement caused by various vehicles and its loading with the damage done by single axle loads with one tire on each end. An increase in weight typically can cause an increase in road damage by an exponential factor of four. In other words, doubling the weight will cause 16 times more road damage. **The analysis showed that one ten yard gravel truck is expected to do the same damage to the pavement as 2156 cars. The project proposes 20 loaded truck trips.** Note: Pavement, tire and axle configurations as well as weight, frequency, speed, radii, acceleration and deceleration are variables that will have an effect on the road damage.

A recent Average Daily Traffic (ADT) count on South Pagosa Blvd showed 841 vehicles where an average of 16 vehicles per day were truck type vehicles. An asphalt road is typically designed to last 20 years with moderate car traffic and infrequent local truck, garbage truck and school bus traffic. This same road will only last a little over five years with regular daily traffic from 40 ten yard gravel trucks per day.

The current state of South Pagosa Blvd shows it has a limited lifespan. Part of the road is beginning to fail and the best sections may only last another seven years. Recent construction costs show that it will cost approximately six million dollars to construct South Pagosa Blvd to a level capable of supporting the proposed Two Rivers truck traffic. When considering Archuleta County's level of road service and current lifespan with the impacts of the Two Rivers project it is estimated that $2.5 million in mitigation is needed in order to meet the level of service required to support the project.

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Cascade, Buttress and CR500 are gravel roads and will require additional gravel beyond the service level currently provided by the county to maintain these roads. Furthermore, additional magnesium chloride treatments are needed to abate the dust that will develop under heavy truck loads. The magnesium chloride will cost $4850 per mile for materials and to apply. It is anticipated that 3-4 applications per year will be required on those roads depending weather. When considering Archuleta County's Mag program, the additional cost to mitigate the impacts of the Two Rivers project is estimated at $146,713 per year. Additionally, a distributer truck would be needed to perform magnesium chloride treatments outside the county's normal Mag cycle.

The Two Rivers project will also increase the need to replace gravel along the nine miles of gravel road in route to the project site. This volume is estimated that 4000 tons per year. Additionally, certain corridors along CR 500 do not have sufficient gravel to support truck traffic and it is estimated that 18,500 tons of gravel must be placed prior to beginning trucking operations.

In order to accommodate the gravel project, the following must be provided by the applicant:

- **$125,000 for pavement maintenance per year**
- **$146,713 per year for magnesium chloride supply and application.**
- **4000 tons of gravel per year**
- **18,500 tons of gravel, one time, upfront**
- **One distributer truck, one time, upfront**

The county may consider accepting gravel in lieu of cash. However, gravel tonnage will be estimated based upon the county's bid price for gravel each year.

ARCHULETA COUNTY *ENGINEERING DEPARTMENT*
ROBERT PERRY PE.

Board of County Commissioners **6/17/16**

Ref: Impact of Gravel Trucks on County Roads

Commissioners,

As an engineer I understand the vital importance of having a good supply of hard gravel in Archuleta County, not just in one location but hopefully several locations. However, as the Archuleta County Engineer, I also have the important responsibility of assessing the impact of gravel haul trucks on our already strained roadway system. The concern is the concentration of gravel haul trucks on CR-500, Cascade, Buttress and South Pagosa, prior to dispersing them after they access Hwy 160. Beyond this point, the gravel, concrete, asphalt etc will be delivered to construction sites whether this pit is approved or not.

With all of the technical jargon about ESALS and ATD's etc. this letter is to clarify and quantify the information without the spin that has been offered by various parties about gravel trucks on our county roads.

With clarity in mind, it is not the wheel load but rather the damage to the pavement caused by the wheel load that is of primary concern. The most common historical approach is to convert damage from wheel loads (developed by field data) of various magnitudes and repetitions to damage from an equivalent number of standard loads. The most commonly used equivalent load in the U.S. is the 18,000 lb. equivalent single axle load (normally designated ESAL). The key word here is SINGLE. These are single axle loads with one tire on each end, not multiple axles or multiple tire loads.

The relationship between axle weight and inflicted pavement damage is NOT linear. For example **a 4,000 lb. single axle load will cause 16 times the damage of a 2,000 lb. single axle load which is approximately an exponential factor of four** and that exponential factor of four holds up fairly closely throughout the calculations of ESALs for the normal range of vehicle load weights. With this in mind, an 18,000 lb. single axle load (the base loading unit of 1 ESAL) causes 3,000 times more damage to a pavement than a 2,000 lb. single axle load. (thus the load equivalency factor for a 2000 lb. single axle load is 0.0003 ESAL)

In Table 1 listed below you will find some typical Load Equivalency Factors and can see that pavement type, tandem axles and dual tire configuration can greatly affect the ESAL rating and thus reduce the damage to the pavement. This is why

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we see so many dual tire tandem axle configurations on trucks as this configuration is the best configuration for reducing damage to the pavement.

We will only deal with flexible pavement (Asphalt) and not rigid pavement (Concrete) in our analysis for obvious reasons, and most of the emphasis will be on tandem axle dump trucks and semi type trucks that haul gravel rather than two axle garbage trucks, delivery trucks and school buses.

Table 1. Some Typical Load Equivalency Factors

Axle Type (lbs)	Axle Load		Load Equivalency Factor (from AASHTO, 1993)	
	(kN)	(lbs)	Flexible	Rigid
Single axle	8.9	2,000	0.0003	0.0002
	44.5	10,000	0.118	0.082
	62.3	14,000	0.399	0.341
	80.0	18,000	1.000	1.000
	89.0	20,000	1.4	1.57
	133.4	30,000	7.9	8.28
Tandem axle	8.9	2,000	0.0001	0.0001
	44.5	10,000	0.011	0.013
	62.3	14,000	0.042	0.048
	80.0	18,000	0.109	0.133
	89.0	20,000	0.162	0.206
	133.4	30,000	0.703	1.14
	151.2	34,000	1.11	1.92
	177.9	40,000	2.06	3.74
	222.4	50,000	5.03	9.07

The table below converts some of the information in Table 1 to more relatable vehicles.

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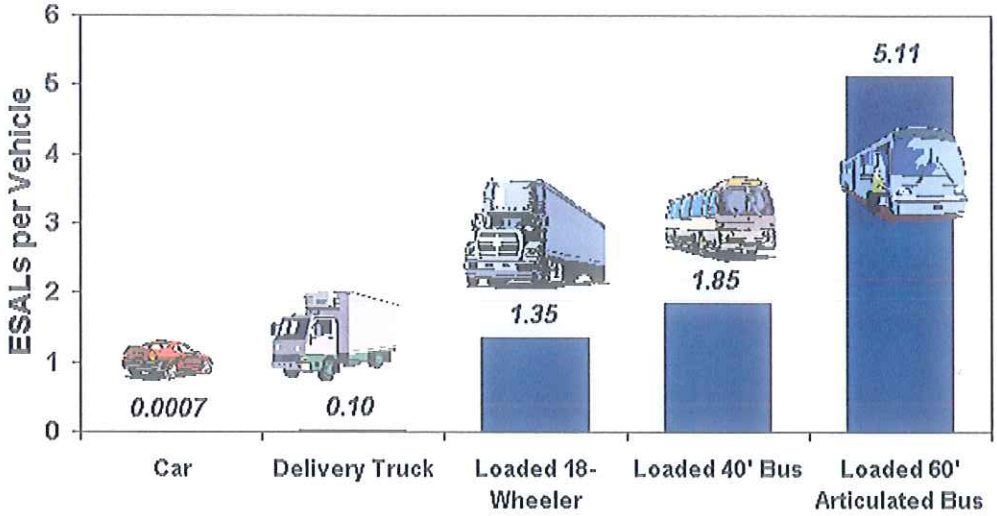

Figure 8: Some typical Load Equivalency Factors

Some of the numbers don't seem to match, for example the car. It is listed at 0.0007 ESALs. That is because it has two axles and weighs more closely to 4,000 lbs, thus 0.000333x2 = 0.000666 or 0.0007 rounded off.
A 10 yd dump truck will have a 34,000 lbs tandem axle rating of 1.11 ESALs plus the 14,000 lb. front single axle rating of 0.399 for a total of 1.509 ESALs

With this information, we can take the ESAL loading and do the following calculation 1.509/0.0007 = 2156 which **means that one ten yard gravel truck does the same damage to the pavement as 2156 cars**. Consider that the Average Daily Traffic (ADT) on South Pagosa in a traffic count completed by Archuleta County personnel on 5/20/16 through 5/25/16 was 841 on the highest day. Of that traffic, an average of 16 vehicles per day was either tandem or semi-truck type vehicles. Half of these trucks did not travel on Cascade, so were most likely local delivery trucks. The weight of these trucks is unknown and as seen in the tables above, weight can and does have a crippling impact on road pavement as does frequency of the load application. Low speed applications of the load have greater impact than high speed applications, and sharp corners, acceleration and deceleration are added impacts. Most garbage trucks are in the same ESAL category as school buses and local delivery trucks so will be considered as necessary traffic and irrelevant to this analysis.

An asphalt road designed to last 20 years with moderate car traffic and some local truck, garbage truck & school bus traffic will only last 5.3 years with regular daily traffic from 40 ten yard gravel trucks per day with the most impact in the lane carrying the loaded trucks. The pavement on South Pagosa is anywhere from 1 inch to 8 inches thick and the underlying base is unknown, so it is not

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constructed to last anywhere near another 20 years. The weaker portions of the road are already failing, and the best sections may last another 5-7 years without the gravel truck traffic, depending on the underlying base. Based on cost of Piedra Road full depth resurfacing plus inflation, the cost to resurface 3.5 miles of South Pagosa & Buttress with a pavement and base structure that will support gravel truck traffic will be about 5-7 million dollars. South Pagosa is already deteriorated in many places, does not have a typical cross section and will need major reconstructive effort even without the gravel pit traffic. If we allow gravel trucks to use this road, some sections will need to be replaced almost immediately and the best sections probably within three years. So the gravel truck traffic will reduce the remaining life of Pagosa Road by about 50-60%, but the remaining life is only about 25-30% of original. The cost to repave South Pagosa to a moderate cross section that would not necessarily support regular gravel truck traffic would be 3.5 - 5 million dollars. So the maximum impact of the gravel truck traffic on South Pagosa would be 50% of 25% or 1/8th of 5 million dollars plus the differential between a moderate cross section road and the heavy cross section required for gravel truck traffic, which would be about 2 million dollars. **So the mitigation to offset the county's upcoming expenditures on South Pagosa using the high end numbers would be about 2.5 million dollars.**

The gravel roads, Cascade, Buttress and CR500 would need additional gravel beyond what is presently required by the county to maintain these roads and will need additional magnesium chloride treatments to abate the dust that will develop under heavy truck loads. The magnesium chloride will cost $3350 per mile of application and the cost to place the mag is about $1500/mile for a total of $4850/mile. It is anticipated that 3-4 applications per year will be required on those roads depending on how long the temperatures stay warm and how much precipitation we get. Assuming that the county already does one complete mag application for 5.75 of the 9 miles affected, that leaves us with 5.75 miles of 3 applications and 3.25 miles with 4 applications for **a total added mag chloride cost for one year $146,713.** Sections of road in residential areas will need more frequent applications than more isolated sections, so the county would need to purchase a distributer truck to do additional applications throughout the year.

The gravel required for 1 mile of road, 24 feet wide 6" deep is about 2347 cy or 3520 tons. If the gravel cost $8.90/ton (our cost this year) the cost per mile would be $32,828 and the extended total cost for 9 miles of road would be $295,452.

With heavy truck traffic the frequency of gravel replacement is increased. There are no valid numbers for this frequency because there are too many variables, but there is a definite consensus that because heavy trucks cause more dust, this obviously leads to increased gravel loss, and thus the requirement for gravel

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replacement more often. If the gravel producers have a vested interest in the replacement of gravel on the road, then they will be more likely to support the mag chloride program, control truck weight and speed and also produce a better quality gravel road surfacing gravel. Best estimates are that gravel will need to be replaced about once every five years with gravel truck traffic. This will generally not be done at one time, but will be completed in sections as part of an ongoing maintenance program. Certain areas of road need more maintenance than others.

Mitigation by the gravel pit operator for gravel roads should include up front gravel to bring the gravel roads up to a reasonable road structure, especially the 3.25 miles south of the landfill to the gravel pit turnoff. This would require six inches of gravel and that would be 11,500 tons of gravel plus some additional gravel for the remaining 5.75 miles to get certain sections up to a maintainable gravel depth. The estimate for that would be about 7,000 tons of gravel, **for a total of 18,500 tons of gravel.** County crews would install the gravel and mag would be timed and placed as part of the ongoing mag applications. **As continuing mitigation**, since the gravel replacement will need to be done once every five years then 1/5th of the gravel required would be 6,336 tons and since the damage done by gravel trucks would be 60% of damage, **then the annual mitigation should be 4,000 tons of gravel each year of operation.**

To offset added county placement costs for gravel replacement and mag procurement and placement costs for mag applications, rather than offering gravel at a discounted cost, which may create legal problems with bidding requirements; it would be better for the pit operator to give a specific amount of gravel valued at $148,000 each year based upon an annual low bid price per ton of gravel.

Sincerely,

Robert C. Perry P.E.
Archuleta County Engineer

P.O. Box 1507 Pagosa Springs, CO 81147-1507
(970) 264-8413 Fax 970 264-6815
rperry@archuletacounty.org

MEMO

Date: May 26, 2016

To: John Shepard

From: Yari Davis-Engineering Technician

CC: Bob Perry-County Engineer

RE: Two Rivers Gravel Pit

After reviewing the package submitted for this project we have the following comments and requests:

1. According to the Applicant they submitted the access road's width and design and that it would be constructed according to the road classification as "Primitive Road". This access road shall be constructed according to the Archuleta County Road and Bridge Design Standards and plans and profile sheets shall be submitted to the Engineering Department.

2. The applicant shall submit a drainage report for historic and developed runoff to the Engineering Department with the detailed grading and drainage. Also, they shall submit calculations on retention basin volume with the plans.

3. After reviewing the Traffic Impact Assessment from Roadrunner Engineering, LLC dated May 09, 2016, the proposed gravel pit would impact our road systems. Per the Archuleta County Road and Bridge Standards, Section 27.0.6.1, "*New development shall be required to mitigate its proportionate share of impacts of the proposed activity on the County's road system".* The application has offered mitigation as indicated in the attached estimate.

4. The County Engineer feels that the mitigation is fairly adequate for gravel roads. Mitigation for paved roads have not been adequately addressed.

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PO BOX 1507 ✧ 1122 S. HIGHWAY 84 ✧ PAGOSA SPRINGS, CO 81147
YARCENEAUX@ARCHULETACOUNTY.ORG ✧

5. For Air Quality Control, Archuleta County is applying dust control to County roads with ADT of 200 and up. County Road 500 from the end of pavement to the landfill already has ADT above 200, and the County is already applying Magnesium Chloride in that section. Right now between the landfill and the location of the proposed gravel pit the ADT is 176. When we add the ADT associated with the gravel pit, the ADT would be above 200 between the landfill and gravel pit. The Engineering Department requires that the Applicant pay for the Magnesium Chloride once per year in the area between the Landfill and the proposed gravel pit (3.2 miles).

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C&J Gravel Products, Inc.

C&J Gravel proposes:

Archuleta county to receive 5000 ton credit, material of choice. This is considered an up front payment for 5 years of impact to roads?

3 year contract to provide road base @$5.00 per ton loaded or $4.00 per ton stockpiled (The county to provide loader)

First three years C&J to pay 0.50 per ton mitigation fee. After the 3rd year it goes to 0.37 per ton.

C&J to pay for and install safety lights described in TIA $25,000 Appx

Total value to Archuleta County

5000 ton credit	$ 25,000
3 yr contract @ $5 saves county $67k yr (x3) low bid to provide material to A.C.)	$201,000 (this number based on 2016
3 yr mitigation @.50 ton	$150,000
Safety lights	$ 25,000
27 years mitigation @$0.37 per ton year)	$629,000 (based on 100,000 tons per
Total	$1,030,000

27661 HWY 160-E Durango, CO 81301
Tel: (970) 385-4112 Fax: (970) 385-5014

John Shepard

From: John Ruyle
Sent: Wednesday, January 27, 2016 10:30 AM
To: John Shepard
Subject: two Rivers Pit Project

I have read through the Synopsis Of Two Rivers Pit Project . The project is not in the Pagosa Fire District , but appears to , by plan , equipped and prepared to fight and control fires on-site.

John Ruyle
Archuleta County
Chief Building Inspector
970-264-1390

John Shepard

From: Hellige, Kara A SPK <Kara.A.Hellige@usace.army.mil>
Sent: Tuesday, January 12, 2016 10:18 AM
To: John Shepard
Subject: RE: County Review: Two Rivers Pit (C&J Gravel), 12500 CR 500 (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Hi John
If they have to discharge fill material into the river or wetlands or modify the bridge to allow for the gravel operation then a permit from us will be required, otherwise I believe its outside of my jurisdiction.
Thanks for the heads-up.
Kara

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
Pagosa Springs Field Office
505A Co Rd 600
Pagosa Springs, CO 81147

970-731-3615-OFFICE
844-496-7211-FAX

www.co.nrcs.usda.gov
jerry.archuleta@co.usda.gov

Date: 1/29/2016

John C. Shepard, AICP
Planning Manager
Archuleta County Development Services
PO Box 1507
Pagosa Springs, CO 81147

The following comments are provided at your request and in regards to the reclamation of the proposed Two Rivers Pit, File No. M-2015-004 gravel pit located approximately 10 miles West of Pagosa Springs, Colorado.

A. Initial Excavation and Topsoiling:

Stockpiled topsoil shall be revegetated using species such as Smooth bromegrass to reduce soil erosion by wind and water if stored for a prolonged period of time (greater than 2 months). Diversion ditches, silt fence, straw bales, and/or sediment basins should be used to control surface runoff and reduce soil erosion where needed. Upon completion, topsoil shall be replaced to a depth of about 6 to 12 inches to cover above ground disturbed areas and provide a proper medium for revegetation. Spreading shall not be done when the ground or topsoil is frozen, excessively wet or otherwise in a condition detrimental to the work. After placement of topsoil is complete, the surface shall be finished to a reasonably smooth final grade. Slopes should not be steeper than 3:1 and in areas that will be crossed by machinery, slopes should be between 6:1 and 8:1. All disturbed areas should be revegetated. Any sediment laden runoff should not be allowed to reach The San Juan River or surrounding irrigation ditches. This may necessitate the need for sediment basins, diversion ditches or berming.

B. Revegetation:

1.) Seedbed Preparation: Seedbed shall be firm and free of weeds and other non-desirable vegetation. In areas where there is excessive compaction, tillage such as chiseling and disking, shall be done to break up the compaction. If seedbed is soft after tillage operations, allow 2 to 4 weeks following the last operation for the soil to settle and firm up.

2.) Planting period: Dormant planting is possible anytime after October 15th, or when temperatures are cold enough to prevent seed germination. Planting may also be done in between July 1st and August 15th or in the spring if irrigation water is available.

3.) Planting Method: Planting will be done with a grass drill or modified grain drill with depth bands and packer wheels. Depth of seed placement shall between 1/2 to 3/4 inch and row spacing shall be 7 to 12 inches. In areas where the use of a drill is not feasible, broadcasting seed is acceptable at double the seeding rate. Raking will be required to cover the seed to a depth of

United States Department of Agriculture

NRCS

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1/2 to 3/4 inch.

4.) Seeding Mixture: See attached CO-ECS-5 Grass Seeding Planned for Seeding Mixtures.

5.) Fertilizer: A soil test should be completed to determine fertilizer needs. Consider the use of a starter fertilizer with higher levels of phosphorus and lower levels of nitrogen.

5.) Mulching: Clean, weed free mulch, such as grass or straw hay, averaging at least 8 inches in length shall be applied at a rate of 3000 lbs./ac. Anchor by crimping to a depth of 4 inches. The use of erosion control blankets or hydro-mulch are also acceptable methods of mulching, particularly for slopes 3:1 or steeper.

6.) Post Emergent Weed Control: Mowing or chemical applications are effective means to control weeds following grass seeding. Control of competitive weeds using herbicides can be done when grass seedlings have reached the 3 to 4 leaf stage. Follow all label recommendations for handling and application of herbicides. Mowing height should not be lower than 4 inches.

The proper sequence for reclamation is shaping and grading, topsoiling and final grading, seedbed preparation, fertilizing if needed, seeding, and mulching.

C. Other Considerations:

1.) All equipment and fuel storage tanks shall be kept away from any drainages and precautions taken, such as berming, to prevent any contaminants, including sediment, from entering the drainages.

2.) All noxious weeds should be controlled during mining and reclamation activities, requiring strict adherence to the pits noxious weed control plan.

3.) The Army Corp. of Engineers should be contacted regarding the disturbance of any wetlands.

4.) The Division of Water Resources should be contacted if ground water will be exposed or water retention structures such as sediment basins or erosion control dams are constructed.

If you require further assistance or have any questions, please call or stop by our office.

Respectfully,

Jerry R. Archuleta
District Conservationist

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Grass Seeding Planned and Applied Worksheet

Grass Seeding PART I - Planned

Cooperator	Two Rivers Pit - Native Grass Mix	Date	1/2016
Tract/Field No		Acres	62.6
Soil Survey Area		Map Unit (s)	
Contract No.		CIN	

Seeding dates	After Oct 15th or July1st -Aug15th	Purpose	Other
Seedbed preparation	No Till	Seed rate	Non-irrigated drilled (20 seeds/sq ft)
Drill type	no-till grass	Acres to be seeded	62.60
Planting depth-Drill spacing (in)	7-12 in		

	N	P_2O_5	K_2O
Planned fertilizer application (lb/ac)			

A Nutrient Management Plan is not required for the establishment of vegetative conservation practices.

Planned weed control activities	Description	
	Date(s)	

Attach WIN-PST Soil-Pesticide Interaction Risk Report for all chemical suppression activities

Planned residue cover or mulch	Type	Cereal grain straw
	Amount (lb/ac)	3000
	Application method	straw spreader

Seed Mix Recommendation, † ‡

Common name N=native, I=introduced		Genus, species	Recommended Cultivar	% of seed mix	Pounds (lbs) pure live seed (PLS)
Grasses, forbs					
Grama, Sideoats	N	*Bouteloua curtipendula*		15	43.19
Indian ricegrass - Nezpar, Rimrock	N	*Achnatherum hymenoides*		10	23.16
Wheatgrass, Slender	N	*Elymus trachycaulus*		25	84.51
Wheatgrass, Western	N	*Pascopyrum smithii*		25	125.20
Grama, Blue	N	*Bouteloua gracilis*		10	7.51
Green needlegrass	N	*Ephedra viridis*		15	45.07
				100.0	
Shrubs (add shrub seed to grass - forb seed mix)					

Shrubs	0.00
Grasses, Forbs	328.65
Total lbs PLS	328.65
Seed Rate (lbs PLS/acre)	5.25

† Certified Seed is required for all NRCS cost share programs

‡ Complete a Tree and Shrub Establishment 612 Job Sheet for bare-root shrub plantings

Additional Recommendations

Certified Planner _____ **Date** _____

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Grass Seeding Planned and Applied Worksheet

Grass Seeding PART I - Planned

Cooperator	Two Rivers Pit - Irrigated Mix	Date	1/2016
Tract/Field No		Acres	62.6
Soil Survey Area	668	Map Unit (s)	
Contract No.		CIN	

Seeding dates	Spring-Once irrigation is available	Purpose	Other
Seedbed preparation	No Till	Seed rate	Irrigated drilled (40 seeds/sq ft)
Drill type	no-till grass	Acres to be seeded	62.60
Planting depth-Drill spacing (in)			

	N	P_2O_5	K_2O
Planned fertilizer application (lb/ac)			

A Nutrient Management Plan is not required for the establishment of vegetative conservation practices.

Planned weed control activities — Description: ; Date(s):

Attach WIN-PST Soil-Pesticide Interaction Risk Report for all chemical suppression activities

Planned residue cover or mulch — Type: Small grain stubble; Amount (lb/ac): ; Application method:

Seed Mix Recommendation, † ‡

Common name N=native, I=introduced		Genus, species	Recommended Cultivar	% of seed mix	Pounds (lbs) pure live seed (PLS)
Grasses, forbs					
Brome, Meadow	I	*Bromus biebersteinii*		25	266.05
Orchardgrass	I	*Dactylis glomerata*		35	70.11
Perennial ryegrass	I	*Lolium perenne*		15	66.67
Clover, Red	I	*Trifolium pratense*		15	56.34
Clover, White	I	*Trifolium repens*		10	25.04
				100.0	
Shrubs (add shrub seed to grass - forb seed mix)					
				Shrubs	0.00
				Grasses, Forbs	484.21
				Total lbs PLS	484.21
				Seed Rate (lbs PLS/acre)	7.74

† Certified Seed is required for all NRCS cost share programs

‡ Complete a Tree and Shrub Establishment 612 Job Sheet for bare-root shrub plantings

Additional Recommendations

Planting of one year of small grains such as oats, before planting of permanent vegetation will allow for weed control, improve soil organic matter and allow a stubble to protect the soil until permanent vegetation is established. Field can be mowed during establishment to reduce weed pressure. Field should not be grazed or hayed during the first year of establishment.

Certified Planner _____ **Date** _____

551 Hot Springs Boulevard
Post Office Box 1859
Pagosa Springs, CO 81147
P: 970.264.4151
F: 970.264.4634

Town of Pagosa Springs
Planning Department

Date: May 25, 2016
To: John Shepard, Archuleta County Planning Manager
Re: C&J Gravel Products, Inc. Gravel Pit application

Hello John,

This correspondence is in response to the C&J Two Rivers Gravel Pit recently provided "Preliminary Traffic Impact Study" and a follow-up to the previous comments provided by the Town Planning Department on January 28, 2016.

1) In the Traffic Report, it was noted under "Signal Warrant Analysis" that signals exist at 8th / San Juan and Hot Springs Blvd / Pagosa Street. It should also be noted that a signal also exists at Pagosa Blvd and Hwy 160.

2) The Town Planning Department recommends that a delivery zone map be created that indicates specific delivery routes for zones within such map, for example;
   A. Deliveries west of and including Piedra Road, will use the South Pagosa Blvd delivery route.
   B. Deliveries east of Piedra Road (not including deliveries along Piedra Road) to and including 5th Street (CR 400) will use the South 8th Street delivery route.
   C. Deliveries east of North 5th Street (CR 400) (not including deliveries along N. 5th Street) shall use the Hot Springs Blvd delivery route.
   D. Deliveries along Hwy 84 shall use the Light Plant Road (CR 119) delivery route.

3) If the County Approves the gravel pit operation, Town Council may consider an ordinance to amend the adopted Model traffic code to require a permitting process for trucks of certain size and weight, however, much more analysis is necessary to determine the best solution.

4) The Archuleta School District Joint 50 can provide detailed information on school bus traffic. It is suggested consideration be given to avoid or limit deliveries on Downtown routes in the morning and afternoon during school traffic times.

5) Though CR 500 is not with in the Town Boundaries, the dust created on the gravel portion of CR 500 is upwind of the Pagosa Springs Downtown district. We highly recommend the frequent application (once a month) of a dust control product on the gravel portion of CR 500, at least the northern 3 miles before the pavement section.

6) Please also refer to our previous comments dated January 28, 2016.

Please contact me with any questions.

Thank You, Respectfully,

James Dickhoff
Town of Pagosa Springs
Planning Department Director
Po Box 1859
551 Hot Springs Blvd.
Pagosa Springs, Co. 81147
970-264-4151 x225

jdickhoff@pagosasprings.co.gov

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Town of Pagosa Springs
Planning Department

Date: January 29, 2016

To: John Shepard, Archuleta County Planning Manager

Re: C&J Gravel Products, Inc. Gravel Pit application

Hello John,

In response to your request for comments we received on January 11, 2016 regarding the proposed C&J Gravel Products, Inc. Gravel Pit operation application submitted to the Archuleta County Planning Department, we currently have the following comments:

1) We have concerns related to the potential heavy truck traffic through Town and along the S. Eighth Street and Apache Street residential districts. This type of traffic could result in a negative impact to these neighborhoods and pedestrian safety.

2) We have concerns regarding potential damage to our aging, new and to be constructed road infrastructure that could result from the heavy truck traffic along the town's portion of Trujillo Road, S. Eighth Street, Apache Street and other potential routes. The proposed traffic count is based on 120 hauling days, however, there are no limits for only operating 120 days. Increased days of operation could drastically increase traffic counts, potential for road damage and traffic on Town roadways.

3) The application does not identify specific proposed truck routes, however, the use of Trujillo Road, S. Eighth Street and Apache Street are very likely truck routes for the suggested deliveries. In our opinion, all delivery's for the west Pagosa area should utilize South Pagosa Blvd to access U.S. Highway 160, and only delivery's for Downtown should utilize Apache and Eighth Streets. The use of Hot Springs Blvd has it own concerns, as this roadway sees many out of town tourists and the U.S. Highway intersection crosswalks are a very busy pedestrian thoroughfare. We believe a work session with all stake holders could be the best start to work through the best routes to reduce the potential for negative impacts.

4) Trujillo Road is in the process of being paved. Speaking with our engineers, the cross sectional design is for a 20 year plan of increased traffic. The proposed gravel pit operation could exceed the 20 year design immediately, especially if the traffic loads exceed the assumption of 120 operating days. A second layer of asphalt on the Town's portion is scheduled for placement this spring, however, the proposed traffic may require an additional 1 inch of asphalt above the current design, an extra expense the Town has not budgeted for.

5) Town Council may consider an ordinance to amend the adopted Model traffic code to require a permitting process for trucks of certain size and weight, however, much more analysis is necessary to determine if this is the best solution for assisting with the additional roadway infrastructure expenses associated with providing a thicker roadway section design.

6) The Town may elect to designate certain truck routes through town, that could include the consideration of out-going and in-coming truck routes. This also will require additional analysis for Town Councils consideration.

7) There is benefit to having construction materials available locally for the numerous construction projects undertaken in Archuleta County, thus, we support the idea of an additional Gravel Pit in our area.

Since the impacts could be significant, the Town will need additional time to thoroughly analysis the potential impacts to neighborhoods and roadways and how to potentially mitigate those impacts as well as financially improving and repairing such roadways. We respectfully request the mater be deferred for consideration until the Town has amble time to conduct a thorough review. The Town would highly recommend a worksession with the applicant and all stake holders to discuss the best possible solutions to mitigate all of our and the communities concerns.

Please contact me with any questions.

Thank You, Respectfully,

James Dickhoff
Town of Pagosa Springs
Planning Department Director
Po Box 1859
551 Hot Springs Blvd.
Pagosa Springs, Co. 81147
970-264-4151 x225

jdickhoff@pagosasprings.co.gov

SOUTHERN UTE INDIAN TRIBE

June 14, 2016

Archuleta County
Development Services-Planning Department
1122 Hwy 84
P.O. Box 1507
Pagosa Springs, CO 81147

RE: Request for Comment – C&J Gravel – Two Rivers Pit Mining & Processing Facility

To Whom It May Concern:

My staff has reviewed the Agency Request for Comment referenced above. Please be advised that the request was circulated to the appropriate offices and the following response was given by the following Departments:

DNR - Wildlife:

- Southern Ute Wildlife is concerned that this project will impact critical deer/elk winter range adjacent to the property. Also, protecting water quality in the river is imperative.

EPD - Water Quality

- Vegetative or other impermeable buffer between the "Pit" and the river must be maintained minimum of 50 ft. No discharge without EPA permit to the San Juan River.

EPD - Air Quality

- SUIT AQP has performed a preliminary analysis regarding impacts to air quality caused from the proposed project and has concerns about potential to emit (PTE) calculation for particular matter CPM and applicability to the TMNSR program. Based on information supplied to Archuleta County, AQP has calculated the PTE of PM from this source to be approximately 34.13 tons per year. Therefore, before any construction occurs, the source must acquire authorization to construct under the TMNSR program from EPA Region 8.

NAGPRA

- Do not see any cultural investigations being conducted or how cultural impacts will be mitigated if there are any, please supply more information.

Construction & Project Management

- The plan describes how drainage will be contained within the site and no sediment will be released with retained storm water. Storm water retention (vs detention) systems are not often utilized in this area, more information is requested on the system design to verify the functionality of this proposed system.

- The narrative describes how runoff from the surface of the ramp will flow to the adjoining ditches as it has historically done so. Since the site use, ramp use, potential sediment and possible automobile petroleum contamination, the historical runoff has changed significantly and should be reviewed for alternatives; this runoff should not be allowed to enter the irrigation system without more consideration.
- The traffic impact study does not address any potential traffic impacts on delivery routes. There are two Southern Ute routes in close proximity that could be used for deliveries to New Mexico and other locations. The traffic impact study does not address how these operations will affect maintenance, potential traffic, or "wear and tear" on Southern Ute routes. Southern Ute routes will not receive any compensation from Archuleta County Impact Fees. Please provide further information on how this will be considered.

At this time, based on the comments received, the Tribe believes more information is required before the project is continued.

The Tribe reserves the right to submit any appropriate comments as the project development proceeds.

If you would like to discuss this in more detail with my staff, please contact Jacob Garlick, Acting Director of Tribal Planning, at (970) 563-0100 ext. 2241.

Thank you for the opportunity to comment.

Sincerely,

Clement J. Frost
Chairman, Southern Ute Indian Tribe

cc: Jacob Garlick, Acting Director Tribal Planning

Project 2015-035SG Two Rivers Pit Major Sand & Gravel Permit

A-E - Letters received by Archuleta County Development Services through June 20, 2016.

COLORADO DREAMSCAPES INC.

PO BOX 3624
PAGOSA SPRINGS CO 81147
(970)731-1303

WORKING TO MAKE YOUR LANDSCAPE DREAMS COME TRUE

To whom this may concern,

This letter is in support for the newly proposed Two Rivers Gravel pit #M2015004. As a long term resident and contractor in Archuleta county there is a great need for a new pit. I currently use C and J Gravels pit in Durango for all of my companies landscape needs for there is no one else in the county that supplies any of these much needed materials. I'd much rather keep the tax revenue within in out county. This will not only add revenue to our county, but will also allow contractor such as myself to be able to pass these saving along to our local residences. Please consider this additional gravel pit to be much needed. The lack of local materials makes it challenging for myself and several other businesses to provide our residences with cost effective solutions to all of their gravel needs. Thank you for your consideration for this much needed resource. I can be contacted at the number above if you have any additional questions.

Best Regards,

Joshua G Abrell- CEO
Dreamscapes Inc.
970-946-5827

John Shepard

From:	Gadflymoj@cs.com
Sent:	Tuesday, April 05, 2016 4:36 PM
To:	Clifford Lucero; Michael Whiting; Steve Wadley
Cc:	John Shepard
Subject:	Meadows Drive Fiasco
Follow Up Flag:	Flag for follow up
Flag Status:	Flagged

Hi All!
Gravel trucks traveling to and from the gravel pit via Meadows Drive is completely UNACCEPTABLE!
Do I have to list the downsides to this asinine plan - property values, deterioration of the pavement, noise, traffic, etc, etc, etc. !
DEFEAT THIS PROPOSAL!!!

MOJIE ADLER
3190 Meadows Dr
731-4277

John Shepard

From: Allen, Scott <sallen@southernute-nsn.gov>
Sent: Friday, April 15, 2016 1:31 PM
To: Steve Wadley; Michael Whiting; John Shepard
Subject: gravel pit

Good Afternoon Gentlemen, It was with *extreme* alarm that we read Gary Waples' letter to the editor in this week's " *Sun*" in regard to the proposed gravel pit. We are hoping this is just a case of someone "crying wolf" because it seems *unimaginable* that the various residential neighborhoods mentioned could ever have the monstrosity of gravel trucks careening through their road ways. To even consider these various roads (Meadows, South Pagosa, Buttress et al) to be used by this sort of endeavor is truly ludicrous, and it would be ***irresponsible*** by our governing powers to allow it. The mix of gravel trucks and the residents who use these roads to walk their dogs, bicycle or jog...to name a few....would not work. It would be dangerous and susceptible to an inevitable tragic accident. Further, our roads would get chewed up and the dust and noise "pollution" would be intolerable; property values would obviously take a hit, and that would impact potential tax collection. It is a costly and *losing* proposition, any way one looks at it. Again, these roads service *neighborhoods* and we have a *zero tolerance* to the notion of a gravel pit pushing their product through them. Sincerely yours, Pagosa Springs residents of twenty years Brian and Kathleen Allen

John Shepard

From: Kevin Allison <kevinallison1@gmail.com>
Sent: Saturday, March 26, 2016 12:45 PM
To: John Shepard
Cc: Toby Tollefsen; kim31lynn@hotmail.com
Subject: Proposed Gravel Pit on County Road 500

Dear Mr. Shepard,

My wife and I are the owners of the home at 25 Castle Place in one of the Meadows subdivisions of PLPOA. Last week our neighbors let us know about the proposed gravel pit project and its potential impact on traffic levels along Cascade and Buttress. We are partial year residents of Pagosa and our home sits one block from one of the main proposed transportation corridors for the heavy dump trucks. I wanted to write and express our concern about the project as currently proposed. While we recognize the fact that people need to make a living and the county should be supportive of economic development, I would like to make the following points concerning this specific proposal:

- Home owners in the affected area purchased their properties for its peaceful rural qualities. They have also specifically bought into PLPOA and the very strict zoning in order to maintain this quality of life. The common thread through all of the PLPOA zoning restrictions are to maintain the rural quality and aesthetics of the area. The proposed project allows up to ***4 heavy dump trucks per hour to pass through these very quiet neighborhoods.*** This will damage property values and reduce future real estate development in the affected neighborhoods. This in turn will impact future county tax revenue through depressing property values in one of the most desirable residential areas in the county.

- The project will create very few jobs. I read in some of the documentation that somewhere between 6-10 jobs will be created at a facility that operates 120 days per year. A modest sized new restaurant would create more employment than this disruptive project.

- The proposed routing of the trucks passes through areas of Cascade and Buttress that are served by dirt roads. The dust and deterioration of the roads would be a major nuisance to residents in the vicinity of these roads and would increase maintenance costs of the roads. In addition, there are hills along Cascade and farther along Meadows and South Pagosa that would be subject to severe noise issues as heavily loaded dump trucks climbed these grades. For these impacts to potentially occur every 15 minutes under the peak traffic proposal would completely alter the character of the neighborhoods.

For these reasons I oppose the gravel pit project and request that you include this communication in the packet of resident responses going to the commissioners making the decision on the project. Thank you for your consideration.

Kevin Allison
25 Castle Place

John Shepard

From: Holly Baldwin <hbaldwin100@gmail.com>
Sent: Tuesday, June 14, 2016 1:03 PM
To: commissioners; John Shepard
Subject: Gravel Pit Concerns

Good Afternoon Mr. John Shepard and County Commissioners,

I respectfully want to let all of you know my thoughts about the proposed gravel pit.

I live in the Meadows neighborhood and walk the roads regularly. I am concerned about my safety and that of others walking the streets. Children play in the neighborhood and impulsively run out into the roads, I would hate to see a fatality with a gravel truck and local child.

The increased number of trucks that will be using our neighborhood roads will escalate the wear and tear on roads that are currently minimally maintained . I am concerned that the roads will deteriorate to a level that will make them impassable in a car.

The heightened truck traffic will also intensify the dirt and noise level within the neighborhood. I moved to this part of Pagosa for the peace and quiet, not to listen to road noise.

I understand that the study recommends South Pagosa as the preferred truck route but I have seen businesses do what they want to do after they have received approval. Take Walmart and their bright parking lot lights as an example.

Please consider disapproving the gravel pit because of diminished safety, magnified truck traffic on dilapidated roads, and increased dirt and noise for the next 20-30 years on our neighborhood roads.

Thank you for giving me the opportunity to express my thoughts about this issue.

Sincerely,

Holly and Jim Baldwin
Concerned Meadows Full-Time Residents

John Shepard

From: noreply@civicplus.com
Sent: Tuesday, April 19, 2016 3:10 PM
To: Sherrie Vick; John Shepard
Subject: Online Form Submittal: Email Planning

If you are having problems viewing this HTML email, click to view a Text version.

Email Planning

To: Planning

Your Name:* James E. and Leah Baxter

Your Email:* hacc.geology@gmail.com

Add Attachment: [ ]
Convert to PDF?[ ]
(GIF, JPG, JPEG, PNG, DOC, DOCX, XLS, XLSX, TXT)

Subject:* Two Rivers Gravel Pit

Enter message:* HARD COPY TO FOLLOW IN U.S. MAIL April 20, 2016 Mr. John Shepard, AICP Archuleta County Planning Manager Archuleta County Development Services P. O. Box 1507 Pagosa Springs, CO 81147 Re: Two Rivers Gravel Pit Dear Mr. Shepard, It has come to our attention that C & J Gravel Products, Inc. will have its application considered by the Archuleta County Planning Commission for a gravel pit on Trujillo Road, Pagosa Springs. According to the "Traffic Impact Study" that has been provided to the county, the list of "Possible Restrictions" (page 4) is expected to be flexible as a list of terms for coordinating and requesting approval to use any of the normally off-limit roads immediately follows (page 5). This gives no sense of security to residents. Quite the contrary, we would be ever fighting these exceptions. The eventuality of having the noise of truck travel on currently tranquil country roads, the added signage marring the landscape, the dust and/or the water trucks to keep the dust down are all unthinkable in terms of impact to the quality of life in this beautiful area. Also important to note regarding the geological suitability of the site, there are discrepancies in the information provided in the application. The site appears to be situated on a strath fluvial terrace, which means the mining could excavate into bedrock. This presents conflicts between the information provided in the mining plan and "Geological, Radiation, and Related Hazards" portion of the application. The USDA rating for soil suitability for gravel mining of the Valto very stony fine sandy loam is "Poor." Insufficient site-specific data are provided in the application materials to independently determine the geological suitability of this site for gravel mining, however, the information provided in the application suggests it is unsuitable. We also have concerns regarding the potential for surface water and shallow groundwater contamination from fuel spills occurring at the site. The application has not considered that a spill that infiltrates at the site could result in a long-term source of contaminant seepage to the river. For these reasons, we oppose the Two Rivers Gravel Pit and kindly ask for your support. Sincerely, James E. Baxter, P.G. Leah Ann Baxter 30 Hood Court Pagosa Springs, CO 81147

* indicates required fields.

received
4/26/16

April 20, 2016

Mr. John Shepard, AICP
Archuleta County Planning Manager
Archuleta County Development Services
P. O. Box 1507
Pagosa Springs, CO 81147

Re: Two Rivers Gravel Pit

Dear Mr. Shepard,

It has come to our attention that C & J Gravel Products, Inc. will have its application considered by the Archuleta County Planning Commission for a gravel pit on Trujillo Road, Pagosa Springs.

According to the "Traffic Impact Study" that has been provided to the county, the list of "Possible Restrictions" (page 4) is expected to be **flexible** as a list of terms for **coordinating and requesting approval to use any of the normally off-limit roads** immediately follows (page 5). This gives no sense of security to residents. Quite the contrary, we would be ever fighting these exceptions.

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We also have concerns regarding the potential for surface water and shallow groundwater contamination from fuel spills occurring at the site. The application has not considered that a spill that infiltrates at the site could result in a long-term source of contaminant seepage to the river.

For these reasons, we oppose the Two Rivers Gravel Pit and kindly ask for your support.

Sincerely,

James E. Baxter, P.G.
Leah Ann Baxter
30 Hood Court
Pagosa Springs, CO 81147

John Shepard

From: Denny Beaugureau <beaugur@cox.net>
Sent: Thursday, March 10, 2016 5:51 PM
To: John Shepard; Sherrie Vick
Subject: Gravel Pit

Dear John and Sherrie,

I am writing in response to an article in the Pagosa Sun regarding a proposed gravel pit on County Road 500. We live on Buttress near where Meadows tees into it. We are bombarded daily by garbage trucks, dump trucks, and trailers going to and from the landfill. The road in front of our house is not paved, and the dust created by all this traffic is incredible, even when treated with magnesium chloride. The trucks invariably exceed the 35 MPH speed limit, and neither the sheriff nor the city will send out patrols to enforce the limit and ticket them, despite repeated requests. Any proposed transit between the gravel pit and Durango will inevitably lead to a route of CR500 to Cascade to Buttress to Meadows to SR160 to Durango and vice versa. That will only exacerbate the situation for us and our neighbors on Cascade, Buttress and CR500, which is, frankly, bad enough already! I urge you and the Planning Commission to disapprove the request for the gravel pit until such time as the roads are paved, speed limits are enforced, and alternate routes are established. One option on the latter, after the former two are completed, is to alternate days or weeks among Cascade, Bristlecone, and 8th Street to get to SR160.

Thank you for your consideration.

We request a response.

Denny and Lark Beaugureau

John Shepard

From: ranza boggess <yardt@usa.net>
Sent: Monday, May 09, 2016 11:20 AM
To: John Shepard
Subject: Gravel pit

As a home owner and year round resident at 2840 Meadows Drive I am very opposed to the idea of having Meadows and South Pagosa used as the gravel hauling route. These roads have a lot of use by walkers, bikers, and horse riders and it would make these activities very dangerous with gravel trucks using the road also. These roads are not going to hold up to heavy truck traffic without sustaining a lot of damage. The increased traffic will have a adverse effect on all the home values. I urge you to consider the people that will be adversely effected by allowing these roads to become the route for the gravel trucks and not vote for the proposed gravel pit. We have garbage trucks that now use our roads and they seem to think that the speed limit is 50 mph and I would expect the same from gravel trucks. I frequently drive on Trujillo Road and can not see how it would not sustain even greater damage than paved roads. Thank you Ranza Boggess

Two Rivers Gravel Pit

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

We urge the planning department, the Planning Commission, and the Archuleta BOCC to recognize the economic benefits of having a local quality gravel resource.

Quality spec gravel will improve road conditions and need less maintenance.

Savings in trucking costs can be used for other types of improvements or simply to increase the amount of material in the budget.

Per ton cost of material will be less therefore allowing more discretion with the taxpayer dollars and the county budget.

The mitigation fee that C&J Gravel will pay will speed up and significantly contribute to the improvement of roads in Archuleta County.

We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Victor A. Boren, PE
Canyon Construction Co

Address PO Box 3090
Durango, CO 81302

John Shepard

From: Rebecca Bradshaw <rbradshaw4849@gmail.com>
Sent: Monday, March 28, 2016 4:24 PM
To: John Shepard
Subject: Proposed gravel pit on Trujillo Rd., Pagosa Springs, CO

Dear Mr. Shepherd,

Our names are Tim and Rebecca Bradshaw, and we live at 97 Evans Ct., Pagosa Springs. We recently moved to the Pagosa Meadows IV Subdivision because of the peaceful and beautiful neighborhood. So, when we heard of a gravel pit that may be located very near our home we were alarmed! There is nothing positive to be said for a gravel pit so close to us except we may save a few dollars when and if we need a load of gravel. The negatives far outweigh the positives. First, there is the wear and tear on our neighborhood roads. Also dump trucks are loud, throw rocks (no matter how well the load is covered) and create a large dust problem.

Then we come to the problem of living in close proximity to the pit itself. The constant noise, dust and traffic in and out of the pit is also a problem for our neighborhood. We once stayed in a vacation home in Fairplay, Co. within a mile or two of a gravel pit and the noise and dust ruined the enjoyment of the outdoor area. Is this what we will have to look forward to in our new neighborhood?

The peaceful solitude of our home and neighborhood would be destroyed if you build this gravel pit. You cannot give us a good reason to allow the loss of peace and the beauty we now enjoy. After all that is why we invested our life savings to become citizens of your town. We have retired here and hope to live here the rest of our lives. I hope you value the beauty of this part of town enough not to destroy our dream of living here.

Thank you,

Tim and Rebecca Bradshaw
Home Phone: 970-731-1280

C&J Gravel Products, Inc.

Two Rivers Gravel Application

Dear Friends and Customers,

I am sending this letter to ask for your support of the Two Rivers Gravel Pit application to mine gravel on the Property of James and Lee Constant on Trujillo road (CR 500). C&J Gravel has been a family business for over 38 years and we are a committed business partner with this community.

As many of you know it is difficult to obtain good quality gravel in Archuleta County and as a result many of the roads are in disrepair and the cost of construction is higher than it should be. As part of our application we have had a traffic count and a traffic analysis study done by a Professional Engineer to show the impacts of the hauling from our operation. I have proposed mitigation that will not only satisfy the impact of additional traffic but will provide significant cost savings to the county for maintenance. There is great opposition to this application by land and home owners that live on the affected routes of hauling. This operation will have a small impact on the designated haul routes compared to the significant benefit that it will have for all the residents of Archuleta County.

Please support this project by writing a letter to the Board of County Commissioners or by signing this letter and returning it to us. I don't believe that we will get an approval without a tremendous showing of support in favor of this application. You can view all the application documents on the Citizen access web portal on the County web site. http://www.archuletacounty.org/index.aspx?NID=467

We would appreciate all supporters to come to the Planning meeting and let your voices be heard.

The **Archuleta County Planning Commission** is a special meeting on **Wed. June 8, 2016, 6:00 p.m. at Centerpoint Church, 2750 Cornerstone Dr**

The County has reserved a large room for a special meeting of the **Board of County Commissioners, Tuesday 28 June, 1:30 pm, CSU Extension Office Building, 344 US Hwy 84,**

Please send your letters to:

John C. Shepard, AICP Planning Manager
JShepard@archuletacounty.org
1122 Hwy. 84
P.O. Box 1507
Pagosa Springs, CO 81147

C&J Gravel Products
27661 Hwy 160
Durango CO 81301

Please send your letters a soon as possible so they will be considered at the Planning Commission Hearing. Thank you for your support and please feel free to call me with any questions.

Sincerely,

John Gilleland
President
C&J Gravel Products, Inc.
970-759-4112

Two Rivers Gravel Pit

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

We urge the planning department, the Planning Commission, and the Archuleta BOCC to recognize the economic benefits of having a local quality gravel resource.

Quality spec gravel will improve road conditions and need less maintenance.

Savings in trucking costs can be used for other types of improvements or simply to increase the amount of material in the budget.

Per ton cost of material will be less therefore allowing more discretion with the taxpayer dollars and the county budget.

The mitigation fee that C&J Gravel will pay will speed up and significantly contribute to the improvement of roads in Archuleta County.

We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Dennis Burch

Address 565 Stevens Cir.
Pagosa Springs, Co
81147

John Shepard

From: KarenBynum1@aol.com
Sent: Tuesday, May 31, 2016 2:18 PM
To: John Shepard
Subject: Concerned Meadows Residents

Hi John, this is the first time I have communicated with you due to being in and out of Pagosa since the gravel Pit situation came to a head. I live at 949 Buttress Avenue and my husband and I are extremely concerned that this situation could and would turn into a most horrific proposition if not investigated completely and properly. I want to thank you for responding to our neighbor's phone calls and emails. I do believe you are trying to follow the proper procedure. I have enclosed my Letter to the Editor which I hope Terri House will provide in this weeks paper. If she does not run it, at least you will be privy to it's content. I will also send it to each Commissioner if it does not appear in the paper. Thank you again for your cooperation. Sincerely, Karen and Harris Bynum

From: KarenBynum1@aol.com
To: editor@pagosasun.com
Sent: 5/31/2016 11:57:38 A.M. Mountain Daylight Time
Subj: This I Know.

Terri, please see if this can be published on Thurs, June 2nd in the Letters to the Editor. Karen Bynum

This I Know

In 2005, when my husband and I moved here to Meadows, we were thrilled to be in Pagosa away from the big city. When our first mud season arrived we were astounded by the drainage that rolled onto our property carrying the road gravel. We could not believe that a culvert had been put in perpendicular to our lot. All the drainage from Buttress north of us emptied onto our lot. Road and Bridge (R&B) told us the 'historical' flow of water could not be changed. Our neighbors soon introduced us to the facts regarding Cascade. Several neighbors shared that they repeatedly called R&B to address the rub-board effect from traffic and the dust that was produced. My husband then charged me with dealing with R&B, hopefully with better success.

We soon realized the Stop sign on Cascade was not being observed because of its location. It was placed on a small hill by the fire hydrant and bushes on that corner. Cars and trucks plowed through the sign and across Buttress onto our property. R&B came out to discuss this dangerous situation. So began my involvement with various employees with R&B over the next ten years. Each time R&B came, the sign was always measured to be legal.

I called R&B a couple of times a year and saw employees come and go. Each time I had a meeting at the end of my driveway it was always friendly, I liked each one of them but I finally realized these men were the messengers NOT the "Powers That Be." We never had a come to Jesus meeting. But nothing changed the potential danger of vehicles running across Buttress and slamming into vehicles coming the opposite direction.

Throughout all these years NO speed signs were placed on Cascade. Finally, in 2015 a neighbor saw a car that had rolled onto our property and she estimated the car was totaled. Amazingly, the two passengers were standing beside the car. By the grace of God, this catastrophe was no worse than it was.

I then met with one of the "Powers That Be" and he came up with a solution to address the safety and drainage issues. Months later, a few loads of dirt moved the corner ten feet and the sign was moved. Cars can now see the sign easily and can anticipate the turn. Two mileage signs have also been placed on Cascade as well as a new culvert. We are very grateful.

Very slowly over time, Cascade has mysteriously lost two "No Through Trucks" signs and been labeled a collection road. Traffic, dust, safety for pedestrians, animals and noise pollution have all been magnified tremendously.

Why have I shared my story with you???? It is to demonstrate a serious potential problem. If monies and employees cannot erect speed signs within a ten year period, how can Pagosans feel confident our roads will be safely maintained if the 'Powers That Be' force the new gravel pit upon us??????

Karen Bynum
949 Buttress Ave
970-903-3877

John Shepard

From: Brad <2coldnpagosa@gmail.com>
Sent: Monday, March 21, 2016 7:57 AM
To: John Shepard
Subject: Re: proposed gravel pit

Dear John,
As a full-time resident living on S Pagosa Blvd I am deeply concerned about the proposed gravel pit on CR500. We currently witness too much traffic that heads towards CR500 and the dump, speeding down the road above the posted speed limit and scattering debris along the roadway. The addition of large dump trucks and belly dumps running the road would detract from the neighborhood and add tremendous noise not to mention wear and tear to an already volatile road. Jake brakes at times are currently used through the area.
I urge you to deny this proposal unless all traffic is mandated to follow CR 500 in to town then to 8th street. Even this will place incredible pressure downtown on this busy road with limited infrastructure to support such traffic.

Thank you for your consideration in this important matter.

Brad Carey
1018 S Pagosa Blvd
Pagosa Springs, CO
970-769-1763

John Shepard

From: Faith Carey <bfwcarey2@hotmail.com>
Sent: Monday, March 21, 2016 7:57 AM
To: John Shepard
Subject: Gravel pit

I am writing in response to the proposed gravel pit on CR 500. I am a full time resident living on South Pagosa Blvd. The amount of large trucks traveling on this road is significant as they pass through to go to the dump. It concerns me a great deal that this would increase with gravel truck traffic. Typically the drivers of these trucks do not cover their loads, obey speed limits and use their very loud jake brakes. I oppose the gravel pit and will be at the meeting to support my position. Thank you Faith Carey 1018 S Pagosa Blvd 970-769-4928

Sent from my iPhone

John Shepard

From: Dorie and Brooks <xcskiers@earthlink.net>
Sent: Monday, May 30, 2016 12:27 PM
To: commissioners; John Shepard
Cc: Missy; Margaret Kleiner; Sowerby John; tmhagan@aol.com; haines2430@centurytel.net
Subject: Meadows II Resident Concern about Commercial Thru-Taffic

Archuleta County Commissioners,

Our homes and streets in our Meadows II neighborhood should be zoned 'residential, not for heavy commercial or industrial through-traffic' of any kind. In fact, any kind of regular through-traffic should be highly discouraged in our neighborhood. As retirees when buying our home, we sought a semi-rural peaceful setting and cannot imagine how invasive and damaging heavy commercial traffic would be to our roads, health, safety, peace and quiet. It is beyond comprehension that Archuleta County would allow this type of thing to happen.

Sincerely,
The Chadwick Family

John Shepard

From: ron christensen <ron2011@live.com>
Sent: Saturday, May 14, 2016 10:57 AM
To: John Shepard
Subject: Gravel pit

Hello John,

I am writing to voice my concern over a proposed gravel pit on County Road 500. I live on Meadows Drive and do not feel it should be used as a commercial route to a gravel pit. As it is we have a lot of truck traffic on this road with trucks on their way to the dump. These commercial trucks and contractors with trailers use the road like a highway, not a residential road.

If the gravel pit is constructed on County Road 500 I am worried that the road will not hold up to a large increase of traffic on a daily bases. Point in case: the pot holes and deteriorating pavement at 160 & Meadows has already needed to be repaired with normal use. There will be a lot of additional funds needed to maintain these roads that these heavy gravel trucks will be using daily.

The posted speed limit is 35 MPH, however I see vehicles traveling at a much higher speed daily. I am very concerned about the safety on Meadows Drive as well as South Pagosa Blvd., Buttress and Cascade. If this gravel pit were to be allowed the increase of traffic would be significant to all of these roads. I know my neighbors have made numerous requests to have a Deputy come and patrol the area and we have yet to see any law enforcement presence. Will this change if the gravel pit is approved? Will law enforcement be patrolling this area daily to ensure speed limits are enforced?

It was very tough last summer with all of the county trucks hauling gravel daily. The view from my home is right at the road - do I really want to watch belly dump trucks going by all day long? If I were to sell my home would the new owners find this traffic attractive? I am concerned about the value of my home and my neighbor's homes. We will all suffer the loss of our home values due to this gravel pit. Meadows Drive is currently not too noisy, which was what drew us all to purchase homes in this area, but add in the traffic to the new gravel pit and that will certainly change. We will no longer have a nice quiet neighborhood; it will be the highway to the pit.

I would like to stress that at one time trucks were not allowed to use this route as Cascade was not a through road for traffic. What happened to change that? I am not sure. I feel really bad for those homeowners who are on the gravel part of the road. I have seen what a trash truck going well over 35 mph can create in dust, so imagine what a big belly dump truck will create. Not to mention that the wear and tear on all of the roads will be significant for both paved roads and the gravel roads. These are residential roads in a subdivision. They are not designed to be commercial routes.

In closing, if the gravel pit does get approved the County really needs to figure out how to regulate the trucks, enforce speed limits, maintain the roads, etc...as a service to the property owners in the area. One idea is perhaps one speed limit for non-commercial vehicles and one for commercial vehicles?

We have talked to Weber Sand and Gravel and they will sell the county the gravel that they will need. Do we really need another gravel pit causing undue hardship through residential area's? When someone gets hurt ,

will the county be open to a lawsuit?

I appreciate your consideration on this matter. Thank you for your time.

Sincerely,

Ron Christensen
970-946-5010

John Shepard

From: Brett Climie <climiebrett@gmail.com>
Sent: Tuesday, April 05, 2016 12:28 PM
To: John Shepard
Cc: Elizabeth Crossley; Brett Climie
Subject: GRAVEL PIT

Dear Mr. Shepard and County Commissioners:

As elected officials you have been entrusted with the decision making responsibility on behalf of the residence of Archuleta County. The decisions you make can impact the county and the neighborhoods within this county for many years to come. A positive decision can help with the growth and sustainability of this county, while a negative decision, of course, can do the exact opposite.

We, the residents of Pagosa Meadows-4 sub-division, feel you have one of these important decisions coming up in the near future. The gravel pit and its routes to and from this proposed pit on CR 500.

The proposed routes through our residential sub-division on Cascade, Buttress, Meadows and South Pagosa Blvd. can have a negative impact on the whole community, not just the residents living on these four roads. The increase in commercial trucks on these roads will impact everyone's lifestyle from health and safety to an enormous loss in home values.

These sub-divisions were built and sold as quiet, comfortable and enjoyable places to live. Meadows is an area where people walk, bike, horseback ride and enjoy the wildlife. To now take these same roads and run hundreds of large commercial gravel trucks through these areas will now dramatically impact the quality of life we now enjoy.

More importantly, it creates a health hazard with the dust and noise and a potential accident waiting to happen. There are many families living in Meadows with children that use these roads to get to and from the school buses, as well as to visit their friends that live throughout the area.

Again, you were elected to make good decisions on our behalf. Please make the right decision in not allowing these commercial vehicles to come through Meadows. The damage to the roads, cars / windshields, people biking, walking and horseback riding will be felt all the way from 160 south to the end of Buttress. These routes are simply not a good decision for our community.

Thank you very much for considering our input when making your decision.

Sincerely,

Brett Climie & Elizabeth Crossley
Full-Time Residents of Pagosa Meadows-4 PLPOA
1441 Buttress Ave.
Pagosa Springs, CO 81147

--
Brett & Libby

Alpine Accents Vacation Cabins and Chalets
www.alpineaccents.net
Business / Reservations: 719-873-0228
eFax: 719-623-0296
Mobile: 562-708-4729 (Brett) or 562-881-6889 (Libby)

John Shepard

From: Cindy And Ted Cobden <patchiecob@yahoo.com>
Sent: Thursday, May 26, 2016 8:00 PM
To: John Shepard
Subject: Gravel pit proposal and traffic impact

We are very concerned about the,proposed gravel pit and its impact on traffic on our street, Capricho Circle. We have a child and we are concerned about truck traffic. There are numerous people that ride bikes, walk dogs, jog, walk, etc in our neighborhood. There are no sidewalks, so when cars come by pedestrians, it is sometimes tricky to find places to step to the side. Large trucks would make it only harder.

In addition, there are many hospital employees that walk in our neighborhood. Increased truck traffic would certainly make it more difficult for those of us who live and work along S. Pagosa Blvd., Capricho Circle and further.

Please consider alternatives.

Thank you,
Edward Cobden
114 Capricho Circle
Pagosa Springs, CO 81147

John Shepard

From: jpfhou@aol.com
Sent: Monday, March 28, 2016 4:18 PM
To: John Shepard
Subject: Fwd: Proposed Trujillo Rd. gravel pit

Dear Mr. Shepard,

I am a homeowner who lives on Capricho Circle and I would like to express my opinion of the above referenced subject. When my husband and I were first informed that if this gravel pit is approved, heavy commercial gravel trucks would be routed through Timber Ridge, along Capricho Circle, onto South Pagosa Blvd. and through the intersection at Hwy. 160, we could not believe that such a plan was really under consideration.

Here are our reasons for opposing this project:

1) The route the trucks would traverse is through the middle of upscale residential developments. Many homeowners, especially senior citizens (including my 89 year old husband), enjoy walking each morning and evening along these same roads. Additionally, there are young children who live on our street and ride their bicycles with their dogs running along beside them. Having to share those two-lane roadways with huge gravel trucks would be an extremely dangerous situation. Also, the Capricho Circle/Timber Ridge roads are a favorite for bikers training for races. Many are the days when we see dozens of bikers outfitted in their training gear pedaling our streets. Gravel trucks up and down the roadway would definitely create a hazardous environment to these riders.

2) Another danger to citizens would be the presence of heavy gravel trucks going past two of our community's most prominent houses of worship, John Paul II Catholic Church and St. Patrick's Episcopal Church. As people are entering or leaving church services or functions, it increases the possibility of a collision between a gravel truck and automobiles as attendees pull out onto South Pagosa Blvd.

3) Another worrisome issue is the loaded gravel trucks rumbling past our Pagosa hospital. Many people arriving at the hospital are distracted due to an illness they or a family member are experiencing, or they are actually in the throes of an emergency medical issue. In times of such crises, drivers are not being as alert or careful as they might otherwise be behind the wheel. South Pagosa Blvd. is already a very heavily traveled road. Adding the enormous hazard such as these heavy trucks would pose is simply a recipe for a disaster.

4) As anyone who has ever driven through the intersection of North/South Pagosa Blvd. and 160 can attest, it is the busiest and most congested intersection in town. With people attempting to access City Market and all the restaurants and businesses in Uptown Center and vicinity, as well as fire trucks and emergency vehicles coming from the fire station, plus the extra traffic associated with the expansion of our hospital, who in their right mind would even consider adding a steady stream of commercial gravel trucks to the mix?

5) The road base under Capricho Circle is already collapsing due to the vehicular traffic into and out of Timber Ridge. When Capricho Circle was conceived and constructed, it was never designed to carry the amount or weight of what it has now turned into. We built our home in 1989 and our road was gravel. Timber Ridge was the Gomez Ranch, the Pagosa Lakes Ranch development didn't exist and the only cars passing our house were from the two other homes on the Circle. After the residents of Alpha banded together and prevented Timber Ridge residents access to 160 through their neighborhood, all the cars, trucks and construction vehicles into and out of Timber Ridge was dumped onto Capricho Circle. Our safe and quiet street suddenly became an expressway. Now to discover that the Archuleta Co. Planning Commissioners are being asked to approve a gravel pit which would steer all that heavy, dangerous and noisy truck traffic right through the middle of residential neighborhoods is beyond belief.

If this proposal is approved, our safety, well being and property values will be negatively impacted in alarming ways. Many of us have our life savings at stake in our Pagosa homes. We are there for the beauty and tranquility our slice of heaven provides. Please don't allow our residents, visitors to our churches and the fabulous Pagosa hospital be put in the risky position of sharing our two lane roads with commercial gravel truck traffic. There must be a better and wiser solution which would not put our safety, security and property values in jeopardy.

Sincerely,

Patricia Conger
289 Capricho Circle
(970) 731-4107

John Shepard

From: Shirley Cope <mtnscope@yahoo.com>
Sent: Tuesday, April 26, 2016 11:14 AM
To: John Shepard
Subject: opposition to gravel pit

We are residents of Meadows IV. We oppose allowing heavy gravel trucks on residential roads here. Even though we live off Meadows Drive on Harvard Avenue, we use Meadows Drive, Buttress, Cascade, Trujillo Road, and South Pagosa Blvd as our access roads to go to downtown, uptown, or either direction on Highway 160. Heavy traffic, especially large trucks, will impact Meadows IV residents with decreased safety and with road deterioration, whether it is on the paved sections or on the gravel sections. The roads budget isn't keeping up with maintaining the roads at present. How would it handle increased deterioration?

We sympathize with the residents along the gravel portions of Road 500, Cascade, and Buttress. Harvard Ave is a gravel road. Cars and trucks on Harvard definitely create dust. The more wheels on the ground, the worse the dust is. The heavier the vehicle, the more dust there is. The frequent gravel pit traffic could create a health problem for those residents on those gravel roads. Even on paved roads a large vehicle can send dust into the air.

One of our main concerns is the safety hazards created by heavy trucks. All the roads in question are narrow and without shoulders, leaving little space for people walking or biking to get out of the driving lane. These roads are dangerous even if the trucks stay under or at the speed limit. Our impression of vehicle speeds in our area is that a large percentage of vehicles are driven above the speed limit.

We ride our bikes on a 15-mile loop from our home (usually Harvard, Elbert, Meadows, Buttress, South Pagosa Blvd, Heath, Yarrow, Mariposa, San Juan Circle) We ride for fitness. We have helmets and rear-view mirrors and we normally ride single file. We try to be as safe as possible. We don't want day-long gravel truck traffic to threaten our safety while we try to stay fit. We fear not only for ourselves, though. We see people walking (singles, couples, pet-walkers), people walking to get their mail, people running (some with pets), other people on bikes, people taking a work break from the hospital. Some people walking San Juan Circle have driven their cars there, and their route includes South Pagosa Blvd.

Pagosa people want to be outdoors in our beautiful surroundings to stay fit AND enjoy the outdoors. They don't want to fear for their safety and health. They want to encounter occasional wildlife such as turkeys, songbirds, and mule deer, or just to hear the birds sing or gobble. Trucks are noisy as well as dangerous. Increased truck traffic certainly endangers our wildlife friends as well as ourselves.

Residents came here to enjoy the area. Enjoyment, health, and safety would be impacted in a negative way if the gravel pit traffic is allowed on our residential roads. Please don't permit the gravel pit trucks' use of our residential streets!

Sincerely,
Glen & Shirley Cope

John Shepard

From: Ann Dolce <lazyjltd@austin.rr.com>
Sent: Thursday, April 28, 2016 8:31 AM
To: John Shepard
Subject: Gravel pit road

I want to express my opposition to the use of existing roads through the Meadows subdivisions for the hauling of gravel by commercial trucks. The gravel pit company should find an alternate route or construct one that does not impact these residential neighborhoods.

Thank you,

Ann Johnston Dolce
26 Blanca Place
Pagosa Springs, CO

Two Rivers Gravel Pit

received
5/16/14 10AM

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

We urge the planning department, the Planning Commission, and the Archuleta BOCC to recognize the economic benefits of having a local quality gravel resource.

Quality spec gravel will improve road conditions and need less maintenance.

Savings in trucking costs can be used for other types of improvements or simply to increase the amount of material in the budget.

Per ton cost of material will be less therefore allowing more discretion with the taxpayer dollars and the county budget.

The mitigation fee that C&J Gravel will pay will speed up and significantly contribute to the improvement of roads in Archuleta County.

We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Jonathan Daulton
Alpine Excavation

Address PO Box 5841
Pagosa Springs, CO
81147

Additional Comments:

We would be very happy to have another gravel pit in Pagosa. We drive to Durango many times a week to get material there. Please consider letting C&J Gravel opening a gravel pit here in the Pagosa area.

Signiture:

Jonathan Daulton

John Shepard

From: George Dougherty <gbeefman@gmail.com>
Sent: Wednesday, March 16, 2016 3:17 PM
To: John Shepard
Subject: Gravel pit

John ..... Recently heard from my neighbors Beth and Toby Tollefsen regarding the proposed gravel pit and its routes coming and going from this pit.

I have read their email addressed to you and I believe it is spot on.

This is a residential neighborhood not a route designed for commercial vehicles. We have paid dues to PIPOA for many years which establishes us as a residential neighborhood.....you do not run commercial vehicles through a residential neighborhood on a daily basis.

We all bought out in this area for the peace and quiet along with the abundance of wildlife. Running commercial trucks through this area diminishes both , along with our property values. This neighbor was here long before this proposed gravel pit

Most importantly is the health hazard to everyone out in this area. This area is used heavily for walking and biking and enjoying the outdoors. This route through cascade, Meadows and South Pagosa Blvd would create dust that would not allow for any of the above activities . Inhaling these large amount dust cannot be good for either adults or children

Additionally, I have also experienced first hand being hit by rocks kicked up by the trash trucks along these routes .....this also is a hazard .....If you now add the high number of additional commercial gravel trucks ...someone is going to get hurt ..there are children and older adults in this area .....please take that into consideration also.

Lastly ....Pagosa has a mud season . Cascade and Buttress are at best terrible to navigate during mud season, or after any rain storm .
If you now add a few hundred commercial gravel trucks to the mix . ....what do you think these roads will be like . ....we all know the answer

We all ask that this proposal be denied

Thank you
George Dougherty

Sent from my iPad

John Shepard

From: George Dougherty <gbeefman@gmail.com>
Sent: Saturday, April 30, 2016 11:12 AM
To: John Shepard; terri@pagosasun.com; editor@pagosasun.com
Subject: GRAVEL PIT IMPACT

GRAVEL PIT IMPACT
An accident waiting to happen

The county and the gravel pit would have us believe that the up to 6 trucks per hour is no big deal . Well....The Meadows neighborhood thinks differently. These trucks represent an end to our quality of life and a danger to our community.

Let's not pretend for one second that these gravel trucks will be the only trucks hauling gravel through our neighborhood. Every contractor that has been purchasing gravel in Durango will now be coming and going thru Meadows on their way to this pit also.

The shoulders on these roads are less than desirable.....what happens when one of these trucks is going in one direction .....a car is coming from the other direction .....and a bike rider or some one walking .....all converge at the same time .

The answer .....The gravel truck will always win.....and one of the other two may well be injured, or killed .

Try to envision what it is like walking, bike riding, or on horseback and you hear the sound of 50,000 pounds of truck and gravel coming up behind you at 35-50 MPH and will pass within a few feet of you .

Think about that for a minute .....and visualize it .....please

These trucks coming through our neighborhood are an accident waiting to happen . Make no mistake about it.....some one is going to be injured.
It's not a matter of if some one will be injured .....just a matter of when it will happen.

Another good reason not to allow these trucks through Meadows

George Dougherty

Sent from my iPad

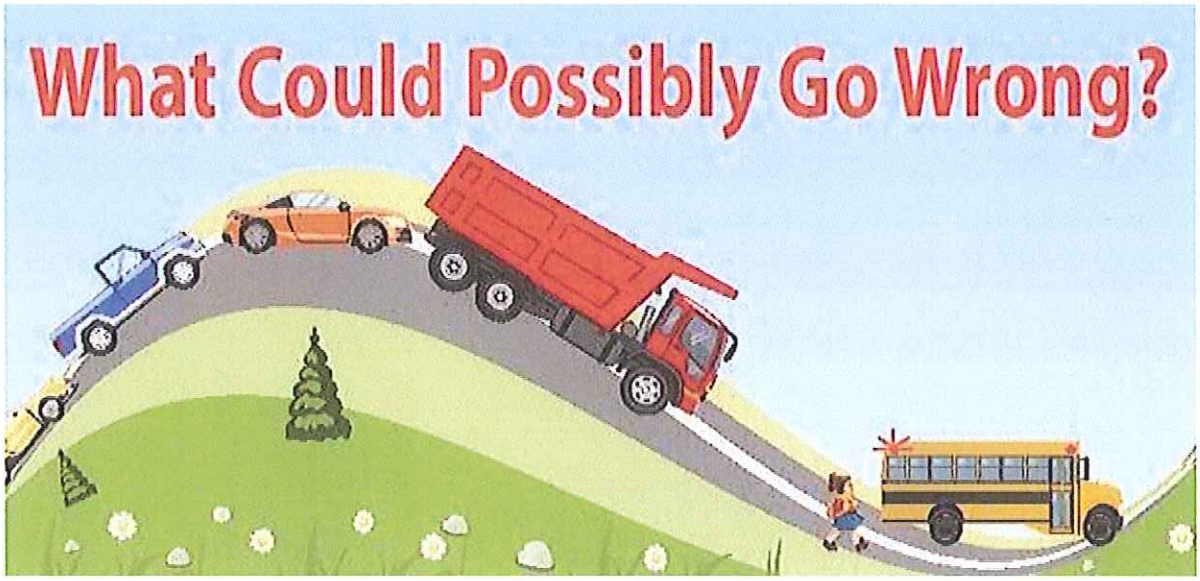
John Shepard

From: George Dougherty <gbeefman@gmail.com>
Sent: Saturday, May 14, 2016 1:54 PM
To: John Shepard
Subject: Fwd: Gravel pit ....Impact

Sent from my iPad

Begin forwarded message:

From: George Dougherty <gbeefman@gmail.com>
Date: May 14, 2016 at 1:52:02 PM MDT
To: terri@pagosasun.com, editor@pagosasun.com
Subject: Gravel pit ....Impact



The picture says it all. If the county thinks the proposed grave pit routes will not affect the whole community of Meadows . They are dead wrong.

I can certainly see the benefit for the county. They now have more product at a better price. Closer to home.....a big savings

I can certainly see the benefit to the gravel pit. They now have a new business, with a large customer.....that creates a profit almost immediately

The only thing I see for the Meadows residential subdivision is the following :

1) the loss of quality of life as we know it

2) loss of ability to walk, bike ride, horseback ride, or just enjoying being out side in our yard.
3) huge increase in traffic
4) damaged roads, cars, windshields and tires
5) unhealthy environment due to noise and dust pollution
6) safety issues for everyone , especially children
7) and above all ....a massive loss in our home vales.

Someone please show us (the homeowners / tax payers) the value to Meadows with these gravel trucks coming through the neighborhood

George Dougherty

Sent from my iPad

John Shepard

From: George Dougherty <gbeefman@gmail.com>
Sent: Wednesday, May 18, 2016 11:50 AM
To: John Shepard
Subject: Mitigation letter from C&J

John ....just read the mitigation letter from C&J gravel and in my opinion they are not doing the county any favors.

It appears they are putting a cap on the amount of risk/ mitigation they are willing to accept for damage created by trucks coming and going from the gravel pit.

To start with..... The original statement made was the life of the pit was estimated to be at 25-30 years. This proposal is based on 20 years. If it goes any longer than 20 years ...then they are receiving a free pass on mitigation for 5-10 years , or if you average the proposal over these last 5-10 years ....you are receiving a lot less per year.

The proposal offers Appx. $1,000,000 over 20 years . That's a little over $50,000 a years to maintain CR500, Cascade,Buttress and South Pagosa.
It also states that they estimate South Pagosa will need chip sealing every 10 years. It presently needs chip sealing more than every 10 years now with our current traffic..... I can only imagine how often it will need chip sealing once the gravel trucks start hitting it.

If you average the $1,000,000 over the life of the gravel pit. The amount decreases dramatically to around $40,000.

Does they county really think it can maintain these roads for what C&J is offering?

What if South Pagosa needs to be paved again....that's on the county

The amount of work that will be needed on these roads due to the gravel trucks can not be covered with what they are offering. You are on the hook for the remainder of all road damages.....so, where's the benefit to anyone.

If you factor in what these routes are going to do to our community of Meadows and now what the benefits (or lack of) are to the county. The decision to reject this proposal should be much easier

Thanks
George Dougherty

Sent from my iPad

John Shepard

From: Brian Duffin <rfhmsa@gmail.com>
Sent: Friday, May 13, 2016 8:09 AM
To: John Shepard
Subject: Reject the use of Meadows Drive to transport Two Rivers Pit gravel trucks

May 15, 2016

Dear Mr. Shepard:

RE: Proposed Gravel Pit on Trujillo Road

The Two Rivers Pit Project proposes to use Meadows Drive as a path for their heavy commercial trucks. We want you to strongly oppose this proposal.

We reside on Meadows Drive. This is a residential neighborhood and heavy commercial truck traffic should not pass through a residential neighborhood. The trucks will create noise which is highly undesirable and Meadows Drive was not engineered to sustain/support this heavy commercial truck traffic. In the last few years we have experienced road damage to Meadows Drive, which was caused by the increased heavy load truck traffic from the Trujillo Road Project. It is understandable that some heavy load truck exists when one in building a residence, however, the truck traffic being proposed is not of any benefit to the residences on this road or in this subdivision. We chose to live in this subdivision because of the quiet and natural beauty that surrounds us. Therefore, we find it hard to believe that you or any Commissioner would even consider such a proposal.

If YOU lived here, would you want heavy commercial truck traffic passing in front of your house constantly? We dare say not. This is why we implore you to reject this proposal.

Respectfully,

Brian and Wanda Duffin

3049 Meadows Drive

Pagosa Springs, CO 81147

John Shepard

From: Greg Dykstra <gjdjato@gmail.com>
Sent: Saturday, April 30, 2016 3:16 PM
To: John Shepard
Subject: Gravel Pit

Mr. Shepard, I sent you an email two weeks ago voicing my concerns of having gravel trucks driving the residential roads in the Pagosa Meadows areas. These roads are all residential roads and some of them are gravel. In my email, I talked about "Valley Fever", in the Phoenix area. I recently accessed the CDC website and found that this spore is very widespread in the United States. The scientific name of the spore is "Coccidioides". If you Google that name, it will take you to the CDC website. Note the geographic map associated with this spore/virus. It encompasses most of Four Corners and closely boarders Pagosa Springs. (I will bet it has already surfaced in Pagosa, but it just has not been identified yet, officially.) My neighbors are asking me to alert you of this finding, as they are now concerned about the possibility of the spore being kicked up by these gravel trucks in our neighborhoods. I am a retired Phoenix Police Sergeant and valley fever is very prevalent in Phoenix. So much so, that heavy fines are imposed for just parking vehicles on non-dust proof lots. The surrounding municipalities are also required to maintain compliance or face fines and other penalties. Please look at this information and consider the dangers the spores can cause, up to and including death to animals and HUMANS. I only ask that we do the RIGHT THING, when making a decision of this nature. Common sense also dictates that pedestrian traffic, wildlife, excessive road damage, noise, dust pollution, and other dangers will happen if these trucks are allowed to use residential routes as proposed. Again, I thank you for any consideration. Greg Dykstra, Pagosa Meadows IV resident.

John Shepard

From: Muriel Eason <murielinpagosa@gmail.com>
Sent: Saturday, April 30, 2016 3:24 PM
To: John Shepard
Subject: Gravel trucks in Pagosa Lakes HOA

John, as a homeowner near Buttress and South Pagosa Blvd. I would like to express my objection to routing big gravel trucks through our peaceful neighborhood. While these two roads are paved, they are already deteriorating and the County cannot or will not keep up with the maintenance. There are already many large cracks completely through the asphalt, all the way across the road. Fleets of trash trucks already fly through on their way to the dump, so the gravel trucks would be just too much.

We also have good friends along Cascade, which is a gravel, steep, windy, washboard gravel road and they already see clouds of fine dust every time a large vehicle passes. The fine dust particles are a health hazard, but even so, the County will not mitigate this with mag chloride, nor keep the road in good condition. It will be far worse with huge, heavy gravel trucks roaring by.

Please make sure this gets considered in the hearing before the County Commission.

Muriel Eason 970-946-1133

"The snow is melting into music." ~ John Muir

John Shepard

From: Cathy Eck <cathy.joe.eck@gmail.com>
Sent: Wednesday, April 27, 2016 8:04 PM
To: Clifford Lucero; Steve Wadley; Michael Whiting; John Shepard
Subject: Opposition to Gravel Pit

This email is to let you know that we vehemently oppose the recent application for a new gravel pit. We currently live on Meadows Drive in a home we built there 8 years ago. We oppose the gravel pit for the following reasons:

1. Safety - Pedestrians, bicyclists (including children), and even people on horses use Meadows Drive almost everyday. Our road has very narrow shoulders. Elk and deer frequent our neighborhood and often cross Meadows Drive.
2. Noise - The extra traffic of large trucks create a great deal of extra noise.
3. Road deterioration - We have witnessed the deterioration of our road in past years from heavy trucks using Meadows Drive. With the added truck traffic from the gravel pit, our road would be ruined.
4. Property values - With the added dust, noise, and road deterioration, property values would be greatly diminished.

Would you purchase a house on a road with gravel trucks traveling minimum of 48 times up and down the road? That is one about every fifteen minutes! And who is to say that this traffic won't double or triple.

We worked very hard to build our dream home in the peace and beauty of Pagosa country. Please assure us that you will vote "NO" on the proposed gravel pit.

Sincerely,
Joe and Cathy Eck
657 Meadows Drive
Pagosa Springs, CO
970-731-1257

John Shepard

From: Mark Espoy <mark@markespoy.com>
Sent: Wednesday, May 25, 2016 12:47 PM
To: John Shepard; John Shepard
Cc: Mark Espoy
Subject: Proposed C J Gravel Operations

Mr. John Shepard and Archuleta Planning Department;

The proposed C J Gravel Plant operation on Trujillo Road with the gravel trucks passing though residential areas is absurd and dangerous. We have lived in Pagosa Meadows 4 on S. Pagosa Blvd for almost 20 years and know how dangerous it is to access one's driveway due to speeding cars and truck passing over and through hills and blind curves. Archuleta County has very little paved roads and we have a very high concentration of visitors and neighbors walking, jogging and bike traffic without the use of bright colored clothing. This is a residential area and they feel safe with automobiles and only a few trucks passing. These roads and bike lanes are not wide enough to make it safe for folks walking their dogs or biking with gravel trucks passing by both directions. If you allow the gravel operation to take place, someone will be hurt on these roads or possibility killed! Not even to mention the Elk and Deer herds that will be hit by these trucks with their weight they can not slow down quick enough.

The paved roads in Pagosa Meadows were not designed for heavy duty truck traffic or as a designated truck route and are already getting in poor condition again after only a few years ago having oil and gravel applied. We all know it's very expensive to maintain these paved roads, but can you imagine the damage these trucks will do with daily activity hauling full trucks of gravel? Plus they must return to the plant for more gravel daily. This area has been know as a quiet residential area with only a few trucks passing to construction job sites then ending when their job is completed. This plant operation and transportation will go on for years and years not to mentions the noise pollution of these truck passing daily which all of us moved to this area for the quietness of these neighborhoods.

Also as real estate brokers for over 20 years, by allowing this gravel operations, you are hereby automatically reducing property values! With lower values will result in less revenue for the County operations of maintaining their operating budget. I was the past Archuleta County Tax Arbitrator I can guarantee when the re-evaluation period comes around every two years on property taxes, a huge volume of property owners will protest their values due to this gravel plants operation of transportation of gravel through a residential area and win their protest which will result in less tax revenue for our County.

The only correct answer to to deny this gravel plant's transportation application !

Sincerely;
Mark
& Denise
Espoy Broker ABR, CRS, CNE, GRI, SRES
Jim Smith Realty
Pagosa Springs, Colorado
Cell 970-946-6658
Email Mark@MarkEspoy.com

John Shepard

From: Mark Espoy <mark@markespoy.com>
Sent: Wednesday, May 25, 2016 12:55 PM
To: John Shepard; John Shepard
Cc: Mark Espoy
Subject: C&J Trucking Proposal

Archuleta County Planning Department;
Please read my son's comments on the C&J Trucking proposal below.
Sincerely;
Mark Espoy Broker ABR, CRS, CNE, GRI, SRES

Jim Smith Realty
Pagosa Springs, Colorado
Cell 970-946-6658
Email Mark@MarkEspoy.com

---------- Forwarded message ----------
From: **Ryan Espoy** <respoy@herzog.com>
Date: Wed, May 25, 2016 at 9:26 AM
Subject: C&J Trucking Proposal
To: Mark Espoy <mark@markespoy.com>

I reviewed the email you sent me in regard to C&J Trucking's use of South Pagosa Blvd and Cascade Ave. Please see my comments below:

1) C&J Trucking is offering $16447 a year for trucking rights on South Pagosa. Looking at contractor mobilization, Blue Book equipment rates and Davis Bacon Wage rates (conservative), any damage done to South Pagosa Blvd would not be able to be repaired for that amount on a yearly basis. This would not be adequate to replace a 100' strip of road on a yearly basis. $319,000 over the 20 year period would not be sufficient to repair/replace South Pagosa Blvd in its current configuration. Also, I see no mention of rate increases due to commodity prices. Oil is super cheap right now and that directly effects paving… so when the prices increase… so will repair costs. Also, will these funds be put in a trust of some sort and committed for use ONLY on S. Pagosa & Cascade or will they be placed in the county's general fund? If counties general fund, you can almost guarantee they'll be misappropriated and "borrowed against" for other projects.

2) Prior to authorizing any permanent trucking routes on South Pagosa Blvd, an analysis of the existing paving section needs to be performed. I would assume the county has as-builts for this road showing pavement thicknesses and base thicknesses. In addition, a registered CO Professional Engineer needs to perform a traffic analysis on South Pagosa Blvd to determine its current Traffic Index (TI). Then C&J would have to provide info on the number of trucks it will be running and the Engineer will determine the revised TI based on this. The revised TI will be used to determine the required pavement/base section that can hold up to that level

of traffic and based off the as-builts for South Pagosa, you'll know if the street can even hold up to the loading irrelevant of standard maintenance.

3) I would suspect that during the design of the paving section for South Pagosa, an R-Value test was performed to develop the paving section. If not, this would need to be completed to ensure that S. Pagosa was designed correctly.

4) The mitigation plan of chip sealing South Pagosa and gravel on Cascade every 5 years is grossly inadequate. Chip Sealing is a very minor fix for a road... really just to pretty it up and make the ride smoother in between full mill & overlay projects. Heavy Truck hauling on a road that may not be adequately designed for the loading with compromise the structural section of the road and lead to full depth repaving (extremely expensive in comparison to a standard mill & overlay every 10 years). A gravel road would most likely need to be regraded and have gravel added on a nearly monthly basis due to washboarding and potholes (heavy trucks GREATLY exacerbate this gravel road issue). Also, what are they offering for dust control measures on Cascade? I see nothing in regards to that and dust with a truck haul is a very real issue.

5) What about street sweeping? If they're running gravel trucks, they do spill and will cause build up on the sides of the pavement which is where people walk and ride bikes. This will cause pedestrians to walk/ride in the traffic lanes and will cause a safety issue over time. If C&J did a monthly street sweeping to remove all spilled gravel from the roadway, this could be mitigated.

6) What are they offering in terms of noise mitigation? These trucks are very loud, particularly when they use they use engine braking (jake brake) and most of them will not have mufflers or any form of emissions controls. Rather they'll just have straight pipe to the stacks… easiest way to make a diesel more powerful and fuel efficient. No one in Archuletta County is running Tier 3 & 4 trucks… guaranteed. This doesn't include the beds that are usually poorly maintained. Listening to metal gates slam every time the trucks hit a bump (or the pothole the truck created) will become very old over time and definitely take away from the quality of life people wish to maintain by living out in the country.

7) Are they offering the county a discount on gravel purchases in order to get this passed? Aside from that being unethical and violate .gov business practices, but they probably would only see 20% of the "Real" savings…. The rest would be pocketed by C&J.

Unfortunately, I get to deal with truck haul routes on a daily basis with my projects. Heavy trucks are extremely damaging to local streets and we always have huge issues with Cities/Counties fighting us to repair their roads after the fact. I'm very aware of what C&J is trying to do because I would be doing the exact same thing if I were them. They're trying to increase their revenue via decreased trucking costs and there's nothing wrong with that; but unfortunately they're doing it in a way that the county will experience an additional road repair burden. The county currently isn't capable of maintaining all the roads in its jurisdiction and this will

only increase the issue at the detriment of the residents of South Pagosa Blvd. If I owned property on either of these roads, I would absolutely **FIGHT AGAINST THIS!**

Let me know if you have any other questions.

Ryan L. Espoy, P.E.

Hensel Phelps/Herzog J.V.

720.878.3544

respoy@herzog.com

Project 2015-035SG Two Rivers Pit Major Sand & Gravel Permit

On Behalf of Diamond T Ranch - Letters received by Archuleta County Development Services through June 21, 2016.

PODOLL & PODOLL
A Professional Corporation

Jacqueline E. Hill
Email: Jacqui@podoll.net

February 9, 2016

John Shepard
Archuleta County Development Services
Planning Department
P. O. Box 1507
Pagosa Springs, Colorado 81147
jShepard@archuletacounty.org

via E-mail

Re: Objection to Major Sand & Gravel Permit for the proposed Two Rivers Pit by C&J Gravel Products, Inc. in Archuleta County, Colorado

Dear Mr. Shepard:

We represent Diamond T Ranch, LLC, the owner of property adjacent to the Two Rivers Pit proposed in the above referenced permit application. We understand that the Archuleta County Engineering Department is recommending that the Planning Commission **not** approve the project at this time, due in part to an insufficient traffic study. Our client would like to join in this objection and also address concerns regarding the applicant's insufficient plans for dust mitigation.

As recognized by County Engineering, the idea that 24 trucks per day hauling approximately 25 tons of gravel each will have "no significant impact" on traffic or air quality is simply without support. The Engineering Department seemed chiefly concerned with the increased traffic through the main streets in town; however the proposed pit would also have a significant impact on County Road 500, which leads to both the site of the proposed pit and the Diamond T Ranch. That road is a dirt road with already significant corrugation or "washboarding." The road near the site of the proposed pit is narrow and currently used primarily by local residents and guests. The increased traffic flow creates safety concerns for local residents and will have a significant impact on the character of the area, which has traditionally been quiet and serene. The increased stress on the road, and increased traffic flow will interfere with the usual commute of the individuals living along County Road 500.

This increased traffic flow, as well as the pit itself, will also create a significant amount of dust. Although the applicant indicates that it will treat the road "with mag-water or other [unidentified] dust control agents," the application shows no decreed water right which can be used

for the operation of the pit or dust control measures on the dirt road. It is unclear from both the County permit application and the application with the Division of Reclamation, Mining, and Safety, where any of the water needed for dust control on the roadways, dust control for mining, and for wash will come from. The applicant made vague references before DRMS to illegal and insufficient water rights held by the property owner, a 30-year "temporary industrial use" of agricultural rights without a proper decree, and a plan to get water from unidentified "other water rights holders."

There has been no realistic study presented to the County concerning the water to be used in the operation of the pit. The Application for a Reclamation Permit only contains unsubstantiated and grossly underestimated amounts of water. There is also no decreed water right or substitute supply plan which would demonstrate the availability of the water to be used for the operation of the pit and for dust control. The gross underestimation of the water needed for the operation of the pit must be resolved before a conditional use permit should issue from the County.

The Diamond T Ranch is directly and adversely affected by the proposed mining operation and its interests should be protected by the Board. There are several other deficiencies with the application, including access problems and imminent danger to the Harris Ditch, which diverts water from the San Juan River, traverses the Constant property in the vicinity of the proposed pit site, and fills a well on the Diamond T Ranch. These issues will be addressed in subsequent correspondence. Please send copies of further notices or correspondence regarding this matter to me at Podoll & Podoll, P.C., 5619 DTC Parkway, Suite 1100, Greenwood Village, Colo., 80111 or at the email provided below.

Very truly yours,

PODOLL & PODOLL, P.C.

By: _____

Jacqueline E. Hill, # 47789
5619 DTC Pkwy, Suite 1100
Greenwood Village, Colorado 80111
Telephone: (303) 861-4000
Email: Jacqui@podoll.net

PODOLL & PODOLL
A Professional Corporation

Robert C. Podoll
Email: rob@podoll.net

March 14, 2016

John C. Shepard, AICP
Planning Manager
Archuleta County Planning Department
PO Box 1507
Pagosa Springs, CO 81147

Via E-mail

Re: Two Rivers Gravel Pit
Major Sand & Gravel Permit Application
By C&J Gravel Products, Inc.

Dear Mr. Shepard:

As previously indicated in our correspondence of February 9, 2016, we represent Diamond T Ranch, LLC, the owner of property adjacent to the site of the proposed Two Rivers Gravel Pit. The locations of the Constant and Diamond T Ranch Properties are shown on Exhibit A, attached hereto. The Diamond T Ranch receives water from the Harris Ditch. The Harris Ditch diverts water from the San Juan River, traverses the Constant Property in the immediate area of the proposed Two Rivers Pit, and fills a pond on the Diamond T Ranch which is used for irrigation of agricultural lands. The Diamond T Ranch also maintains 3 wells on its property which provide water to homes on the property. We write to voice our objection to the Major Sand & Gravel Permit Application ("Application") submitted by C&J Gravel Products, Inc. ("C&J").

The Application is deficient in several respects. A large scale gravel mining operation would interrupt the peace and serenity of the surrounding landowners. The operation would substantially affect the air and water quality of the surrounding areas, as well as the scenic quality of the Diamond T Ranch and other adjoining properties. The proposed gravel mining operation would also be incompatible with surrounding land uses.

Further, the Applicant has demonstrated insufficient mitigation plans for the pit's impact on county roads, Diamond T Ranch's water rights, and the Harris Ditch. The Applicant has also

failed to show a legal right of access to the proposed pit site. Consistent with the Archuleta County Land Use Regulations, the permit application should be denied.

The Access to the Pit

In 2003, the Constants attempted to obtain a permit for a gravel mine in the same area as the now-proposed Two Rivers Pit. The Colorado Department of Reclamation, Mining and Safety ("DRMS") was concerned about the impact of the mining operation on the Harris Ditch. The Constants had made no arrangements to provide for the safety of the ditch or the ground water. Rather than revising their application to provide for the safety of surrounding natural resources, the Constants sued the neighboring property owner (our client's predecessor) alleging that the neighbor had no interest in the Harris Ditch.

The litigation commenced by the Constants was resolved through a Settlement Agreement between the parties on October 9, 2005, a copy of which is attached hereto as Exhibit B (the "Settlement Agreement"). The Settlement Agreement recognized the ditch rights of the neighbor and acknowledged an easement through the Constant Property for the Harris Ditch. It also provided for the safety of the Harris Ditch by an agreement that the ditch and easement rights could not be changed without the approval of our client's predecessor. The Agreement further provided that the Constants could build a bridge over the ditch (although it would be an interference with the ditch and easement rights) if the bridge design were agreed to by the neighbor.

In April, 2006, the parties executed an Addendum to the Settlement Agreement, which described the fundamental design of a bridge to be constructed over the Harris Ditch. A copy of the Addendum is attached as Exhibit C. The Addendum provided that the approved bridge design would have at least 30 feet between abutments, each abutment 15 feet from the center line of the Harris Ditch.

In August, 2012, James Constant informed Diamond T Ranch, LLC by letter that he intended to construct a bridge across the Ditch to be completed in 2013. That letter is attached

hereto as Exhibit D. He wrote that the bridge would comply with the Settlement Agreement and would not be rated to support gravel trucks. To quote from Mr. Constant's letter: "We **do not** plan on mining gravel and the bridge will **not** be rated to support a truck filled with gravel." (emphasis in original). The bridge over the Harris Ditch was constructed in early 2013. It does not comply with the Settlement Agreement, and according to the representations of C&J Gravel Products, it was designed and built to support gravel trucks.

Any bridge over the Harris Ditch would constitute an interference with the ditch rights of the Diamond T Ranch. Although our client's predecessor agreed to the design of a bridge to be built over the ditch without unreasonably compromising the ditch rights, the Constant's bridge was not built to the agreed specifications. The opening beneath the bridge is only 14-feet wide — too narrow to accommodate the large construction equipment necessary for the maintenance of the Ditch. This is a material violation of the Settlement Agreement.

Mr. Barton's contentions to the contrary in the county permit application — that "the distance between the exterior faces of the bridge abutments on either side of the Harris Ditch" are in compliance with the Addendum and that "the clearance between the elements protecting the abutments are adequate for equipment to move through for maintenance of the Harris Ditch" (*See* County Application: *Engineering Evaluation Report* 8(a)) — are without foundation. Mr. Barton's indication that the Ditch has not been cleaned during the two previous seasons since the bridge was constructed seems to be an implicit recognition of its inaccessibility. (*See* County Application: *Engineering Evaluation Report* 9(i)). The distance between abutments interferes with maintenance and repair of the ditch.

The Diamond T Ranch has commenced suit in Archuleta District Court, Case No. 2015cv30152 to vindicate its ditch and easement rights and compel the removal of the bridge. The Application for Conditional Use Permit is deficient because the Applicant cannot show legal access to the pit. No permit should issue until the applicant has legal access rights to the pit. (AC Land Use Reg. 9.2.5(17)).

Compatibility of Gravel Mining Operations with Surrounding Uses (9.1.6.3)

The property surrounding the proposed pit has a multitude of uses which cannot fairly be classified as "*primarily* agricultural, forestry, or industrial." (AC Land Use Reg. 9.1.6.1(1)). For example, the Diamond T Ranch's property is zoned for mixed agricultural and residential use. There are multiple residences on the property, some of which are the primary residence for families with small children. James Waterman also has a residence on his adjoining property, as does Eagle Shadow Ranch LLC immediately south on County Road 500.

There are several subdivisions along County Road 500 zoned exclusively for residential use which will be affected by the almost 25 trucks per day coming to and from the Pit. As recognized by the County Engineer the Applicant's mitigation plan for this disturbance is inadequate. (AC Land Use Reg. 9.1.6.1(2)). To the extent the Applicant updates its mitigation plan consistent with the County Engineer's request for a traffic study, we request the right to review the same.

The proposed site and equipment used for its operation will be visible from the Diamond T Ranch and the Applicant has not mitigated this visual disturbance to the extent reasonably possible. (AC Land Use Reg. 9.1.6.1(3-4)). Aside from the constant stream of gravel trucks traversing the adjoining property, the Applicant intends to excavate on a mesa. (*See* Photo of Pit Site, Exhibit E). While ultimately the pit may be "between 20 and 60 feet below the original terrain" (*See* County Application: *Synopsis of Two Rivers Pit Project*), as planned, it will take between 25 and 30 years before the pit reaches its ultimate depth. In the meantime it will be an eyesore to the Diamond T Ranch and its residents, its guests and its customers. The Applicant has stated that it would mitigate visual impact, but no mitigation arrangements have been made.

Likewise no arrangement has been made to mitigate the noise generated from the heavy gravel excavation equipment and washing equipment planned for the site. The Applicants bare references to the maps in the DRMS Package is insufficient for County approval. (*See* County Permit Application: *Itemized listing*). Applicant also proposes a permit length greater than

County Regulations (25-30 years where County permit is not to exceed 20 years). These County Regulations were included for the protection of the community and impacted landowners. Without plans to mitigate the effect on neighboring property, the permit should be denied.

Water Requirements

Lack of Decreed Water Rights

As was addressed in our February 9 letter, the Application shows no decreed water right which can be used for the operation of the pit or dust control measures. It is unclear from both the County Permit Application and the Application with DRMS, where any of the water needed for dust control on the roadways, dust control for mining, and for wash will come from.

In conjunction with the forthcoming traffic study, an analysis of the water needed to mitigate dust on County Road 500 should be required and the applicant should be obligated to actually obtain the necessary water rights prior to issuance of a permit by the County. Assurance before the Planning Commission and DRMS of a future intent to get necessary water rights isn't sufficient to satisfy AC Land Use Reg. 9.1.7(12).

Pollution of Water in the Ditch

In 2003 when the Constants first applied to the Division of Reclamation Mining and Safety for a reclamation permit, the application was not approved because the Constants failed to demonstrate that the pit would not disturb the "hydrologic balance," including the Harris Ditch. As discussed above, during the present round of State evaluation, the Constants and C&J drew the perimeter of the pit so that the Harris Ditch was outside DRMS review. They also baldly asserted that there would be no disturbance to the hydrologic balance and therefore no plan to minimize disturbance was presented. The MLRB merely accepted the Applicant's representation that no disturbance would occur. It certainly did not consider disturbances to the hydrologic balance or a plan by the Applicant to minimize them.

AC Land Use Reg. 9.1.7(11)(e) requires a vicinity impact analysis of, among other things, potential water pollution and does not include the 200-foot limitation of DRMS.

The plans for the proposed pit include drainage ditches on the uphill side of the access road to the proposed pit flowing to the mouth of the Harris Ditch. Further, the drainage ditch on the downhill side flows directly into the Harris Ditch. These ditches are a direct path for sediment and rocks to fill and pollute the water flowing through the Harris Ditch. The Applicants also indicate their intent to use pesticide in the pit which will flow into the Harris Ditch and cause potentially permanent harm to the Diamond T's irrigation systems and agriculture. There has been no mitigation plan presented to either DRMS or this body that would warrant the issuance of a county permit.

Groundwater

The pit is located to the East of and above the Harris Ditch. There is a danger that rocks, water runoff and sediment would end up in the ditch, affecting its use and operation. When asked about the safety of the ditch, the Applicant responded to the Division of Reclamation Mining and Safety that it planned to construct a berm to protect the ditch, but such a berm would create its own safety issues concerning the groundwater. Although the Applicant asserts that no groundwater would be affected by the pit operations, no study was done to determine the groundwater levels at the pit. The Diamond T Ranch operates wells which could be affected by a disturbance to the quality of the groundwater. It is also not clear that the berm would intercept all runoff and sediment from the gravel operation.

While the Applicant had every opportunity to work with the Division of Reclamation Mining and Safety to design the operation of the pit to protect the groundwater and the Harris Ditch, the Applicant has made no investigation concerning the effects of the operation of the pit on the area water and has not actually obtained *any* water rights for use in the pit.

Until the Applicant can show a legal right of access, provisions to improve the County Road, provisions to protect the area water, provisions to control dust, a reasonable water usage study, valid water rights to operate the pit including dust control, and reasonable provisions for the protection of the Harris Ditch, the Conditional Use Permit should not issue.

Please send copies of further notices or correspondence regarding this matter to me at Podoll & Podoll, P.C., 5619 DTC Parkway, Suite 1100, Greenwood Village, Colo., 80111 or at the email provided below. Very truly yours,

PODOLL & PODOLL, P.C.

By: Robert C. Podoll

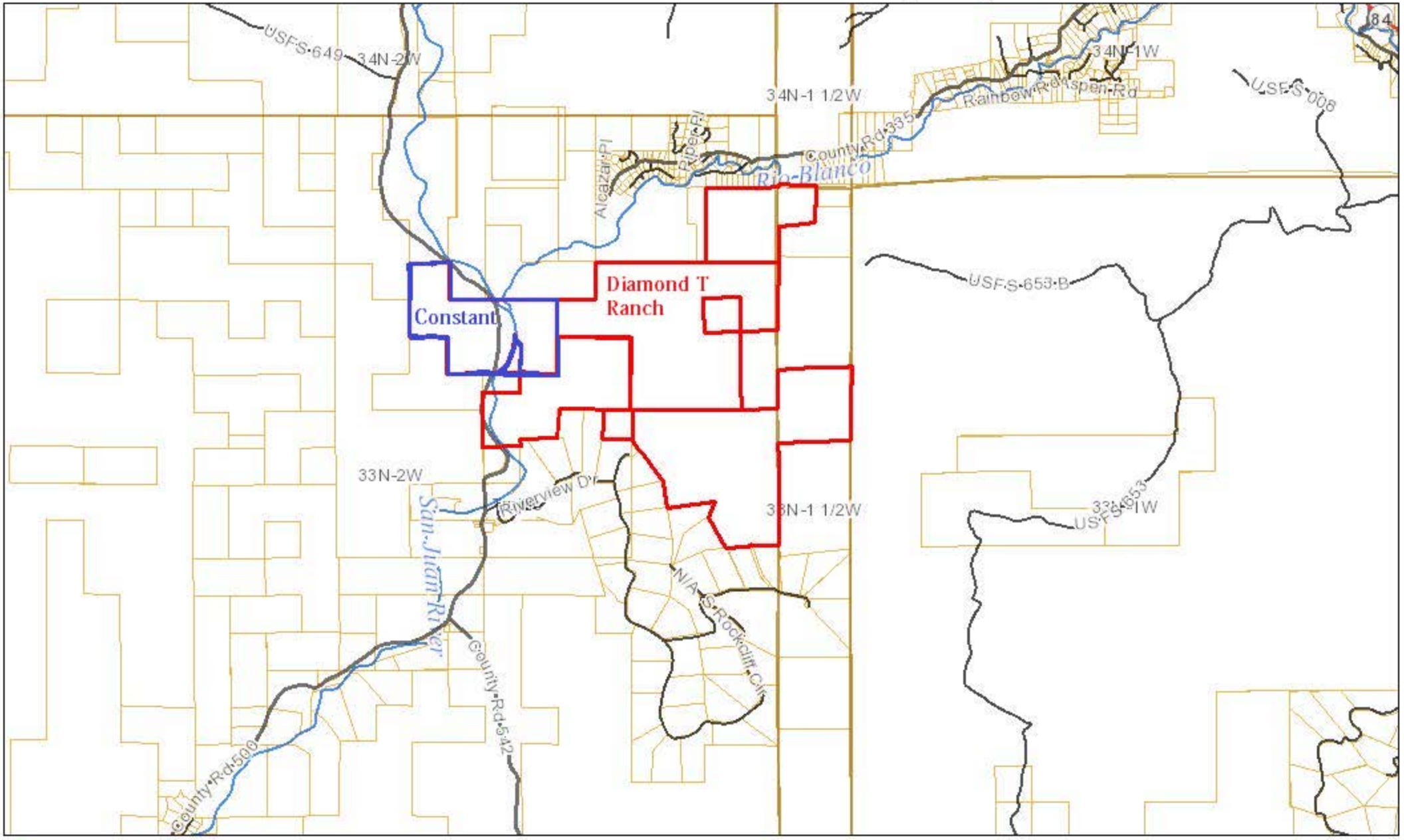
Robert C. Podoll
Jacqueline E. Hill
5619 DTC Pkwy, Suite 1100
Greenwood Village, Colorado 80111
Telephone: (303) 861-4000
Email: Rob@podoll.net
Email: Jacqui@podoll.net

Exhibit A

to Objection Letter by Diamond T Ranch, LLC

Two Rivers Gravel Pit **Major Sand & Gravel Permit Application** **C&J Gravel Products, Inc.**

Diamond T Ranch and Constant Propoerty



Archuleta County Department of Information Systems

June 17, 2015

0 4,250 8,500 17,000 ft

1 inch = 5,759 feet

1 inch = 1.09 miles

This map has been produced using various geospatial data sources. The information displayed is intended for general planning purposes and the original data will not likely be updated. No warranty is made by Archuleta County as to the accuracy, reliability or completeness

Sources: Esri, USGS, NOAA

Exhibit B

to Objection Letter by Diamond T Ranch, LLC

Two Rivers Gravel Pit **Major Sand & Gravel Permit Application** **C&J Gravel Products, Inc.**

20611211 11/20/2006 2:45 PM June Madrid
1 of 23 AGR R$116.00 D$0.00 Archuleta County

SETTLEMENT AGREEMENT AND RELEASE

This Settlement Agreement and Release ("Settlement Agreement") is effective this 4th day of October, 2005, by and between James A. Constant, Jr., and Leila B. Constant and the James A. Constant, Jr. Revocable Trust and the Leila B. Constant Trust, whose address is 12500 County Road 500, Pagosa Springs, Colorado 81147 (hereinafter collectively referred to as "Constant"), and Quince Associates, LP, and The Richard A. Berlanti Trust, whose addresses are 777 South Wadsworth Blvd., Suite 4-280, Lakewood, Colorado 80226 (hereinafter jointly referred to as the "Berlanti Trust"). Constant and the Berlanti Trust will be referred to jointly as the Parties.

I. RECITALS

WHEREAS, Berlanti Trust owns real property described in Exhibit A, which is attached hereto and incorporated herein (the "Berlanti Trust Property");

WHEREAS, Berlanti Trust is the sole owner of the water rights described in Exhibit B, which is attached hereto and incorporated herein (the "Water Rights");

WHEREAS, Constant owns the real property described in Exhibit C, which is attached hereto and incorporated herein (the "Constant Property");

WHEREAS, the Water Rights are transported to the Berlanti Trust Property by the Harris Ditch ("Ditch"), which diverts from the San Juan River at a point south of the confluence of the Rio Blanco and San Juan rivers by means of a rock berm diversion, traverses the Constant Property and property owned by James Waterman (the "Waterman Property"), and terminates at the Berlanti Trust Property, where the water is used for irrigation. The Water Rights are the only water rights carried by the Ditch;

WHEREAS, Berlanti Trust uses an access road adjacent to the Ditch from the Waterman Property on the west side of the Ditch to the headgate and across the Ditch by means of a culvert to the east side (the "Access Road") for access, maintenance and repair of the Ditch, primarily utilizing a backhoe and trackhoe. The Ditch and Access Road are located within an easement across the Constant Property and the Waterman Property;

WHEREAS, Berlanti Trust is the owner of or sole claimant to, and beneficiary of, the Ditch and the easement for the Harris Ditch and the Access Road;

WHEREAS, on May 28, 2004, Constant commenced a civil action against a predecessor in interest to the Berlanti Trust by filing a Complaint in Case No. 04CV75 in the Archuleta County district court (the "Litigation");

WHEREAS, on November 5, 2004, Berlanti Trust purchased the Berlanti Trust Property from the previous owner, Quince Associates, LP;

WHEREAS, Constant and Berlanti Trust desire to amicably resolve all claims that were or could have been asserted in the Litigation; and

RECORDER'S NOTE:
THIS IS A COPY

Return: Barry Spear, P.O. Box 2717, Durango CO 81302

WHEREAS, each party hereto has had the full opportunity, after consultation with counsel, to evaluate this Settlement Agreement and enters into it of its own free and voluntary act, with full knowledge of the binding and conclusive nature of this Settlement Agreement.

II. CONSIDERATION

Constant and Berlanti Trust, for and in consideration of the releases, agreements, and undertakings contained herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, agree to a full and final compromise and settlement of their differences in accordance with the terms and conditions set forth herein.

III. AGREEMENT

1. The Recitals and Consideration set forth above are incorporated herein as essential terms of this Settlement Agreement.

2. Ditch and Access Road Easement. The Parties hereby confirm that an easement exists for the Ditch and Access Road as described in Exhibit D attached hereto and incorporated herein plus a rock berm (the "Easement"). The rock berm included within the Easement may extend a maximum of 100 feet from the mouth of the Ditch into the San Juan River, unless a longer berm is reasonably necessary to enable Berlanti Trust to divert the Water Rights due to low flow in the San Juan River, as determined by the Berlanti Trust's water engineer ("Berlanti Trust Engineer"). If the Berlanti Trust intends to extend the berm beyond the 100 feet, it will provide written notice to Constant pursuant to and as governed by paragraph 7 below of its intent to do so and provide written confirmation from the Berlanti Trust Engineer of the need to extend the berm. Berlanti Trust will use reasonable and good faith efforts to minimize the length of the berm, including within the 100 feet. Berlanti Trust will not use rocks located on the Constant Property outside of the Easement without Constant's permission. Berlanti Trust's counsel shall provide a copy of the proposed Exhibit D to Constant's counsel for approval. If the Parties' counsel are unable to agree upon the terms in the proposed Exhibit D, either counsel may request that the terms be mediated with Robert E. Crane and such mediation shall be held as soon as reasonably possible. Within 5 days of the parties agreeing on the form of Exhibit D, Constant shall execute an easement deed for the Easement in the form to be attached hereto as Exhibit D for recording in the real property records of Archuleta County, Colorado. Constant shall allow Berlanti Trust to access the Ditch above the headgate from the bed of the San Juan River and shall provide reasonable access to and from the San Juan River, other than during periods of high water.

3. Changes to the Easement. Access to all sections of the Easement at all times is critical to the operation, maintenance and stability of the Ditch. Berlanti Trust shall maintain the existing culvert at the headgate until the bridge discussed in Section 4 is constructed, and such bridge shall be used to provide access to both parties across the Ditch. Constant agrees that it will not make any changes to the Ditch, Access Road or Easement without written approval of Berlanti Trust, which approval shall not be unreasonably withheld, except as otherwise set forth herein.

4. Proposed Bridge. Constant may construct a bridge across the Ditch as long as the improvements do not unreasonably interfere with Berlanti Trust's use, operation, maintenance, repair or replacement of the Ditch, Access Road or Easement. Constant proposes building a

bridge to be designed by Mitchell Constant ("Constant's Engineer") to cross the San Juan River. Constant's Engineer and Berlanti Trust's Engineer will cooperate to develop a bridge design that will not unreasonably interfere with Berlanti Trust's use, operation, maintenance, repair or replacement of the Ditch, Access Road or Easement. If Berlanti Trust's Engineer and Constant Engineer's are unable to agree to a bridge design on or before December 1, 2005, the Parties agree that within 14 days thereafter Constant's Engineer and Berlanti Trust's Engineer will enter into mediation with Robert E. Crane in an effort to agree to a bridge design that does not unreasonably interfere with Berlanti Trust's use, operation, maintenance, repair or replacement of the Ditch, Access Road or Easement. If the Parties are unable to agree to a bridge design after mediation, they may pursue this remaining issue in the Litigation or otherwise. Any inability to reach an agreement on the bridge design shall not affect the enforceability of the remaining provisions of this Settlement Agreement.

5. Dismissal of Court Action. Within 5 business days of reaching agreement on the bridge design contemplated in paragraph 4 above, the Parties shall execute and file a stipulation for dismissal with prejudice of the Litigation.

6. Fence. Within fourteen (14) days, Constant shall install a gate in the fence or remove a portion of the fence that will enable Berlanti Trust to access the Ditch north of the headgate on the east side of the Ditch. If Berlanti Trust believes that the fence otherwise interferes with Berlanti Trust's use, operation, maintenance, repair or replacement of the Ditch, Berlanti Trust will notify Constant of such interference, and the Parties will in good faith attempt to resolve the identified conflict. Berlanti Trust shall make reasonable efforts to close and secure all gates on or entering the Constant Property.

7. Notice of Maintenance Activities. Except in an emergency, Berlanti Trust shall give Constant 24-hours written notice by facsimile or email before conducting maintenance activities in the Easement with heavy equipment. This notice obligation shall be personal to James A. Constant, Jr. and Leila B. Constant and their immediate heirs and shall not run with the land.

8. Indemnification -- Constant. Constant agrees to indemnify and hold Berlanti Trust harmless and keep it free from any and all liability and claim for damages, costs, losses and expenses resulting from, arising out, or in any way connected with, the occupation, use, improvement of, or any changes to, the Easement by Constant, their agents, employees, invitees, or guests, or resulting from water or flood damage caused by the negligent construction, operation, maintenance, repair or replacement of any alteration to, or improvement of, the Ditch, Access Road, Easement, bridge, or adjacent structures by Constant.

9. Indemnification – Berlanti Trust. Berlanti Trust agrees to indemnify and hold Constant harmless and keep it free from any and all liability and claim for damages, costs, losses and expenses resulting from, arising out, or in any way connected with, the occupation, use, or improvement of the Easement by Berlanti Trust, its agents, employees, invitees, or guests, except that Berlanti Trust shall not be responsible in any way for any alteration to, or improvement of, the Ditch, Access Road or Easement by Constant. Berlanti Trust shall not be liable to Constant if Constant's occupation or use of the Easement is hindered or disturbed without fault on the part of Berlanti Trust.

10. Release of all Claims – Constant. Constant, for itself, and its executors, successors, predecessors, former, present and future affiliates, administrators, assigns, officers, directors, employees, managers, partners, agents, representatives, parents, divisions, subsidiaries, and attorneys, hereby forever releases, forgives and discharges Berlanti Trust, its successors, predecessors, former, present and future affiliates, administrators, assigns, officers, directors, employees, managers, partners, agents, representatives, parents, divisions, and subsidiaries and attorneys of and from any and all claims, liabilities, demands, actions, causes of action, suits, debts, obligations, promises, acts, agreements, costs, expenses, attorneys' fees and damages whatsoever, in law or in equity, that they may, shall have against Berlanti Trust and those entities and persons specified above, whether known or unknown, suspected or unsuspected, arising out of or relating to the claims that were or could have been asserted in the Litigation, except for any and all claims that arise from this Settlement Agreement or that may arise hereafter.

11. Release of all Claims – Berlanti Trust. Berlanti Trust for itself, and each of its executors, successors, predecessors, former, present and future affiliates, administrators, assigns, officers, directors, employees, managers, partners, agents, representatives, parents, divisions, subsidiaries, and attorneys, hereby forever releases, forgives and discharges Constant, its successors, predecessors, former, present and future affiliates, administrators, assigns, officers, directors, employees, managers, partners, agents, representatives, parents, divisions, and subsidiaries and attorneys of and from any and all claims, liabilities, demands, actions, causes of action, suits, debts, obligations, promises, acts, agreements, costs, expenses, attorneys' fees and damages whatsoever, in law or in equity, that they may, shall have against Constant and those entities and persons specified above, whether known or unknown, suspected or unsuspected, arising out of or relating to the claims that were or could have been asserted in the Litigation, except for any and all claims that arise from this Settlement Agreement or that may arise hereafter.

12. Covenant Not to Sue. The Parties agree and covenant not to institute, cause to be instituted or cooperate in or facilitate the institution of any action against each other in which liability is in any way to be predicated upon any of the claims released in this Settlement Agreement, and the Parties agree to indemnify and hold each other harmless from and against all expenses, including reasonable legal fees and costs, incurred by them in defending against any claim in which either has participated in violation of this Covenant Not to Sue. This paragraph 12 may be pled by any or all of the Parties as a defense to any such claim and in any such action, and may be pled by way of counterclaim, third-party complaint or cross claim in any such claim or action. Nothing in this Settlement Agreement shall be deemed to waive any right Berlanti Trust has to object to any future gravel pit application submitted by Constant, nor to waive any right Constant may have to seek approval, judicial or otherwise, of any bridge which they desire to construct, whether or not approved as set forth in Section 4 hereof.

13. No Admission of Liability. The Parties understand that by entering into this Settlement Agreement, they do not admit any liability on the claims in the Litigation, and nothing in this Settlement Agreement shall be construed to be an admission of any liability whatsoever in connection with the allegations in the Litigation.

IV. MISCELLANEOUS

14. Warranties of Authority. The parties to this Settlement Agreement, and each of them, expressly warrant and represent to the other Parties that they have the full right, title and

authority to enter into this Settlement Agreement as provided herein and that no approvals or consents of any other persons, entities or agencies are necessary to effect the same.

15. Legal Remedies. Berlanti Trust and Constant shall have all remedies available at law or in equity for violations of this Settlement Agreement, including but not limited to special and compensatory damages.

16. Legal Fees. In the event of any action, proceeding or litigation between Constant and Berlanti Trust concerning this Settlement Agreement, the prevailing party shall be entitled to collect its reasonable legal fees and costs. Any litigation to enforce the terms of this Settlement Agreement shall be commenced in Archuleta County, Colorado and venue shall be restricted to such county.

17. Binding Effect. Except as provided under paragraph 7 above, this Settlement Agreement shall extend to, inure to the benefit of, and be binding upon Constant and its successors and assigns (including subsequent owners of the Constant Property, or any part thereof), and upon Berlanti Trust, its successors (including subsequent owners of the Berlanti Trust Property, or any part thereof), legal representatives and assigns. Except for the notice provisions contained in paragraph 7 above, this Settlement Agreement shall constitute an agreement running with the Constant Property and the Berlanti Trust Property. This Settlement Agreement shall be recorded in the real property records of the Archuleta County Clerk and Recorder.

18. Notices. Except as otherwise provided in this Settlement Agreement, all notices required or authorized to be sent by one party to the other shall be in writing and shall be personally delivered, faxed, emailed or deposited in the United States registered or certified mail, sufficient postage prepaid, return receipt requested, addressed as follows:

To Berlanti Trust:
The Richard A. Berlanti Trust
c/o John P. Hill, Jr.
777 South Wadsworth Blvd., Suite 4-280
Lakewood, CO 80226

To Constant:
James and Leila Constant
12500 County Road 500
Pagosa Springs, CO 81147
Fax: (970) 264-4621
Email: 61791c@pagosa.net

Notices personally delivered, faxed or emailed shall be deemed sent and received on the date on which delivery is made. Notices given by mail shall be deemed to have been sent, delivered, and received three (3) days after the date the same are placed in the United States mail. Either party may change its address for notice by giving the other party notice of such change in the manner specified in this section.

19. Severability. If any term or provision of this Settlement Agreement, or the application thereof to any person or circumstances shall, to any extent, be invalid or unenforceable, the remainder of this Settlement Agreement shall not be affected thereby, and each remaining term and provision of this Settlement Agreement shall be valid and enforceable to the fullest extent permitted by law.

20. Execution. Each Party agree to execute another copy of this Settlement Agreement before a notary for recording purposes within two business days of being requested to do so by the other Party hereto.

IN WITNESS THEREOF, this Settlement Agreement is approved, agreed to and executed on the date first written above.

JAMES A. CONSTANT

James A. Constant

LEILA B. CONSTANT

Leila B. Constant

State of Colorado)
) ss.
County of Archuleta)

Subscribed, sworn to and acknowledged before me by James A. Constant on this 31st day of October, 2005.

Witness my hand and seal.
My commission expires: 1-19-2008

Sara Baker
Notary Public

State of Colorado)
) ss.
County of Archuleta)

Subscribed, sworn to and acknowledged before me by Leila Constant on this 31st day of October, 2005.

Witness my hand and seal.
My commission expires: 1-19-2008

Sara Baker
Notary Public

JAMES A. CONSTANT, JR. REVOCABLE TRUST

By James A. Constant Jr.
James A. Constant, Jr., Trustee

LEILA B. CONSTANT REVOCABLE TRUST

Leila B. Constant
Leila B. Constant, Trustee

State of Colorado)
) ss.
County of Archuleta)

Subscribed, sworn to and acknowledged before me by James A. Constant, Jr., as Trustee of the James A. Constant, Jr. Revocable Trust, on this 31st day of October, 2005.

Witness my hand and seal.
My commission expires: 1-19-2008

Notary Public

State of Colorado)
) ss.
County of Archuleta)

Subscribed, sworn to and acknowledged before me by Leila B. Constant, as Trustee of the Leila B. Constant Revocable Trust, on this 31st day of October, 2005.

Witness my hand and seal.
My commission expires: 1-19-2008

Notary Public

THE RICHARD A. BERLANTI TRUST

By Richard A Berlanti
Richard A. Berlanti

State of ~~Colorado~~ Florida)
) ss.
County of Palm Beach)

Subscribed, sworn to and acknowledged before me by Richard A. Berlanti, as Trustee of The Richard A. Berlanti Trust, on this 9 day of JAN, ~~2005~~ 2006.

Witness my hand and seal.
My commission expires:

A. C. YUKENAVITCH
Notary Public, State of Florida
My comm. expires May 17, 2007
No. DD 196443

Notary Public

QUINCE ASSOCIATES, L.P, a Maryland limited partnership

By Richard A Berlanti
Richard A. Berlanti

State of ~~Colorado~~ Florida)
) ss.
County of Palm Beach)

Subscribed, sworn to and acknowledged before me by Richard A. Berlanti on this 9 day of JAN, ~~2005~~ 2006.

Witness my hand and seal.
My commission expires:

A. C. YUKENAVITCH
Notary Public, State of Florida
My comm. expires May 17, 2007
No. DD 196443

Notary Public

THE RICHARD A. BERLANTI TRUST

By Richard A Berlanti
Richard A. Berlanti

State of ~~Colorado~~ Florida)
) ss.
County of Palm Beach)

Subscribed, sworn to and acknowledged before me by Richard A. Berlanti, as Trustee of The Richard A. Berlanti Trust, on this 9 day of JAN, ~~2005~~ 2006.

Witness my hand and seal.
My commission expires:

A. C. YUKENAVITCH
Notary Public, State of Florida
My comm. expires May 17, 2007
No. DD 196443

Notary Public

QUINCE ASSOCIATES, L.P, a Maryland limited partnership

By Richard A Berlanti
Richard A. Berlanti

State of ~~Colorado~~ Florida)
) ss.
County of Palm Beach)

Subscribed, sworn to and acknowledged before me by Richard A. Berlanti on this 9 day of JAN, ~~2005~~ 2006.

Witness my hand and seal.
My commission expires:

A. C. YUKENAVITCH
Notary Public, State of Florida
My comm. expires May 17, 2007
No. DD 196443

Notary Public

20611211 11/20/2006 2:45 PM June Madrid
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EXHIBIT A TO SETTLEMENT AGREEMENT
BERLANTI TRUST PROPERTY

Lots 4, 5, 6, 7 and 8; and the S1/2W1/4SW1/4 of Section 11; the NW1/4NW1/4 and Lot 3, LESS AND EXCEPT the South 12 acres of said Lot 3 of Section 14, Township 33 North, Range 2 West, N.M.P.M., Archuleta County, Colorado.

Street Address: 2500 County Road 500, Pagosa Springs, Colorado 81147

Ditch No.137. ---- HARRIS DITCH.

Priority No.198.

Concerning this ditch the Court finds:--

1. That the name of said ditch is the Harris Ditch, and that the claimant is Emilio Lujan.

2. That the headgate of said ditch is located on the east bank of the San Juan River, from which stream it derives its supply of water, at a point about 600 feet below the mouth of the Blanco River, in Archuleta County, Colorado; from which ~~the~~ headgate said ditch runs in a general southerly direction.

3. That the dimensions of said ditch as originally constructed were 2-1/2 feet in width at the top, 2 feet in width at the bottom, 1-1/2 feet in depth, grade 1-inch to the rod, length 3/4 of a mile; carrying capacity over one cubic foot of water per second of time.

4. That the original construction of said ditch was commenced on June 1, 1907, from which time the appropriation of water therethrough by original construction would, ordinarily, date; but that the claims of said ditch were not presented in the prior adjudications of this District and that, therefore, said priority must take effect and be given priority number subsequent to the last priority adjudicated in the 1912 Decree as amended, and in its proper consecutive order as compared with other priorities similarly situated and similarly estopped. That said original ditch was completed with reasonable diligence.

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5. That through said ditch as originally constructed the owner thereof has appropriated and applied water to the actual direct irrigation of 10 acres of land lying under the same; that said land is porous and gravelly bottom land, and requires a considerable head of water; and that the amount of water so used and reasonably necessary for the irrigation of said land, is one-half of a cubic foot of water per second of time.

That said ditch should be numbered as Ditch No.137; and should be awarded Priority No.198 in said Water District, with historic date of appropriation of June 1, 1907, but to take effect in rank of priority in accordance with said priority number hereby awarded.

IT IS, THEREFORE, ADJUDGED AND DECREED That said Harris Ditch is hereby numbered as Ditch No.137; and for direct irrigation of said 10 acres of land by virtue of appropriation by original construction, for the benefit of the party or parties entitled to the enjoyment thereof, said ditch is awarded and decreed Priority No.198 in said Water District No.29, in and to the extent of one-half cubic foot of water per second of time; subject to all the general limitations in the above general decree expressed.

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FIRST ENLARGEMENT OF THE HARRIS DITCH

Priority No. 1968-282

Concerning this enlargement, the Court finds:

The name of the enlargement is First Enlargement of the Harris Ditch, and the claimants are Dotty Birdsall and Kay Williamson.

The headgate of the ditch is located at a point on the East bank of the San Juan River, from which it derives its supply of water, at a point 600 feet below the mouth of the Blanco River in Archuleta County, Colorado.

The date of initiation of original appropriation was April 25, 1967.

The capacity of the ditch is now 10 cubic feet of water per second of time and claim is made for 5.5 additional cubic feet of water per second of time for the irrigation of 85 additional acres of land, and livestock water.

IT IS ORDERED that First Enlargement of the Harris Ditch is awarded, Priority No. 1968-282, with priority date of April 25, 1967, for 5.5 cubic feet of water per second of time for livestock and irrigation purposes; subject to the general provisions of this decree.

EXHIBIT C TO SETTLEMENT AGREEMENT
CONSTANT PROPERTY

The NW1/2SW1/4 and the S1/2NW1/4 of Section 11; and the NW1/4NE1/4, the S1/2NE1/4 and the NE1/4SE1/4 of Section 10; Township 33 North, Range 2 West, N.M.P.M., Archuleta County, Colorado

Street Address: 12500 County Road 500, Pagosa Springs, Colorado 81147

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1 of 5 EAD R$26.00 D$0.00 Archuleta County

EASEMENT DEED

This Easement Deed is made this 18th day of April, 2006, by and between the James A. Constant, Jr. Revocable Trust and the Leila B. Constant Revocable Trust, whose addresses are 12500 County Road 500, Pagosa Springs, Colorado 81147 (hereinafter jointly "GRANTOR"), and The Richard A. Berlanti Trust dated January 16, 1996, whose address is 777 South Wadsworth Blvd., Suite 4-280 Lakewood, Colorado 80226 ("GRANTEE") pursuant to the Settlement Agreement and Release entered into between the GRANTOR and GRANTEE on October 19, 2005, in Case No. 04CV75, Archuleta County District Court ("Settlement Agreement").

GRANTOR, for and in consideration of the sum of TEN DOLLARS ($10.00) and other good and valuable consideration paid by the GRANTEE to the GRANTOR, the receipt and sufficiency of which are hereby acknowledged, has granted, bargained, sold and conveyed, and by this Easement Deed does grant, bargain, sell, convey and confirm to the GRANTEE, its successors and assigns forever, a permanent, non-exclusive easement on, under and to the property described on Exhibits 1 and 2 attached hereto and incorporated herein by this reference, located in Archuleta County, Colorado (together, the "Constant Parcel Easement"), for the purposes ("Purposes") of:

STATE DOCUMENTARY
DATE: 9-6-06
$ 0

1. Using, operating, maintaining, inspecting, repairing and replacing, in whole or in part, a ditch known as the Harris Ditch, the adjacent access road, a diversion rock berm located in the San Juan River, and all necessary subsurface and surface appurtenances for the transportation of 6 cubic second feet of water decreed to the Harris Ditch in Civil Action No. 308 on June 5, 1928, and in Case No. 308 on December 19, 1968 in the District Court, and for the operation and control of the Harris Ditch;

2. Lining and piping the Harris Ditch in whole or in part; and

3. Cutting and clearing trees, brush, debris and other obstructions on the Constant Parcel Easement that interfere with the activities set forth in paragraphs 1 and 2.

The GRANTEE shall:

A. Limit the movement of vehicles, equipment and agents across the Constant Parcel Easement to that which is reasonably necessary to achieve the Purposes.

B. Use reasonable and good faith efforts to minimize the length of the berm, as described in Exhibit 1.

Return:

RUSSELL & PIETERSE LLC
P O BOX 2673
Telluride, CO 81435

The GRANTOR reserves the right to use and occupy the Constant Parcel Easement for any purpose consistent with the rights and privileges granted herein that will not interfere with or endanger any of the GRANTEE'S facilities constructed for the Purposes on or under the Constant Parcel Easement, or GRANTEE'S authorized use thereof, provided that GRANTOR shall not make any alteration to the Constant Parcel Easement inconsistent with its residual rights and with the terms of the Settlement Agreement without the prior written consent of the GRANTEE or court order.

GRANTOR:
James A. Constant, Jr. Revocable Trust

By James A. Constant, Jr.
James A. Constant, Jr., Trustee

GRANTOR:
Leila B. Constant Revocable Trust

By Leila B. Constant
Leila B. Constant, Trustee

State of Colorado)
) ss.
County of Archuleta)

This instrument was acknowledged before me by James A. Constant, Jr, on this 18th day of April, 2006.

Witness my hand and seal.
My commission expires: 1-19-2008

Lois Baber
Notary Public

State of Colorado)
) ss.
County of Archuleta)

This instrument was acknowledged before me by Leila B. Constant on this 18th day of April, 2006.

Witness my hand and seal.
My commission expires: 1-19-2008

Lois Baber
Notary Public

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Exhibit 1 to Easement Deed
Easement for Rock Berm Diversion Structure

The easement for the rock berm diversion structure for the Harris Ditch extends from the line described as L40 on Exhibit 2 into the San Juan River a maximum of 100 feet, unless a longer berm is reasonably necessary to enable GRANTEE to divert its decreed water rights due to low flow in the river, as determined by GRANTEE's engineer under the terms and conditions set forth in the Settlement Agreement.

EASEMENT DESCRIPTION
LOCATED IN A
PORTION OF SECTION 11, T33N, R2W, N.M.P.M.

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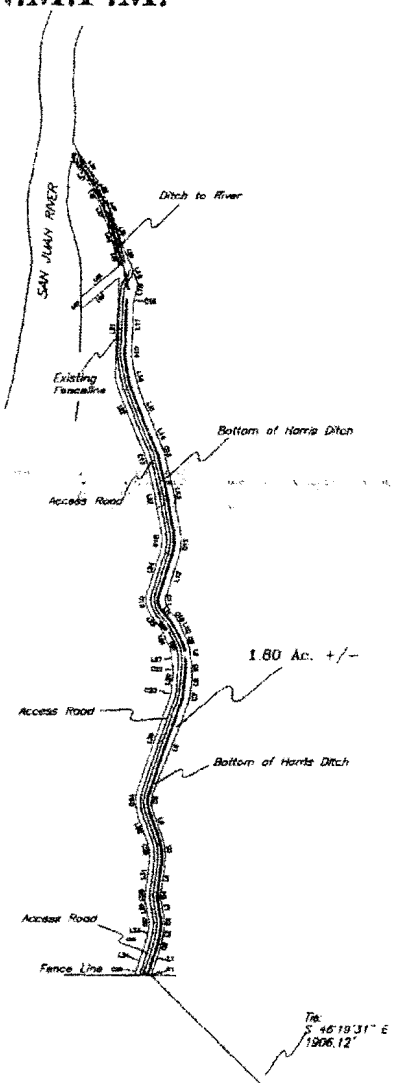
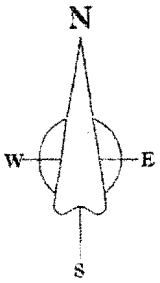
LINE AND CURVE TABLE FOR THE CONSTANT EASEMENT

CURVE	DELTA ANGLE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	05°14'00"	47.40'	4.33'	N 24°16'31" E	4.33'
C2	08°56'08"	188.57'	29.41'	N 14°18'48" E	29.38'
C3	18°37'20"	87.44'	28.42'	N 00°06'47" E	28.29'
C4	22°10'35"	32.30'	12.50'	N 03°20'30" E	12.43'
C5	30°11'27"	126.86'	66.85'	N 06°34'36" E	66.08'
C6	45°06'27"	60.76'	47.83'	N 02°56'47" E	46.61'
C7	17°50'28"	116.66'	36.33'	N 11°39'45" E	36.18'
C8	20°13'53"	102.90'	36.33'	N 03°05'36" W	36.15'
C9	27°17'25"	82.54'	39.31'	N 19°10'18" W	38.94'
C10	21°32'29"	97.78'	36.76'	N 32°36'18" W	36.55'
C11	58°22'34"	20.47'	24.43'	N 00°39'31" W	23.01'
C12	25°03'45"	148.41'	64.92'	N 05°28'25" E	64.40'
C13	11°33'04"	186.34'	37.57'	N 16°52'29" W	37.50'
C14	20°11'07"	116.83'	41.19'	N 01°13'35" W	40.98'
C15	19°34'41"	41.43'	14.16'	N 12°08'54" E	14.09'
C17	11°32'27"	141.34'	28.47'	S 16°52'10" E	28.42'
C18	24°15'43"	103.41'	43.79'	S 05°52'26" W	43.46'
C19	81°30'53"	66.47'	70.29'	S 04°05'22" E	66.97'
C20	24°37'28"	52.78'	22.68'	S 34°07'49" E	22.51'
C21	32°37'53"	37.54'	21.38'	S 21°50'32" E	21.09'
C22	22°47'47"	57.90'	23.04'	S 04°23'33" E	22.89'
C23	19°01'23"	71.66'	23.79'	S 11°04'17" W	23.68'
C24	44°03'59"	97.76'	75.19'	S 02°25'33" W	73.35'
C25	30°34'46"	89.86'	47.96'	S 08°46'16" E	47.39'
C26	20°18'00"	69.30'	24.55'	S 02°24'12" W	24.43'
C27	19°04'55"	50.44'	16.80'	S 00°07'00" E	16.72'
C28	06°53'27"	151.57'	23.02'	S 14°18'09" W	23.50'
C29	12°34'50"	84.40'	18.52'	S 18°33'40" W	18.49'

LINE	BEARING	DISTANCE
L1	N 18°44'52" E	58.79'
L2	N 09°25'27" E	25.37'
L3	N 07°44'48" W	47.10'
L4	N 08°31'07" E	68.77'
L5	N 19°36'26" W	56.70'
L6	N 22°42'07" E	216.36'
L8	N 07°01'20" E	28.66'
L9	N 05°31'36" W	26.57'
L10	N 21°49'05" W	21.34'
L11	N 34°50'48" W	23.12'
L12	N 18°00'18" E	91.77'
L13	N 11°05'57" W	169.89'
L14	N 22°43'11" W	48.46'
L15	N 20°12'40" W	90.82'
L16	N 14°03'02" W	85.07'
L17	N 02°21'33" E	90.01'

L18	N 15°32'21" E	26.64'
L19	N 20°47'15" W	46.15'
L20	N 25°10'35" W	47.78'
L21	S 02°26'48" W	222.48'
L22	S 20°41'29" E	185.60'
L23	S 11°05'57" E	167.98'
L24	S 18°00'18" W	87.39'
L25	S 34°50'48" E	26.98'
L26	S 21°49'05" E	26.53'
L27	S 05°31'36" E	30.03'
L28	S 07°01'20" W	30.54'
L29	S 20°34'59" W	214.61'
L30	S 19°36'26" E	57.43'
L31	S 08°31'07" W	67.22'
L32	S 07°44'48" E	47.63'
L33	S 09°25'27" W	25.24'
L34	S 18°44'52" W	54.54'
L35	S 87°55'58" E	43.24'
L36	N 18°12'51" W	58.34'
L37	N 22°40'41" W	59.71'
L38	N 25°31'55" W	34.83'
L39	N 34°43'45" W	80.30'
L40	S 12°56'27" W	27.05'
L41	S 34°43'45" E	60.48'
L42	S 25°33'06" E	32.98'
L43	S 22°40'54" E	58.67'
L44	S 18°12'51" E	56.97'
L45	S 14°49'41" E	41.90'
L46	S 53°32'47" W	111.88'
L47	S 00°14'51" E	24.79'
L48	N 53°52'47" E	111.84'





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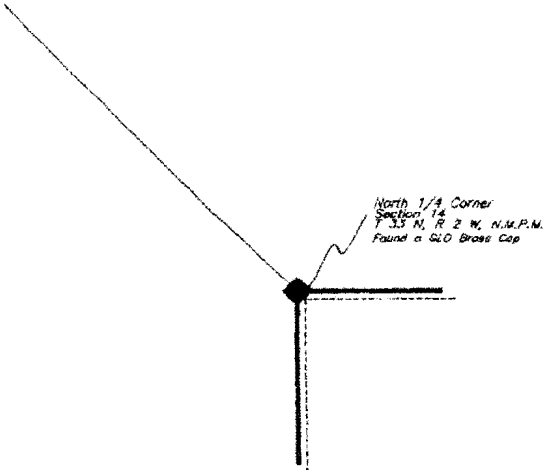
SCALE: 1" = 200'

200' 100' 0' 200'

Bearings based on the north line of the NW1/4NE1/4 of Section 29, T33N, R1W, N.M.P.M. monumented as shown hereon.
Reference Bearing N 88° 01' 56" E

CONSTANT PARCEL EASEMENT LEGAL DESCRIPTION.
A easement for the use, operation, maintenance, inspection, repair, and replacement of the Harris Ditch, (the "Ditch") and the road adjacent to the Ditch(the "Access Road"), both of which are located in a portion of Section 11, Township 34 North, Range 2 West, N.M.P.M., in Archuleta County, Colorado, being more particularly described as follows, to wit:
Beginning on the easterly bank of the said ditch from whence the South 1/4 Corner of said Section 11 bears S 69° 32' 09" E, 1871.43 feet;
Thence along the arc of a curve to the right with a delta angle of 05° 14' 00" and a radius of 47.40 feet for a distance of 4.33 feet;
Thence N 18° 44' 52" E, 58.79 feet;
Thence along the arc of a curve to the left with a delta angle of 08° 56' 08; and a radius of 188.57 feet for a distance of 29.41 feet;
Thence N 09° 25' 27" E, 25.37 feet;
Thence along the arc of a curve to the left with a delta angle of 18° 37' 20" and a radius of 87.44 feet for a distance of 28.42 feet;
Thence N 07° 44' 48" W, 47.10 feet;
Thence along the arc of a curve to right with a delta angle of 22° 10' 35" and a radius of 32.30 feet for a distance of 12.50 feet;
Thence N 06° 31' 07" E, 58.77 feet;
Thence along the arc of a curve to the left with a delta angle of 30° 11' 27" and a radius of 126.86 feet for a distance of 66.85 feet;
Thence N 19° 39' 26" W, 56.70 feet;
Thence along the arc of a curve to the right with a delta angle of 45° 06' 27" and a radius of 60.76 feet for a distance of 47.83 feet;
Thence N 22° 42' 07" E, 216.38 feet;
Thence along the arc of a curve to the left with a delta angle of 17° 50' 29" and a radius of 116.66 for a distance of 36.33 feet;
Thence N 07° 01' 20" E, 28.68 feet;
Thence along the arc of a curve to the left with a delta angle of 20° 13' 53" and a radius of 102.90 feet for a distance of 36.33 feet;
Thence N 05° 31' 36" W, 26.57 feet;
Thence along the arc of a curve to the left with a delta angle of 27° 17' 25" and a radius of 82.54 feet for a distance of 39.31 feet;
Thence N 21° 49' 05" W, 21.34 feet;
Thence along the arc of a curve to the left with a delta angle of 21° 32' 29" and a radius of 97.78 feet for a distance of 36.76 feet;
Thence N 34° 50' 48" W, 23.12 feet;
Thence along the arc of a curve to the right with a delta angle of 68° 22' 34" and a radius of 20.47 feet for a distance of 24.43 feet;
Thence N 18° 00' 18" E, 91.77 feet;
Thence along the arc of a curve to the left with a delta angle of 25° 03' 45" and a radius of 148.41 feet for a distance of 64.92 feet;
Thence N 11° 05' 57" W, 169.69 feet;
Thence along the arc of a curve to the left with a delta angle of 11° 33' 04" and a radius of 186.34 feet for a distance of 37.57 feet;
Thence N 22° 43' 11" W, 48.46 feet;
Thence N 20° 12' 40" W, 90.82 feet;
Thence N 14° 03' 02" W, 65.07 feet;
Thence along the arc of a curve to the right with a delta angle of 29° 11' 07" and a radius of 116.93 feet for a distance of 41.19 feet;
Thence N 02° 21' 33" E, 90.01 feet;
Thence along the arc of a curve to the right with a delta angle of 19° 34' 41" and a radius of 41.43 feet for a distance of 14.16 feet;
Thence N 16° 52' 21" E, 26.64 feet leaving the easterly bank;
Thence N 20° 47' 15" W, 46.15 feet to a point on the easterly bank of the main ditch that carries water from the San Juan River and includes the head gate for releasing water into the aforementioned ditch;
Thence N 25° 10' 35" W, 47.78 feet along the easterly bank of the ditch that carries water from the San Juan River;
Thence N 18° 12' 51" W, 58.34 feet along the said easterly bank;
Thence N 22° 40' 54" W, 59.71 feet along the said easterly bank;
Thence N 25° 33' 08" W, 34.83 feet along the said easterly bank;
Thence N 34° 43' 45" W, 80.30 feet along the said easterly bank to the edge of the San Juan River as it was located September 12, 2005;
Thence S 12° 56' 27" W, 27.05 feet along the said San Juan River to the westerly bank of the ditch that carries water from the San Juan River;
Thence S 34° 43' 45" E, 60.48 feet along the said westerly bank;
Thence S 25° 33' 08" E, 32.47 feet along the said westerly bank;
Thence S 22° 40' 54" E, 58.67 feet along the said westerly bank;
Thence S 18° 12' 51" E, 56.97 feet along the said westerly bank;
Thence S 14° 49' 41" E, 41.90 feet along the said westerly bank to the northerly bank of an overflow ditch that returns water to the San Juan River;
Thence S 53° 32' 47" W, 111.66 feet along the said northerly bank to the edge of the San Juan River;
Thence S 00° 14' 51" E, 24.79 feet along the edge of the San Juan River to the southerly bank of said overflow ditch;
Thence N 53° 32' 01" E, 111.66 feet along the said southerly bank to an existing fenceline;
Thence S 02° 36' 48" W, 222.46 feet along an existing fence line;
Thence S 20° 41' 29" E, 185.60 feet along the westerly toe of the existing maintenance road;
Thence along the westerly toe of the maintenance road the following bearings and distances,
Thence along the arc of a curve to the right with a delta angle of 11° 32' 27" and a radius of 141.34 feet for a distance of 28.47 feet;
Thence S 11° 05' 57" E, 187.96 feet;
Thence along the arc of a curve to the right with a delta angle of 24° 15' 43" and a radius of 103.41 feet for a distance of 43.79 feet;
Thence S 18° 00' 18" W, 87.39 feet;
Thence along the arc of a curve to the left with a delta angle of 61° 30' 53" and a radius of 65.47 feet for a distance of 70.29 feet;
Thence S 34° 50' 46" E, 26.98 feet;
Thence along the arc of a curve to the right with a delta angle of 24° 37' 28" and a radius of 52.78 feet for a distance of 22.68 feet;
Thence S 21° 49' 05" E, 26.53 feet;
Thence along the arc of a curve to the right with a delta angle of 32° 37' 53" and a radius of 37.54 feet for a distance of 21.38 feet;
Thence S 05° 31' 36" E, 30.03 feet;
Thence along the arc of a curve to the right with a delta angle of 22° 47' 47" and a radius of 57.90 feet for a distance of 23.04 feet;
Thence S 07° 01' 20" W, 30.54 feet;
Thence along the arc of a curve to the right with a delta angle of 19° 01' 23" and a radius of 71.66 feet for a distance of 23.79 feet;
Thence S 20° 34' 59" W, 214.81 feet;
Thence along the arc of a curve to the left with a delta angle of 44° 03' 59; and a radius of 97.76 feet for a distance of 75.19 feet;
Thence S 19° 36' 26" E, 57.43 feet;
Thence along the arc of a curve to the right with a delta angle of 30° 34' 46" and a radius of 89.86 feet for a distance of 47.96 feet;
Thence S 08° 31' 07" W, 67.22 feet;
Thence along the arc of a curve to the left with a delta angle of 20° 18' 06" and a radius of 69.30 feet for a distance of 24.55 feet;
Thence S 07° 44' 48" E, 47.63 feet;
Thence along the arc of a curve to the right with a delta angle of 19° 04' 55" and a radius of 50.44 feet for a distance of 16.80 feet;
Thence S 08° 25' 27" W, 25.24 feet;
Thence along the arc of a curve to the right with a delta angle of 06° 53' 27" and a radius of 151.57 feet for a distance of 23.52 feet;
Thence S 18° 44' 52" W, 54.54 feet;
Thence along the arc of a curve to the left with a delta angle of 12° 34' 30" and a radius of 84.40 feet for a distance of 18.52 feet to an existing fence line;
Thence S 87° 55' 58" E, 43.24 feet along an existing fence line to the point of beginning.
Contains 1.80 acres, more or less.



ACCORDING TO COLORADO LAW, YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS AFTER THE DATE OF THE CERTIFICATION SHOWN HEREON.

COSTER [redacted]
473 LEWIS STREET SUITE A
P O BOX 4130
PAGOSA SPRINGS - CO 81157-4130
970-264-1120 office
970-264-1123 fax
landsurvey@centurytel.net

REV:
REV:
REV:

SCALE: 1" = 200 FEET	DRAWN BY: DDC
DATE: FEB. 13, 2006	CHECKED BY: DDC
SHEET 1 OF 1	DWG: WATERMAN/CONSTANT

EASEMENT DESCRIPTION
LOCATED IN A
PORTION OF SECTION 11, T33N, R2W, N.M.P.M.

Exhibit C

to Objection Letter by Diamond T Ranch, LLC

Two Rivers Gravel Pit **Major Sand & Gravel Permit Application** **C&J Gravel Products, Inc.**

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ADDENDUM TO SETTLEMENT AGREEMENT AND RELEASE

THIS IS AN ADDENDUM to the Settlement Agreement and Release ("Agreement") entered into on October 18, 2005, by and between James A. Constant, Jr., and Leila B. Constant and the James A. Constant, Jr. Revocable Trust and the Leila B. Constant Trust, whose address is 12500 County Road 500, Pagosa Springs, Colorado 81147 (hereinafter collectively referred to as "Constant"), and Quince Associates, LP, and The Richard A. Berlanti Trust, whose addresses are 777 South Wadsworth Blvd., Suite 4-280, Lakewood, Colorado 80226 (hereinafter jointly referred to as the "Berlanti Trust"). Constant and the Berlanti Trust will be referred to jointly as the Parties.

Pursuant to paragraph 4 of the Agreement, the Parties acknowledge that discussions occurred between Steve Harris and Mitch Constant regarding the design of a bridge to span the Harris Ditch, and that Steve Harris and Mitch Constant, and the Parties, agree to the following specifications for a bridge to be built by the Constants over the Harris Ditch:

1. To cross the Harris Ditch north of the existing head gate and culvert, a bridge shall be constructed. The bridge shall consist of two abutments, one on either side of the Harris Ditch. The abutments shall be a minimum of 30 feet apart, approximately 15 feet on either side of the Ditch centerline, providing a minimum bridge span of 30 feet. The bridge deck shall be no greater than 20 feet wide. Clearances from the bottom of the lowest point of the bridge girder to the bottom of the Harris Ditch (ditch invert) shall be 12 feet. These bridge dimensions shall provide access for ditch cleaning equipment to travel under the bridge for operation and maintenance purposes.

2. During construction of the bridge over the Harris Ditch, the existing ditch alignment and water flow shall not be modified or impeded. Photographs shall be taken before and after construction to insure that the ditch is restored to its original condition above and below the proposed bridge. A sketch of the bridge is attached hereto and incorporated herein as Exhibit A. The sketch is for conceptual purposes only.

3. This Addendum is intended to be in addition to, and not to modify, the terms and conditions of the Agreement, and therefore all terms and conditions of the Agreement shall remain in full force and effect.

IN WITNESS THEREOF, this Settlement Agreement is approved, agreed to and executed on the date first written above.

Signatures on following pages

JAMES A. CONSTANT

James A. Constant

LEILA B. CONSTANT

Leila B. Constant

State of Colorado)
) ss.
County of Archuleta)

Subscribed, sworn to and acknowledged before me by James A. Constant and Leila Constant on this 17th day of April, 2006.

Witness my hand and seal.
My commission expires: 1-19-2008

Lois Baker
Notary Public

JAMES A. CONSTANT, JR. REVOCABLE TRUST

By James A. Constant Jr.
James A. Constant, Jr., Trustee

LEILA B. CONSTANT REVOCABLE TRUST

Leila B. Constant
Leila B. Constant, Trustee

State of Colorado)
) ss.
County of Archuleta)

Subscribed, sworn to and acknowledged before me by James A. Constant, Jr., as Trustee of the James A. Constant, Jr. Revocable Trust, on this 17th day of April, 2006.

Witness my hand and seal.
My commission expires: 1-19-2008

Lois Baker
Notary Public

State of Colorado)
) ss.
County of Archuleta)

Subscribed, sworn to and acknowledged before me by Leila B. Constant, as Trustee of the Leila B. Constant Revocable Trust, on this 17th day of April, 2006.

Witness my hand and seal.
My commission expires: 1-19-2008

Lois Baker

Notary Public

THE RICHARD A. BERLANTI TRUST

By _____
John P. Hill, Jr.

State of Colorado)
) ss.
County of Jefferson)

Subscribed, sworn to and acknowledged before me by John P. Hill, Jr., as Trustee of The Richard A. Berlanti Trust, on this 1st day of May, 2006.

Witness my hand and seal.
My commission expires:

Donna D. Karns, Notary Public
State of Colorado
My Commission Expires 6/2/2008

Donna D. Karns
Notary Public

QUINCE ASSOCIATES, L.P, a Maryland limited partnership

By _____
John P. Hill, Jr.

State of Colorado)
) ss.
County of Jefferson)

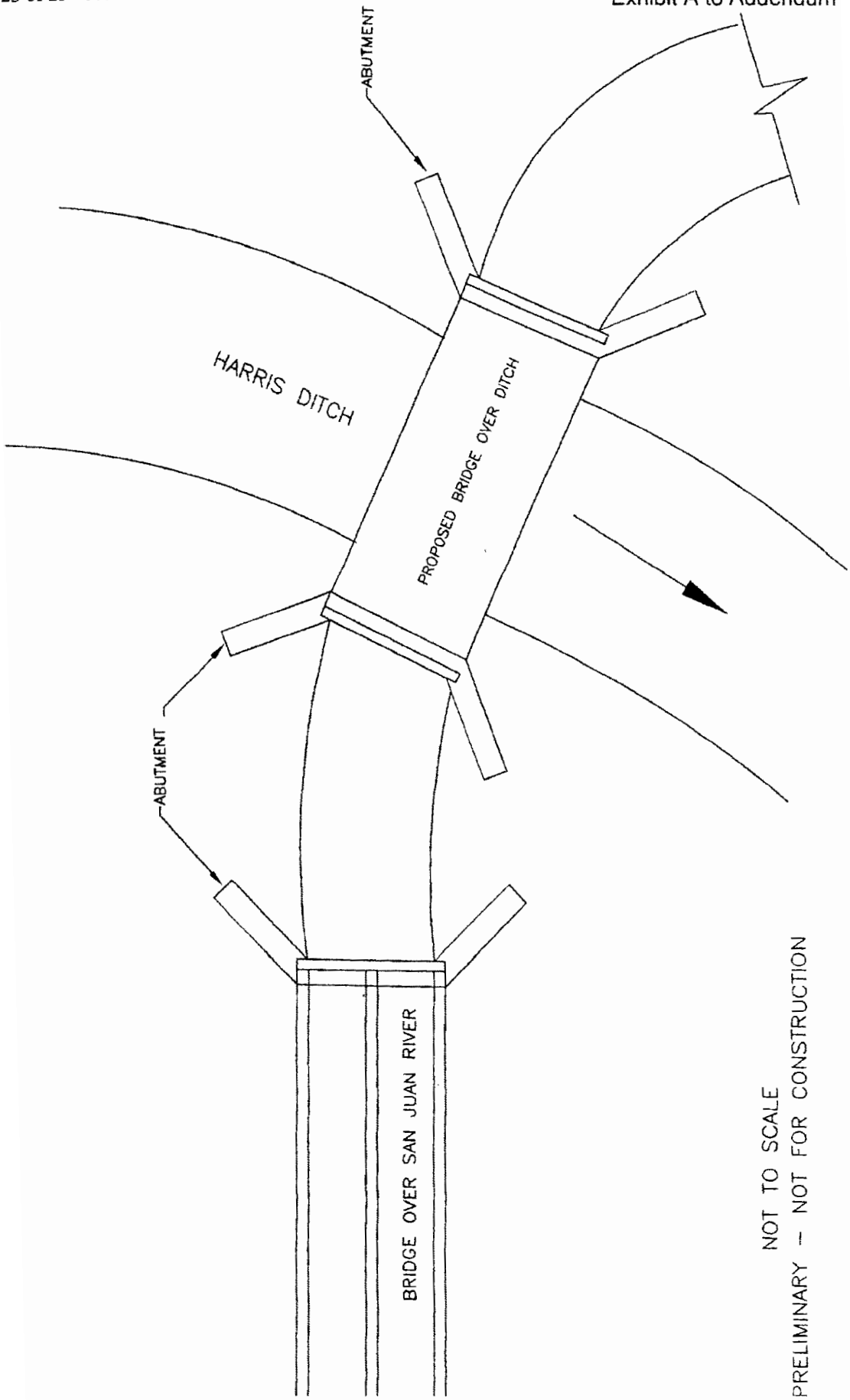
Subscribed, sworn to and acknowledged before me by John P. Hill, Jr. on this 1st day of May, 2006.

Witness my hand and seal.
My commission expires:

Donna D. Karns
Notary Public

Donna D. Karns, Notary Public
State of Colorado
My Commission Expires 6/2/2008

Exhibit A to Addendum



NOT TO SCALE
PRELIMINARY - NOT FOR CONSTRUCTION

Exhibit D

to Objection Letter by Diamond T Ranch, LLC

Two Rivers Gravel Pit **Major Sand & Gravel Permit Application** **C&J Gravel Products, Inc.**

August 22, 2012

Mr. Richard Berlanti
12800 County Road 500
Pagosa Springs, Colorado 81147

Dear Mr. Berlanti,

In good faith we are letting you know that we are applying to various government agencies to construct a bridge on our property to be completed in 2013. The bridge would provide access to our 112 acres on the east side of the San Juan River currently inaccessible to us most of the year. We **do not** plan on mining gravel and the bridge will **not** be rated to support a truck filled with gravel.

The span of the bridge is 140 feet, beginning at the abutment we constructed in 2002. We plan to cross the Harris Ditch with a 30 foot span by 16 feet wide bridge with a minimum height of 12 feet from the bottom of the ditch meeting the criteria of our agreement. We will make every effort to insure that the Harris ditch will be maintained in its condition at time of construction and will take photos before during and after construction to resolve any questions about restoration of the ditch.

My son who is a civil engineer and I would like to meet with you on a weekend at your earliest convenience to answer any questions you may have.

Sincerely,

James A. (Jac) Constant

James Constant
12500 CR 500

Exhibit E

to Objection Letter by Diamond T Ranch, LLC

Two Rivers Gravel Pit **Major Sand & Gravel Permit Application** **C&J Gravel Products, Inc.**

PODOLL & PODOLL
A Professional Corporation

Jacqueline E. Hill
Email: Jacqui@podoll.net

June 21, 2016

Board of County Commissioners
c/o John Shepard, Planning Manager
P.O. Box 1507
Pagosa Springs, CO 81147

Via Email: ***jShepard@archuletacounty.org***

Re: Written Testimony from Diamond T Ranch regarding the Proposed Two Rivers Major Sand and Gravel Permit

Dear Commissioners,

We represent the Diamond T Ranch, located immediately south of the proposed Two Rivers Gravel Pit on County Road 500. The Applicant requests that this Board allow an industrial use in the middle of land zoned for residential and recreational uses. The Applicant, after multiple opportunities, has failed to provide a traffic study which adequately addresses traffic, safety, the realistic impact of the pit on County roadways, and the disruption to residential neighborhoods along proposed haul routes. The impacts on water, wildlife, roadways and the neighboring properties have not been mitigated and no legal right of access exists to the proposed pit. For these and other reasons, we respectfully request that the Board of County Commissioners deny the permit application consistent with Archuleta County Land Use Regulations and the Planning Commission Recommendation.

Traffic Implications

Archuleta County Land Use Regulation 9.1.6.1(2) states that the Board should review the compatibility of mining operations with surrounding uses and that "[t]ruck traffic will not access the mining operation through residential, recreational or commercial areas, or such traffic will be mitigated."

On May 13, 2016, at staff request, C&J submitted their Traffic Impact Assessment ("TIA") by Roadrunner Engineering, LLC. The TIA was reviewed by Devin C. Joslin, a licensed Professional Engineer with extensive experience in transportation engineering with Felsburg Holt & Ullevig. Mr. Joslin points out significant deficiencies in the TIA in the attached reports.

Attached as Exhibit A is a Peer Review of the Traffic Impact Assessment. The Peer Review notes that the Applicant only calculates its proportionate share of impact mitigation for future maintenance and upkeep of the existing roads. There is no indication from the Applicant's assessment that the roads as currently constructed can handle the projected truck loads and the accelerated deterioration of the roads attributable to the increased truck traffic from the proposed pit. Cascade Road and CR-500, as well as most of the town's arterial roads, were not designed for heavy truck traffic. The Applicant makes no indication that the proposed roads have acceptable levels of road base, sub-base, asphalt or gravel depth along the proposed haul routes and the Applicant proposes no initial upgrades to bring those roads in compliance with County standards. It is impossible to know without geotechnical borings the current depth of the road materials and whether they are adequate to handle the equivalent single axle loads ("ESAL") value estimated by the Applicant.

Attached as Exhibit B is a comparison of regulations in Archuleta County and other sources related to threshold paving standards, mag chloride treatments, and dust abatement for paved and gravel roads. Archuleta County already has a higher threshold than most neighboring counties for development markers that would trigger its obligation to pave roadways or upgrade their minimum structural sections. For the reasons expounded upon below, the Applicant's estimation of the current stress on the County's road system is minimized in the TIA and the proposed project may hit these development markers sooner than anticipated.

Attached as Exhibit C is a schedule of potential costs to the County for initial road improvements which may be necessary before the project begins. The cost of *materials alone* for initial improvements to the roads ranges between approximately $375,000 and $2,705,000 (depending on the, as yet unconfirmed, status of the roads). With other costs for mobilization,

construction signing and traffic control, restriping, and other contingencies, these estimates could increase by 20-30%. The Applicant's mitigation plan accounts only for costs associated with road maintenance from its future heavy truck use. The Applicant's financial mitigation proposal is clearly inadequate.

In the TIA, the Applicant addressed dust control, but only as it relates to the pit site itself. The Applicant hasn't presented plans to mitigate the significant amount of dust it will produce driving on the gravel roads leading to and from the pit. There is no air quality analysis provided by the Applicant. Anecdotally, neighbors along Cascade and other arterial roadways have indicated their outdoor living space has become inaccessible and their standard of living seriously diminished by the dust generated during significant construction projects with similar heavy traffic on those roads.

The Planning Commission recommends denial of permit, in part because the identified haul routes invade residential neighborhoods. No meaningful mitigation of nuisance or safety issues have been proposed.

The data relied on in the TIA also calls into question the basis for any of its conclusions, including

- The data counts in the TIA were generated over a 24 hour period over a Tuesday and Wednesday in March—far from peak traffic season.
- The TIA does not account for any future growth in the Pagosa population.
- The TIA relies on the assumption that there will be steady operation of the pit, and does not account for peaks or lulls in demand and the related increase in impacts during boom years.
- The conclusions in the TIA are based on 5-day per week operations, but the Applicant presumes to operate the pit 6-day per week for at least 6 months of the year. (Compare Traffic Impact Assessment, p. 17 and Addendum to the Project Narrative, ¶ 2). The study does not account for these additional operation days and the related impact.
- The TIA includes a flat assumption that each truck will carry 15 tons of material. The initial application indicated trucks carrying 25 tons of material, which would obviously exacerbate the project's impact. While one dump truck may carry 15-25 tons of material, a dump truck saddled with a pup truck is significantly heavier and will have significantly greater impact on the roads. It does not appear that this has been accounted for in the TIA.

Ultimately, the Traffic Impact Assessment and Mitigation Proposal insufficiently addresses the County's initial concerns regarding the project's impact on roads. It should not be a basis for issuance of the permit at this time.

Safety Issues

The Applicant indicated that 90% of its traffic would exit the pit and travel via Apache Street, Cascade Blvd. and South Pagosa Blvd. and then through town on the "network roadway system." The radius of many of the intersections in town are inadequate for large gravel trucks—especially belly-dumps with pup trucks—to navigate safely. Currently, the left-turn movements at many signals in downtown have the potential for head-on collisions or serious delays caused by trucks encroaching into oncoming lanes. This is especially true should two trucks or other large vehicles attempt to turn simultaneously. The applicant should be required to indicate the exact routes where the trucks would access the network roadway system and address the safety issues related to those routes.

Wildlife

Dr. Erin Lehmer, an Associate Professor of Biology at Fort Lewis College and an expert in wildlife ecology and mammalogy, has reviewed the migration corridors in the proximity to the proposed project and the pertinent academic literature. Biological systems are incredibly complex, and can fall victim to serious ecological consequences when disturbed by human activity. Increased vehicle traffic and habitat disturbance at pit sites contribute significantly to such disturbance.

Dr. Lehmer's full analysis is attached as Exhibit D. She explains that animals respond to noise disturbances with short-term avoidance behavior, but many studies have shown that these behaviors become habituated and impacts of a multi-year disturbance can become permanent. She concludes that disturbances from the proposed project will result in long-term or permanent deer and elk avoidance of the project area which is a high quality habitat for a number of species.

Outdoor recreation and tourism are major economic engines for Pagosa Springs. In addition to the Diamond T, several hunting lodges along CR-500 bring additional revenue to the County. Increased traffic, noisy crushing equipment and particulate pollution compromise scenic values, disturb wildlife and, ultimately, eliminate important sources of revenue for the local community. As discussed below, the County is not precluded from considering these impacts in its suitability analysis.

Water Impacts

Archuleta County Land Use Regulation 9.1.7.2(11) allows the board to consider "[p]otential air pollution, water pollution, noise, surrounding drainages, and water rights." As well as "water pollution" (9.1.7(11)(e)) and mitigation proposals for "water quality and quantity protection and water augmentation plan" (9.1.7(12)(e)).[1] Attached as Exhibit E is an analysis by Steve Harris, professional water engineer, evaluating the impact of the proposed pit on the Harris Ditch, the San Juan River and ground water in the area adjacent to the proposed pit. On this topic, once again, the Applicant has failed to adequately analyze the impacts of the proposed project. The Applicant has failed to drill test wells to ensure the safety of the water table. Applicant has failed to provide a drainage plan that avoids the Harris Ditch and the San Juan River. Applicant has also failed to provide a legal source of water for dust and particulate mitigation.

Legal Right to Access the Proposed Pit

As also outlined in Mr. Harris's Report, the bridge the Applicant intends to use to access the pit was constructed in violation of a Settlement Agreement between the property owner and the Diamond T Ranch. The bridge, as built, materially interferes with the maintenance and repair of the Harris Ditch which runs across the Constant property and fills a pond on the Diamond T

[1] As discussed below, the County is not preempted from reviewing these issues, for these regulations do not conflict with the DRMS requirements which state that "disturbances to the prevailing hydrologic balance…and the quantity or quality of water in surface and groundwater systems…shall be minimized…" (DRMS Regulation 3.1.6). Minimizing the impact on the hydrologic balance does not conflict with the County requirement that the Board consider "water quality and quantity protection." (Archuleta County Land Use Regulation 9.1.7.2(12))

Ranch used for irrigation purposes. The opening beneath the bridge is only 14-feet wide—too narrow to accommodate the construction equipment necessary for the maintenance of the Ditch. Diamond T Ranch has filed suit in District Court, Archuleta County Case No. 15CV30251 and has requested that the court require the Constants to remove the bridge. The Applicant cannot show legal access to the pit. Archuleta County Land Use Regulation 9.1.7.2(2) and (7) requires that the applicant show all roads and bridges proposed to be used in the mining operation. The lack of legal access is simply another reason why this ill-conceived permit application should be rejected by the Board of County Commissioners.

Preemption

C&J has obtained a Construction Materials Regular (112) Operation Reclamation Permit (Permit # M2015-004) from the Colorado Division of Reclamation Mining & Safety ("DRMS"). Before the Planning Commission, C&J attempted to argue that the DRMS permitting process preempted the County from considering the proposed pit's impact on wildlife and surrounding water, and the issue of legal access. There is no conflict between DRMS consideration of such issues in its permitting process and the County's consideration of the same issues in its suitability analysis. Such consideration is not preempted.

The authority of DRMS to issue mining permits and the County's authority to regulate land use is not in conflict. Preemption occurs when a statute "evinces a legislative intent to completely occupy a given field by reason of a dominant state interest… to the exclusion of all other regulation." *Board of County Comm'rs v. Bowen/Edwards Assoc.*, 830 P.2d 1045, 1056-58 (Colo. 1992). The Colorado Mined Land Reclamation Act, from which DRMS gets its authority, evidences no such intent, and is meant to work alongside local regulations.

County regulations that consider issues also examined by the Department of Mining in their permitting process are not prohibited. *See Board of County Com'rs of Gunnison County v. BDS Intern., LLC.*, 159 P.3d 773, 778 (Colo. App. 2006) (holding that a county regulation and a state statute may both remain in effect as long as there is no irreconcilable conflict). Land use

and mining is a mixed matter of both state and local concern. *See Bowen/Edwards Associates, Inc.* 830 P.2d at 1058 (holding that the state's interest in oil and gas activities is not so patently dominant over a county's interest in land-use control, nor are the respective interests of both the state and the county so irreconcilably in conflict, as to eliminate by necessary implication any prospect for a harmonious application of both regulatory schemes). "Local enactments and state statutes regulating such a mixed matter may coexist if they do not conflict." *Jam Rest. v. City of Longmont*, 140 P.3d 192 (Colo. App. 2006). For example, the DRMS regulation relating to wildlife states:

> [a]ll aspects of the mining and reclamation plan ***shall take into account*** the safety and protection of wildlife on the mine site, at processing sites, and along all access roads to the mine site with special attention given to critical periods in the life cycle of those species which require special consideration.

Construction Materials Rule 3.1.8 (emphasis added). The Archuleta County land use regulations related to the same issue state:

> Before acting on a Conditional Use Permit application, the Planning Commission and the Board of County Commissioners ***shall consider*** the following criteria and factors with respect to the proposed use… (6) The effect of the use upon the natural resources and wildlife habitat areas.

Archuleta Land Use Regulation 3.2.3.4(6). These regulations do not conflict. Archuleta County Land Use Regulation 9.1.8 specifically sates that "[m]itigation required by the Colorado Division of Minerals and Geology (CDMG), and other state and federal agencies ***will be reviewed by the County*** to insure that the plans adequately address potential impacts." (emphasis added).The jurisdiction is concurrent.

After proper consideration of all these issues, the Diamond T Ranch urges the Board to deny the Two Rivers Pit Conditional Use Permit Application. The proposed industrial use is inconsistent with the established residential and recreational uses in the area. To even merit consideration, the Applicant would have to show a legal right of access, adequate plans to improve and mitigate the pit's impact on County Roads, haul routes which do not traverse

residential neighborhoods, provisions to protect wildlife, provisions to protect the water in the area, provisions to control dust, a reasonable water usage study and drainage plan, valid water rights to operate the pit including dust control, and reasonable provisions for the protection of the Harris Ditch. The applicant has failed to meet County Land Use Regulations or provide effective mitigation. The Conditional Use Permit should be denied.

Respectfully submitted this 21st day of June, 2016.

PODOLL & PODOLL, P.C.

By: _____

Robert C. Podoll
Jacqueline E. Hill
5619 DTC Pkwy, Suite 1100
Greenwood Village, Colorado 80111
Telephone: (303) 861-4000
Email: Rob@podoll.net
Email: Jacqui@podoll.net

EXHIBIT A

WRITTEN TESTIMONY FROM DIAMOND T RANCH REGARDING THE PROPOSED TWO RIVERS MAJOR SAND AND GRAVEL PERMIT

Diamond T Ranch, LLC v. James A. Constant et al.

DISTRICT COURT, ARCHULETA COUNTY, STATE OF COLORADO

CASE NO. 2015CV030251

FELSBURG HOLT & ULLEVIG

connecting and enhancing communities

May 27, 2016

MEMORANDUM

TO: Mr. Rob Podoll
Podoll & Podoll, P.C.

FROM: Devin C. Joslin, PE, PTOE

SUBJECT: Two Rivers Gravel Pit
Peer Review of Roadrunner Engineering, LLC. Traffic Impact Assessment
FHU Reference No.116129-01

Felsburg Holt & Ullevig (FHU) has investigated traffic engineering aspects of the proposed Two Rivers Gravel Pit that is planned to be located at 12500 County Road (CR) 500 approximately 11.5 miles to the south of the Town of Pagosa Springs in Archuleta County, Colorado. This review focuses on the *Two Rivers Pit Traffic Impact Assessment (TIA)* that was prepared by Roadrunner Engineering, LLC on May 9, 2016. This edition of the report is based on 100,000 tons of aggregate per year. Of note, information contained in the Major Sand & Gravel Permit Application and preliminary traffic impact study prepared by Wasteline, Inc. on January 29, 2016 indicates an estimated 70,000 tons of aggregate per year.

The TIA contains some ambiguities relative to the site-generated traffic volume levels and how those vehicle-trips will be distributed onto the surrounding roadway network. The recommended traffic impact mitigations neglect to account for any initial upgrades along the proposed respective haul routes, such as increasing the pavement thickness, that may be required prior to the gravel pit opening. It is critical that the proposed haul routes be investigated to understand whether the existing structural elements of each are adequate for the projected volume and types of heavy trucks that are planned to be used. If not designed and constructed properly from opening day, the road surface could deteriorate much more quickly than expected, at the risk of triggering potentially major repairs beyond those accounted for in the proportionate share mitigation cost calculations. Some key additional intersection-specific issues corresponding to intersection sight distance, peak hour intersection level of service and vehicle queuing analyses and truck turning paths through intersections along the proposed haul routes also are not addressed. These items are discussed in more detail at the conclusion of this memorandum.

This peer review is formatted corresponding to specific sections that are contained within the TIA report. The items from each section of the TIA report that are worth pointing out for further clarification, revision or consideration are noted below each of the section headings within this memorandum.

6300 South Syracuse Way, Suite 600 Centennial, CO 80111 tel 303.721.1440 fax 303.721.0832
www.fhueng.com info@fhueng.com

Existing Conditions (Traffic Counts)

The report improperly bases the classification of area roadways on the traffic volumes that were recorded for the study. Roads that had less than 400 vehicles per day (vpd) were classified as Low Volume Roads. However, according to Section 27.1.2 of the *Archuleta County Road and Bridge Design Standards and Construction Specifications*, road functional classifications are determined at the County's discretion according to their purpose and function. Road functional classifications for each key roadway segment should be verified with County staff to ascertain appropriate right-of-way, cross-sectional, lane width and other requirements.

Existing Conditions (Accident Records)

The crash data summary appropriately includes a review of the most recent five-year period (2011-2015). However, no analysis beyond a basic summary of the number, type and location of crashes is provided. Generally, crashes occurring at intersections are reviewed separately from those occurring along a roadway segment. It is noted that 10 crashes occurred on a two-mile segment of Light Plant Road, but no effort was made to ascertain whether the frequency or severity of crashes along this road segment, or any other within the study area, could be considered higher than expected in terms of a crash rate. In addition, there is nothing included in the narrative relative to whether any particular crash patterns were evident.

Speed Limit and Stopping Sight Distance

The report refers to CR 500 as having a posted speed limit of 35 miles per hour (mph); however, CR 500 does not have a posted speed limit. Motorists traveling along the roadway are to follow Colorado basic prima facie speed limits which are 40 miles per hour (mph) for open mountain highways and 20 mph for narrow, winding mountain roads. A sign indicating these basic limits is posted along CR 500 in the southbound direction to the south of South 10th Street.

Speed limits on other roadways that are proposed to be used as haul routes, such as Cascade Avenue and South Pagosa Boulevard, are not stated.

The report also points out that advisory speed signs are posted in advance of sharp roadway curves. During a field visit that was conducted on May 18-19, 2016, it was noted that the only turn warning sign along the segment of CR 500 between the Town and the proposed gravel pit site access is posted in the southbound direction in advance of the sharp turn that is located to the south of the Transfer Center. An advisory speed for the turn is not posted, however.

The report acknowledges that there are areas along CR 500 with deficient stopping sight distance and analyzes three of those particular areas. The sight distance evaluation references AASHTO standards, however Archuleta County standards (27.1.3.3.A.1.a) for calculating stopping sight distance govern.

With respect to the limited stopping sight distance condition, the report should also verify that the three curves in question can accommodate vehicles traveling in both directions, without encroachment, for the specific types of trucks that are proposed to be used, particularly for the turn at MP 6.4 that is noted as having an approximate radius of 185 feet. The turn that is located to the south of the Transfer Center should also be examined.

Proposed Site Uses and Trip Volumes

The report identifies two primary proposed haul routes, being:

- CR 500 to Cascade Avenue to South Pagosa Boulevard
- CR 500 to Apache Street

The directional distribution of 90 percent to the north and 10 percent to the south from the proposed site access on CR 500 appears reasonable and is consistent with previous studies and information presented.

South Pagosa Boulevard is noted as the primary haul route for trips oriented to/from the north and is estimated to handle 72 percent of the total site-generated traffic volumes. For this reason, more detailed information needs to be provided in the report with respect to the directional distribution of traffic traveling through the US Highway (US) 160/South Pagosa Boulevard intersection. As currently presented, it is not clear how trips will be distributed once vehicles reach US 160.

It is also not clear in the report how the 18 percent of total site-generated trips oriented to/from the north proposing to use Apache Street within the Town of Pagosa Springs will be distributed. The report does not provide enough information to assess the potential traffic impacts at intersections within the Town. Key intersections include:

- US 160 intersections with South Pagosa Boulevard, 8th Street, 6th Street and Hot Springs Boulevard
- Apache Street intersections with 8th Street, 6th Street and Light Plant Road (CR 119)

The report should provide a directional distribution figure, or additional narrative, that more clearly conveys the anticipated directional distribution of site-generated traffic along the proposed haul routes, particularly for areas that are oriented to/from the north of the site within the Town and at intersections along US 160 and Apache Street.

The trip generation calculations contained within the report estimate the number of vehicle-trips expected to be added to the surrounding roadway network on a daily basis spread out, or averaged, over the course of an entire year. However, these annual average daily traffic (AADT) volumes underestimate the average daily traffic volumes that will be added along roadway segments when the gravel pit is operational (only 250 days per year). In addition, the report does not provide trip generation estimates for the AM and PM peak hours when the gravel pit is operational. This information is critical, particularly when analyzing potential impacts at the US 160/South Pagosa Springs Boulevard intersection.

The report should provide a more detailed narrative and summary trip generation table that calculates the number of vehicle-trips that are expected to be generated based on the number of days per year that the gravel pit is planned to be operational. These calculations should also account for the increased trips resulting from crushing operations, which are stated to occur approximately 30 percent of the time (70-75 days per year). It would be appropriate to determine an overall weighted average of vehicle-trip generation for when the gravel pit is operational to be used in analyses. This appears to have been completed for proportionate share cost calculations. The report should also clearly address the anticipated duration and trip generation for the proposed temporary asphalt batch plant and ready-mixed concrete plant operations.

ESAL Loading

Equivalent single-axle loads (ESALs) are used as the basis for determining the proposed gravel pit's proportionate share of costs for mitigating traffic impacts along the haul routes. This is an appropriate methodology for determining the cost sharing for the recommended roadway improvements, especially considering the amount of heavy truck traffic that the gravel pit will add to the area road system.

A review of the ESALs, however, indicates the following limitations with the methodology that was used to calculate the ESAL values contained in the report:

1. In addition to being used to determine the proportionate share of traffic impact mitigation costs, ESALs should also be used to determine whether the existing gravel and asphalt road structural elements along the potential haul routes are sufficient, in terms of asphalt/base course and subbase thicknesses, to handle the anticipated increases in heavy truck traffic that will occur on opening day of the gravel pit.

   Additional gravel or an initial overlay of the asphalt roads may be required to strengthen the roadway structure prior to the start of gravel pit operations. If the existing road structure is inadequate for the projected ESAL values, the road surface could deteriorate much more quickly than expected, at the risk of triggering potentially major repairs, such as reconstruction or resealing, beyond the magnitude accounted for in the proportionate share mitigation cost calculations.

2. In order to more thoroughly assess the adequacy of the existing asphalt/gravel road structures and understand the appropriate structural section that would be required for the anticipated volume and types of heavy truck traffic, the ESALs should be recalculated to account for some key parameters that are missing from the report:

   - The ESALs need to factor in the use of the roads as haul routes; that is, the calculations need to consider that trucks will be loaded when traveling in the northbound direction to deliver material to project sites and unloaded when returning to the gravel pit. The impacts of a loaded truck are greater and may not have been completely captured through the use of a generalized ESAL factor for each vehicle type. The factor that is determined for the loaded truck should be applied across both travel lanes.

   - In addition, the ESALs for the background traffic are based on existing traffic volumes and do not account for projected future background traffic growth during the 20-year design period. The ESALs used for design of the roadway and selection of the appropriate gravel or pavement structural section should consider future background traffic growth. Typically, the ESALs are calculated using estimated traffic volumes at the midpoint of the design period. The applicant and County should formulate the assumptions to be used for estimating background traffic growth.

   - Lastly, the ESALs for the background traffic need to be based on an agreed upon AADT for the roadways that are proposed to be used as haul routes. As currently calculated, the background traffic ESALs are based on one, 24-hour daily traffic count that was conducted in March, which is known to have lower traffic volumes than other times of the year in and around Pagosa Springs. Automatic Traffic Recorders (ATRs) that are located in La Plata County on US 160 to the west of Bayfield (near MP 101) and in Rio Grande County to the east of Monte Vista (near MP 220) indicate that average daily through traffic volumes along US 160 in March are between 25 and 33 percent lower than average daily traffic volumes in July (the highest month). Volumes along US 160 in March are between 5 and 10 percent lower than the AADT volume, indicating that the traffic volumes recorded on South Pagosa Boulevard and other haul routes may need to be adjusted. The current calculations also assume that weekend traffic volumes are 60 percent of weekday traffic volumes. Additional data is needed to substantiate this assumption, or a seasonal adjustment factor needs to be developed and agreed upon to factor the March one-day count to an AADT that accounts for fluctuations in both seasonal and weekday and weekend traffic volumes.

3. The gravel loss calculations contained in Appendix 5 of the report appear to be based on the same assumptions and ESAL values calculated for the proportionate share mitigation. Given the limitations outlined above, the gravel loss calculations should be redone once the ESALs are recalculated to verify the adequacy of the proposed roadway maintenance schedule.

A geotechnical investigation, including borings, of the existing roadway structural elements for each haul route should be conducted and compared against the updated ESALs to determine whether the proposed haul routes are adequate for the level of heavy truck traffic that is anticipated to be added. If an initial upgrade of any of the proposed haul routes is found to be necessary, it should be fully funded by the applicant and completed prior to the start of gravel pit operations. Another aspect for the County to consider relative to initial roadway improvements along the South Pagosa Springs Boulevard haul route is whether paving the shoulders to keep the edge of the pavement from raveling is justified due to the truck volumes.

Mitigating Impacts – Budget Costs

The budget costs used for calculating the total cost of proposed mitigation appear reasonable; however, the County should thoroughly review the costs to ensure their accuracy. The County should also verify the proposed maintenance schedule and the years identified for completing each aspect of the maintenance program that are identified in the Opinion of Probable Cost.

Projected Proportionate Costs

For purposes of proportionate share cost calculations, the pit is assumed to be operational for a period of 20 years; however, information stated elsewhere in the applicant's permit application indicates the gravel pit could be operational for up to 30 years. For this reason, the County's acceptance of the proposed proportionate share cost calculations and recommended roadway maintenance program, as presented in the report, should be conditional on the gravel pit operating for a maximum of 20 years. Additional impacts beyond the 20-year horizon would need to be reassessed if gravel pit operations are planned to extend beyond this timeframe.

Conclusions and Summary of Findings

This section of the report provides a concise summary of the conclusions and recommendations. The evaluation of a few key roadway segments or intersections is missing, as highlighted below:

Guardrail Evaluation

Considering the increased width of heavy trucks, there are two areas along CR 500 where guardrail should be evaluated. If found to be warranted, the cost for the guardrail installation should be included in the proportionate share traffic impact mitigation cost calculations. Archuleta County design standards (27.1.6.1.A.3.) provide for guardrail to be considered along tangent roadway segments "if unusually high embankments or steep terrain give motorists a feeling of insecurity." High embankments were noted during the field review near MP 7.0 and near MP 9.0. Near MP 9.0, CR 500 is approximately 26-feet wide, which is less than the 30-foot total cross-sectional width that is required for a local access road, as indicated in Table 27-3 of the Archuleta County design standards.

CR 500 near MP 9.0 looking to the south

CR 500/Cascade Avenue Intersection

Intersection sight distance at this intersection should be measured. A field review indicated that intersection sight distance from eastbound Cascade Avenue looking to the south along CR 500 (for the eastbound left turn from STOP condition) may not be adequate.

Eastbound Cascade Avenue looking to the south along CR 500

In addition, the curb radius for the eastbound to southbound right turn movement may need to be enlarged to accommodate the types of trucks that are proposed to be used and to ensure that the eastbound right turn movement can be made without encroachment into the opposing (northbound through) direction of travel along CR 500, given the potentially limited sight distance approaching the intersection from the south.

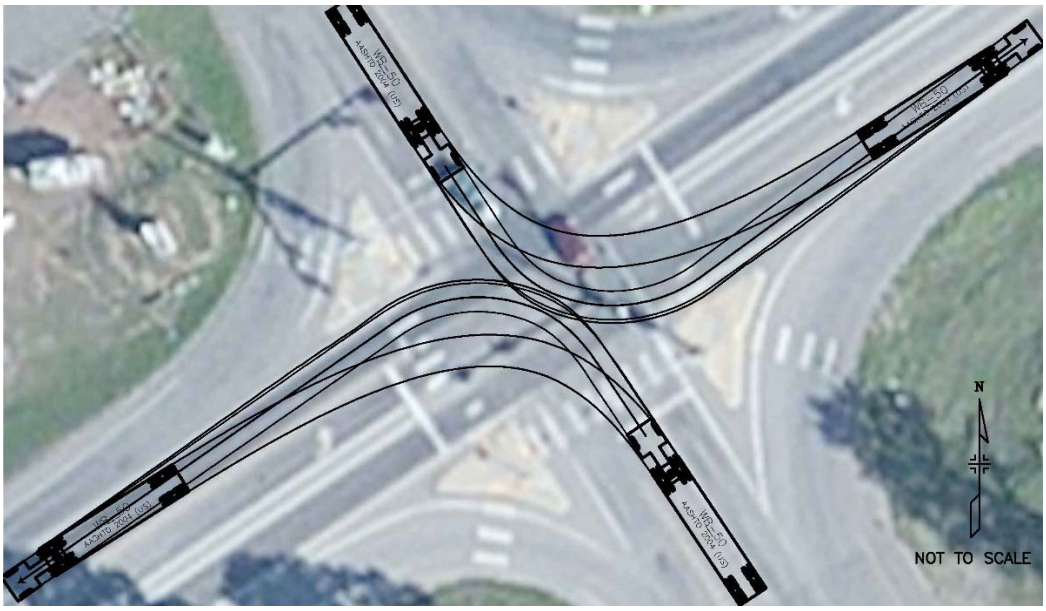
US 160/South Pagosa Boulevard Intersection

Section 2.5(5)(a) of the *State of Colorado State Highway Access Code (SHAC)* outlines the requirements for when a traffic impact study is required. Given the unique nature of the proposed land use and the volume and types of heavy trucks it is anticipated to add to the US 160/South Pagosa Boulevard intersection, it is recommended that Archuleta County refer the applicant's TIA report to Region 5 of the Colorado Department of Transportation (CDOT) for review and comment. The following points demonstrate the need for CDOT coordination and involvement, particularly as it relates to this intersection that is identified as the primary haul route for areas that are located to the north of the gravel pit:

1. As indicated in the report, a total of 72 percent of the total site-generated traffic volumes are anticipated to travel through the US 160/South Pagosa Boulevard intersection. A total of approximately 6 passenger cars, 1 single-unit truck and 38 trucks per day are projected to be added to this intersection (based on 250 days per year operations). This equates to 122 passenger car equivalents when the passenger car equivalent factors are applied as instructed in Section 2.3(4)(e) of the *SHAC*. This increase to existing traffic volumes could affect intersection operations.

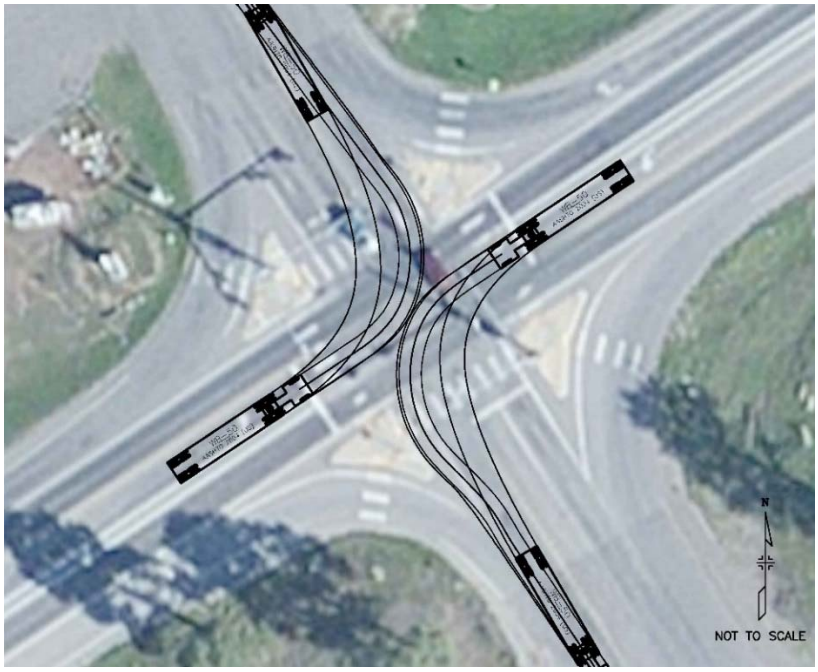
2. As currently configured, the northbound to westbound and southbound to eastbound left turn movements through the intersection for a WB-50 design vehicle (representative of belly or side dump trucks that are planned to be used to haul material) encroach on vehicles that are stopped at the existing stop bar locations in the eastbound or westbound left turn lanes on US 160, respectively, as shown on **Figure 1**. Two WB-50 trucks would also have difficulty turning at the same time, which is a condition that the current traffic signal phasing at the intersection allows (protected-permissive left turn phasing). Two gas stations, a grocery store and other commercial development serving the Pagosa Lakes area along the north side of US 160 increase the likelihood of this condition.

Figure 1 WB-50 Truck Turning Paths for Left Turns from South Pagosa Blvd onto US 160



3. In addition, eastbound and westbound left turn movements appear difficult to complete concurrently if two WB-50 vehicles in opposing directions are attempting to turn, as shown on **Figure 2**. This is also a condition that the current traffic signal phasing at the intersection allows. The turning paths of these vehicles encroach on vehicles that are stopped at the existing stop bar locations for the southbound and northbound left turn lanes, respectively. Section 4.6 of the *SHAC* provides guidance with respect to access radii; however, it is evident that there could be potential truck turning path issues at the intersection that will need to be addressed with CDOT, both in terms of intersection restriping and possible modifications to the traffic signal phasing, depending on the level of truck turning movements.

Figure 2 WB-50 Truck Turning Paths for Left Turns from US 160 onto South Pagosa Blvd



4. The CDOT access category for US 160 at the intersection with South Pagosa Boulevard is NR-A (Non-Rural Principal Highway). For this access category, left turn lanes are required to include deceleration length plus vehicle storage length. Intersection peak hour level of service and vehicle queuing analyses should be completed to determine whether the left turn lanes in the northbound direction and westbound direction (if site traffic is planned to be added to this movement) will have adequate vehicle storage length with the addition of the gravel pit traffic.

US 160/South 8th Street Intersection

Tight Curb Radius at Southeast Corner of US 160/S 8th St Intersection

The northbound to eastbound right turn and westbound to southbound left turn movements appear challenging for heavy trucks to complete at this intersection without encroaching into opposing traffic or stopped vehicles. It is unclear from the report whether trucks would be using this intersection; however, if used, site traffic is likely add to these two particular movements that are oriented to/from the east since trucks oriented to/from the west will favor use of the South Pagosa Boulevard intersection to access US 160.

Apache Street/Light Plant Road (CR 119) Intersection

As previously recommended, the report needs to clearly depict where trucks will be going once they reach Apache Street in the Town of Pagosa Springs. The Wasteline, Inc. preliminary traffic study indicated that trucks would use Light Plant Road (CR 119) for travel to/from US 84. The eastbound to southbound right turn movement at the Apache Street/Light Plant Road (CR 119) intersection appears problematic, as illustrated in the photo of the tight radius that is present.

Westbound Apache Street looking to the south along Light Plant Road

The report should use AutoTURN® or similar software to check the truck turning paths through intersections that are located along the proposed haul routes. Key stakeholders (CDOT, Archuleta County and Town of Pagosa Springs) can then make an informed decision relative to whether additional improvements would be required to eliminate encroachment or turning path overlap at intersections.

This review focuses on the *Two Rivers Pit Traffic Impact Assessment (TIA)* that was prepared by Roadrunner Engineering, LLC on May 9, 2016 and was based on 100,000 tons of aggregate per year. The review highlights some key issues, such as pavement design and truck turning paths, that are recommended to be thoroughly evaluated and analyzed to understand whether additional traffic impact mitigation measures beyond those identified in the applicant's TIA report are justified. Subsequent analyses of these issues may trigger the need for additional conditions of approval or items for the applicant to address along the proposed haul routes and at specific intersections prior to the start of gravel pit operations.

EXHIBIT B

WRITTEN TESTIMONY FROM DIAMOND T RANCH REGARDING THE PROPOSED TWO RIVERS MAJOR SAND AND GRAVEL PERMIT

Diamond T Ranch, LLC v. James A. Constant et al.

DISTRICT COURT, ARCHULETA COUNTY, STATE OF COLORADO

CASE NO. 2015CV030251

FELSBURG HOLT & ULLEVIG

connecting and enhancing communities

June 1, 2016

MEMORANDUM

TO: Mr. Rob Podoll
Podoll & Podoll, P.C.

FROM: Devin Joslin, PE, PTOE

SUBJECT: Two Rivers Gravel Pit
Gravel Roads Literature Review
FHU Reference No.116129-01

Introduction

Felsburg Holt & Ullevig (FHU) has completed a literature review of documents related to gravel roads. Key findings include regulations related to dust control measures; criteria to consider for paving a road; a comparison of maintenance costs per mile for gravel and paved roads; impacts of heavy truck traffic on gravel roads; and the effectiveness of dust control measures on gravel roads with various traffic volume levels. Section 27.1.3.2.C. of the *Archuleta County Road and Bridge Design Standards and Construction Specifications* states, "All roads serving areas with projected densities of two units per acre or greater, or expected to carry a traffic volume of 700 ADT or greater must be paved. Other roads may have a gravel or a paved surface."

Literature Review

Our research concerning gravel roads has revealed the following information:

- Colorado Department of Public Health and Environment Regulations[(1)] require that particulate (dust) control measures be used on unpaved roadways which have traffic exceeding 200 vehicles per day (vpd) in air quality attainment areas or 150 vpd in nonattainment areas. The gravel pit is proposed to be located in a part of Archuleta County that is an attainment area, so the 200 vpd standard would apply. Current traffic volumes are less than 200 vpd on CR 500 adjacent to the gravel pit site; however, with the addition of gravel pit traffic, volumes are projected to exceed 200 vpd. Therefore, the County would be required to extend the limits of dust control application along CR 500 if the area that it currently treats does not include the segment adjacent to the proposed gravel pit.

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- A survey of Departments of Transportation in the United States and Canada conducted by the Alaska Department of Transportation & Public Facilities (DOT&PF)[2] found that: "Most respondents felt that average annual daily traffic volumes and the desire to reduce maintenance costs were the two most important reasons for paving an unpaved road."

  This report also states: "There are at least two reasons to anticipate a reduction in road maintenance costs after paving. First, grading costs are eliminated. Among other problems, gravel roads are prone to washboarding and the loss of fines over time. Exactly how quickly such problems occur depends on traffic and weather. But, to be maintained in reasonably good condition, gravel roads must be graded periodically, and the expense can be significant. Repaving a road is more expensive than grading but occurs less frequently so that often there is a net cost savings, according to an Alaska DOT&PF official. Second, the time required for snow removal is reduced. Graders are used to plow gravel roads. In order to minimize gravel removal during plowing, frequent blade adjustments are required. On paved roads, trucks with floating blades that automatically adjust to the contours of the road can be operated at higher speeds, thus can plow more miles per day, than graders."

- Concerns about maintenance costs are also addressed in an Iowa publication[3]: "Maintenance cost/mile of gravel roads is greater than the maintenance cost/mile of bituminous roads when the ADT (Average Daily Traffic) is above 100. Also the maintenance cost/mile of gravel roads increases considerably when the ADT is greater than 200."

- Similarly, a University of Minnesota Local Technical Assistance Program (LTAP) report[4] states, "An increase in traffic does lead to an increase in maintenance costs, especially for gravel roads. This is due to more lost gravel due to wear, and an increased need for blading and smoothing of the road surface. Note that at a traffic volume of 200 ADT, gravel road maintenance costs increase significantly. This offers a possible threshold for determining when this agency might pave a gravel road." In addition, this report states, "Traffic is a primary factor in deciding to pave or not to pave. The Minnesota study found that gravel road maintenance costs per mile appear to increase considerably after an ADT level of 200 vehicles/day."

- Truck traffic has a large impact on roads. An American Society of Civil Engineers (ASCE) publication[5] has the following to say about factors affecting surface performance for local low volume roads and streets (LLVRS): "Traffic is one of the most important factors which must be considered. The ADT, peak hour volumes, etc., which are important for geometric design are of little value in surface design. The number and type of truck loads which will use the LLVRS over the design life are the most important information for surface layer design. A single 18,000 lb. single axle load (18 kip SAL) will cause as much damage as 2,000 large passenger cars[6]."

- Section IV of the *Gravel Roads Construction & Maintenance Guide*[7] states that reduced gravel loss is one of the economic benefits to dust control. Paragraph 4.5 of this section points out the following: "Studies have shown that as much as one ton of aggregate per mile is lost each year for each vehicle that passes over a road daily. This means that a road carrying 200 vehicles per day will have a loss of 200 tons of aggregate per mile each year. Obviously this will vary with the amount of rainfall received, the quality of the gravel and other factors. But, retaining aggregate is an added benefit of dust control."

- Appendix D of the *Gravel Roads Construction & Maintenance Guide*[7] contains a ten-step procedure for a local government agency to follow when considering whether to pave a road. Part 3 of this procedure addresses traffic volumes and states, "The life of a road is affected by the number of vehicles and the weight of the vehicles using it. Generally speaking, the more vehicles using a road, the faster it will deteriorate. The average daily traffic volumes (ADT) used to justify paving generally range from a low of 50 vehicles per day to 400 or 500. When traffic volumes reach this range, serious consideration should be given to some kind of paving. Traffic volumes alone are merely guides. Types of traffic should also be considered. Different types of traffic (and drivers) make different demands on roads. Will the road be used primarily by standard passenger cars or will it be a connecting road with considerable truck traffic? Overloaded trucks are most damaging to paved roads."

- A conversation with a Larimer County, Colorado engineer revealed that paving is the preferred treatment when volumes exceed 200 vpd. Larimer County standards require paving for subdivision roads, or mainline county gravel roads that are not chemically treated, when volumes are above 200 vpd[8] due to the costs and problems with getting private participation for ongoing maintenance. The following statement is included in the *Larimer County Transportation Plan*[9]: "According to current State Health Department dust abatement guidelines, rural roads with an average daily traffic volume greater than 200 vehicles should be paved or treated for dust abatement. The County has found that dust abatement loses its effectiveness quickly, so that frequent treatments are needed, causing high maintenance costs. Therefore, this plan includes paving of roads with volumes that require paving or dust abatement. These maximum volume thresholds can be used to define the capacity of gravel roads. A relatively small number of roads in the County have been treated with a chip-seal technique. Chip-seal is an inexpensive treatment which creates an adequate roadway surface for small volumes of traffic, but which wears down quickly with higher traffic volumes."

- A conversation with a Weld County, Colorado engineer revealed similar procedures. They have found that magnesium chloride (MgCl) and chip and seal do not hold up if volumes are higher than 300 vpd. Weld County uses MgCl treatment between 200 and 300 vpd. When a road reaches 300 vpd, it is included in the county's paving program. Unpaved roads in Weld County typically carry up to 10 percent trucks.

Summary

Some key points are that while current Archuleta County standards (Section 27.1.3.2.C.) indicate that the threshold for paving a road is 700 vpd, the research studies that were reviewed indicate that lower daily traffic volume thresholds may be appropriate for the County to consider, especially with respect to the volume of heavy truck traffic that the proposed gravel pit is projected to add. The research studies support a paving threshold of between 150-500 vpd, established on the basis of significant increases in maintenance costs per mile for gravel roads; difficulty getting private participation for ongoing maintenance; and the ineffectiveness of dust control treatments that have been documented at higher traffic volumes.

The average daily traffic volumes that were recorded in March 2016 for the *Two Rivers Pit Traffic Impact Assessment (TIA)* that was prepared by Roadrunner Engineering, LLC on May 9, 2016 indicate that current average daily traffic volumes on key roadway segments already fall within or exceed the paving threshold of between 150-500 vpd that the research studies support. The current daily traffic volumes and percentage of heavy vehicles noted on key roadway segments within the TIA report are as follows:

- CR 500 to the south of 10th Street = 450 vpd (4.0 percent heavy vehicles);
- CR 500 to the north of Cascade Avenue = 170 vpd (12.5 percent heavy vehicles);
- CR 500 to the south of Cascade Avenue = 160 vpd (5.6 percent heavy vehicles);
- Cascade Avenue to the west of CR 500 = 190 vpd (2.6 percent heavy vehicles);
- South Pagosa Boulevard to the south of US 160 = 1300 vpd (2.1 percent heavy vehicles)

Based on a review of the TIA report, the existing average daily traffic volumes and heavy vehicle percentages are projected to increase, as noted below, with the addition of gravel pit site-generated traffic volumes (calculated based on 250 days per year in operation):

- CR 500 to the south of 10th Street = 465 vpd (6.0 percent heavy vehicles);
- CR 500 to the north of Cascade Avenue = 185 vpd (17.1 percent heavy vehicles);
- CR 500 to the south of Cascade Avenue = 225 vpd (26.2 percent heavy vehicles);
- Cascade Avenue to the west of CR 500 = 240 vpd (18.8 percent heavy vehicles);
- South Pagosa Boulevard to the south of US 160 = 1350 vpd (5.0 percent heavy vehicles)

As can be seen, the roadway segments projected to be most impacted as a result of the proposed gravel pit are CR 500 to the south of Cascade Avenue and Cascade Avenue to the west of CR 500. The daily traffic volumes on these two road segments are projected to exceed 200 vpd with approximately 20-25 percent heavy vehicles with the addition of gravel pit site-generated traffic volumes.

References:

(1) Regulation No. 1 Particulate Matter, Smoke, Carbon Monoxide and Sulfur Oxides, Colorado Air Quality Control Commission, Colorado Department of Public Health and Environment.

(2) Socioeconomic and Environmental Impacts of Paving Gravel Roads, Alaska Department of Transportation, April 2002.

(3) "Cost Comparison of Treatments Used to Maintain or Upgrade Aggregate Roads", Rukashaza-Mukome, Johnson, and White, *Proceedings of the 2003 Mid-Continent Transportation Research Symposium*, Ames Iowa, August 2003.

(4) "To Pave or Not to Pave? Making informed decisions on when to upgrade a gravel road", October 2006, University of Minnesota Center for Transportation Studies Local Technical Assistance Program.

(5) Local Low Volume Roads and Streets, American Society of Civil Engineers, November 1992.

(6) Guide for Design of Pavement Structures, American Association of State Highway and Transportation Officials (AASHTO), 1990.

(7) Gravel Roads Construction & Maintenance Guide, U.S. Department of Transportation Federal Highway Administration, August 2015.

(8) Larimer County Rural Area Road Standards, October 22, 2007.

(9) Larimer County Transportation Plan, Felsburg Holt & Ullevig, September 1998.

EXHIBIT C

WRITTEN TESTIMONY FROM DIAMOND T RANCH REGARDING THE PROPOSED TWO RIVERS MAJOR SAND AND GRAVEL PERMIT

Diamond T Ranch, LLC v. James A. Constant et al.

DISTRICT COURT, ARCHULETA COUNTY, STATE OF COLORADO

CASE NO. 2015CV030251

FELSBURG HOLT & ULLEVIG

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June 21, 2016

MEMORANDUM

TO: Mr. Robert Podoll, Esq.
Podoll & Podoll, P.C.

FROM: Devin Joslin, PE, PTOE

SUBJECT: Two Rivers Gravel Pit
Planning Level Costs for Various Generic Roadway Improvements
FHU Reference No.116129-01

Felsburg Holt & Ullevig (FHU) has prepared planning level cost estimates for various generic types of roadway improvements that potentially may be necessary along the approximately 3.5-mile long segment of the existing paved portions of Buttress Avenue and South Pagosa Boulevard that are planned to be used as the primary haul route for the proposed Two Rivers Gravel Pit.

Planning level cost estimates were prepared for the following generic improvements:

- 3-inch asphalt overlay;
- 2-inch asphalt overlay;
- 3-inch asphalt overlay with 4-foot shoulder widening/paving on each side of the road;
- 2-inch asphalt overlay with 4-foot shoulder widening/paving on each side of the road;
- Full reconstruction of roadway. For purposes of these planning level cost estimates, it has been assumed that Buttress Avenue and South Pagosa Boulevard would be re-built to Archuleta County's major collector standard, which specifies a road that is 32-feet wide, with asphalt, base course and subbase thicknesses of 4-inches each, respectively. It also has been assumed that 2-inches of additional asphalt, for a total thickness of 6-inches, may be needed in order to handle the increased truck traffic from the proposed gravel pit.

These five generic improvements were selected because the existing structural section of the pavement along the proposed primary haul route is unknown at this time. According to Table 27-9 of the *Archuleta County Road and Bridge Design and Construction Specifications*, a 3-inch asphalt overlay corresponds to the difference in minimum asphalt thickness that is required between a local access and arterial roadway classification. A 2-inch asphalt overlay corresponds to the difference in minimum asphalt thickness between a major collector and arterial classification. It is assumed that the existing paved portions of Buttress Avenue and South Pagosa Boulevard would need to be increased to a minimum of 6-inches of asphalt thickness, which corresponds to the County's minimum arterial structural section, given the projected volume of truck traffic that the proposed gravel pit is estimated to generate.

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Of note, the design of the ultimate paved road structural elements, including the asphalt thickness, that will be required for the paved roads to support the projected volume of truck traffic will need to be determined by a geotechnical engineer based on a more detailed investigation of site specific soil and existing pavement conditions and structural elements, together with the anticipated 18-kip Equivalent Single Axle Loads (ESALs).

The existing pavement width along the majority of the Buttress Avenue and South Pagosa Boulevard route that is proposed to be used measures 24-feet wide. The existing paved portion of this route is approximately 3.5-miles in length. According to Table 27-3 of the *Archuleta County Road and Bridge Design and Construction Specifications*, a major collector roadway classification, of which Archuleta County classifies both Buttress Avenue and South Pagosa Boulevard, requires two, 12-foot travel lanes and 4-foot shoulders on each side of the road, for a total roadway width of 32-feet. Two of the generic improvements for which planning level cost estimates were prepared assume that the paved width of the road would be increased from 24-feet wide to 32-feet wide to provide for 4-foot wide paved shoulders on each side of the road, in conjunction with either a 2- or 3-inch asphalt overlay to strengthen the existing paved road surface.

Given that the condition of the existing structural section of the paved roads are unknown, a mill of the existing asphalt has not been included in the planning level cost estimates. Generally, speaking, if the existing asphalt is 4-inches thick or less, a mill of the existing asphalt could prove problematic because it would weaken the asphalt substantially, which could result in crumbling or other degradation of the milled surface prior to application of the asphalt overlay. Therefore, for purposes of these planning level cost estimates, it has been assumed that asphalt would be placed directly on top of the existing paved road surface.

Table 1 summarizes the planning level cost estimates for the various generic improvements considered. The planning level cost estimates for the variety of asphalt overlay improvements are based solely on the cost to place asphalt on top of the existing paved road surface and, in the case of shoulder widening, to place asphalt on top of the existing paved road surface and an additional 8-feet of width. The planning level cost estimate for the full roadway reconstruction only includes the cost to remove the existing asphalt surface, prepare and place new subgrade and place new asphalt. Costs for traffic control, replacing pavement markings, pre-leveling the road, etc. are not accounted for in any of these planning level cost estimates. The cost estimates have been rounded to the nearest five thousand dollars.

Table 1. Planning Level Cost Estimate Summary

Generic Improvement	Planning Level Cost Estimate Range (1)
3-inch asphalt overlay	$565,000-$645,000
2-inch asphalt overlay	$375,000-$430,000
3-inch asphalt overlay w/ shoulder widening	$750,000-$860,000
2-inch asphalt overlay w/ shoulder widening	$500,000-$575,000
Full reconstruction (6-inch asphalt, 4-inch base course, 4-inch subbase)	$2,490,000-$2,705,000
Note: (1) Cost range based on asphalt cost of $70-$80 per ton.	

The planning level cost estimates that are presented in **Table 1** are based solely on the projected cost of installing the materials specified for each of the generic improvements and assume that no other right-of-way acquisition or utility relocation would be necessary to provide the 4-foot, paved shoulders on both sides of the road. The estimated costs range between approximately $375,000 to $2,705,000. With other costs for mobilization, construction signing and traffic control, restriping, and other contingencies, these estimates could increase on the order of 20 to 30 percent.

The applicant's traffic impact assessment report found that the gravel pit would contribute 45 percent of the total ESALs projected along South Pagosa Boulevard. Therefore, it is reasonable to assume that the applicant would be required to contribute a minimum of 45 percent, up to 100 percent, of the cost of any future improvements that are identified in **Table 1**, in accordance with Section 27.0.6.1 of the *Archuleta County Road and Bridge Design and Construction Specifications*.

The five generic improvements for which planning level cost estimates have been prepared are intended to represent some of the potential types of recommendations for additional mitigation along the paved roads that could result from the geotechnical investigation of the paved roads that is described in Condition of Approval #19. If deemed necessary to strengthen and/or upgrade the paved portions of Buttress Avenue and South Pagosa Boulevard that are proposed to be used as the primary haul route, these additional mitigation costs would be required to be included in the Development Agreement and paid by the applicant prior to the start of gravel pit operations.

EXHIBIT D

WRITTEN TESTIMONY FROM DIAMOND T RANCH REGARDING THE PROPOSED TWO RIVERS MAJOR SAND AND GRAVEL PERMIT

Diamond T Ranch, LLC v. James A. Constant et al.

DISTRICT COURT, ARCHULETA COUNTY, STATE OF COLORADO

CASE NO. 2015CV030251

Erin Lehmer Consulting, LLC
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May 23, 2016

To: Jacqueline Hill, Attorney

From: Erin M. Lehmer, M.S., Ph.D., Wildlife Biologist

Subject: Expected Impacts to Wildlife Related to the Proposed Two Rivers Gravel Pit

This report was prepared by Erin M. Lehmer, M.S., Ph.D., Wildlife Biologist, for the Diamond T. Ranch, L.L.C. and addresses expected impacts to wildlife resources following implementation of the proposed "Two Rivers" gravel pit in the area surrounding the Diamond T. Ranch. Information used to generate this report was compiled from an extensive literature review of peer-reviewed scientific articles published in reputable journals within the field of wildlife biology, as well as from consultation with wildlife biologists familiar with the proposed Two Rivers Gravel Pit and with wildlife use in the project area. Although a number of sources were consulted, for the sake of brevity only the most relevant studies are cited in this report; additional information can be provided upon request.

Summary of Proposed Activity

The proposed Two Rivers gravel pit will occur within a 102.6 acre parcel of land and will include the development of a 65.58 acre gravel pit, as well as associated access roads, drainages, staging and stockpile areas, and other facilities associated with mining activity. Mining activity will occur over a 25-30 year period, with the initial phase of the project including development of the access roads, staging and stockpile areas, grading and leveling, and removal of surface vegetation and topsoil, which is expected to encompass an area of approximately 4.8 acres. As mining operations progress, it is estimated that an additional 2.1 acres will be mined per year for the duration of the 25-30 year period. Mining activities will occur adjacent (40 feet above the high water mark) to the San Juan River and Rio Blanco and in close proximity to the Harris Ditch (60 – 90 feet behind the high water mark and 200 feet from the eastern bank). The proposed gravel mine operations will require removal of all surface vegetation and topsoil on a yearly basis, with soil stockpiled on site. Storm water surface drainage from stripped areas will flow through sediment basins prior to discharge into adjacent waterways (i.e. San Juan River, Rio Blanco, Harris Ditch). Following conclusion of mining activities, the project area will be reclaimed as grazing land and according to the permit application, the mine operators will take no specific actions to create or improve wildlife habitat.

Wildlife Resources in Project Area

The proposed project area contains habitat for a number of wildlife species, including an assortment of mammals, songbirds, raptors and riparian birds, reptiles and amphibians. However, because of the commercial hunting and fishing operations conducted by the Diamond

T. Ranch, this report will focus specifically on game species whose populations may have an impact on the revenue and operation of the Diamond T. Ranch.

The proposed project area is adjacent to the San Juan River, which provides habitat for fish species including rainbow trout, cutthroat trout, brook trout, cutbow trout, round-tail chub, mottled sculpin, fathead minnow, speckled dace, bluehead sucker, flannel mouth sucker, largemouth bass and catfish. A number of these species are of high value to fisherman and anglers. The proposed project area also occurs in within the Colorado Game Management Unit 78. This Game Management Unit, including land surrounding the proposed Two Rivers gravel pit and Diamond T. Ranch, have been designated by Colorado Parks and Wildlife as deer and elk migration corridors, winter range and winter concentration areas (Colorado Parks and Wildlife 2016). According to Adrian Archuleta (Colorado Parks and Wildlife District Wildlife Manager for the project area), in typical years, deer migrate south from higher elevations in the San Juan Mountains and arrive in the project area in early November. Deer remain in this winter range until April or May, depending on spring temperatures, snowpack and the timing of green-up (i.e. emergence of spring vegetation). In severe winters characterized by low temperatures and / or high snowpack, deer may be pushed southward from the project area into lower elevations in northwest New Mexico (A. Archuleta, Personal Communication). Elk typically migrate from higher elevations later into fall compared to deer, arriving in the project area in mid-November or early December, and remain in the project area until spring, even during severe winters (A. Archuleta, Personal Communication).

Potential Impacts of Proposed Mining Activity on Fish Populations

The primary concerns for fish populations associated with aggregate mining are increased turbidity and sedimentation in adjacent rivers. As a routine practice, gravel mining exposes unweathered material to the environment, which can become a new source of pollution via runoff, which contains metals, materials with low pH, and sediment. In addition to mining activities, processing of aggregate involves screening, crushing and washing of sand and gravel, which in turn creates additional dust and waste. These materials are released into or infiltrate adjacent waterways, which increases turbidity (i.e. cloudiness) of the water, making it difficult for sight feeding fish species (e.g. trout) to hunt (Brown et al. 1998). Following release, these materials are eventually deposited on the river bottom in the form of sediment. The majority of the diet of predatory fish (e.g. trout, bass, dace, minnow, etc.) is comprised of small insects (i.e. macroinvertebrates) that live on the river bottom. Increased sedimentation resulting from gravel mining has been shown to reduce the diversity and abundance of macroinvertebrates, in effect reducing the availability of food for predatory fish who reside in affected portions of the river (Norman et al. 1998). Increased sedimentation associated with gravel mining can also negatively impact fish reproduction. Because fish lay eggs on the river bottom, sediment can prevent water movement over the eggs, causing eggs to suffer from a lack of oxygen, ultimately halting development (Norman et al. 1998). The concomitant effects of reductions in food availability and egg development have significant negative effects on fish populations. In 2014, Daniel et al. examined coal and mineral mines located throughout the US and found that all mining activities (i.e. regardless of the type of mineral extracted) had similar effects on fish populations, with every metric of fish population health negatively affected (e.g. diversity,

species richness, reproduction, etc.) and all species of fish negatively affected, including species monitored in Colorado and New Mexico. Based on the results of these two studies, as well as on the preponderance of scientific literature focused on impacts of surface mining on fish populations, it is expected that the Two Rivers gravel pit operations will have negative impacts to fish populations in the immediate areas within the San Juan River and Rio Blanco. Although the Surface Water Management Plan outlines the stated goal of "zero discharge" from disturbed and un-reclaimed areas of the Two Rivers gravel mine operation, the Surface Water Management Plan does not outline any novel practices that would improve the ability of this operation to reduce discharge. Considering the level of discharge resulting from other gravel mining operations that have followed similar surface water management practices, this goal of zero discharge is not realistic and as such, potential impacts to fish resources have not been adequately addressed in the permit application.

Potential Impacts of Proposed Mining Activity on Game Resources

As stated above, the land surrounding the proposed Two Rivers gravel pit and Diamond T. Ranch have been designated by Colorado Parks and Wildlife as deer and elk migration corridors, winter range and winter concentration areas. Winter range and winter concentration areas are of vital importance for deer and elk, as the time that they spend in these areas prepare them for critical spring events, including migration, as well as rearing fawns and calves. These spring events place huge energetic demands on deer and elk, and as such, winter ranges must minimize energy loss during the critical winter period (Sawyer et al. 2002). Because of limited land area, population densities of deer and elk are typically higher in winter ranges compared to summer ranges, which increases competition among individuals for access to food and other resources that are critical for survival. For these reasons, winter ranges are considered to be more "delicate", in that even subtle disruptions in habitat quality can have major impacts on the survival and reproductive success of deer and elk. For this reason, winter ranges and concentration areas are often given more stringent management protections (e.g. seasonal closures, noise mitigation). Despite these protections, significant disruptions in habitat quality often result in deer and elk avoiding or abandoning portions of their winter ranges and concentration areas, regardless of whether or not these disruptions occur during the winter period. Furthermore, when predicting the impacts of habitat disturbance on wildlife resources, it is essential to consider how a proposed action will impact wildlife utilization in the immediate area, as well as in surrounding areas. The terms "direct" and "indirect" loss are often used when describing anthropogenic impacts of wildlife habitat disruption. Direct habitat loss is the area (acreage disturbed or removed) that is lost by project disruption, whereas indirect habitat loss is the total area that experiences changes in wildlife distribution due to stressors imposed by the project. Thus, indirect habitat loss often extends across an area that is much greater than the project area itself and should be considered when predicting impacts of a proposed action on wildlife resources.

Natural gas development and gravel mining have many of the same impacts to wildlife and wildlife habitat, including increased human presence, increased noise levels, road construction, traffic, and removal of vegetation. However, impacts of gravel mining are typically of greater impact and duration compared to those of natural gas development. For example, the initial

construction of a natural gas well pad represents the highest period of disturbance in the lifetime of the well and this construction phase typically occurs over a period ranging from 6 months to 2 years (Sawyer et al. 2009), after which time human activity and other disturbance are substantially reduced. In comparison, the Two Rivers gravel pit application specifies that the gravel mine will be continually developed over a 26 year period, meaning that surface disturbance and increased human activity will remain high over the long-term. Likewise, natural gas well pads with gathering systems (i.e. pipelines) in place experience an average of 2-5 truck passes per day following construction, whereas well pads without gathering systems experience an average of 4-9 truck passes per day (Sawyer et al. 2009). In contrast, the Two Rivers permit application indicates that there will be an approximate 23.3 truck passes per day throughout the project area for the duration of the mining period. Thus, the impact of gravel mining on deer and elk behavior are expected to be similar in nature to but substantially greater than those observed in study systems focused on disturbances caused by natural gas development.

A number of early studies conducted from the mid 1980's to the mid 1990's provided a general understanding that deer and elk avoid areas with increased road development and human activity. For example, Kuk et al. (1985) evaluated the effects of human presence and simulated mine noise on elk calving behavior and determined that following repeated disturbances (i.e. more than 1 incident of disturbance), elk would permanently abandon areas with increased human activity, moving to areas with lower levels of human disturbances regardless of whether these areas were of lower quality habitat. Furthermore, Kuk et al. (1985) found that elk calves who had been displaced from areas of high human activity and mine noise imprinted on their new habitat areas, meaning that they would avoid the disturbed areas for life, likely resulting in permanent avoidance of disturbed areas by resident elk populations. More recently, extensive natural gas development in the Pinedale Anticline of Wyoming and the Piceance Basin of northern Colorado has prompted a number of studies focused on the impacts of mining activity on deer and elk behavior. In these studies, researchers were able to collect baseline data on wildlife utilization prior to development and throughout the development and utilization process, allowing them to assess changes in wildlife use and behavior that resulted directly from mining activity in the area. Likewise, both the Pinedale Anticline and the Piceance Basin occur within large and high density deer winter ranges. For these reasons, the recent studies conducted in the Pinedale Anticline and Piceance Basin are perhaps the most relevant to the proposed Two Rivers gravel pit operation and are described below.

In 2006, Sawyer et al. evaluated changes in habitat use by deer prior to well pad construction in the Pinedale Anticline and followed these changes for 3 years post development. Changes in deer utilization were immediate; in the first year post construction, portions of the project area that had previously experienced high use by deer decreased by 49%. In the second year post construction, areas of high deer use were reduced by an additional 48% and in the third year by an additional 37%. In addition, changes in deer habitat utilization extended far beyond the project area itself and these impacts appeared to increase over time, with deer avoiding an area 2.7 times greater than the project area in the first year post development, 3.1 times greater in the second year, and 3.7 times greater than the project area by the third year post

development. Continued study indicated that deer did not acclimate over time, but rather continued to avoid disturbed areas over the long-term (Sawyer et al. 2006). The researchers emphasize that seasonal closures did not improve use by deer, indicating that such mitigation measures may not be effective in improving utilization of disturbed habitat by deer. Collectively, this study provides direct evidence that increased human activity and surface disturbance have immediate, significant and long-term negative impacts on deer utilization of winter habitat. In the context of the proposed Two Rivers gravel pit, these results suggest that disturbance associated with mining activities will reduce deer and elk utilization of habitat in the vicinity, including the Diamond T. Ranch, with deer and elk seeking out winter range and concentration areas that have less human activity, traffic, and noise disturbances. Furthermore, halting mining activities during the winter months is not likely to improve habitat utilization. Thus, population densities of deer and elk in the vicinity of the Diamond T. Ranch are expected to decline following development of the Two Rivers gravel pit and are likely to remain at this reduced level for the duration of mining operations.

In a later study, Sawyer et al. (2009) compared behavior of deer in habitats containing well pads with gathering systems to behavior of deer in habitats containing well pads without gathering systems within the Pinedale Anticline. Well pads without gathering systems rely on trucks to haul away natural gas, and as such, these well pads have substantially higher amounts of human presence and traffic compared to well pads with gathering systems in place. The results of Sawyer et al. (2009) demonstrated that in areas both with and without gathering systems, utilization of the area by deer changed immediately once well pad construction began, with deer avoiding areas of increased disturbance and human activity. In addition, deer avoided areas much greater than the well pad itself, and this area of avoidance varied depending on the intensity of disturbance and human activity. Specifically, deer avoided an area with a radius of approximately 2.6 km surrounding the well pad itself when gathering systems were present and an area with a radius of approximately 4.3 km surrounding the well pad when gathering systems were not present. Thus, the indirect habitat loss was about 3.0 times greater than the area of direct habitat loss for well pads with gathering systems and about 8.4 times greater than the area of direct habitat loss for well pads without gathering systems. Interestingly, deer avoided these areas of disturbance and increased human activity despite being driven to areas of lower quality habitat, suggesting that increased human activity and noise, rather than habitat quality, are the largest drivers of deer population density. Research conducted in the Piceance Basin have reached similar conclusions and have demonstrated that deer alter foraging behaviors to avoid human interaction in areas disturbed by mining and migrate faster through areas with increased human presence and mining activity compared to areas with lower levels of anthropogenic disturbance (Lendrum et al. 2012; Lendrum et al. 2013; Dzialak et al. 2011). In short, these studies indicate that deer are much less likely to concentrate in areas with high levels of human and mining activity, and preferentially seek out habitat with lower levels of anthropogenic activity and disturbance. Based on the conclusions reached in these studies, it is likely that mining activities associated with the Two Rivers gravel pit will result in an area of indirect habitat loss that is much greater than the area that is directly disturbed by the mine itself and that this area of indirect habitat loss will encompass part or all of the Diamond T.

Ranch. This indirect habitat loss is likely to reduce utilization of the Diamond T. Ranch by deer and elk, reducing population densities of these species in the affected areas over the long-term.

Opinions

The following are my opinions regarding the impacts of development of the Two Rivers gravel pit to wildlife resources in and around the Diamond T. Ranch.

- Mining activities are likely to increase sedimentation and turbidity to at least some extent in portions of the San Juan River that are adjacent to the project area. Because increased turbidity and sedimentation can negatively impact egg development, insect production and the ability of fish to hunt by sight, fish populations may decline in the vicinity of the project area, including portions of the San Juan River utilized by the Diamond T. Ranch for commercial fishing.

- Mining activities will significantly increase human presence, traffic and noise in the project area. These disturbances are expected to result in deer and elk avoiding the project area, as well as habitat surrounding the project area for the duration of mining activities. Cessation of mining activity during the winter months is not expected to fully mitigate these effects. This avoidance will result in long-term or permanent reductions of deer and elk population densities in and around the Diamond T. Ranch.

- The proposed Two Rivers gravel pit occurs in an area that provides high quality habitat for a number of species including, but not limited to deer, elk and fish. Because of the unique value of this habitat for wildlife, it is recommended that mining activities be relocated to areas in the region with existing industrial development. Concentrating industrial development in this manner will help maintain viable fish populations, as well as migration corridors and winter range that have been historically utilized by deer and elk in the region.

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Project 2015-035SG Two Rivers Pit Major Sand & Gravel Permit

G-R - Letters received by Archuleta County Development Services through June 20, 2016.

John Shepard

From: Debra Gatton <georgebrownbear@yahoo.com>
Sent: Monday, April 18, 2016 1:05 PM
To: John Shepard
Subject: questions/concerns regarding proposed gravel pit on Trujillo Rd.

Hello Mr. John Shepard,

I think you are the correct person to send my inquiry to...

My name is Debra Gatton, my husband and I live at 96 Buckeye Place, just off South Pagosa Blvd. I am writing to learn more about the proposed gravel pit on Trujillo Road and to voice a few concerns plus a couple of questions:

My husband and I run on South Pagosa Blvd about three times a week, so we are very familiar with the road and traffic. There are frequently large trucks that appear to be hauling loads to the landfill using South Pagosa Blvd. Not only do we see the heavy loads, but on occasion, while inside our home, and definitely outside, we can hear the braking of the large trucks. According to my neighbor, and I am not sure this is true, commercial trucks aren't supposed to be using Cascade Ave, to connect from South Pagosa Blvd to Trujillo Road, as Cascade is considered residential. ??? If this is true, it's not enforced. Whether true or not, I am concerned that with a gravel pit even more large trucks will be on South Pagosa Blvd. Besides the noise issue, the road itself already has a lot of wear and tear - large and wide cracks are all along the road, plus it is rutted where the tires travel and becomes quite hazardous when wet/icy.

Another concern I have pertains to the fact that many people travel on South Pagosa Blvd for road biking, walking, and running and there is not any sort of paved shoulder. Several times I have witnessed cars and pick up trucks passing in double yellow areas to either get around road bikes or pass those of us who actually obey the posted speed limit. I am very concerned that if trucks going to a proposed gravel pit on Trujillo Road plan on using South Pagosa Blvd there will be even more congestion and more chance for accidents to occur.

In summary, I would like to understand what a gravel pit on Trujillo Road would mean for potential truck traffic on South Pagosa Blvd? If indeed heavy trucks will be using South Pagosa Blvd back and forth many times daily I am very concerned about noise, wear and tear on the roads, and safety issues and want to understand how these issues will be addressed.

Thank you in advance for your time and acknowledging my concerns,

Debra Gatton

John Shepard

From: Kathryn Gervasi <kathryn.gervasi@gmail.com>
Sent: Wednesday, April 27, 2016 3:43 PM
To: John Shepard
Subject: Two Rivers Gravel Pit

April 27, 2016

To: John Shepard and the Archuleta County Planning Commission

Re: Two Rivers Gravel Pit

I am writing to express deep concerns and personal dismay with the Two rivers Gravel Pit proposal. My husband and I live at 2187 S. Rock Cliff Circle in Pinion Hills Ranch which is not far from the proposed gravel pit site. We have lived here for 9 years and over that time have already noticed an increase in traffic on County Road 500 – our only route to town. This road is used by home owners, businesses, dump trucks, wilderness guides, river rafters and others who all contribute to the chips in my windshield. Trujillo Rd is a winding, narrow road with areas of no shoulders which is often potholed and wash-boarded and hardly seems appropriate for large gravel hauling trucks. I have read that there could be anywhere from 50-70 trucks each day hauling gravel which would translate into 100-140 additional vehicle trips (going out and coming back) on this road. These trucks would increase the wear and tear of the road, reduce visibility from added dust, create deeper ruts in the rain/snow seasons and significantly contribute to the accident rate on this road.

I cannot understand how having a regular route of trucks through our residential and downtown commercial areas would be beneficial to Pagosa Springs. These trucks are large, noisy, block visibility and deter from a town that needs to promote its businesses, waterfront and community neighborhoods. We are finally seeing some positive development along our waterfront and promoting community values. Trucks that bring materials to developing areas on as needed basis is one thing but to allow an ongoing business to use these routes for several decades does not make good economic sense. Who will want to live near these routes? What kind of image/impressions will they leave on our community and especially visitors/tourists?

I have recently learned that the elk migration pattern runs along the Bass Ranch and as far south as the Valle Seco region. We often have herds of elk in Pinion Hills Ranch. Has consideration been given to the impact of the gravel trucks on this population that migrates along the river and near Trujillo Road? It is very common for us to see bear, elk, deer and fox, (the mountain lions are too shy) on trips to and from town. How will these and other animal populations be impacted by this proposal? What about the companies and tourists who regularly drive out this road to catch a glimpse of the amazing wildlife that inhabit this region?

On a personal note, I have already heard very loud sharp noises from the gravel pit area. I did not move here to be a part of this community to witness and listen to land being destroyed. This Gravel Pit activity has the potential to impact future housing development for not only Pinion Hills Ranch but through out the downtown area of Pagosa Springs.

Please consider this proposal's impact on the future of Pagosa Springs and the kind of thriving community we would all like to see it grow into.

Sincerely,

Kathryn Gervasi

Two Rivers Gravel Pit

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

We urge the planning department, the Planning Commission, and the Archuleta BOCC to recognize the economic benefits of having a local quality gravel resource.

Quality spec gravel will improve road conditions and need less maintenance.

Savings in trucking costs can be used for other types of improvements or simply to increase the amount of material in the budget.

Per ton cost of material will be less therefore allowing more discretion with the taxpayer dollars and the county budget.

The mitigation fee that C&J Gravel will pay will speed up and significantly contribute to the improvement of roads in Archuleta County.

We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Rich T Goebel

Address 107 Redwood Drive Pagosa Springs, CO 81147

John Shepard

From: Gary Grazda <ggrazda@gmail.com>
Sent: Saturday, May 28, 2016 10:45 AM
To: John Shepard
Subject: Gravel pit

I am opposed to the application for the new gravel pit. I urge you to deny the application.

Gary Grazda
221 Big Sky Place
Pagosa Springs, CO 81147

Sent from Mail for Windows 10

received
5/20

Two Rivers Gravel Pit

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We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Bruce Hamer

Address P.O. Box 246
81302
Durango, CO

John Shepard

From: Barry Harrell <blharrell@earthlink.net>
Sent: Sunday, March 13, 2016 8:59 PM
To: John Shepard
Subject: Gravel Pit

Mr. Shepard: I am Barry Harrell, and reside at 802 Buttress. I am very concerned about the added traffic on Buttress that the proposed gravel pit will certainly cause. When South Pagosa/Buttress and Meadows were partially paved several years ago our traffic increased tremendously, even though a no through traffic sign was posted on Cascade. That sign and all attempts to slow down traffic disappeared. There is no traffic control. Vehicles routinely fly by our house at 50 mph. The dust from the traffic last summer was so bad that for the first time in my life I had a pulmonary condition requiring medical attention. Pagosa physicians failed to relieve my symptoms. I had to seek a specialist in San Antonio which required several months of inhalation and oral therapy. I will not be able to tolerate additional dust filled air in the future. The added volume of gravel trucks will continue to diminish the air quality and the value of our homes. If Walmart had to pave the streets to accommodate the extra traffic, then the gravel pit and/or city should pave Buttress and Cascade. Thank you for you consideration.

Barry Harrell

Sent from my iPad

Board of Directors
Pagosa Lakes Property Owners Association
230 Port Ave
Pagosa Springs, Colorado

John C Shepard, AICP
Planning Manager

Sherrie Vick
Planning Technician

I am writing concerning the proposed gravel pit being built on Trujillo Road. My home is at 802 Buttress, just past the end of the paved road. It is my understanding that all gravel trucks at the rate of 4 per hour will be traveling to and from the pit on Buttress and Cascade. The paving of South Pagosa Blvd., Meadows, and part of Buttress has already increased our traffic considerably over the years. When we built our home Cascade had a 30 mile speed limit and a “No Through Trucks” sign. Both of those signs disappeared and Buttress/Cascade became a race track. In the Summer it is a dust bowl, and in the Winter and Spring it is a mud pit. Can you imagine the mess we will have with the gravel trucks?

Last summer the air quality was unbreathable. I had never had any pulmonary problems until then, but had an onset of coughing, wheezing, and actually gasping for air. The physicians in Pagosa tried to break the attack without success. I had to go to a Pulmonologist in San Antonio to get relief. This is obviously already a health hazard, and it will only get worse. In addition, the noise pollution is unbearable, with the trucks downshifting traveling on Cascade.

Please help us get some relief from this hazard. We fear not only for our health, but for the economic loss, as we fear the value of our property will suffer. We came to the mountains for the clean, pristine air, and this situation threatens this for all of us. The obvious solution is to have the Gravel Pit and the City pave the rest of Buttress and Cascade. We will still

have the noise, but at least the dust and mud would be abated.

I understand that a cell tower in Pagosa Lakes was recently turned down. The PLPOA was requiring a road to be built. The detriment to our quality of life from the gravel pit traffic on an unpaved road is much more substantial than the cell tower that was turned down. We must have relief from this threat to our health and property values.

I would appreciate your support. We are dues paying members of the PLPOA and we need to know you are fighting for us and our quality of life.

Sincerely,

Barry L. Harrell MD

CHARLES P. ANDREWS, M.D., P.A.
Pulmonary Diseases
4410 Medical Drive, Suite 360
San Antonio, Texas 78229
(210) 614-2100

March 16, 2016

RE: HARRELL, BARRY

To Whom It May Concern:

Dr. Barry L. Harrell has been followed in our pulmonary office since November 2015. Prior to 2015, Dr. Harrell had no known respiratory illness. Starting in the summer of last year, he developed a very persistent cough and wheezing. The onset of those symptoms coincided with him being exposed to road dust, which permeates his home in Colorado. He notes that very near to his home in Pagosa Springs, Colorado, the paved road ends and there is a gravel road, which is extremely dusty.

On my evaluation of Dr. Harrell, I found that he has reactive airways. In my opinion, the onset of his persistent symptoms is more than coincidental with his exposure to heavy concentrations of dust. I have advised him to avoid such an exposure.

Sincerely,

Charles P. Andrews, M.D.

CPA:th

John Shepard

From: Richard Harris <richardharris1957@yahoo.com>
Sent: Tuesday, March 29, 2016 5:32 AM
To: John Shepard
Subject: Gravel Pit on County Road 500

Dear Mr. Shepard,
It has come to my attention that Large Truck Traffic is going to significantly increase on S. Pagosa Blvd., and Buttress Avenue due to new demands from the gravel pit on County Road 500.

As a property owner on those roads, I am very concerned about increased road noise, wear & tear, and general safety of pedestrians, animals and children. There is little in the way of speed/traffic control, and I routinely see large trucks exceeding the posted 35MPH speed limit, sometimes as high as 60MPH. Additionally, half of Buttress Avenue is a dirt road. There will be serious road destruction and constant dust and air pollution as a result of the heavy traffic.

I enjoy walking my dog and jogging daily, and as you may know, there are no sidewalks or road shoulders to protect citizens. This new commercial route is a recipe for disaster and future fatalities.

I would appreciate your attention to this matter and a further explanation of what the mitigation plan is for the home owner.

Thank you,

Richard Harris
498 Buttress Ave.

Two Rivers Gravel Pit

COPY

RECEIVED
MAY 16 2016
BY: SM

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

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Per ton cost of material will be less therefore allowing more discretion with the taxpayer dollars and the county budget.

The mitigation fee that C&J Gravel will pay will speed up and significantly contribute to the improvement of roads in Archuleta County.

We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Brian Heller
President
the Heller Corp.
05-18-16

Address P.O. Box 1507
Durango, CO 81302

cc: John Shepard
AICA Planning Mgr

Additional Comments:

This is an excellent company of hard working honest people. I worked with the original owner Jack Gilkeland, John's father, there is no better company to do business with in SW Colorado.

Archuleta will do well with the addition of this company in your neighborhood.

Jobs = $ $ = TAX. Income = Prosperity!

Signiture: Brian Heller, Owner
the Heller Corp.

John Shepard

From: noreply@civicplus.com
Sent: Saturday, April 16, 2016 9:49 AM
To: Sherrie Vick; John Shepard
Subject: Online Form Submittal: Email Planning

If you are having problems viewing this HTML email, click to view a Text version.

Email Planning

To: Planning

Your Name:*	Gregory and Melinda Homan
Your Email:*	glhoman@comcast.net
Add Attachment:	[ ] Convert to PDF?[ ] (GIF, JPG, JPEG, PNG, DOC, DOCX, XLS, XLSX, TXT)
Subject:*	Two Rivers Gravel Pit
Enter message:*	Dear Mr Shephard, As land owners at 241 Castle Place in Meadows 4 Pagosa Springs we are extremely concerned about the proposed Two Rivers Gravel Pit on Trujillo Rd. At the meeting on April 27th we hope that you will move to recommend Disapproval to the Board of County Commissioners, of Two Rivers Gravel Pit Major Sand & Gravel Permit, with Disapproval Findings A and B of the staff report. Sincerely, Melinda and Greg Homan

* indicates required fields.

View any uploaded files by signing in and then proceeding to the link below:
http://www.archuletacounty.org/Admin/FormHistory.aspx?SID=3189

The following form was submitted via your website: Email Planning

Your Name:: Gregory and Melinda Homan

Your Email:: glhoman@comcast.net

Add Attachment:: No file was uploaded

Subject:: Two Rivers Gravel Pit

Enter message::
Dear Mr Shephard,

As land owners at 241 Castle Place in Meadows 4 Pagosa Springs
we are extremely concerned about the proposed Two Rivers Gravel Pit on Trujillo Rd. At the meeting on April 27th we hope that you will move to recommend Disapproval to the Board of County Commissioners, of Two Rivers Gravel Pit Major Sand & Gravel Permit, with Disapproval Findings A and B of the staff report.

Sincerely,
Melinda and Greg Homan

Additional Information:
Form submitted on: 4/16/2016 9:49:28 AM
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Form Address: http://www.archuletacounty.org/Forms.aspx?FID=155

Two Rivers Gravel Pit

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

We urge the planning department, the Planning Commission, and the Archuleta BOCC to recognize the economic benefits of having a local quality gravel resource.

Quality spec gravel will improve road conditions and need less maintenance.

Savings in trucking costs can be used for other types of improvements or simply to increase the amount of material in the budget.

Per ton cost of material will be less therefore allowing more discretion with the taxpayer dollars and the county budget.

The mitigation fee that C&J Gravel will pay will speed up and significantly contribute to the improvement of roads in Archuleta County.

We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Tim Herrying

Address 584 OREN Rd
PS, CO 81147

John Shepard

From: Richard Humm <rhumm260@gmail.com>
Sent: Monday, March 28, 2016 6:48 PM
To: John Shepard
Cc: george dougherty; bethandtoby12@gmail.com; Juli Morelock; HUMM Linda
Subject: Proposed Gravel Pit

John-
We recently learned of the proposed gravel pit on/near Trujillo Rd. and the probable routing of trucks.
We (and many of our neighbors) regularly walk along Cascade, Buttress, So. Pagosa Blvd. and Meadows. The traffic and associated road damage are already bad as a result of trucks going to & from the land fill.
In addition to further deterioration of road conditions from more heavy-load truck traffic, that traffic would be dangerous, unhealthy because of dust and a significant nuisance to many local residents.
We are very much against the proposed siting of the gravel pit and hope you will oppose it as well.
Thank you.
Richard & Linda Humm
59 Cascade Ave., Pagosa Springs

John Shepard

From: Richard Humm <rhumm260@gmail.com>
Sent: Friday, April 29, 2016 11:09 AM
To: John Shepard
Cc: george dougherty; Toby Tollefsen
Subject: Two Rivers Pit

John:
This is to express our objection to the proposed Two Rivers Pit.

The Planning Staff and the Planning Commission, as the statutory land use and planning body for the County, should take a longer view for the County in general and Pagosa specifically, rather than take an approach lacking in foresight that might provide short-term economic gain for the County and certain private parties.

There are obvious and well-documented issues regarding the health and safety of residents and visitors along the proposed truck routes. The gravel truck traffic would dramatically worsen the already severe, careless, dangerous and dusty truck traffic going to the landfill through Meadows IV. The existing poor road conditions would deteriorate quickly and greatly.

Aside from the significant drawbacks noted here, the proposed gravel truck traffic would essentially remove from the new and resale real estate market a considerable portion of Meadows IV at anything close to today's prices and values, with a resulting decline in real estate tax revenue. There would also likely be a decline in County sales tax revenue as people depart and/or avoid the area. Can we assume that a significant tax revenue decline has been considered in the analysis of the application for the pit?

As an alternative course for truck traffic from the pit to Hwy. 160, consider a route north on CR 500, east on Apache St. and north on Hot Springs Blvd. to 160. It's unlikely that there would be much local opposition to sending the trucks past the high school, Town Hall, the Community Center, the post office, The Springs, the Visitor Center and through downtown multiple times a day.

In any event, the proposed pit is inconsistent with the Pagosa Springs Comprehensive Plan that the Planning Commission and Town Council have sold to residents and tourists. We believe that the Planning Department, Planning Commission and BoCC realize this. All should exercise their authorities accordingly.

Thank you.
Richard and Linda Humm
59 Cascade

John Shepard

From: colton hutcherson <porchech@hotmail.com>
Sent: Monday, May 16, 2016 1:57 PM
To: John Shepard
Subject: For the Trujillo Gravel Pit

I just recently finished reading the artical in the paper in regards to the proposed gravel pit down Trujillo. I see the complaint from the people that live on Trujillo and understand the frustration of added traffic. I myself have a construction company that provides services that require gravel products almost every day. The demand for gravel products have increased to the point in this town that far exceed the ability of our existing pits. Also because of the lack of options our customers are reagularly subject to over priced products simply because of the lack of competition! This is and has been a major concern of mine and many in this community. People in this town seem to enjoy progress and what it has to offer our community, but everytime an oportunity for us to grow arises it is shut down because a few get their "feelings hurt". I urge you to seriously consider the devolpment in this town and consider progress. Allow the infastructer to grow with the population!
Change is not a bad word, as many in this town seem to think. For this town to continue to prosper we must except progress! There is an answer to these few people that have complaints that is simple! If the road gets used more it gets maintaned more and patroled more! this only beneffits them more. Thank you for hearing my say in this matter and I look forward to the hearing on June 8th and what it brings.

Respctully,
Colton Hutcherson
Hutch & Sons Construction
hutchandsons@hotmail.com
hutchandsonsconstruction.com

John Shepard

From: noreply@civicplus.com
Sent: Saturday, April 16, 2016 3:31 PM
To: Sherrie Vick; John Shepard
Subject: Online Form Submittal: Email Planning

If you are having problems viewing this HTML email, click to view a Text version.

Email Planning

To: Planning

Your Name:*	Rex & Anne Marie Kemp
Your Email:*	dg2colo@gmail.com
Add Attachment:	[ ] Convert to PDF?[ ] (GIF, JPG, JPEG, PNG, DOC, DOCX, XLS, XLSX, TXT)
Subject:*	Two Rivers Gravel Pit
Enter message:*	Mr. Shepard: My wife and I live on Meadows Dr, not far from Buttress Ave. We recognize that roads are built primarily for the use of vehicle traffic. However, since there are no sidewalks, foot traffic must also use these same roads. Weather permitting I walk, sometimes accompanied by my wife, 6 times a week from our home to pick up our mail on Buttress Ave. At times, we also ride bikes for the same purpose. The one way distance is approximate 0.7 miles or 1.4 miles total. And occasionally we walk to neighbors homes. Traffic is relative light and typically we would see 4-6 autos on our round trip. The drivers of these vehicles almost always recognize that they need to share the road and not force us to the gravel apron which could be wet or snow covered. These drivers almost always move well into the middle of the road to pass us safely and allows a safe journey without resorting to poor walking surfaces. If truck traffic is allowed to the degree that the Two Rivers Gravel Pit operations proposes, our walks will become increasingly hazardous. Big trucks are not as likely to have the room or inclination to give us a generous berth. Additionally, noise is an issue. Living near the corner of Harvard and Meadows we do hear autos coming to a stop or accelerating from a stop. Some truck traffic is also heard, mostly associated with building projects. They make much more noise, but are relative few in number. But constant traffic from a gravel pit operation would be frequent, thus disturbing our relatively peaceful conditions. I cannot fathom the thought that frequent truck traffic would become a daily occurrence. We moved here for the views, the people, and the relative solitude that currently exists. Please don't disturb our small view of heaven by putting trucks at our front door. Respectfully, Rex & Anne Marie Kemp

* indicates required fields.

View any uploaded files by signing in and then proceeding to the link below:
http://co-archuletacounty.civicplus.com/Admin/FormHistory.aspx?SID=3190

The following form was submitted via your website: Email Planning

Your Name:: Rex & Anne Marie Kemp

Your Email:: dg2colo@gmail.com

Add Attachment:: No file was uploaded

Subject:: Two Rivers Gravel Pit

Enter message:: Mr. Shepard:

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I cannot fathom the thought that frequent truck traffic would become a daily occurrence. We moved here for the views, the people, and the relative solitude that currently exists.

Please don't disturb our small view of heaven by putting trucks at our front door.

Respectfully,

Rex & Anne Marie Kemp

John Shepard

From: Pam Kircher <pk@pamkircher.com>
Sent: Friday, February 05, 2016 10:37 AM
To: John Shepard
Cc: Pam Kircher
Subject: Gravel Pit Hearing comments prior to Feb. 10 meeting

Importance: High

To the Archuleta County Planning Commission:

I am the northern next-door neighbor to the proposed gravel pit on Trujillo Road. My husband and I live in our home at 11000 CR 500 full-time throughout the year. We honor the the Constants' right to use their property as they see fit and are not complaining about the noise that will become a part of our lives as a result of a gravel pit. We would simply need to modify our expectations of peace and quiet that we have enjoyed for the past 20 years.

However, we are very concerned about the public safety hazard that gravel trucks will bring to the drivers along Trujillo Road. The double-S curve at about 7 miles is notoriously dangerous during all seasons and the transfer station trash trucks going to the landfill at the 9-mile site already pose a hazard to other drivers. However, there are other dangers as well. In the last couple of years, two accidents have occurred as cars have fallen off a 20-foot embankment at about the 9.7 mile area. Miraculously, no one was killed in the tumble down the mountainside. Tall embankments without shoulders are a common occurrence along Trujillo Road and accidents are not at all uncommon.

Currently, the road itself becomes nearly un-navigable about 3 or 4 times a year, necessitating big efforts by the road crews to bring it up to "standard." If gravel trucks are added to the mix, that process will be greatly intensified and speeded up.

Before you make a decision on the safety of Trujillo Road, please do drive down to the 12.5 marker and see for yourself the extent of the impact of the gravel trucks on the environment---and the safety hazard that the trucks pose for drivers on Trujillo Road.

Thank you for considering my comments.

Pam Kircher
11000 CR 500
264-6129

Two Rivers Gravel Pit

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We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Carl R Bob Kleckner

Carl R Bob Kleckner

Address PO Box 655

874 Kleckner Ln

Pagosa Sp Co 81147

John Shepard

From: Mary Kurt-Mason <duckiequeen@gmail.com>
Sent: Tuesday, June 07, 2016 12:21 PM
To: commissioners; John Shepard
Subject: Our Home on Cascade

Dear Michael,Steve, Clifford and John,
Yesterday, we got yet another flat tire from the roads near our home on Cascade Ave in Meadows IV. Over the 31 years we have lived in Meadows (26 years on Cascade) we have had countless flat tires due to construction debris littering the roadways. We have had to replace entire sets of tires too many times to keep track of. However, we have never called anyone to complain. We live on a dirt road that is dusty, bumpy, muddy and wash-boarded, but we never make complaints about it because we CHOOSE to live on a dirt road. Mud, dust and bumps are just part of the bargain.

We *want* to live here, it is our home. We picked Cascade Ave as the place to purchase a home and raise our family because it was a quiet road with little traffic and was *closed to through truck traffic*. Unfortunately, with no notice or public input, someone on the county decided to remove the signs designating the road as being closed to through truck traffic and now there is discussion concerning the possibility of large, destructive gravel trucks using our residential area as a driving route.

Mike, Steve, Cliff and John, it is your responsibility to look out for the well-being of the people living in the county:
It is not acceptable to put the financial gain of the people wanting to make money from a gravel pit over the welfare of the families living in Meadows.
It is unacceptable to create a dangerous situation to the families who walk, run, bike and drive on these roads.
It is unacceptable to cause many people to lose the value of their homes so that a few can make a profit at their expense.
It is unacceptable to have enticed people to invest in building or buying homes on roads with a no truck designation, only to under-handedly remove that designation once the homes were built or purchased.
It is unacceptable to allow the gravel pit owners to destroy residential roads so that they can then make even more money selling gravel to the county to repair the roads that their trucks have destroyed.
It is unacceptable to open the county up to future litigation from the home-owners seeking compensation from the loss of value to their homes and well-being.

In your roles as those chosen to protect the residents of Archuleta County, it is only acceptable for you to deny the permit for the proposed Two Rivers Gravel Pit.

Thank You,
Lindsey and Mary Kurt-Mason

123 Cascade Ave
Pagosa Springs, CO 81147

received
5/20

Two Rivers Gravel Pit

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We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Marie Layton

Address 231 Crestview Dr.
Pagosa Springs, CO

Additional Comments:

Webber Sand & Gravel is only open late spring through fall. Other times, we cannot get sand or gravel.
Last year, Webber did not crush gravel all summer. We needed gravel for a new driveway but were unable to get any.
If a person needs sand, gravel, road base, etc. not being able to get any creates a tremendous hardship. Trucking material from Durango, Bayfield or Arboleys is expensive.

We need a business that stays open all year with available material.
Competition is a good thing.

Signiture: Marie Layton

Two Rivers Gravel Pit

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Sincerely,

Name Tri Star Construction Inc.

Bob Manaffey

Address

PO Box 857

Ignacio, CO 81137

Two Rivers Gravel Pit

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Sincerely,

Name Jarrod Martin

BOX 3062

P.S. CO 81147

Address

Sherrie Vick

From:	noreply@civicplus.com
Sent:	Wednesday, February 10, 2016 9:50 AM
To:	Sherrie Vick; John Shepard
Subject:	Online Form Submittal: Email Planning

If you are having problems viewing this HTML email, click to view a Text version.

Email Planning

To: Planning

Your Name:*	Debbie McAlister
Your Email:*	ksmcalister@centurytel.net
Add Attachment:	[ ] Convert to PDF?[ ] (GIF, JPG, JPEG, PNG, DOC, DOCX, XLS, XLSX, TXT)
Subject:*	Two rivers gravel pit
Enter message:*	I would like to express my concerns regarding the 2 rivers gravel pit on county road 500, my first concern is the condition of the road and the impact gravel trucks will have. The road bed was raised and narrowed last fall many vehicles found themselves off the road and in the ditch these last several weeks due to snow, speeding gravel trucks will only make this worse. I am also concerned about wildlife migration the area to be considered where two rivers converge is a large wildlife area and this may disrupt habitat. Thirdly, now that county road 500 has been designated as a scenic by way, we will have an increase in tourist traffic they may not appreciate gravel trucks driving down the middle of the road at a high rate of speed. I know I do not. Thank you for your time and consideration, Debbie McAlister

* indicates required fields.

View any uploaded files by signing in and then proceeding to the link below:
http://co-archuletacounty.civicplus.com/Admin/FormHistory.aspx?SID=3040

The following form was submitted via your website: Email Planning

Your Name:: Debbie McAlister

Your Email:: ksmcalister@centurytel.net

Add Attachment:: No file was uploaded

Subject:: Two rivers gravel pit

John Shepard

Info Packet for
Planning Meeting
June 8, 2016

BOCC minutes
Included regarding
Cascade Restrictions

Why Cascade, Buttress, S. Pagosa and Meadows should not be used by gravel trucks:

SAFETY

Children/school busses	walkers	hospital entrance
Bikers	horse riders	narrow roads
Excessive speed	dangerous curves	blind driveways

HEALTH

Dust plums well over the legal particulate matter allowed by the EPA which lead to cancer & respiratory problems
Noise level well over the maximum decibel level of the county regulations

REAL ESTATE VALUES AND QUALITY OF LIFE

Home values will plummet and buyers already say they do not want to buy in Meadows
Residential neighborhood will no longer be enjoyable due to trucks and noise
Wildlife will be effected including local Elk herd

ROAD DAMAGE

Cascade & Buttress have potholes & washboarding within 2 weeks of grading with current traffic.
S. Pagosa Blvd and Meadows are not constructed to withstand heavy gravel trucks

CASCADE AVENUE

Land was donated by residents of Meadows with restrictions in order for Cascade to exist
Cascade is not to be a haul route and weight limits were agreed upon when land was donated
easement was not recorded correctly.
Check past BoCC minutes for details - Included

EXPENSE TO THE COUNTY

$1,005,000 in gravel credit will over 20 years will not cover road damage by gravel trucks
Extra expense incurred with grading and mag chloride

Knowingly allowing a large number heavy commercial trucks to go through a residential neighborhood in a subdivision will open the county to liability when someone is hurt by the gravel trucks.

Loss of property tax as property values go down significantly

Presentation to BOCC / Planning comm.

To open .....I would like to start with a quote..... "Just because you have the right to do something , that benefits you.
Does not make it OK ".....

Any decision maker has to incorporate some common sense and logic
Into his or her decisions. .....Without common sense and logic . .. Big mistakes are often made

Routing as many as six .....50,000 pound gravel trucks per hour , thousands over the course of a few months, through Meadows subdivision would be one of these big mistakes.....This type of thought process is flawed in a great many ways.

These proposed routes through our residential subdivision on Cascade, Buttress, and South Pagosa will have a negative impact on the whole community, not just the residents on these three roads. .....The increase in commercial trucks will impact everyone's life style from health and safety to an enormous loss in home values.

Meadows is a residential area where people ..walk, bike , horseback ride ,watch the wildlife, or just enjoy being out in their yards. .....To now take these same roads and run hundreds of commercial gravel trucks .....will devastate the quality of life ....we now enjoy.

More importantly , it creates a health hazard with the dust and noise that accompanies these large trucks.

As was just pointed by out by Jean .....the Dust Plumes exceed the EPA maximum allowance by 4 times and the noise levels are 2 times the EPA maximum allowance.....now you want to add gravel trucks to the mix.

.....Additionally,..... what else is created by these gravel trucks.....That is .....AN ACCIDENT WAITING TO HAPPEN.

Let's not pretend for one second that the county gravel trucks will be the only gravel trucks using these same routes.

Every contractor that has been going to Durango for gravel will now be coming and going from this pit also. Adding further stress to our roads and endangering our residents .

The shoulders on all these roads are less than desirable . What happens when one of these trucks is going in one direction, a car is coming from the other direction ....and a biker or someone walking ....all converge at the same time .

The answer .....The truck will win ....and one of the other two may be injured or killed

There will no longer be anything remotely considered as a ....safe, relaxing bike ride , walk , ...or horseback ride.

Try to envision what it is like walking , riding a bike , or horse backing riding when you hear the sound of 50,000 pounds of truck and gravel coming up behind you at 35-40 MPH and will pass within a few feet of you.....Think about that for a minute.....and visualize it ....please

Make no mistake ....everyone..... from every road in Meadows .....uses these three roads for recreation . These are also the same roads that children use ....to go to and from their school buses , along with going to visit friend's after school .....and throughout the summer.

These are the same roads used by the hospital, and churches..... ....just Imagine the implications that could arise from all this congestion around the entrance to the hospital and the emergency room.

As these roads worsen due to excessive weight .....are things going to get better or worse ?.....we all know the answer . .....The damage to our cars, windshields and tires will certainly increase also.

Are you aware that one 50,000 pound truck puts as much wear and Tear on a road as over 4,000 cars.....and your talking 6 per hour.....plus independent operator use.

The trash trucks that presently use these routes put the equivalent of 1429 cars of wear and tear per truck. .....Now the county wants to add more trucks that are bigger and heavier ...all day , every day

A highway study done by the Federal government GAO (US Government Accounting Office) talk's about road damage from large trucks.....This report is based on the 80,000 federal limit , so... We cut the numbers in half.

But here is what it states....

" Although a five- axle tractor-trailer loaded to the current 80,000 pound Federal weight limit weighs about the same as 20 automobiles, the impact of the tractor - trailer is dramatically higher . Based on association data, and confirmed by its officials, such a tractor- trailer has the same impact on a highway as at least 9,600 automobiles. "

(Copy of pg. 36 of GAO report submitted on hard copy)

Remember ....we cut the numbers in half due to 50,000 pound limit on gravel trucks

However.....What this points out is.....

There is a vast difference between a Prius and these massive gravels trucks going over our roads. Think about that ..... By cutting the GAO report in half..... it means the Meadows subdivision will have the equivalent of.....over 4,000 cars times 6 per hour of wear and tear on our roads.....plus whatever the private sector usage is.

That's a massive number .

You can not equate one gravel truck to one car as far as stress and damage to our roads .....that type of thinking is just wrong

Next.....we want you to think about mud season , rain storms and washboarding. What shape will our roads be in due to these trucks during mud season and rain.

Will the already horrible washboarding get better or worse due to the gravel trucks? Again , we all know the answers to these questions too.

Will the condition of the pavement on South Pagosa completely crumble over time ? .....again .....we all know that answer too. .....Recently a road expert retained by friends of meadows deemed South Pagosa Blvd. to be in poor condition .....and said these gravel trucks will ruin South Pagosa in very little time.

So now.....

Lets summarize .....and take a look at the benefits of routing trucks through Meadows.

I can certainly see the benefit to the County. They now have more product at a better price closer to them .....a nice benefit for the county

I can certainly see the benefit to gravel pit. They now have a new business ....with a large customer ..... that creates a profit almost immediately .
A nice benefit for them also

But.....
Where is the benefit for Meadows?

The only thing I can see for Meadows is the following:

1) the loss of our quality of life as we know it
2) loss of ability to walk , bike , horse back ride or just enjoying being outside in our yard.
3) huge increase in traffic
4) damaged roads, cars ,windshields and tires.

5) Unhealthy environment due to noise and dust pollution
6) safety issues for everyone, especially children
7) And above all.....A massive loss in our home values.

This proposal is not in anyway , shape or form .....a benefit to Meadows subdivision. The impact to our community will be in the MILLIONS of dollars.

The truth is .....

AT THE HEART OF THIS ISSUE IS MONEY

The county does not want to run trucks in other directions due to increased cost of transportation.

The Town of Pagosa has already said they are not interested in trucks coming through town. ....They know exactly what impact it will have on them

However , it seems that the county and the gravel pit want the homeowners of Meadows sub division to subsidize the gravel needs for the entire county by taking a short cut through our neighborhood.

In essence devastating our home values and lifestyle

Has the county given serious consideration to the loss in revenue due to decreased home values, therefore less tax revenues .....along with the road repairs they will now incur ..... vs..... what they gain on lower transportation costs. This short term gain may well be a long term loss.

Has the county given serious consideration to the fact that with decreased home values .....there will be little new construction , remodeling, or overall improvements going on in our community.....A loss of income for all contractors in the community.

Has the county given serious consideration to the fact that many of the tourists that rent out in meadows will not want to endure dealing with gravel trucks during their entire vacation .....and may go away the following year to a different , more inviting part of Colorado

I bet if you go to any other resort area in Colorado .....you will not find any gravel trucks being routed through a residential neighborhood on a daily basis ....its just not good business

This one single decision could start a domino effect. .....That ultimately hurts everyone

As elected officials you need to think about the people and families you represent in Meadows subdivision .....the people that have been LOYAL , TAX PAYING residents for many years in Archuleta county.

Routing thousands of 50,000 pound gravel trucks through our neighborhood is not the way to repay this loyalty.

We all bought homes in a residential neighborhood, not a commercial corridor.

So, As I said at the opening .....

Just because you have the right to do something that benefits you
Doesn't make it OK., and certainly doesn't make it the right decision.

Additionally ,

As I've said in this presentation .....it's all about the money

As we have learned over the past few weeks . The savings to the county is estimated at about $40-50,000 on average per year .This is based on C&J 's letter of mitigation sent 5/13/16

In any business there is always a risk / reward ratio that exists when you make decisions .

The reward for the county is $40-50,000 on average per year

But what is the real risk.

Is the county willing to de-value our homes by millions of dollars for this $40-50,000 ...will they not lose just as much on the other end in tax revenues from our de-valued homes in the long term.

Is the county willing to destroy the quality of life for an entire community for this $40-50,000

Is the county willing to degrade our roads, causing damage to our cars, windshields and tires for this $40-50,000?. .....Won't this savings just go right back into road repair after these gravel trucks destroy them.....with the possibility of costing the taxpayers more than what the county thinks they are gaining.

Is the county willing to increase the amount of dust and noise pollution within Meadows for this $40,-50,000

Is the county willing to increase the safety issues for an entire community for this $40-50,000

Above all .....is the county willing to ruin the..... Pagosa Springs Brand .....that brand being .....of a scenic , quiet, outdoor living community , full of wildlife and outdoor activities .....that people long before C&J gravel came along .....people within this community ....have worked so hard to create over the years .....Are you really willing to lose all this for $40-50,000.....or, better yet .....for any amount of money

This brand ....after all..... is why people come to Pagosa in the first place to vacation and to live..... The Pagosa Springs brand is something you need to protect.....at any cost

But now .....lets get into the heart of the C&J proposal . Does the county really save any money at all

C&J gravel through this proposed agreement is absolved of any road damage what so ever . This $40-50,000 per year on average covers all cost of mitigation for the next 20 years. After 20 years the county gets ....nothing

This fee is suppose to cover all damage on CR 500 ,Cascade, Buttress and South Pagosa created by C&J .....who in this room believes that is even possible with this dollar amount.

C&J figures show that South Pagosa should only need to be chip sealed every 10 years .....fact is ....with present traffic .....it already needs to be chip sealed sooner than every 10 years.....and now what happens when all those trucks hit these roads .

To add further perspective to this proposal .....As Gary said ....it costs more than $1,000,000 PER MILE to pave a road now ....South Pagosa is 3.5 miles long.....when that road needs to be re-paved .....that cost will now solely be absorbed by the county and all the tax payers .....not C&J gravel

You need to reject these routes through our neighborhoods.....you need to protect the tax paying people of Meadows subdivision .....and you need to realize that there is no real gain for the county .....period

It's your decision .....I hope you use a little logic and a lot of common sense when making this decision .....it's one of the most important decisions anyone has ever made for our community.... And believe me ....that every other subdivision with a county road running through it is watching ...so ...please.....think long and hard .....before passing this proposal along to the county commissioners.

Thank you

George Dougherty

Beth Tollefsen
706 Buttress Ave

I was out with another broker a few weeks ago and our clients were looking for acreage or riverfront property. They specifically said that until the decision on the gravel pit was made, they did not even want to look in Meadows or San Juan River Estates because they did not want to live in an area with all those gravel trucks wit the noise & dust.

Cascade, Buttress, Meadows & S. Pagosa Blvd are roads in a residential neighborhood within a homeowners association. PLPOA is there to according to their by laws to Improve, protect and enhance the quality of life and environment and preserve property values at Pagosa Lakes, Property owners in the Meadows bought in a residential neighborhood in an HOA in order to protect their property values from things like the proposed haul route by C & J gravel. They want to take thousands of gravel trucks through our residential streets 6 days a week as many as 6 or more per hour. Friends of Meadows are not against the actual gravel pit, just the haul route that will in essence destroy our neighborhood, lifestyle and our property values.

How many in this room can say that they can afford to loose 20,30 even as much as 40% of their home value if you can even sell your property. If the proposed haul route through our neighborhood is approved the county is in essence asking every property owner in Meadows to subsidize this gravel pit by giving up hundreds of thousands of dollars in home values. In fact the $1,005,000 the gravel pit is proposing in mitigation is less than the combined amount that Meadows owners will give up in lost property value. Plus the county will get a lot less property tax revenue and the homeowners, well we all just loose big time!

Speaking for myself, my home is part of our retirement plan. When we bought our property we did our homework and knew that Cascade was not a haul route for trucks as there was a sign on both ends of Cascade stating no through trucks. That sign as it turns out was taken down without the consent of the homeowners in the subdivision as well as the Beaugureaus, MacKenzies and Alpine Cascade who donated the land with restrictions that prevented Cascade and in turn Buttress, Meadows & S. Pagosa from turning into a major truck haul route. BoCC minutes from the 90's can confirm the existence of these restrictions. So this is not a case where we bought land near an airport, then start complaining about the plane noise. Before Cascade was in existence the gravel trucks took Trujillo Rd to HWY 151 while building the airport so there are other routes available to the gravel trucks.

Everyone who lives in Meadows or the streets just off these roads, bought in a residential neighborhood and it is just wrong to allow thousands of gravel trucks to use these roads. It will destroy a beautiful neighborhood, destroy the ability for us to enjoy our homes, destroy the lifestyle and the property values for hundreds of citizens. I don't want to have to move, but like our clients said, who would want to live in a neighborhood with all those trucks.

We are respectfully asking that you seriously consider what you are asking hundreds of tax paying citizens to give up both financially and personally by allowing the gravel trucks into our neighborhood. These roads were not intended to be truck haul routes.

I also want to point out, that this route will take these thousands of gravel trucks past the entrance of the expanding hospital. Is this really a good idea to mix huge gravel trucks all day long & patients trying to enter & leave the hospital & clinic?

Good Evening:

My name is Gary Waples and I've lived in the Meadows development for 20 years. I'm here tonight to share my thoughts concerning the negative aspects of allowing gravel trucks to traverse through our residential developments on the paved roads.

But first, I'd like to direct a few comments to Mr. John Shepard, our Archuleta County Planning Manager. Over the past two months the Friends of the Meadows have inundated John with emails, questions, and requests for information. John has been very responsive to our requests, responding in a timely manner, providing us with the requested information or directing us where to obtain it. We at Friends of the Meadows wish to thank John public ally for his cooperation, friendliness, and professional manner in which he has dealt with us.....Thank John

Friends of the Meadows have retained Mr. James Hawkins to evaluate the paved portion of the proposed Gravel Pit Haul Routes, with regards to their original construction, current condition/damage, and the projected damage and repair costs should the haul routes be approved.

Mr. Hawkins worked for the New Mexico State Highway and Transportation Department for 26 ½ years. He was a certified engineer tech, a unit supervisor in the pavement evaluation and design unit, and was occasionally utilized as a road inspector. His primary responsibility was to evaluate the design of all state highways and make recommendations for change.

His inspection and evaluation of the proposed haul routes has revealed wheel rutting, center line separation, and sub-base failure which causes pavement stress leading to alligator cracking, and pot holes. In his opinion, when the roads were originally paved, approximately seven years ago, the base course and sub base were likely inadequate, and the asphalt recently measured at 1 ½ inches, definitely did not meet Archuleta County Road and Bridge Design Standards and Construction Specifications. The results of inadequate road construction has resulted in the road damage we're now experiencing with the primarily use being residential, garbage trucks, and a relatively low number of dump trucks, etc., as compared to the proposed number of gravel trucks which will traverse the roads on a daily basis if these haul routes are approved.

In Mr. Hawkins' opinion, if these haul routes are approved, and if the estimated number of trucks traveling these routes is actually experienced, in very short order (EMPHASIS)the roads will be so severely damaged that they will need to be stripped down to base and rebuilt at a cost to the county at a conservative estimate of $1,000,000 per mile. The cost to the county to reconstruct these roads, South Pagosa Blvd, and Buttress Ave. will be approximately $3,500,000+ 3.5 miles in length.

Mr. Hawkins is here tonight and will be happy to answer questions you may have.

Recently C & J Gravel submitted a Mitigation Proposal to the County. Quote from the letter "Here is what I am Proposing for mitigation, I am not sure how this would work legally as I've never done this before", further quotes " C & J Gravel is a small company and cannot afford any significant up front cost to help mitigate potential impacts" translated ... we don't have the money to mitigate the costs to the county for repairing the damage our trucks do to your roads. The proposal is based on value credits, or discounts, to the county when purchasing gravel.

These credits will continue for twenty years in various stages, and will amount to slightly over $1,000,000 or approximately $50,000 per year, and are based on "estimated" gravel purchases. As the life of the gravel pit is estimated to be 25-30 years, C & J Gravel has essentially worked into this proposal a non responsibility factor for road damage their trucks cause for the last 10 years of the gravel pit life.. ..Yes $1,000,000 dollars or $50,000/year seems like a lot money, however as Mr Hawkins explained, if these haul routes are approved, in very short order (EMPHASIS) the county's financial exposure will be approximately $3,500,000 to reconstruct these roads. It seems clear to me, that C & J Gravel's Mitigation Plan will actually do little to mitigate the financial burden on the County and their tax payers. Keep in mind, the $3,500,000 covers only the reconstruction of the roads and does not account for the additional expense of yearly maintenance.

As an added point for you to consider when making your decision regarding the truck haul routes, please consider the following. C & J Gravel has other options to having their haul trucks travel through our residential developments to reach state highways. They have the option to access CR 500 from the gravel pit, travel on CR 500 to Cat Creek Road, to highway 160. In addition, they can access CR 500, travel to CR 542, to CR 359, to Highway 84. These options take the haul trucks through uninhabited or sparsely inhabited areas. I guess one has to ponder, why would a business invest in a gravel pit located in such a remote area, where there is no convenient access to state highways, and then propose to route their trucks through residential developments.

In closing, let me be abundantly clear. The Friends of the Meadows are not opposed to the approval of the Gravel Pit application. We are, however, adamantly opposed to the proposal of gravel trucks traveling through our residential developments.

We hope you will take our comments seriously when considering the approval of these haul routes.

Thank you

Health consequences of heavy truck traffic on the proposed haul route:

My name is Jean Strahlendorf and I and my husband live on Cascade Ave, one of the roads that will receive approximately 90% of the gravel trucks traffic from 2 Rivers Gravel Pit. I am concerned about the use of residential roads to service the proposed gravel pit on south Trujillo Rd, and the impact of 25-ton gravel-hauling trucks on health and quality of life in our county. Archuleta County's Land Use Regulations under "Emission of Particulate Matter" state: "Every use shall be operated in compliance with Colorado Department of Public *Health* & Environment. Services (CDPHE) standards for particulate matter". Many complain about dust because it ends up in our homes or on our bodies as a nuisance. But dust also represents a real health problem in the form of particulate matter. A majority of atmospheric particulate matter (PM) comes from dust generated from unpaved roads, construction activities, and mining/quarrying activities. PM is microscopic mass suspended in the air and can contain metal,soil particles and allergens (pollen and mold spores). Air quality PM standards are established by the EPA and state governments to protect the health of all members of society. PM irritates the eyes, nose and throat and can cause serious inflammation in airways resulting in asthma, COPD, pneumonia, emphysema, pulmonary fibrosis and lung cancer. Dr. Barry Harrell, a resident and neighbor, whose home is on the unpaved portion of Buttress Ave. recently has developed a "dust-induced asthmatic condition" that according to his pulmonologist was "directly due to unhealthy air quality". This condition manifested during his stay in Pagosa Springs in 2015. Historically, dust-related medical problems have been mentioned in the Board of County Commission minutes that stated "Dust generated on Trujillo Road caused medical problems". In September 2003 (over a decade ago) County Commissioner Lynch wanted the county to work on improving air quality on county roads.

Pagosa Springs has equaled or exceeded the upper limits for PM levels set by CDPHE and the EPA in 5 of 6 recorded years (2008-2013). Three days in 2013, Pagosa exceeded the PM limit: regulations stipulate the limit can not be exceeded more than once/year. PM measurements are taken on Lewis Street, and presumably are lower than would be expected from rural areas where unpaved roads predominate. The roads proposed for the haul route will display huge dust plumes when the gravel trucks use them. These dust plumes will inevitably yield vehicle-generated PM that will be breathed in by everyone along these roads. PM levels are related in part to: vehicle weight, number of wheels, speed, and

road surface moisture. Because the quantity of PM generated on unpaved roads is directly related to weight, size and speed of vehicles, one could surmise that unpaved roads (i.e.,Trujillo, Cascade and Buttress) that currently experience heavy truck traffic from commercial trash companies are currently out of compliance with PM emissions and thus endangering the health of nearby residents. Allowing additional large 25 ton gravel-hauling commercial trucks to traverse these unpaved roads would gravely exacerbate the problem. The ubiquity of dust plumes on unpaved roads suggests that air PM levels along rural roads exceed allowable limits for PM, particularly during the summer months when roads are dry and large traffic volumes occur.

I was told by the Road and Bridge Engineer that the roads are treated with MgCl2 once each season. In April, the county graded and applied MgCl2 (a dust retardant) on Cascade Ave and the surrounding roads. Prior to this time, when the current heavy commercial trucks traveled down Cascade Ave, the dust plumes were so massive that trucks were totally occluded from view and the plumes were the length of football fields (images on The Friends of Meadows facebook). These dust plumes are markedly reduced in size following MgCl2 treatment for a short period of time. In spite of the diminution in the size of the dust plumes, we monitored levels particulate matter on Cascade Ave using a consumer attainable Air Quality Meter* on May 31- June 2 (remember after the road had been treated with dust retardant). On each day, garbage truck-generated PM ***exceeded EPA maximum allowance*** (35 micrograms/cubic meter 24hr avg) for 2.5 micron particulate matter by ***4 fold*** and ***2 fold***, transient and sustained levels, respectively. For those that like numbers, these elevations in PM translated to a 243% and 66% increase in the temporary and sustained levels, respectively. Garbage trucks generated 120 and 58 micrograms/cubic meter particulate values, respectively. This class of particulate matter is generated by dust and diesel fuel, two factors attributed to heavy commercial trucks. If we exceeded by 2 fold the allowed upper limit for particulate matter each of the 3 days after roads had been treated with MgCl2 a dust retardant, I can only predict elevations in PM that easily exceed the two-4 fold measure, when the MgCl2 becomes less effective in mid summer-fall months.

Furthermore, the Land Use Regulations also require that sound generated by all mining operations, industrial uses
and commercial businesses not exceed 45 db (about the level of noise in an office). Before

Cascade was graded, many commercial trucks emitted thunder-like sounds that reverberated and echoed through the neighborhood (approximate intensities of 80-120 dB) as they traversed wash-boarded road conditionns. In April, the county graded on Cascade and the surrounding roads. Garbage trucks on Cascade Ave routinely register 75db (studies have shown that 8 hr exposure to this range of dBs may lead to ear damage (hearing impairment), compared to the 45db maximum allowed by county regulations (Section 5.4.2.1, Land Use Regulations). Garbage trucks generate approximately 2 times the allowed noise after the roads were graded.

In the spirit of the Archuleta County Community 20/20 Plan, I would encourage our elected officials to continue to " preserve the outstanding scenic and natural qualities of our county" and deny the haul route proposed by the Sand and Gravel pit proposal for the sake of our health. Many in this room seek healthy food choices, choosing organic grown foods because we want to limit potentially toxic compounds that we put in our bodies. We should expect the same when it comes to the air we breathe because the toxins we breathe pass more readily into our blood stream than toxins we eat.

*Laser beam that detects 2.5 and smaller PM

Colorado Department of Public Health & Environment CDPHE

MARK Espoy

I reviewed the email you sent me in regard to C&J Trucking's use of South Pagosa Blvd and Cascade Ave. Please see my comments below:

1) C&J Trucking is offering $16447 a year for trucking rights on South Pagosa. Looking at contractor mobilization, Blue Book equipment rates and Davis Bacon Wage rates (conservative), any damage done to South Pagosa Blvd would not be able to be repaired for that amount on a yearly basis. This would not be adequate to replace a 100' strip of road on a yearly basis. $319,000 over the 20 year period would not be sufficient to repair/replace South Pagosa Blvd in its current configuration. Also, I see no mention of rate increases due to commodity prices. Oil is super cheap right now and that directly effects paving... so when the prices increase... so will repair costs. Also, will these funds be put in a trust of some sort and committed for use ONLY on S. Pagosa & Cascade or will they be placed in the county's general fund? If counties general fund, you can almost guarantee they'll be misappropriated and "borrowed against" for other projects.

2) Prior to authorizing any permanent trucking routes on South Pagosa Blvd, an analysis of the existing paving section needs to be performed. I would assume the county has as-builts for this road showing pavement thicknesses and base thicknesses. In addition, a registered CO Professional Engineer needs to perform a traffic analysis on South Pagosa Blvd to determine its current Traffic Index (TI). Then C&J would have to provide info on the number of trucks it will be running and the Engineer will determine the revised TI based on this. The revised TI will be used to determine the required pavement/base section that can hold up to that level of traffic and based off the as-builts for South Pagosa, you'll know if the street can even hold up to the loading irrelevant of standard maintenance.

3) I would suspect that during the design of the paving section for South Pagosa, an R-Value test was performed to develop the paving section. If not, this would need to be completed to ensure that S. Pagosa was designed correctly.

4) The mitigation plan of chip sealing South Pagosa and gravel on Cascade every 5 years is grossly inadequate. Chip Sealing is a very minor fix for a road... really just to pretty it up and make the ride smoother in between full mill & overlay projects. Heavy Truck hauling on a road that may not be adequately designed for the loading with compromise the structural section of the road and lead to full depth repaving (extremely expensive in comparison to a standard mill & overlay every 10 years). A gravel road would most likely need to be regraded and have gravel added on a nearly monthly basis due to washboarding and potholes (heavy trucks GREATLY exacerbate this gravel road issue). Also, what are they

offering for dust control measures on Cascade? I see nothing in regards to that and dust with a truck haul is a very real issue.

5) What about street sweeping? If they're running gravel trucks, they do spill and will cause build up on the sides of the pavement which is where people walk and ride bikes. This will cause pedestrians to walk/ride in the traffic lanes and will cause a safety issue over time. If C&J did a monthly street sweeping to remove all spilled gravel from the roadway, this could be mitigated.

6) What are they offering in terms of noise mitigation? These trucks are very loud, particularly when they use they use engine braking (jake brake) and most of them will not have mufflers or any form of emissions controls. Rather they'll just have straight pipe to the stacks... easiest way to make a diesel more powerful and fuel efficient. No one in Archuletta County is running Tier 3 & 4 trucks... guaranteed. This doesn't include the beds that are usually poorly maintained. Listening to metal gates slam every time the trucks hit a bump (or the pothole the truck created) will become very old over time and definitely take away from the quality of life people wish to maintain by living out in the country.

7) Are they offering the county a discount on gravel purchases in order to get this passed? Aside from that being unethical and violate .gov business practices, but they probably would only see 20% of the "Real" savings.... The rest would be pocketed by C&J.
Unfortunately, I get to deal with truck haul routes on a daily basis with my projects. Heavy trucks are extremely damaging to local streets and we always have huge issues with Cities/Counties fighting us to repair their roads after the fact. I'm very aware of what C&J is trying to do because I would be doing the exact same thing if I were them. They're trying to increase their revenue via decreased trucking costs and there's nothing wrong with that; but unfortunately they're doing it in a way that the county will experience an additional road repair burden. The county currently isn't capable of maintaining all the roads in its jurisdiction and this will only increase the issue at the detriment of the residents of South Pagosa Blvd. If I owned property on either of these roads, I would absolutely **FIGHT AGAINST THIS!**

6/2/2016- Friends of the Meadows

Cascade Ave Classification:

- Roads are classified by their surroundings and the preponderance of activity associated with it. Cascade is a residential road since it is surrounded by residences. The county maintains this road so it may be a "county road", but not a rural road. It lies within Meadows Subdivision and PLPOA, a residential area that is marketed as safe, family-oriented, and quiet. *It is not deeded as a haul-route for commercial traffic.* In fact, part of the land for Cascade Ave was donated to the county with the explicit restrictions that it not become a haul route or allow heavy truck traffic (vehicles over 15,000 lbs).
- Archuleta County classifies Cascade Ave as a major collector road. Archuleta County Road & Bridge Specifications in ***Table 27-9*** has no specs for gravel on major collector roads, stating "Not Applicable", but states an asphalt specification. This implies that collector roads should be paved.

Historical Perspective

1991- Cascade Ave offered to be opened to public use if County maintained the road. No apparent easement or deed from Sid Bass was placed in writing with County.

1994- Beaugureau & MacKenzie families deeded to the County a portion of Cascade Ave with restrictions (see ***Exhibits A & B***). **The County Clerk office failed to record restrictions of the Dedication Deed.** The BoCC frequently referred to two restrictions for Cascade: "No Thru Trucks" and not a "haul-route" (see ***BoCC Minutes***).

1994-2000- BoCC emphasized and maintained Cascade Ave deed restrictions (see ***Exhibit F***).

Removal of the "No-Thru Trucks" signs from Cascade Ave in 2009:

- 2009- "No Thru Truck" signs removed on Cascade Ave *without* approval by the Beaugureaus or MacKenzies, or neighborhood/community notification/approval, or public input.
- No BoCC discussion addressing consequences of the removal of the signs with reference to property values, health, safety, or quality of life considerations.
- BoCC did not authorize the removal of the "No Through Trucks" signs (no reference indicated in BoCC minutes).
- The removal of the signs compromised the good faith agreement with the original deeders.
- 2010- Pierre and Sandy Mion, residents of Cascade Ave requested re-installation of "No Thru Truck" signs on Cascade. BoCC stated perhaps an ordinance would be needed. Request was tabled for further research. No follow-up was discovered.
- JR Ford told Howard Strahlendorf in Spring 2016 that he gave verbal permission to allow garbage trucks to use Cascade Ave even though he does not live on Cascade Ave or in the Meadows **nor does he have the authority to grant permission for trash truck traffic for the entirety of Cascade Ave.**
  - Three individual/groups offered land for the creation of Cascade Ave (Fairfield Developments, Beaugureau/MacKenzie, and Bass, therefore J R Ford had at best authority over only a portion).
- "No Trucks" & "No Thru Trucks" signs exist currently on at least two roads, Handicap and Mission Aves. (***Exhibit C***).
- All of the residents that live on Cascade Ave bought their property with these signs in place, these signs guaranteed a life style that was devoid of heavy truck noise, dust that contains excessive quantities of health-endangering particulate matter, and safety issues. Past county officials have failed to uphold this agreement with the purchasers.

Health consequences of heavy truck traffic on an unpaved road such as Cascade Ave:

- Noise

  Using a decibel (db) detecting unit, garbage trucks on Cascade Ave registered 74db compared to the 45db maximum allowed by county regulations (Section 5.4.2.1, Land Use Regulations), representing approximately 2 times the allowed noise (see ***Exhibit D***). (These data were obtained on Cascade Ave after the road had been graded and $MgCl_2$ was applied).
- Air Quality
  - Using Air Quality Meter on May 31-June 2 particulate matter assessments were made (after the roads were graded and $MgCl_2$ was applied). Garbage truck-generated dust ***exceeded EPA maximum***

(35 micrograms/cubic meter, see ***Exhibit E***) 24hr avg for 2.5 micron particulate matter by ***4 fold*** and ***2 fold***, transient and sustained levels, respectively. These particulate matter are generated by dust and diesel fuel, two factors attributed to heavy commercial trucks.

- This is the particulate size that is small enough to enter into the blood supply and lungs, and cause respiratory and cardiovascular damage, asthma, COPD and lung cancer.
- See ***Exhibit D*** for typical dust plumes generated on Cascade Ave in April 2016.

Position of Friends of the Meadows:

- Reinstate the "No Thru Truck" signage since these signs currently exist on at least 2 roads in the county.
  - They were taken down without resident input, without BoCC approval, and not in "good faith" with the original deed providers.
  - An amendment needs to be added to the "Deed of Dedication" granted to the county by Beaugureau and MacKenzie parties that states the two original deeded restrictions: Cascade Ave is open to public use but trucks exceeding 15,000 lbs are prohibited and Cascade Ave will not become a haul-route for the county.

22 May 2016

From: Ken Fox

Subject: Cascade Avenue

To: Archuleta County Planning Commission
Archuleta County Board of County Commissioners
In Turn

I served as Archuleta County Commissioner, District 2, for the four year period from January 1997 until December 2000.
I would like to present the following as background information on Cascade Avenue and the restrictions that were placed on public use when the land was dedicated to Archuleta County:

-The original Deed of Dedication was approved/accepted by the Board of County Commissioners, (BOCC) on 2 August 1994. (Before my time serving as a Commissioner).

-The formal minutes of BOCC meeting of 25 April 1995 state, "Cascade Road was donated to the public with a condition of not being used as a truck-haul road."

-The formal minutes of BOCC meeting of 1 August 1995 contain a section dealing with "lifting restrictions to heavy truck traffic on Cascade for a period of time". The following quote is also contained in these minutes; "With regard to Cascade Ave., it was donated to the County with the condition no heavy truck traffic would be allowed."

-The formal minutes of BOCC meeting of 19 May 1998 (During my time serving as a County Commissioner, Board Vice Chairman at the time,) contain the following quote, "Discussion was held that when this road (Cascade Ave.) was taken over by the County there was a weight restriction as a condition of the transaction."

-The formal minutes of BOCC meeting of 26 May 1998, (one week later) contain the following, "When this road was opened to the public a weight restriction was imposed that prevented commercial truck traffic on the road. Discussion was held as to whether the weight limit could be lifted temporarily, until the completion of the roads being built in the Fairfield area. Commissioner Formwalt moved to honor the request of lifting the weight limit until the completion of the Fairfield contracts. Commissioner Fox seconded the motion."

-The formal minutes of BOCC meeting of 16 June 1998 contain the following, "Mr. Hunt stated that the Road and Bridge Department is requesting that weight restrictions (no commercial trucks) be placed on Cascade Road again. The restrictions were lifted on June 2, 1998 and in the two weeks following, significant damage has been done to Meadows Drive and South Pagosa Blvd." Additionally, "Commissioner Fox moved to reinstate the restrictions on Cascade Road..."

-The formal minutes of BOCC meeting of 3 October 2000 have an entire section dealing with "Restrictions of Heavy Truck Traffic" which includes reference to Cascade, among others.

From these public records It appears obvious that there was indeed an intent to have Cascade Avenue restricted from heavy and commercial truck traffic. As a sitting commissioner during the time frame referenced, it was definitely my understanding. In fact, on two separate occasions I flagged down commercial dump trucks proceeding south on South Pagosa Blvd and pointed out to the drivers the restrictions on Cascade and the signage in place at that time stating this.
It is unfortunate that in the ensuing years, the lack of enforcement of these restrictions and the removal of the original signage allowed for the very activity that was originally restricted. That doesn't change the fact that those who provided their land for Cascade Avenue had a good faith agreement with County Government, and that agreement should again be honored.

Respectfully submitted,

Ken Fox

Ken Fox

10 May 2016

Dear Archuleta County Officials:

I am Donna Lark Beaugureau and I reside at 602 Buttress Ave. I am one of the original owners of the land deeded to Archuleta County (the County) for the purpose of creating Cascade Ave. I am requesting in this letter a prohibition of the travel of heavy commercial trucks on Cascade Ave. This restriction was established in an agreement between me and others (Judith and Grant MacKenzie) and Archuleta County when the land was deeded to the County for public use. The County has acknowledged this agreement. As stated by Mr. Dennis Hunt, the Archuleta County Manager, "Cascade Ave was donated to the county with the condition of not being used as a truck-haul road" (BoCC minutes April 1995). Furthermore, BoCC made a commitment to residents of South Pagosa Blvd. restricting heavy truck traffic, and reinforced that Cascade Ave was donated to the county with the condition that no heavy truck traffic would be allowed (BoCC minutes August 1, 1995). **Thus, there existed explicit acknowledgment that there were attendant use restrictions on Cascade Ave as part of my dedication deed.**

The proposal of Cascade Ave as a major haul route for the Two River Gravel Pit would be an egregious violation of the original intent of my dedication deed. **To allow such proposal, in light of restrictions placed on opening Cascade Ave to the public, would call into the question the good faith trust placed by me in the county government to uphold the agreement made at the time of execution of the deed.** The purpose of my stipulations to the deed was to prevent the occurrence of an unbearable amount of traffic which would impact the serene country atmosphere of our neighborhood and to prevent a dusty, unhealthy and unsafe residential neighborhood, sentiments expressed by BoCC themselves.

As one of three who deeded Cascade Ave to the county for public use, I insist that the County honor the agreement made with me and I will take all necessary steps to see that the County respect that agreement.

Sincerely,

Donna Lark Beaugureau

Donna Lark Beaugureau

STATE OF Arizona
COUNTY OF Cochise
SUBSCRIBED AND SWORN TO BEFORE ME
THIS 10 DAY OF May, 2016.
BY Donna Beaugureau
NOTARY PUBLIC

Steffani Torrens
Notary Public
Cochise County, Arizona
My Comm. Expires 04-20-19

May 23rd, 2016

To: Archuleta County Planning Committee Members and Archuleta County Commissioners

We are Grant and Judith MacKenzie, two of the three who deeded Cascade Ave to Archuleta County (the County) for public use. As stated by Ms. Donna Lark Beaugureau in her recent letter to the County, we also seek the enforcement of the restrictions agreed to by the County at the time of deeding the property and explicitly acknowledged by the County in subsequent public meetings concerning travel of heavy commercial trucks on Cascade Ave. These restrictions were agreed upon in order to prevent Cascade Ave from becoming a truck haul route and thus compromising the residential quality of our neighborhood, i.e., quiet, healthy, and safe country living.

Our good intentions to assist the county in the public use of Cascade Ave is abused by allowing commercial truck traffic that threatens the very character of our residential neighborhood.

To entertain the possibility of increased heavy truck traffic on Cascade Ave by the Two Rivers Gravel Pit **insults and violates the integrity the agreement accompanying our deed.** Our research has revealed that in the past the Board of County Commissioners (BoCC) has been protective of this agreement. **We trust in the integrity of the members of the current BoCC to enforce the spirit and intent of the original stipulations to opening Cascade Ave to the public, and not erode the good faith understanding on which our deed was predicated.**

We agree with the requests made by Ms. Donna Lark Beaugureau and we too want the following. **We want the county to honor the agreement made with us. We want County to prevent Cascade Ave from being used as a haul route, and all commercial truck traffic to cease NOW and we will take all necessary steps to enforce that agreement.**

Sincerely,

Grant MacKenzie

Judith MacKenzie

INDIVIDUAL ACKNOWLEDGMENT

State/Commonwealth of Arizona
County of Maricopa } ss.

On this the 23 (Day) day of May (Month), 2016 (Year), before me, Alen Gisso (Name of Notary Public), the undersigned Notary Public, personally appeared Grant MacKenzie and Judith Ann MacKenzie (Name(s) of Signer(s))

☐ personally known to me – **OR** –

☒ proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged to me that he/she/they executed the same for the purposes therein stated.

ALEN GISSO
Notary Public - Arizona
Maricopa County
My Comm. Expires Jun 7, 2019

WITNESS my hand and official seal.

A. Gisso
Signature of Notary Public

Alen Gisso
exp 6-7-2019
Any Other Required Information
(Printed Name of Notary, Expiration Date, etc.)

Place Notary Seal/Stamp Above

OPTIONAL

This section is required for notarizations performed in Arizona but is optional in other states. Completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: Commercial Truck Protest

Document Date: 5-23-2016 Number of Pages: 1

Signer(s) Other Than Named Above: N/A

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BoCC Minutes Concerning Cascade Ave (chronological order)

March 1991- Gravel pit on Cascade Ave closed

June1991- JR Ford indicated that Alpine Cascade did not mind if the public used the road but the road would be maintained by the county. BoCC recommended restricted use on Cascade that included speed zones be established and signs be installed reflecting those limits. that the road be used as an arterial connection and county retrieves gravel from the pit in exchange for county maintenance.

Oct 1991- County maintenance of Cascade Ave requested. BoCC requirements: restricted truck traffic on Cascade, allowing only trucks that were for road work in general area and need to dispose the gravel pit.

June 1993- BoCC authorized their signature be given on warranty deeds and other papers to acquire road easement for Cascade Drive thru Alpine Cascade property.

Dec 1993- Cascade not accepted for county maintenance yet. Nothing in writing given, only a verbal agreement that county would take over Cascade maintenance when the Meadows subdivision was dedicated to the public. But not taken over by county yet.

Aug 1994- Beaugureau and Mackenzie submitted "deed of dedication" for public use for their land portion of Cascade Ave.

April 1995 Mack Gaudet wanted S. Pagosa to be opened to heavy truck use. Mr. Hunt stated that Cascade Road was donated to public with a condition of not being used as a truck-haul road. A lengthy discussion occurred concerning dust, health, traffic, axdel load limits, 6 mile detours and road impact.

Aug 1995- Dust generated on Trujillo Road causing medical problems.
Jerry Gamba requested that the restriction for heavy truck usage on S. Pagosa Road and Cascade be lifted for period of time (60 trucks/day needed for construction job). He would provide water truck and blade roads. BoCC made a commitment to residents of S. Pagosa restricting heavy truck traffic. BoCC stated that Cascade Ave donated to county with the condition that no heavy traffic would be allowed. BoCC told Mr. Gamba that if residents are willing to allow heavy truck traffic for a period of time, then they (BoCC) would not have a problem. They even had a public meeting for input from residents. Also Mr. Gamba would have to get resident's approval.

June 1996- JR Ford requested that the county apply gravel and MgCl2 on Cascade Ave, if Alpine Cascade crushed and provided the gravel- he stated that Cascade's condition was "horrible".

May19,1998- JR Ford stated that Cascade Road was opened and requested that the weight limit be removed. BoCC that when Cascade was taken over by the County there was a weight restriction as a condition of the transaction. Matter was tabled.

May26,1998- Continued the discussion that JR Ford requested that the weight limit on Cascade Road be lifted. When Cascade was opened to the public a weight restriction was imposed that prevented commercial truck traffic on the road. There is a gravel pit now open off of Cascade Rd. and Alpine Cascade would like to be able to haul on Cascade Rd. BoCC discussed whether the weight limit could be lifted temporarily, until the completion of the roads being built in the Fairfield area. BoCC moved to honor the request to temporarily lift the weight limit until completion of the Fairfield contracts. Concern was expressed about an "unbearable amount of traffic and dust on a residential street". Other topics: suggested that speed limits be monitored and MgCl2 be applied more frequently to keep the dust down. BoCC chairman assured those present that the road would be maintained to the best of their ability to cut down the amount of dust in the area.

June 1998- Road and Bridge dept. requested that weight restrictions (no commercial trucks) be placed back on Cascade. After restrictions were lifted for 2 weeks, significant damage was done to Meadows Drive and S. Pagosa Blvd. BoCC stated that commercial truck traffic was allowed only during construction of Fairfield settlement roads, and not permit unlimited hauling. Bridge and Road stated that the county can control over weight

permits and the speed on roads after engineering studies, but was unsure whether the amount of traffic could be controlled. BoCC requested research as to whether a special use permit could be issued.

July21,1998 JR Ford also requested use of Cascade to haul gravel to Alpine Hills subdivision for 3-4 days. Water trucks were required during the week. BoCC expressed concern that precedence for future developers was being set. Approval was given for 1 week.

Oct6,1998- Another request to use Cascade to haul gravel from a unnamed pit 13.5 miles south on Trujillo Road was entertained but it was recommended that water truck and blade be required on site when hauling was done. One of the BoCC commissioners did not agree that opening the roads to everyone to use as haul roads was acceptable. Discussion was held as to how to restrict traffic thru terms of contract.

Oct13,1998- JR Ford requested permission to haul gravel on Cascade to Buttress. BoCC indicated that it has allowed contractors to use Cascade to expedite building projects but the Board made objections to using Cascade as a haul road between Trujillo and Hwy 160. It was stressed that any hauling on Cascade needs to be site-specific and reaffirmed this policy with Sheriff's Dept.

Oct.2000- In a matter concerning another road, BoCC noted that Cascade was restricted to commercial truck traffic but rock, gravel and trash trucks continually used the road. It was stated that while the posted signs make everyone feel good, unless the restriction was enforced, they were of little use. Reference was made to commercial truck not in excess of 15,000 pounds.

Sept.2003- Commissioner Lynch attended transportation meeting in Durango that dealt with mitigation of air quality for containment areas and wanted the county to work on improving air quality on county roads.

May2010- Public Works Director Ken Feyen brought up an issue raised by Sandra and Pierre Mion (who live at 59 Cascade) who requested that the 2 "No Through Truck Traffic" signs be placed back on Cascade road. A discussion was held regarding issuing an ordinance for either jake-brakes or the "no through truck traffic", County Administrator Schulte stated there was a law enforcement issue also. Sandra stated that the road is capable of carrying the truck load but they are concerned more about the dust, the traffic and the degradation of the road. They are currently being subjected to huge truck traffic and the road already needs more dust mitigation. The signs were up when the easement was granted but taken down in 2009. Pierre said he was informed that when the Bass brothers gave the right-of-way to the County, there was a stipulation that signs should be posted for "No Through Tuck Traffic" and never taken down. Toby Tolleson felt that if trucks could slow down, it would help. Detective Sergeant Rich Valdez stated the Sheriff's Office did not have any problems with a sign, its what the sign actually said and concern because the type of truck was not indicated on the sign. A discussion was held suggesting that any tickets issued would not hold up in court. To put this sign back up, would set a precedent for other neighborhoods who would want that same special treatment. If an ordinance were to pass, law enforcement would have something to back them up when tickets are issued. Joann Devorek of 777 Buttress Ave reinterated the safety issue made by Sandra and felt this was the first concern. County Administrator Schulte stated the staff did not find any condition put on the easement as stated. In order for the County to enforce this issue, an ordinance would need to be put in place regardless of whether it is for jake-brakes or truck traffic. The Board will do more research.

BoCC Minutes

PROCEEDINGS OF THE BOARD OF COUNTY COMMISSIONERS March 5 19 91

The Board of County Commissioners held a regular meeting on March 5, 1991 to conduct business as follows: Present were Commissioners Formwalt, Lynch and Martinez. Chairman Martinez called the meeting to order at 9:05 a.m.

Commissioner Formwalt moved that the minutes of 2/26/1991 be approved as presented. Commissioner Lynch seconded; motion carried.

County Assessor David Wilson presented abatements that were approved as follows:

5699-242-21-009	Jose Fred Jaramillo Pagosa Springs Blk 69 Lot 5-6-7-8-9 24-35-2W	

Commissioner Lynch moved to table the request until the appraiser has a chance to physically inspect the house and property. Commissioner Formwalt seconded; motion carried.

5699-242-13-009	Harold Baxstrom Town of Pagosa Springs Blk 60 L16	$58.38
900P	Edgar Allen Beeson, Jr. (Corky) - denied Personal Property Corky's Wrecker Service & Salvage	
6161-172-11-002	Piedra Park Metropolitan Improvement District Piedra Park Sub 1 Blk 1 Lot 9	$49.64

Commissioner Formwalt reported to the group that Jim Beckham, General Manager, Fairfield-Pagosa, had called and informed him that Fairfield has sold the scale site at Trujillo Road & Cascade. The scales have been reserved for donation to the County, with necessary paperwork to be forthcoming. The scales do not need to be moved immediately.

Michael Rizzo provided an update to the Board on the remodeling project. Commissioner Lynch moved to enter into Executive Session at 10:10 a.m. with Michael Rizzo to discuss personnel matters. Commissioner Formwalt seconded; motion carried. The Session ended at 10:30 a.m.

Due to requirements of the Liquor License Law, Commissioner Formwalt moved to approve the form to Change Corporate Officers of Pizza Hut of America, Inc. Commissioner Lynch seconded; motion carried.

Commissioner Lynch discussed the formation of a Geothermal Advisory Committee. Possible members she suggested included: Norman Vance, Holice Pruett, Val Valentine, Marsha Freuit, Billy Lynn and Town of Pagosa Springs Administrator, Patrick Sherman. Commissioner Formwalt moved to set up an advisory committee for the geothermal project to help and advise Jan Tully, made up of 6 volunteers representing the community including a representative of the Town of Pagosa Springs. Commissioner Lynch seconded; motion carried.

Commissioner Lynch moved to approve Contract No. 0-LM-00009 for Archuleta County, Navajo Unit, Colorado River Storage Project, Colorado and New Mexico, with the Bureau of Reclamation, with one change - providing free crushed gravel of up to 250 cu. yds. only for their use. Commissioner Formwalt seconded; motion carried.

The Board of County Commissioners set a Public Hearing regarding the proposed San Juan River Resort Metropolitan District for April 2 at 7:30 p.m. in the Commissioners Meeting Room.

Commissioner Formwalt moved to approve Resolution No. 91-10, assigning TSC 398-90 to Joseph Richard Lorimor, Jr. Commissioner Lynch seconded; motion carried.

The Board discussed a vehicle for use during the Geothermal Project. The Board decided that the vehicle in most need of replacement is the Assessor's. The Board felt it best to transfer the Building Inspector's vehicle to the Geothermal Project and the Assessor's vehicle to the Building Inspector. The Board authorized Commissioner Formwalt to meet with the Assessor and determine what is needed by them and to institute the purchase of same.

Commissioner Formwalt moved to approve the Communications Services Agreements with: the Department of Emergency Services, Pagosa Springs, Fire Protection District and Navajo State Park and to authorize the chairman to sign the 3 agreements. Commissioner Lynch

The Board entered into a Public Hearing at 2:05 p.m. to consider a request for a Special Events Permit to sell liquor made by the Pagosa Springs Lions Club. The request was for a period from July 4, 1991 through July 7, 1991 for the hours of 10:00 a.m. to 7:00 p.m. on the 4th and the 7th and the hours of 10:00 a.m. to 9:00 p.m. on the 5th and the 6th. Commissioner Lynch moved to approve the application for a Special Events Permit for the Pagosa Springs Lions Club in that all the required paperwork was in order and there were no objections to the permit. The motion was seconded by Commissioner Formwalt; motion carried.

The Board addressed a concern of resident Lydia Candelaria regarding CR551. Ms. Candelaria requested that the Board provide her with paperwork stating the County will accept a new road as the legal right-of-way in its current location while relinquishing all rights to the old CR551 and declare it abandoned. Mr. Ebeling, County Planner, advised the Board that the new road had been constructed but that there was no record in place showing it. Mr. Ebeling advised the Board that it would be his recommendation that a Quit Claim deed be prepared giving the new road to the County and that a deed also be prepared relinquishing County rights to the old road. The Board asked Ms. Candelaria if this action would be acceptable to her and she responded it would. The consensus of the Board was to have Fred Ebeling request Quit Claim deeds as prescribed above from the County Attorney Larry Holthus.

J. R. Ford, a local Real Estate Broker, met with the Board to discuss a road which is on the property under contract between Fairfield Pagosa, Inc., and Alpine Cascade in the Meadows Subdivision. Mr. Ford advised the Board that the purchaser had asked him to determine the Board's intention regarding the use of the road in the future. Mr. Ford explained that the new owner does not mind it being used by the public, however, he does not intend to maintain it. Commissioner Lynch recommended the road be used but that it be considered a restricted use road that speed zones be established and signs be installed reflecting those limits. It was also noted that gravel trucks are using the road at this time in route to a gravel pit located on the property. Commissioner Lynch stated she would like to see the road as an arterial connection and that a point of negotiation to the County agreeing to maintain the road would be the use of the gravel pit by the County. Mr. Ford explained that it is simply a liability question from the new owner's perspective. Mr. Ford advised the Board that he would report back to the new owner and requested that the issue be tabled until he could discuss the Board's comments with the owner.

Jim Smith, a local realtor, appeared before the Board along with his clients, Mr. and Mrs. Terry Andrews to discuss a problem regarding their property being illegally subdivided. Mr. Andrews requested a variance from the Board so that he could continue building a garage. Mr. Harry Rose, County Building Inspector, explained that the problem was discovered when Mr. Andrews applied for a building permit for the garage he is constructing. Mr. Andrews presented a letter which was written to a previous owner, Onis Carpenter, which dealt with the subdivision problem. Mr. Andrews felt that the problem should have been addressed by the County at the time the letter was sent to Mr. Carpenter. Mr. Smith advised the Board that this is the second time he has been burnt with lots that had a subdivision problem and that the problem was not discovered at the time of the sale. Mr. Smith said he felt the County should make any type of problem regarding the subdivision of property a part of public record to prevent this type of problem from occuring in the future. Commissioner Lynch commented that the Board needs to develop a policy to address these situations in that there is a moral issue involved in addition to the legal question. Commissioner Lynch remarked that she was in favor of supplying a building permit but issued a caution to Mr. Andrews that he would need to contact the San Juan Basin Health office regarding a sewer system on less than one acre of property. Commissioner Formwalt stated that even though the Board considered a variance and issued a permit at this time, a legal exemption would be necessary eventually. Commissioner Lynch made a motion to sell a building permit to Mr. Andrews so that he could complete the garage. The motion was seconded by Commissioner Formwalt; motion carried.

There being no further business to discuss before the Board, the meeting was adjourned by Vice Chairman Formwalt at 4:05 p.m.

The Board of County Commissioners held a Regular Meeting on October 1, 1991, to conduct business as follows: Present were Commissioners Formwalt, Lynch and Martinez. Chairman Martinez called the meeting to order at 9:10 a.m.

The Board reviewed the minutes of the September 24, 1991 meeting. Chairman Martinez requested that one addition be made to the minutes. Commissioner Formwalt moved that the minutes of the September 24, 1991, meeting be approved with the noted addition. Commissioner Lynch seconded the motion; motion carried.

County Manager Dennis Hunt directed the Board's attention to Old Business. He advised them that they agreed to have a response to the Archuleta Utilities Group letter submitted at the September 24, 1991, Board of County Commissioners Meeting. Following a brief discussion, Mr. Hunt was asked to prepare a letter to the Utilities Committee advising them that the County will plan to facilitate the placement of the posts and signs as their contribution to the project. Mr. Hunt was asked to copy Commissioner Lynch on the letter in that she is the Budget Director for the Board. It was the consensus of the Board that they would be able to use some type of youth program through JTPA or Social Services for the installation of the posts and signs.

Mr. Hunt apprised the Board of a situation regarding employee Nina Lyda. He explained that Ms. Lyda had been on private property and been injured and had submitted medical bills for payment to the County's third party administrator, InterCare Benefits Systems. InteCare had informed Ms. Lyda that they needed to have a response from the primary insurance carrier (Homeowner Policy) prior to handling the claim. Mr. Hunt explained that Ms. Lyda preferred not to notify the homeowner of the accident, thus she could not get a response from the homeowner's insurance carrier as required by InterCare. The consensus of the Board was that Ms. Lyda needed to contact the homeowner regarding the incident and they directed County Attorney Larry Holthus to contact her and relay that decision to her.

Mr. Hunt advised the Board that J. R. Ford had requested a decision from them regarding Cascade Avenue from Butress Drive to CR 500 (Trujillo Road) being accepted for maintenance by the County. The Board discussed the fact that the owner needed to provide a sixty foot right-of-way and the issue of weighted trucks using the road to haul gravel from the Perkins Pit. Commissioner Lynch noted that there needed to be a stipulation that the trucks only haul gravel as needed for road work in that general area and that the owner will allow the County to use gravel at the pit if the road is accepted into the County system for maintenance. Following a lengthy discussion, Commissioner Lynch moved to accept Cascade Avenue from Butress Drive to CR 500 (Trujillo Road) for maintenance and bring it up to County standards contingent upon the County having successful negotiations with the landowner regarding the following issues: 1) the County having a sixty foot right-of-way on the road, 2) the truck traffic on the road being exclusive to road work in the general area, and 3) the disposition of the gravel pit. Commissioner Formwalt seconded the motion; motion carried. Commissioner Formwalt discussed the scales on the property and advised that Fred Chavez was currently looking for an appropriate site for them.

Bobra Schaeper appeared before the Board and presented a proposal to act as a computer consultant for Archuleta County. Ms. Schaeper distributed an outline of her qualifications and accomplishments along with her recommendations of how the County should proceed in reference to defining future computer needs. Following a lengthy discussion, the Board directed County Manager Dennis Hunt to analyze the proposal and make a recommendation to the Board. Chairman Martinez thanked Ms. Schaeper for her proposal and assured her they would get back to her as soon as possible.

Norman Pope, owner of P.C. Support, appeared before the Board to present a proposal for some computer equipment for the Commissioner's office. It was explained that the keyboard now in use has a short in it and needs to be replaced. It was further noted that the equipment now in use is not compatible to the other computer equipment in the courthouse. In that Ms. Schaeper was still in the meeting, Chairman Martinez asked her opinion of the proposal. Ms. Schaeper recommended that other quotes be obtained before a decision was made. Chairman Martinez directed Dennis Hunt to get two telephone quotes and authorized Mr. Hunt to make a decision on the purchase based on the information quoted to him.

JUNE 22, 1993

PROCEEDINGS OF THE BOARD OF COUNTY COMMISSION

The Board of County Commissioners held a Regular Meeting on June 22, 1993, to conduct business as follows: Present were Commissioners Formwalt, Cannady and Tallon.

Chairman Cannady called the meeting to order at 9:00 a.m. The Board considered the minutes of the June 15, 1993, meeting. Commissioner Formwalt moved to approve the minutes as presented. Commissioner Tallon seconded the motion; motion carried.

OLD BUSINESS

Commissioner Tallon moved to approve October 1, 1993, as the date for the Board to publicly state its policy regarding acceptance of additional roads into the County maintenance system, County Road and Bridge snow removal, County Road and Bridge Department involvement in future new road construction and major road improvements verses focusing resources on road maintenance, and secure improvement agreements from developers to insure completion of requirements in subdivisions and specifically the Fairfield improvement agreement to finish construction of roads in the Pagosa Lakes community. Commissioner Formwalt seconded the motion; motion carried.

Dennis Hunt reported Don Klatt has requested the County install a cattle guard soon as part of the gravel pit agreement between Mr. Klatt and the County. Mr. Hunt stated test holes won't be dug until the river goes down. Chairman Cannady advised Mr. Hunt to proceed with the cattle guard.

Commissioner Formwalt moved to authorize the chairman to sign an Agreement with Alpine Cascade, as well as warranty deeds and other papers related to this transaction. Commissioner Tallon seconded the motion; motion carried. This was a previously ratified agreement to acquire the right-of-way for a road easement through Alpine Cascade's property for Cascade Drive.

NEW BUSINESS

Chairman Cannady requested Commissioner Tallon serve as liaison to Road and Bridge Department. Commissioner Tallon accepted.

Commissioner Formwalt reported the Board has authorized John Caldwell to do geotechnical testing on the Road and Bridge yards at City Market's expense.

Dennis Hunt presented the sales tax report through May, 1993. It is up 11.9%. Year to date is up 9.3%.

The following payable warrants were presented by Dennis Hunt: General Funds, #15815 through #15831 - $27,357.33; Road and Bridge, #2801 through #2806 - $5,726.37; Nutrition, #2087 through #2088 - $506.72.

Chairman Formwalt announced that on December 17, 1993, there will be a Regional Transportation Planning meeting in the commissioners' meeting room at 10:00 a.m. This will be a public hearing to get input from the public regarding transportation.

Chairman Formwalt said it has come to his attention that Pagosa Vision is using the rights of ways that the County has set up for utilities. He requested that Dennis Hunt check on this.

Jim Kelly, representing Joe Martinez, addressed the Board concerning a prior exemption request made to the Planning Commission for approximately 1.6 acres be split off from a 54 acre parcel of land. He said Mr. Martinez and the surrounding property owners would like to see this made residential the same as the Mt. Vista townhomes nearby. Mr. Kelly explained the advantages. Discussion followed as to whether this should go back to the Planning Commission since this is subdividing. There were comments from Mel Cassidy and Bobra Schaeper in favor of going through the subdividing process. Kathy Ruth explained the Planning Commission's reasons for denying the request. The Planning Commission felt this was subdividing and denied the exemption request but would favor the subdividing process. They had also suggested Mr. Martinez and Mountain Vista Townhouse Association come to an agreement on deed restrictions placed on the property by Mr. Martinez and avoid an exemption request. Chairman Formwalt said he has a problem with the total law in that it's more restrictive with personal property rights and logic should be used. Commissioner Tallon commented he was concerned about setting a precedence. He moved to concur with the Planning Commission's recommendation and deny the exemption. Commissioner Candelaria seconded the motion; motion carried. Chairman Formwalt opposed.

Kathy Ruth addressed the Board regarding concerns about future subdivisions needing access from a County roads. They have two subdivision that are ready for their sketch plan review and have this access problem. One is South Shore Estates along Lake Hatcher. The other one involves Cascade Ave. from Buttress Dr. which has not been accepted for County maintenance. Commissioner Formwalt said he is not aware of anything in writing with Alpine Cascade. However, there was a verbal agreement that when this portion of Cascade Ave. was able to be dedicated to the public, the County would go ahead and take that portion from the property line on down to Trujillo Road into the County System. It was either that or abandon the whole road completely. Commissioner Tallon concurred with this. Commissioner Candelaria said he would like to see what's involved before making a decision. Commissioner Tallon said this stresses the need to develop a plan on how the County is going to accept roads in the future. There were several suggestions from Mel Cassidy and Bobra Schaeper. Commissioner Formwalt said until Commissioner Candelaria has time to review this, they cannot give a definitive answer. He said at the next Planning Commission meeting the developers could be

cautioned that at this time this issue hasn't been rectified. Ms. Ruth suggested the developer could bring the roads up to County specs and be bonded for 25 months.

Chairman Formwalt said he met with Richard Griebling, new Director of Oil and Gas Commission. Mr. Griebling had said he wants to improve relations with USGS, and he will take over the leadership for the well study, form the task force and get the agencies involved in the task force all lined up. The County has no funds for this study. Chairman Formwalt said he will follow-up on this issue.

County Attorney Larry Holthus advised Mr. Gordon England is wanting to pay off some Aspen Springs lots. He presented a release for the Board's signature. Commissioner Candelaria said he would like to review the original note.

Commissioner Tallon moved to enter into **Executive Session** for the purpose of discussing pending litigation. Commissioner Candelaria seconded the motion; motion carried. The Board met with the Pagosa Lakes Property Owners Association Board of Directors on pending litigation through the bankruptcy court with regard to settlement of improvements agreement with Fairfield, Inc.

In that there was no other business to come before the Board, the meeting adjourned at 1:35 p.m.

On December 8, 1993, at 4:30 p.m. the Board of County Commissioners met.

Jim Angelo, representing Bob Cecka, appeared before the Board to discuss the proposed contract for purchase of Piedra Estates Lots 33 through 44. There was a lengthy discussion of the contract and proposed changes. Commissioner Candelaria moved that with the changes that have been agreed upon here incorporated into the contract the Chairman of the Board be authorized to sign the contract on behalf of the County. Commissioner Tallon seconded the motion; motion carried.

The Board discussed authorizing Attorney Mary Weiss to represent the County at the Fairfield, Inc. bankruptcy pre-trial hearing in Little Rock scheduled on December 14, 1993. Letters from Attorney Weiss to the Board were reviewed. Commissioner Candelaria moved to waive the conflicts disclosed by Attorney Mary Weiss' letters dated December 8, 1993, to be reviewed at least monthly beginning in January of 1994 with a view towards determining whether a single legal entity can properly and fairly represent the interests of Archuleta County without undue conflict. Commissioner Tallon seconded the motion; motion carried.

PROCEEDINGS OF THE BOARD OF COUNTY COMMISSIONERS

The Board of County Commissioners held a Regular Meeting on August 2, 1994, with Commissioners Formwalt, Tallon and Candelaria, and County Manager Dennis Hunt and County Attorney Larry Holthus present.

Chairman Formwalt called the meeting to order at 9:00 a.m. The Board considered the minutes of the July 26, 1994, meeting. Commissioner Candelaria moved to approve the minutes. Commissioner Tallon seconded the motion; motion carried.

OLD BUSINESS

Chairman Formwalt requested a committee be established to draft wording for the proposed sales tax ballot, and for that committee to consist of Dennis Hunt, Town Administrator Jay Harrington, and at least one commissioner and Town Board member. The meeting will be held August 9 at 1:30 p.m. at the Chamber of Commerce.

Attorney Larry Holthus submitted a deed of dedication for public use for a portion of Cascade Ave. owned by Beaugureau and MacKenzie. An exemption request had been previously approved. Commissioner Candelaria moved to approve the deed of dedication. Commissioner Tallon seconded the motion; motion carried.

Commissioner Tallon moved to approve Earl Gibbs to a position on the Airport Authority Board as recommended by the Airport Authority. Commissioner Candelaria seconded the motion; motion carried.

Commissioner Candelaria reported on a Social Services meeting that Commissioner Tallon, Dennis Hunt, Erlinda Gonzalez and himself attended last week in Durango. This was a restructuring meeting as required by HB1005. Commissioner Tallon said the process needs to be carefully monitored as there may be a point where the county wants to discontinue further use of staff time. Chairman Formwalt stated that at a recent Private Industry Council meeting, members agreed the restructuring would probably result in a loss of local control and they recommended it be left alone since they're better off now as opposed to reorganization.

Commissioner Tallon said the San Juan Basin Health Department in Durango are considering two possible sites for their facility, one in Bodo Park and one west of Hwy 160. He will keep the Board updated.

There was a meeting with Mr. and Mrs. Lawrence Cook and Dennis Hunt last Friday regarding the Dillinger Pit. The Cooks claimed that during the county's mining pit operation, the river changed course resulting in erosion to a river bank along their property. Mr. Hunt said the erosion wasn't caused by the county's operation but by nature and the Corps of Engineers has concurred. The erosion had occurred from flooding two years ago prior to the county's operation.

AUGUST 1, 1995

ARCHULETA COUNTY PROCEEDINGS
THE BOARD OF COUNTY COMMISSIONERS

The Board of County Commissioners held a regular meeting on August 1, 1995, with Commissioners Tallon, Formwalt, Candelaria and County Manager Dennis Hunt present. County Attorney Larry Holthus was absent.

The meeting was called to order by Chairman Tallon at 9:00 a.m.

Commissioner Formwalt moved to approve the minutes of the July 25 meeting. The motion was seconded by Commissioner Candelaria and carried unanimously.

TRUJILLO ROAD DUST PROBLEM & MEDICAL COMPLAINT

Commissioner Candelaria said he received a letter from a resident on Trujillo Road regarding the need for dust control due to a medical problem. There was a letter attached from a doctor confirming the condition. He asked that Dennis Hunt and the Road and Bridge Department follow-up.

See also p.3 + 4

RADIO DISPATCH COMMITTEE

Dennis Hunt advised that the Board needs to authorize a radio dispatch committee. Russell Crowley has been appointed to chair the committee. Tentatively, members of the committee will represent the following organizations: Archuleta County, Pagosa Lakes Property Owners Association, Town of Pagosa Springs, Emergency Services, Pagosa Fire District, State of Colorado, Pagosa Area Water and Sanitation District. Commissioner Formwalt moved to set up an advisory committee to the sheriff on affairs relating to radio dispatch. This will be a non management advisory committee that will provide policy discussions for the dispatch system. The committee will be made up of one person from each organization previously named. No one will be a member of the committee whose organization is not a financial contributing member. Commissioner Candelaria seconded the motion; motion carried unanimously.

RESOLUTION 95-32 EXEMPTING CHARITABLE ORGANIZATIONS FROM SALES TAX

Dennis Hunt read Resolution 95-32 amending Resolution 95-21 and exempting charitable organizations fund raisers from the County sales tax. Commissioner Formwalt moved to adopt Resolution 95-32. Commissioner Candelaria seconded the motion; motion carried unanimously.

BIDS FOR COUNTY OWNED LOTS IN ASPEN SPRINGS

Dennis Hunt reported they received six bids on the Aspen Springs Local Improvement District sale of County owned lots. Mr. Hunt read the bids and the recommendations by the Aspen Springs Metro District. Commissioner Formwalt moved to accept the higher bids as recommended by the Aspen Springs Metro District. Commissioner Candelaria seconded the motion; motion carried unanimously.

TITLE BOARD CONTINUATION - REPEAL OF 2% SALES TAX.
Chairman Tallon called the Title Board to order at 9:40 a.m. to discuss setting a ballot title for the repeal of the 2% sales tax. Members were Commissioners Formwalt, Tallon and Candelaria and County Clerk June Madrid. Chairman Tallon read the proposed ballot title. June Madrid advised that the petition for the ballot was not submitted to the Clerk's Office. There was discussion on the proposed ballot and petitions, and whether a Title Board is required. Commissioner Formwalt moved to direct counsel to make a determination with Mr. Cole of Collins and Cockrel for the same rules be followed as other petitions that have been submitted to the County, and the matter remain on the table until this is done. Commissioner Candelaria seconded the motion; motion carried unanimously. The Title Board adjourned at 10:05 a.m.

FINDINGS OF LIQUOR HEARING ON PINION HILLS CAFE
The Board reviewed their findings of a Liquor Hearing regarding an application for a New Retail Liquor License for Pinion Hills Cafe owned by Leslie and Karen Henry. Chairman Tallon advised that based on recommendations from counsel, they will need to notify the applicant five days prior to making a decision. Chairman Tallon recommended a copy of those findings be sent to people that have written to the Board. The Board reviewed their findings and the comments they've received from the public. A member of the audience stated she felt property values may go down. Steven Theys commented the community does have a right to determine liquor licenses, and government has a right to limit them. Commissioner Formwalt moved to submit a written summation of today's finding within the five days notification time. Chairman Tallon seconded the motion; motion carried.

Commissioner Candelaria excused himself at 10:30 a.m. to attend a funeral.

UNITED WAY REQUEST TO USE EXTENSION BUILDING FOR SPECIAL EVENTS
Mary Jo Coulehan, representing United Way, asked the Board's permission to use the Extension Building on Friday, September 22, 1995, for Casino Night, 7:00 p.m. to midnight. This is a fund raising event. They will need a Special Events Liquor Permit in conjunction with the Casino. Commissioner Formwalt stated he had a problem with gambling and alcohol supported by government and using a public building supported by taxpayers, however, he would not stand in the way at this point. Chairman Tallon said it's for charitable purposes, and he would go along with it after Sheriff Richards' review and approval. He added that these kinds of requests need to be examined on a one to one basis. Dennis Hunt advised Ms. Coulehan that they will need a letter of approval from Pagosa Springs Enterprises. Chairman Tallon asked Mr. Hunt to prepare Ms. Coulehan a letter of approval from the Board.

REQUEST TO USE TRUCKS ON S. PAGOSA BLVD. AND CASCADE
Jerry Gamba of Gamba Associates asked that the restriction to heavy truck traffic be lifted on S. Pagosa Blvd. and Cascade for a period of time. About 60 trucks a day will be needed in order to be on schedule for construction work. The route they have to use now has created a hardship. He would be willing to provide a water truck and blade the roads.

Mr. Gamba was advised that the Board has made a commitment to residents on S. Pagosa Blvd. restricting heavy truck traffic. With regard to Cascade Ave., it was donated to the County with the condition no heavy truck traffic would be allowed.. Commissioners Formwalt and Tallon told Mr. Gamba that if the residents on S. Pagosa Blvd. are willing to allow the heavy truck traffic for a period of time, then they would not have a problem with it. It was agreed to schedule a public meeting on Monday, August 7 at 7:00 p.m. to get input from the residents. Also, Mr. Gamba will have to get approval from the previous owners of Cascade Ave.

Commissioner Candelaria returned at 11:15 a.m.

NOTICE OF MEETINGS

Commissioner Formwalt advised he will attend an Agriculture Task Force meeting this Thursday and a Colorado County Inc. Land Use meeting on Friday.

With no further business coming before the Board the meeting was adjourned at 11:25 a.m.

ATTEST

County Clerk

ARCHULETA COUNTY ORGANIZED MAY 20 1915 COLORADO

BOARD OF COUNTY COMMISSIONERS

Bill Tallon, Chairman

Roger Candelaria, Vice Chairman

Bob Formwalt

Millennium Project
Linda Shelton and Todd Shelton, representing themselves, appeared before the Board to present a packet of information on the proposed Millennium project. This neighboring property to the Sheltons' is 27.28 acres and is not in PLPOA or under county zoning. It is her understanding that 126 homes will be built for low income and homeless people. Mrs. Shelton stated her concerns are for the community. Access to Hwy. 160, 1,000 sq. ft with up to 6 people per home, ecological/terrain problems caused by blasting for utilities, impact on schools, buses, and property values were sited. She also asked does the County have any control? The Commissioners responded that there is no zoning in Archuleta County. An access permit will have to be obtained prior to construction and at that time it will be necessary to discuss highway access and utility concerns. Discussion was held concerning zoning and government involvement in the development process. Comments and concerns were heard from other neighbors in the area about the negative impact such a development would have on their community. Chairman Candelaria thanked everyone for their input on the matter.

Recess

Other Business
J. R. Ford informed the Board that Cascade Road is in horrible condition. Mr. Ford asked if Alpine Cascade crushed and provided the gravel, would the County apply it and along with magnesium chloride. The Commissioners stated they would be in favor of this concept.

Commissioner Formwalt stated, in regard to the previously discussed Millennium project, there is a need to review road access terminology and see that the County is covered legally. The State will require the County to rectify any impact to State highways and he wants to be sure the burden is not put on the taxpayers. Discussion was held if perhaps the matter could be addressed at the time the road cut permit is issued. Commissioner Tallon stated he would like the Planning Commission to implement paved roads into subdivision requirements. Mitch Appenzeller asked if the Air Quality Act could be used in this instance, as the number of people in a subdivision impact the amount of dust in the area. Commissioner Formwalt answered yes he believed it could. Ken Fox asked if the road cuts are the first step to controlling the problem, how do you quantify the impact of a large subdivision on the entire community? Would an impact fee be a possible solution? Commissioner Formwalt stated he believes the Developer needs to mitigate the impact on the community by paying for things like pavement, sewer, and water. The question arose as to how many people are waiting for low income housing. The information is thought to be on record with Southwest Community Resources.

Mr. Hunt reported that there is a trash bin available for Blanco Basin Road as requested. The question remains, however, as to who will pay for the service. Is the County willing to waive dump fees, pay for the hauling and pay the recycling fees? Estimated cost to the County would be $1500/ month. Dry conditions that prevent burning are the only reason they are requesting trash service at this time. Commissioner Tallon stated that they probably need to request route service. The Commissioners noted a sign needs to be posted at the Chromo station, "for Archuleta County domestic trash only," as contractors are dumping construction materials.

With no further business coming before the Board, the meeting adjourned at 11:50 a.m.

Other Business
Attorney Holthus updated on the Board on the pending litigation between the County and Loma Linda Ltd. stating that he has spoken with the their attorney, Duke Eggleston, and it appears negotiations will soon begin.

J. R. Ford stated that Cascade Road has been opened and requested that the weight limit be removed. Discussion was held that when this road was taken over by the County there was a weight restriction as a condition of the transaction. The matter was tabled until the next meeting when it will be placed on the agenda for consideration.

With no further business coming before the Board, meeting was adjourned at 11:05 a.m.

Kathy L. Wendt
Kathy L. Wendt
Deputy Clerk & Recorder

Approved this 26th day of May 1998.

BOARD OF COUNTY COMMISSIONERS

absent
Bill Tallon, Chairman

Ken Fox
Ken Fox, Vice Chairman

Bob Formwalt
Bob Formwalt

Federal Emergency Management Agency Regulations

Mr. Hunt stated that public comment was heard on May 19, 1998 regarding the existing Federal Emergency Management Agency (FEMA) regulations. Attorney Holthus has been researching what ramifications dropping the regulations would have on grant applications. Attorney Holthus stated that according to Ed Morlan, Region 9 Director, grant funds might not be able to be used in a flood plain area without a flood plain study. However, flood plain requirements listed on the grant applications are not as stringent as those required by FEMA. Since there are some maps on file, he questioned whether some intermediate regulations could be drafted to address areas that have not been mapped as has been done in the past. Discussion was held regarding whether variances could be granted using existing maps to determine where the 100 year flood plain exists and possible formation of disclosure form that would be recorded when a building permit is issued to acknowledge the fact that the property may be in a flood plain. Attorney Holthus stated that this type of form would show a reasonable attempt to notify potential buyers. The Board determined that they did not want to discriminate against property owners in an unmapped area. **Commissioner Formwalt moved to rescind by a resolution, written by Attorney Larry Holthus, the FEMA part of the regulations for those areas that have not been identified as flood plains through the mapping system. Secondly, that a new document, a disclosure which reduces the County's liability, be prepared in which the landowner applying for a building permit acknowledge the possibility of building in a flood plain. Commissioner Fox seconded the motion.** Discussion was held about whether the building inspector could stop construction if obviously in a flood plain. Public comment was invited. **Motion carried unanimously.** Time frame for the adoption of the resolution was discussed since five permits are on hold. Attorney Holthus will proceed with a draft for next week's meeting.

Public Hearing - 3.2% Beer Special Events Permit

County Clerk June Madrid presented an application for a 3.2% Beer Special Events Permit on behalf of the Pagosa Springs Lions Club for July 3rd, 4th, & 5th, 1998. Fees were attached and Attorney Holthus has reviewed the application. The Hearing was opened for public comment. With no comments being made, the Hearing was closed. **Commissioner Formwalt moved to approve the issuance of a 3.2% Beer Special Events Permit July 3rd, 4th, & 5th to be held at the Red Ryder grounds. Commissioner Fox seconded the motion. Motion carried unanimously.**

Cascade Road Request

Mr. Hunt stated that J. R. Ford has requested that the weight limit on Cascade Road be lifted. When this road was opened to the public a weight restriction was imposed that prevented commercial truck traffic on the road. There is a gravel pit now open off of Cascade Rd. and Alpine Cascade would like to be able to haul on Cascade Rd. Discussion was held as to whether the weight limit could be lifted temporarily, until the completion of the roads being built in the Fairfield area. **Commissioner Formwalt moved to honor the request of lifting the weight limit until the completion of the Fairfield contracts. Commissioner Fox seconded the motion.** During discussion of the motion, Joe Apker asked if this would not cause an unbearable amount of traffic and dust on a residential street. Jim Carson suggested that speed limits be monitored and magnesium chloride be applied more frequently to keep the dust down. Chairman Tallon assured those present that the road would be maintained to the best our ability to cut down the amount of dust in the area. **Motion carried unanimously.**

ARCHULETA COUNTY PROCEEDINGS
BOARD OF COUNTY COMMISSIONERS

The Board of County Commissioners held their regular meeting on June 16, 1998 with Commissioners Tallon, Fox and Formwalt, and County Manager Dennis Hunt present. Absent was County Attorney Larry Holthus who was out of town.

Chairman Tallon called the meeting to order at 9:00 a.m.

The minutes of the June 2, 1998 meeting were submitted for review. **Commissioner Fox moved to approve the June 2, 1998 minutes as submitted. Commissioner Formwalt seconded the motion. Motion carried unanimously.**

Fair Board Appropriation Request

Fair Board President Sandy Caves appeared before the Board to request an appropriation of up to $3,000.00 for items the Fair Board has already committed to and that may run them over budget. Discussion was held regarding the various entertainment events and it was noted that revenues generated by these events might reduce or negate the need for additional funding. **Commissioner Formwalt moved to amend the 1998 Fair Budget and appropriate up to an additional $3,000.00 from Unrestricted General Fund Reserves. Commissioner Fox seconded the motion.** During discussion of the motion, Commissioner Fox stated that he agreed to supporting the fair and making it better each year but was concerned with how this circumstance would be prevented in the future when planning events. **Motion carried unanimously.**

Sales Tax Report

Mr. Hunt presented the Sales Tax Report through the month of May 1998 reporting that revenues are up 20.88 percent for the year.

Cascade Road

Mr. Hunt stated that the Road and Bridge Department is requesting that weight restrictions (no commercial trucks) be placed on Cascade Road again. The restrictions were lifted on June 2, 1998 and in the two weeks following, significant damage has been done to Meadows Drive and South Pagosa Blvd. Discussion was held that it was the intent of the Board to only allow commercial truck traffic during the construction of the Fairfield settlement roads, not permit unlimited hauling. Mr. Hunt stated that he believed the County can control over weight permits and the speed on roads after engineering studies, but was unsure whether the amount of traffic can be controlled. Commissioner Formwalt asked that it be researched as to whether a special use permit could be issued. **Commissioner Fox moved to reinstate the restrictions on Cascade Road until actual construction begins on the Fairfield road project and that research be done to determine if a special use permit can legally be done. Commissioner Formwalt seconded the motion.** Chairman Tallon stated that when actual construction begins the matter would be reconsidered. **Motion carried unanimously.**

force the Sheriff to do this but could make a courtesy request. It was discussed that copies of the accident reports with names of those involved in the accidents are available to the public.

J. R. Ford requested permission to use Cascade Road to haul gravel to a project located on the south end of Buttress Ave. in the Alpine Hills Subdivision. He stated that it should only take 3-4 days to complete the project. Commissioner Formwalt stated that it was the Board's decision to review requests on a case by case basis and requested that a water truck be available to keep dust to a minimum. Attorney Holthus cautioned the Board that if the road is opened for one developer, it sets precedence for future requests. He also noted that the matter was not on the agenda and cautioned the Board not to make a decision at that time. **Commissioner Formwalt moved to allow gravel to be hauled on Cascade Road for one week to allow the completion of the previously noted project in Alpine Hills Subdivision. Commissioner Fox seconded the motion. Motion carried unanimously.**

The meeting recessed at 11:55 a.m. for the annual jail tour.

With no further business coming before the Board, the meeting adjourned at 1:30 p.m.

Kathy L. Wendt
Kathy L. Wendt
Deputy Clerk & Recorder

Approved this 28th day of July 1998.

BOARD OF COUNTY COMMISSIONERS

Bill Tallon
Bill Tallon, Chairman

Ken Fox
Ken Fox

Bob Formwalt
Bob Formwalt

Payroll/Payable Warrants

General Fund Payroll	35436 – 35506	$ 43,878.64
Road & Bridge Payroll	13590 – 13621	$ 22,598.02
Nutrition Payroll	3944 - 3949	$ 2,274.16
General Fund Payables	35435, 35508 – 35543	$ 16,666.75
Road & Bridge Payable	13589, 13623 – 13645	$ 15,680.72
Nutrition Payables	3951 – 3953	$ 889.91
Fairfield Settlement	21121	$ 4.40

Commissioner Formwalt moved to approve the issuance of the warrants as read into the record by the County Manager. Commissioner Fox seconded the motion. Motion carried unanimously.

Mr. Hunt reported that the Colorado Transportation Commission is meeting October 22nd in Denver. The property that the County sold to the State for a dollar in 1949 is on the agenda for a determination as to whether the State will return it to the County for the same amount. The opinion of the attorney general is that fair market value must be gotten in order to transfer the property. He stated that he would be testifying to the Commission and presenting a letter from then Commissioner Al Shablo written prior to the 1996 statute that requires fair market price. The property is located within the town limits and, according to Jay Harrington, the town is willing to rezone that property to be for public use only. This would make this property only available to a governmental entity. This would be considered as a last resort since it would limit future county use as well.

Mr. Hunt stated that a letter was received from the Holiday Acres Property Owners Association requesting that the County stop applying magnesium chloride to roads within that subdivision for one year. He stated that he did not know if this request represents all the property owners in the subdivision or just the property owners association. Historically there have been a lot of complaints regarding dust in this area.

Mr. Hunt reported that the Club 20 caucus would be held on October 16th, 1998 and stated that he would like to continue serving as a director on this board. This is a position voted on by the community, not Board appointed. Currently Mr. Hunt is the director representing Archuleta County and Roy Vega and John Taylor are alternates. The Board concurred with his seeking another term as a Club 20 director.

Mr. Hunt stated that Weeminiuche Construction, contractor for Fairfield Street Improvements, has requested permission to haul material from a gravel pit approximately 13.5 miles south on Trujillo Road, to be used on the Fairfield Street Improvement Project, on Cascade Road, Buttress and South Pagosa Blvd. Mr. Hunt stated that these streets have had magnesium chloride applied and recommended that a mandatory water truck and "blade" be required on site when hauling is done. Attorney Holthus cautioned the Board to treat all contractors equally with regard as to who could haul on county roads, not just those working on the county's project. Commissioner Formwalt stated that he did not agree with opening the roads for everyone to use as haul roads. Discussion was held as to how to restrict traffic through terms of the contract. **Commissioner Formwalt moved that any haul for the Fairfield Street Improvements, under the direction of Weeminuche Construction, is required to have a water truck and blade available at all**

times and that hauling be allowed on roads between County Road 500 and Hwy. 160. Commissioner Fox seconded the motion. Motion carried unanimously.

Ridgeview Subdivision

Attorney Mary Deganhart-Weiss and Planning Director Kathy Ruth presented two Improvement Agreements for the Ridgeview Subdivision to the Board for consideration one for road improvements and one for utility installation. Bonding for the utility installation was discussed and Attorney Holthus suggested that funds be deposited into an escrow account. He also requested that the corporation forming the Planned Unit Development on the property be investigated prior to signing any agreements. Discussion was held regarding conditions that the Planning Commission set before approving the Agreements. **Commissioner Formwalt moved to accept the Improvement Agreement for Utility Installation for the Ridgeview Subdivision with the recommendations made by the Planning Commission and that the amount provided by Pagosa Area Water and Sanitation District to provide utilities to the lots be inserted in item #7 and then held in trust by the attorneys. Commissioner Fox seconded the motion. Motion carried unanimously. Commissioner Formwalt moved to authorize the Chairman to sign the release the four lots held as bonding for the Improvements Agreement when the County receives proof of bonding. Commissioner Fox seconded the motion. Motion carried unanimously.** It was noted that the completion date for road improvements would coincide with the one-year road cut permit.

Ridgeview Subdivision Variance Request

Al Moore and Mrs. Ruth reminded the Board that the Ridgeview Subdivision developer previously requested two variances. The request to proceed from sketch plan to final plat was previously granted. The second request is regarding site preparation. The developer is requesting that he be allowed to store a steel building on site and begin site preparation prior to final plat approval. The Planning Commission recommends conditional approval and clarified that the building may be stored onsite and begin site preparation after the Board has accepted the new improvements agreements and bond, but the foundation cannot be poured until conditional final plat approval has been granted and a building permit has been issued. **Commissioner Formwalt moved to approve the variance request as recommended by the Planning Commission, with the restrictions as noted by the Planning Commission. Commissioner Fox seconded the motion. Motion carried unanimously.**

Meeting reports

Mr. Hunt reported that Gene Crabtree and he had attended the Tribal Gaming Impact Committee meeting where the bid for conducting the Gaming Impact Study was awarded. He explained that while the entire county cost of the study was appropriated in the 1998 budget, only $ 7,000.00 would actually be spent in 1998. Therefore, a budget appropriation would still be needed in 1999. Discussion was held regarding who should be appointed to a committee to oversee the study which will be completed by October 1999.

Mr. Hunt also reported on the meetings he attended in Denver regarding the Memorandum of Understanding between the State Department of Human Services and the counties. He reported that a MOU has been agreed to by both sides and that Colorado Counties, Inc. is drafting the documents. He noted that this agreement is only in effect until December 1998, but there is a clause that allows any county to renew if they so choose. Discussion was held regarding how

presented last week. Commissioner Fox seconded the motion. Motion carried unanimously.

Other Business

Mr. Hunt stated that the it had been brought to his attention that the County Clerk is charging a fee for vehicles being weighed on the scale Road & Bridge Facility and that the Road & Bridge department is not charging a fee when the vehicles come directly to them. He asked what policy the Board would like to establish on this matter. Commissioner Formwalt stated that he believed that a fee should be charged to recover county costs for the scales and, to be consistent, all vehicles should be charged fees. Commissioner Fox concurred.

Mr. Hunt stated that a copy of a letter sent by La Plata to the Wildlife Services was received. It states that their BOCC had decided to review the proposed 1999 Wildlife Services Work Plan/Financial Plan in its entirety and that "any future work plan that La Plata County is involved in could not contain references to aerial shooting as a method of control." Commissioner Formwalt disagreed with the letter. **Commissioner Formwalt moved to inform La Plata County that the Archuleta Board of County Commissioners supports the Wildlife Services program and thinks that aerial shooting is a viable means of controlling predators. Commissioner Fox seconded the motion. Motion carried unanimously.**

J. R. Ford requested permission to haul gravel on Cascade Road to two driveways being constructed on Buttress. Mr. Hunt responded that it has been the Board's policy that when work is being done in the vicinity, builders may use Cascade Road to expedite the building process. The Board has made objections to using Cascade as a haul road between Trujillo Road and Hwy. 160. He stressed that any hauling on Cascade Road needs to be "site specific" and stated that he would reaffirm this policy with the Sheriff's Department.

Media Questions and Information

John Motter asked for more information regarding the resolution accepting the grant for the Social Services Department and the resolution to be drafted to dissolve the Airport Authority debts to the county.

With no further business coming before the Board, the meeting adjourned at 10:45 a.m.

Kathy L. Wendt
Kathy L. Wendt
Deputy Clerk & Recorder

Approved this 20th day of October 1998.

BOARD OF COUNTY COMMISSIONERS

Ken Fox
Ken Fox, Chairman

Bob Formwalt
Bob Formwalt

Stroehecker Asphalt and authorize him to execute the contract when it became available. **Commissioner Fox moved to accept the bid from Stroehecker Asphalt in the amount of $156,799.25 and authorize the County Manager to execute the contract. Commissioner Downey seconded the motion.** During discussion of the motion, it was stated that the road had been rebuilt to county specifications by the Road and Bridge crews and the County Engineer would be overseeing the paving to ensure that it was properly done. All asphalt would be tested prior to being laid. Gene Cortright stated that he wanted it understood that the Road Advisory Committee had no input into this agreement, nor the first one, that resulted in the road failures now being repaired. He indicated that the decisions made for constructing the road were made arbitrarily by the County. Mr. Hunt read excerpts from the RAC minutes of May 10, 2000 meeting that indicated that that they were aware how the project would proceed and read from the April 9, 1998 RAC report that recommended the paving of North Pagosa Blvd. A letter from Bill Ralston, Chairman of the RAC, recommending the paving of North Pagosa and North Lake and pointed out that they were aware of the actions being taken. Mr. Cortright said the PLPOA had felt pressured into allowing the county full control of the administration of the Fairfield Settlement project and did not agree with the Agreement that was reached. Commissioner Fox stated that he believed the County had acted appropriately and that there was official correspondence between all the entities supporting that determination. **Motion carried unanimously.** Chris Chavez stated that he believed that the commissioners and staff should carefully oversee the road construction projects to ensure that they were done satisfactorily. He expressed concern that the road crews may not be properly trained and that equipment was not properly being used. In his opinion, more water and rolling was needed on North Pagosa Blvd. before the paving began.

Restriction of Heavy Truck Traffic

Mr. Hunt stated that since the paving of Mission Drive, concrete and other heavy commercial vehicles were coming down Piedra Road and cutting over to North Pagosa Blvd. on Mission Drive. He stated that these roads were not designed to handle commercial truck traffic and the roads were being damaged as a result. He suggested that Mission Drive be restricted to commercial truck traffic in excess of 15,000 pounds. Jerry Smith noted that Cascade Drive was restricted to commercial truck traffic, but rock, gravel and trash trucks continually use the road. He said that while the posted signs make everyone feel good, unless the restriction was enforced, they were of little use. **Commissioner Fox moved to restrict Laurel, Handicap, Aspenglow, Mission Drive to commercial truck traffic in the excess of 15,000 pounds. Commissioner Downey seconded the motion.** During discussion of the motion, it was determined that the Board would meet with the Sheriff and ask him to monitor and enforce the restrictions. Hopefully, writing a few tickets would eliminate the use of the roads by commercial trucks. **Motion carried unanimously.**

Payroll and Payable Warrants

General Fund Payroll	140773 – 140869	$ 54,100.00
Road and Bridge Payroll	138843 – 138872	$ 25,089.68
Social Services Payroll	113772 – 113780	$ 14,134.52
Nutrition Payroll	138091 – 138097	$ 2,679.44
Senior Payroll	100057 – 100062	$ 1,401.53
Transportation Payroll	100058 – 100063	$ 1,893.37
Solid Waste Payroll	180114 – 180121	$ 4,551.19

April 25, 1995

SOUTHWEST COLORADO MENTAL HEALTH CENTER-RESOLUTION 95-8

Those present were Director of the Southwest Colorado Mental Heath Center, Sam Conte, clinician Barbara Jetley and board member, Kris Bowen. Mr. Hunt had prepared a Resolution 95-8 for their review, proclaiming the month of May 1995 as Mental Health Month in Archuleta County. Commissioner Formwalt moved to approve the Resolution. Commissioner Candelaria seconded the motion and it was carried unanimously.

OUR SAVIOR LUTHERAN CHURCH - RESOLUTION 95-9

Kathy Ruth from the County Planning Department submitted Resolution 95-9 which would exempt Kathlyn Clare from the definition of subdividing. Ms. Clare will be trading land with Our Savior Lutheran Church. Commissioner Formwalt moved to approve Resolution 95-9. Commissioner Candelaria seconded the motion and it was carried unanimously.

OTHER BUSINESS

Mack Gaudet appeared before the Board to discuss a problem he felt existed with South Pagosa Boulevard not being able to use this road for heavy truck traffic. Mr. Hunt brought up the fact that Cascade Road was donated to the public with a condition of not being used as a truck-haul road. After a lengthy discussion about other related concerns, i.e. dust, health, traffic, axel load limits, 6 mile detours and road impact, Mr. Gaudet was directed by the Board to meet with Mr. Hunt to review the situation.

With no further business coming before the Board the meeting was adjourned at 11:55 a.m.

ATTEST:

BOARD OF COUNTY COMMISSIONERS

County Clerk

Bill Tallon, Chairman

Roger Candelaria, Vice-Chairman

Bob Formwalt

Fair Board Fund Payable		$ 18.07
Road Capital Improvement Fund Payable		$ 27,309.13
Solid Waste Fund Payable		$ 362.66
Airport Fund Payable		$ 349.99
	Total	**$251,812.79**

Meeting Minutes

C. Regular Meeting Minutes of May 4, 2010.
D. Special Meeting of May 10, 2010
E. Special Meeting of May 11, 2010

County Administrator Greg Schulte read the Consent Agenda items for the record. **Commissioner Ranson moved to approve the Consent Agenda as read. Commissioner Lucero seconded the motion and it carried with both Commissioners Lucero and Ranson voting "Aye".**

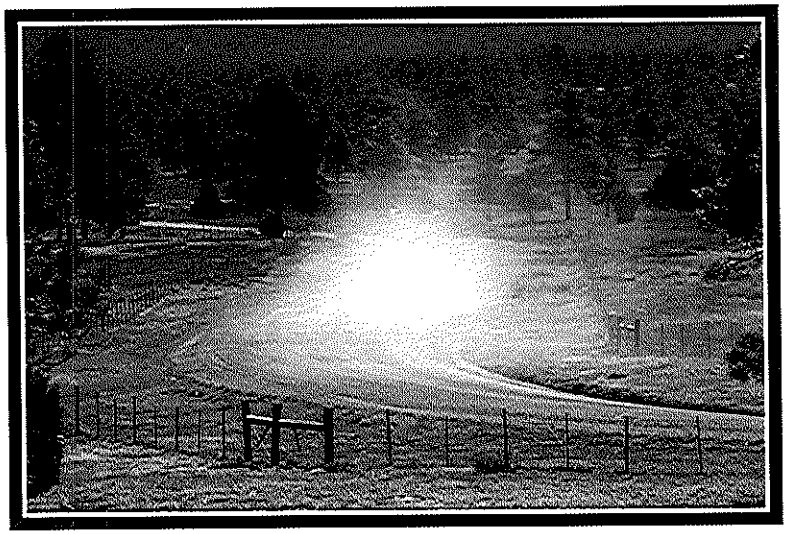
Reports

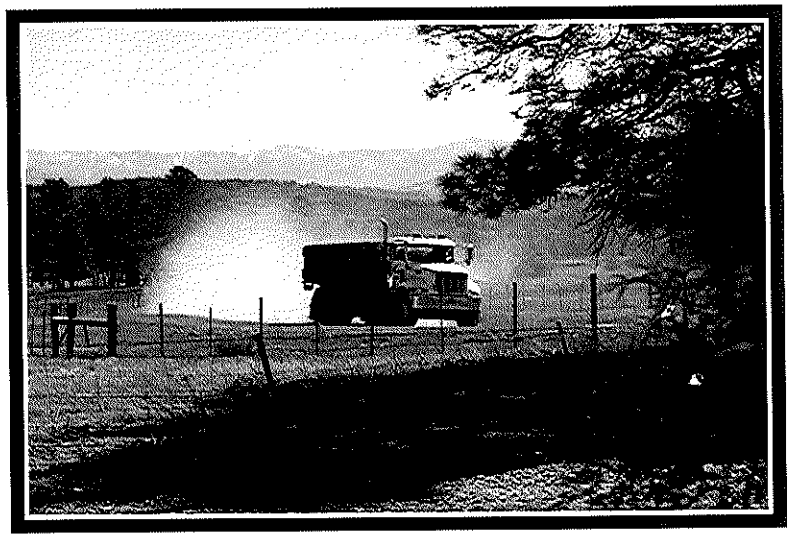
A. Aviation Venture Crew Annual Charter Presentation

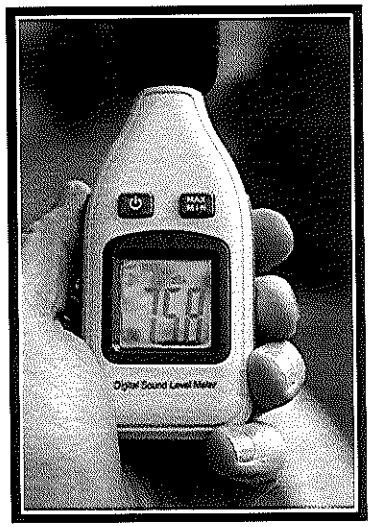
Bill McKown Airport Manager gave a brief report on the Airport's Aviation Venture Crew Annual Charter. This is chartered by the Boy Scouts of America and is geared towards youth development of young men and women from 14 to 21 years of age. The purpose of "venturing" is to provide positive experiences to help the young people mature and prepare to become responsible and caring adults. Local community organizations established a venturing crew by matching their people and program resources to the interests of the young people. This is the second year for the Aviation Venture Crew and is the second year this award has been presented. Manager McKown presented to the Board by the Albuquerque Aviation Venture Crew Charter on behalf of the Boy Scouts of America in partnership with the Archuleta County Airport. The Board thanked Manager McKown for all he does for the youth in our community.

B. Signage on Cascade Avenue

Public Works Director Ken Feyen gave a brief report on this issue. The issue was raised previously by Sandra and Pierre Mion who live at 59 Cascade Ave. and who were requesting the sign that said "No Through Truck Traffic" be replaced. Upon researching the road and the traffic on the road, from an engineering stand point, Director Feyen felt there was no reason to replace the sign. A discussion was held regarding issuing an ordinance for either the jake-breaks or the "no through truck traffic". County Administrator Schulte stated there was a law enforcement aspect to this issue also. Mrs. Mion of 59 Cascade Ave. stated that in respect for Mr. Feyen's report, the road is capable of carrying the truck load but they are concerned more about the dust, the traffic and the degradation of the road. They are currently being subjected to huge truck traffic and the road already needs more dust mitigation. The sign was up when the easement was granted but taken down in 2009. Pierre Mion said he was informed that when the Bass brothers gave the right-of-way to the County, there was a stipulation that signs should be posted for "No Through Truck Traffic" and never taken down. Toby Tolleson lives on Buttress Ave. about a ¼ mile from the Mion's. He felt if the trucks could be slowed down, it would help. Detective Sergeant Rich Valdez stated the Sheriff's Office did not have any problems with a sign, it's what the sign actually said. To put this sign back up, would set a precedent for other neighborhoods who would want that same special treatment. The sign that was up said "No Through Truck Traffic". A discussion was held regarding the issue where the Sheriff's Office







Unacceptable noise

CASCADE AVENUE ON A TYPICAL DAY!

Unhealthy dust conditions on Cascade and Buttress Avenue

John Shepard

From: Dan Michalk <danmichalk@gmail.com>
Sent: Tuesday, June 07, 2016 7:19 AM
To: commissioners; John Shepard; John Shepard
Subject: South Pagosa Blvd

Commissioners of Archuleta County,

I am writing you to express my deep concern regarding the traffic proposal for South Pagosa Blvd. The proposal alone isn't terrible but the consequences are both unnecessary and dangerous.

We have lived on South Pagosa Blvd for over four years and enjoy many outdoor activities including walking and biking. The challenge has been an increased amount of traffic on our roads and especially large trucks. They damage our roads which are not built to handle the loads and are not wide enough so it is a risk to anyone walking or riding. We have three boys and worry every time they go out for a bike ride. The number of trash trucks in one day has steadily increased and they continued exceed the speed limit on a regular basis. The approval to allow more truck traffic will only result in a more dangerous situation for all residents.

My plea is that you consider using an alternate road that is properly built to handle the traffic created by the gravel pit. It will keep Meadows residents safer and allow us to enjoy more of nature and less commercial traffic. Thank you for your consideration and please don't hesitate to contact me if you have any questions.

Sincerely,

Dan Michalk
danmichalk@gmail.com

John Shepard

From: meekins@centurytel.net
Sent: Monday, May 02, 2016 10:07 AM
To: John Shepard
Subject: gravel pit in Meadows

Please add us to the list of concerned people who are opposed to the gravel pit being routed through Meadows Subdivision.

Thank you,
Bryan and Sue Meekins
19 Peak Ct.
731-9173

Two Rivers Gravel Pit

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

We urge the planning department, the Planning Commission, and the Archuleta BOCC to recognize the economic benefits of having a local quality gravel resource.

Quality spec gravel will improve road conditions and need less maintenance.

Savings in trucking costs can be used for other types of improvements or simply to increase the amount of material in the budget.

Per ton cost of material will be less therefore allowing more discretion with the taxpayer dollars and the county budget.

The mitigation fee that C&J Gravel will pay will speed up and significantly contribute to the improvement of roads in Archuleta County.

We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Dennis Moras

Address 447
Rock Point Pl
Pagosa Springs, Co

PAGOSA LAKES
PROPERTY OWNERS ASSOCIATION

230 Port Ave., Pagosa Springs, CO 81147
Phone:970-731-5635 Fax:970-731-5362 Toll Free:1-888-467-5762
e-mail:plpoa@plpoa.com • www.plpoa.com

received
4/25/16

April 15, 2016

Mr. John Shepard, AICP
Archuleta County Planning Manager
Archuleta County Development Services
P.O. Box 1507
Pagosa Springs, CO 81147

RE: Two Rivers Gravel Pit
Major Sand & Gravel Pit Application
By C&J Gravel Products, Inc.

Dear Mr. Shepard,

On behalf of the Board of Directors of the Pagosa Lakes Property Owners Association (PLPOA), I would like to express our strong objection to the planned course of travel of the trucks being serviced by the proposed Two Rivers Gravel Pit.

The synopsis provide by your department states:

> *"Assuming an average haul of 70,000 tons per year, 25 tons/vehicle, and hauling 120 days per year, average truck traffic will be 23.33 trucks per day: 21 north and 2 south, with peak traffic counts of less than 4 per hour. Of 21 north, an estimated 6 will go to SH-160 in Pagosa West, 8 to Pagosa Springs itself, with various routes through the town, 5 east through Pagosa Springs to SH-84 for delivery to County or State shops, and 2 delivery locations in the vicinity not requiring travel on state highways. <u>County zoning and conditional use permits are expected to dictate exact routes and traffic limits</u>." [Emphasis added.]*

The Traffic Impact Study (Preliminary) states:

> *"After coordination and approval with County Planning, County Road & Bridge, and Town Planning/Subdivision Homeowners Associations as appropriate, when the route between a construction project and Two Rivers Pit may be justified on safety, environmental, and cost conditions, or in case of emergency requirements.*
>
> 1. *West of CR-500 to US-160, using either Bristlecone Drive or Cascade Avenue (through the Meadows Subdivision). (For any truck traffic THROUGH the subdivision, only the Cascade Avenue entrance is proposed.)"*

We are not sure when "After coordination and approval with...Subdivision Homeowners Associations as appropriate" would take place since the Pagosa Lakes Property Owners Association has to-date not been

informed by your department of this proposed project or its potential impacts on our community. It was our members that brought this to our attention.

We fully appreciate and understand that the roads being considered are within the Archuleta County road system, and are maintained as such by the Archuleta County Public Works Department, specifically the Road & Bridge Division. The roads being considered have had significant degradation since the county began allowing truck traffic along Cascade Avenue, a steep and winding gravel road as well as Buttress Avenue, Meadows Blvd., and South Pagosa Blvd. which is now being used as a route to the county dump by waste collection trucks and others. Our recollection is that there was a "No Thru Trucks" signs on Cascade Avenue and Buttress Avenue until a few years ago. This decision has already had an impact on the lives of those living adjacent to these routes.

This situation will have a disastrous effect on the property values and quality of life for hundreds of properties along these routes. This proposed routes would take these trucks through 3 subdivisions of the PLPOA (Meadows 2, Meadows 3 and Meadows 4). Further, along South Pagosa Boulevard, communities and centers of community activity not affiliated with the PLPOA, including the Meadows Subdivision (aka Meadows 1), Timber Ridge, Pagosa Lakes Ranch, St. Patrick's Episcopal Church, John Paul II Catholic Church and the Pagosa Springs Medical Center will be immediately impacted. Along Meadows Drive, the Kingdom Hall and Our Savior Lutheran Church are located, including a Child Day-care Center. Looking into the future, when development occurs along Hwy 160 in the Pagosa Lakes Plaza (across from City Market), traffic and noise issues will surely become exacerbated.

In closing, the Pagosa Lakes Property Owners is extremely concerned over the potentially disastrous effect on the property values and health of all of those in our community and stand ready to take any action available to act in the interest of our membership-at-large.

Regards,

Chip Munday, CMCA®, AMS®, PCAM®, CCAM
General Manager

C&J Gravel Products, Inc.

Two Rivers Gravel Application

Dear Friends and Customers,

I am sending this letter to ask for your support of the Two Rivers Gravel Pit application to mine gravel on the Property of James and Lee Constant on Trujillo road (CR 500). C&J Gravel has been a family business for over 38 years and we are a committed business partner with this community.

As many of you know it is difficult to obtain good quality gravel in Archuleta County and as a result many of the roads are in disrepair and the cost of construction is higher than it should be. As part of our application we have had a traffic count and a traffic analysis study done by a Professional Engineer to show the impacts of the hauling from our operation. I have proposed mitigation that will not only satisfy the impact of additional traffic but will provide significant cost savings to the county for maintenance. There is great opposition to this application by land and home owners that live on the affected routes of hauling. This operation will have a small impact on the designated haul routes compared to the significant benefit that it will have for all the residents of Archuleta County.

Please support this project by writing a letter to the Board of County Commissioners or by signing this letter and returning it to us. I don't believe that we will get an approval without a tremendous showing of support in favor of this application. You can view all the application documents on the Citizen access web portal on the County web site. http://www.archuletacounty.org/index.aspx?NID=467

We would appreciate all supporters to come to the Planning meeting and let your voices be heard.

The **Archuleta County Planning Commission** is a special meeting on **Wed. June 8, 2016, 6:00 p.m. at Centerpoint Church, 2750 Cornerstone Dr**

The County has reserved a large room for a special meeting of the **Board of County Commissioners, Tuesday 28 June, 1:30 pm, CSU Extension Office Building, 344 US Hwy 84,**

Please send your letters to:

John C. Shepard, AICP Planning Manager
JShepard@archuletacounty.org
1122 Hwy. 84
P.O. Box 1507
Pagosa Springs, CO 81147

C&J Gravel Products
27661 Hwy 160
Durango CO 81301

Please send your letters a soon as possible so they will be considered at the Planning Commission Hearing. Thank you for your support and please feel free to call me with any questions.

Sincerely,

John Gilleland
President
C&J Gravel Products, Inc.
970-759-4112

Additional Comments:

I, Bruce Neil, have dealt with C & J Gravel in Delanco for more than 35 years. The gravel quality is spot on and the people are courteous and very helpful.

Two Rivers Gravel Pit would be an asset to the people & County of Archuleta County.

Signiture:

John Shepard

From: John Nelson <ftvalleyps@aol.com>
Sent: Monday, May 09, 2016 9:01 AM
To: John Shepard
Cc: lwnhorses@gmail.com; FtValleyPS@aol.com; chipm@plpoa.com
Subject: Two Rivers Gravel Pit Proposal

Dear Mr. Shepard:

Please consider these comments in Archuleta County's process for dealing with the matter of the proposed Two Rivers gravel pit, and specifically the proposed haul routes.

I am not writing this solely because the haul road routes for this proposed pit go through our neighborhood, and the resultant impacts on our experience, roads, and property values would likely be adverse and unacceptable. In addition to those concerns, I am writing because I do not believe the routes as currently proposed are either constructed or usable for this kind of hauling (grade and thickness of paving), and they would not stand up to heavy truck use for any appreciable period of time - and I'm mostly speaking of the asphalt paved routes. In fact, given their poor current condition with checking and crumbling I believe that these routes would deteriorate significantly soon after heavy hauling was started. As I'm sure you know, several of the subject roads in the Meadows area are already in rather poor condition, with patchwork repairs and failing asphalt. This then begs the question of what would be done, who is responsible, and what plans would or could be put in place to mitigate these concerns should the roads be selected as heavy haul routes. How does Archuleta County intend to cover this eventuality?

As a growing community we need good gravel sources - I understand that and would support the effort to find them. But my experience with these matters, through about forty years of work with state departments of transportation and with the U.S. Forest Service, has taught me what I believe to be are critical factors to think about when searching for a materials source. First and foremost is that the sources should not be located in and around communities for a multitude of reasons, including hauling nuisance, road impacts, dust, noise, etc. Instead, rather than spend a lot of time and effort (and money) on material sources/pit searches in and around communities, I would strongly recommend interested parties either find private material sources adjacent to or near state highways, and perhaps as important, that they work with state and federal entities to secure common sources that can be operated in a mutually beneficial way. I have over and over again seen material source searches take a path such as this one, where community concerns over adverse impacts end up trumping other positives for the project, and, ultimately, the search for the pit ends up somewhere else more suitable.

I hope my comments here are helpful. Please feel free to contact me if you have questions or comments. Thanks in advance for your understanding and cooperation in this matter.

John Nelson
281 Pompa Drive
Pagosa Springs, CO 81147
928-853-0348

We need gravel
experience with material pit selection
Meadows and other area roads not constructed or suited for heavy haul traffic
Selected materials source must come from a pit located off a main highway or county road further study otherwise is wasted funding
Plan with CDOT and FS

John Shepard

From: Brittiany Newsome <brittianynewsome@gmail.com>
Sent: Wednesday, April 27, 2016 10:51 AM
To: terri@pagosasun.com; larryl@plpoa.com; jenp@plpoa.com; John Shepard

Dear
It has come to our attention that Two Rivers Gravel Pit is currently seeking permission from the county to establish a gravel pit that will directly increase traffic through the neighborhood of Meadows here in Pagosa Springs. Specifically the traffic will include dump trucks totaling approximately six an hour through Meadows, South Pagosa Blvd, Buttress and Cascade. As residents living at the corner of Meadows and Buttress this potential change could have a major impact on our home environment. My husband and I relocated to Pagosa in the summer of 2015 from Georgia seeking the quiet nature filled life of Colorado for not only ourselves but our two young girls. We found the perfect home here in the PLPOA protected residential neighborhood of Meadows. We are now settling into the amazing experience of living in Pagosa with our children, horses, and dog. Unfortunately we feel that if this gravel pit is approved and the trucks are permitted to pass through our neighborhood our quiet safe corner will be drastically changed to a busy, loud, dusty, and unsafe place for our family. My daughters and I frequently ride horses down Buttress and Cascade as well as walking and riding bikes with our dog. As a mother I definitely do not feel like these practices would be safe if the traffic were to change. I know from speaking to our neighbors that we are not the only ones afraid to see this change occur. I am writing this letter to raise awareness of these county plans and to join voices with my neighbors in requesting that other plans please be considered before taking away the life style many of us were seeking in settling here in the Meadows area.
Thank y'all for your time and considerations,
The Newsome Family

received
4/26/16

April 22, 2016

Sheryl Oliver / 504 Hills Circle/ PS / 81147

John Shepard, Planning Manager

PO Box 1507

Pagosa Springs, CO 81147

Dear Mr. Shepard,

Your name and address was in the letters to the editor as the person to contact concerning The Gravel Pit.

The Gravel Pit is not the problem. It is getting the gravel from the pit to the users.

It is clear that "The health and well-being of your citizens out-weigh the needs and wants of the few".

I don't know where gravel "lives". There has to be a solution for the miners to find a location that does not necessitate its trucks to run through places of residence.

Can you look deeper into this and find a solution that is equitable for both sides?

I live on a dirt road and dust plumes from cars and trucks is a health hazard and a big nuisance. I moved from the city 4 years ago, and was naïve about this big problem.

Please keep the needs of your citizens in mind about this matter. The Pagosa way of life is precious. I really believe you can serve both masters with this conflict so that all interests are served.

Sincerely,

Sheryl Oliver

John Shepard

From: noreply@civicplus.com
Sent: Sunday, March 13, 2016 5:22 PM
To: Sherrie Vick; John Shepard
Subject: Online Form Submittal: Email Planning

If you are having problems viewing this HTML email, click to view a Text version.

Email Planning

To: Planning

Your Name:*	Mark and Ella Olson
Your Email:*	Eomouno@gmail.com
Add Attachment:	[ ] Convert to PDF?[ ] (GIF, JPG, JPEG, PNG, DOC, DOCX, XLS, XLSX, TXT)
Subject:*	Gravel Pit
Enter message:*	Dear John, We have lived on Cascade Ave. for about 13 plus years and have complained to Zaday about the trash trucks coming and going up and down Cascade when the No threw trucks were to to use Cascade. With this gravel pit going in would create a lot more dust to us which we live on The east side and when just a slight wind blows we get horrible dust and has created my husband to have bad dust allergies. Hen these trucks go up and down they make the road very washboard which Creates an accident waiting to happen and makes a horrible bomb like noise When they hit a rutt. This will make traffic so bad and with the speed limit So high the wildlife on our street will be destroyed. The road really needs to Be paved and speed limit and different roads need to take on this. Hope you will see our concerns and make it right. Thank you for your time and sometime take a ride out here to see what we are concerned about. Mark and Ella Olson 265 Cascade Ave.

* indicates required fields.

View any uploaded files by signing in and then proceeding to the link below:
http://www.archuletacounty.org/Admin/FormHistory.aspx?SID=3113

The following form was submitted via your website: Email Planning

Your Name:: Mark and Ella Olson

Your Email:: Eomouno@gmail.com

Add Attachment:: No file was uploaded

John Shepard

From: Ella <eomouno@gmail.com>
Sent: Saturday, April 09, 2016 12:41 PM
To: John Shepard
Subject: Re: Two Rivers Gravel Permit

John we were gone for two weeks which the road was graded on Cascade Ave. at the time of our departure when we returned the road is as bad as usual. Please make a trip to see this washboard bomb sounding horrible road. What year and month was there a Survey monitoring traffic on this road?

Thank you

Ella

Sent from my iPad

On Mar 15, 2016, at 7:53 AM, John Shepard <jShepard@archuletacounty.org> wrote:

> The County standard is gravel roads with over 700 trips per day should be paved when new development occurs. County Road 500 doesn't have that much traffic—the gravel pit will not generate many more trips, but we are concerned with the proportion of trucks and their impact on the entire road network. This is one reason we asked for more detailed traffic studies.
>
> Majestic Dr. is in the Town of Pagosa Springs (as is the proposed new bridge which somebody else had brought up). They are also concerned with impacts on town roads and have also asked for additional traffic studies.
>
> John C. Shepard, AICP
> Planning Manager
> JShepard@archuletacounty.org
>
> **From:** Ella [mailto:eomouno@gmail.com]
> **Sent:** Monday, March 14, 2016 7:17 PM
> **To:** John Shepard
> **Subject:** Re: Two Rivers Gravel Permit
>
> John how can you pave Majestic which has hardly any kind of traffic
> But you can tell us that this is progress and allow much more traffic
> In our residence doesn,t make much since to me can you reply about
> A small traffic getting paved and a substantial traffic disaster being
> Ignored.
>
> Thank you
>
> Ella Olson
>
> Sent from my iPad

On Mar 14, 2016, at 4:20 PM, John Shepard <jShepard@archuletacounty.org> wrote:

Mr & Mrs Olson- Thank you for your message. I've heard from several of your neighbors, and have driven your street as recently as last week.

Cascade, Buttress/S. Pagosa and Meadows are on the County's Primary Road Network. As the County grows, they are likely to become busier, especially since we haven't built other primary roads. However, new development must mitigate its impacts, and the Applicants have been asked to do more detailed traffic studies before their next hearing before the Planning Commission on 4/27.

John C. Shepard, AICP
Planning Manager
Archuleta County Development Services
PO Box 1507
Pagosa Springs, CO 81147
970-264-1390
JShepard@archuletacounty.org

To: Planning

Your Name:*	Mark and Ella Olson
Your Email:*	Eomouno@gmail.com
Add Attachment:	[ ] Convert to PDF?[ ] (GIF, JPG, JPEG, PNG, DOC, DOCX, XLS, XLSX, TXT)
Subject:*	Gravel Pit
Enter message:*	Dear John, We have lived on Cascade Ave. for about 13 plus years and have compla Zaday about the trash trucks coming and going up and down Cascade when the No trucks were to to use Cascade. With this gravel pit going in would create a lot more us which we live on The east side and when just a slight wind blows we get horrible and has created my husband to have bad dust allergies. Hen these trucks go up anc they make the road very washboard which Creates an accident waiting to happen a makes a horrible bomb like noise When they hit a rutt. This will make traffic so bad the speed limit So high the wildlife on our street will be destroyed. The road really r Be paved and speed limit and different roads need to take on this. Hope you will se concerns and make it right. Thank you for your time and sometime take a ride out l see what we are concerned about. Mark and Ella Olson 265 Cascade Ave.

* indicates required fields.

Two Rivers Gravel Pit

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

We urge the planning department, the Planning Commission, and the Archuleta BOCC to recognize the economic benefits of having a local quality gravel resource.

Quality spec gravel will improve road conditions and need less maintenance.

Savings in trucking costs can be used for other types of improvements or simply to increase the amount of material in the budget.

Per ton cost of material will be less therefore allowing more discretion with the taxpayer dollars and the county budget.

The mitigation fee that C&J Gravel will pay will speed up and significantly contribute to the improvement of roads in Archuleta County.

We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Lester Phillips Address 8-8 16

28 500

Additional Comments:

Please allow this company to perform as we need better roads these spring, fall and winter roads tear up my vehicles and also my own body.
This is badly needed, please allow Alice Wilcox

Signiture:

Two Rivers Gravel Pit

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Sincerely,

Name Mike Lopez
Southridge Lovett Inc

Address PO Box 1347
Durango, 81302

PINON HILLS RANCH
PROPERTY OWNERS ASSOCIATION, INC.

Mr. John Shepard
Archuleta County Development Services
Planning Department
PO Box 1507
Pagosa Springs, CO 81147
jshepard@archuletacounty.org

March 27, 2016

RE: Objection to the proposed Two Rivers Pit submitted by C&J Gravel Products, Inc.

Dear Mr. Shepard,

On behalf of the **45 residential lot owners** of Pinon Hills Ranch (Phase 1 & 2), I write to express our strong objection to the proposed commercial gravel pit. We ask that you and the Planning Commission deny this project and allow no conditions in which an approval could be granted.

Pinon Hills Ranch (PHR) is located approximately 2,600 linear feet due south of the subject property. PHR is a residential subdivision approved in 2003 through the Colorado Common Interest Ownership Act. PHR has an active Association made up of its 45 lot owners, a Master grazing lease, natural springs, a common area directly on the San Juan River for fishing and provides its residents with a peaceful rural place to reside.

The idea of a commercial gravel pit being approved this close to a large residential subdivision brings up a number of serious issues for the PHR Association members. A few points to consider are:

1. The significant increase in heavy truck traffic on CR 500 is a hazard. CR500 already suffers in quality and can be difficult to drive, even in passenger cars, during parts of the year. The County does not have the resources to improve the road. There are often cars found in the ditches, large potholes, wash-boarding and slick surfaces. Some extra gravel supplied to the County as proposed by Two Rivers is not going to solve this problem and should not be a reason to allow a commercial gravel pit in this location.
2. The noise of blasting and crushing rock combined with the heavy equipment transports will have a significant negative impact on the residents along CR 500 and those within PHR. This entire area south of Pagosa is currently a peaceful and serene part of the County and not an appropriate place to stick a loud, hazardous, and environmentally unfriendly commercial use.

Pinon Hills Ranch Property Owners Association, Inc.
P.O. Box 2935 Pagosa Springs, CO 81147
markd@mind.net Ph: 541-621-8393

3. The land south and east of Pagosa Springs is an important *mule deer wildlife corridor*. Large populations of deer can be found on PHR throughout the fall and winter. These deer travel in from the north and that access way would be clearly impacted by blasting, noise, trucks, etc. occurring only a short distance from PHR.
4. Gravel trucks driving over the Two Rivers Pit bridge across the San Juan river multiple times per day will leave excess sediment washing off the bridge into the River. Just upstream from Two Rivers Pit is one of the largest conservation easements in Colorado protecting 7 miles of the San Juan. Just downstream from Two Rivers Pit is the Diamond T Ranch whose owners have done significant River restoration to improve the river and fish habitat. Allowing a gravel pit will negate a lot of good work done to improve the fishery and river health over the past decade.
5. There is no good access to Pagosa Springs for these large trucks. Either they traverse through Timber Ridge, one of the nicest residential subdivisions in town, or they have to pass by the School and neighborhoods coming into town from the south. Neither is a good option for safety and quality of life for County residents.

Thank you for considering our input during your continued review of this project. We trust that the right thing will be done for the residents along all of CR500 as well as the river, fishery, and wildlife currently thriving south of Pagosa Springs. A denial is the best choice for this project and for the residential communities south of Pagosa Springs.

Regards,

Mark DiRienzo
President
Pinon Hills Ranch Property Owners Association, Inc.

Pinon Hills Ranch Property Owners Association, Inc.
P.O. Box 2935 Pagosa Springs, CO 81147
markd@mind.net Ph: 541-621-8393

John Shepard

From: bjc614@comcast.net
Sent: Tuesday, May 31, 2016 3:37 PM
To: John Shepard
Subject: Gravel Trucks going through Meadows 1-4

Dear Mr. Shepard:

We own property in Meadows 2 on Feather Ct. We do NOT want gravel trucks going on Meadows Blvd. to/from the pit. They will be dirty, noisy, deter wildlife and ruin the roads. Another route to the pit must be found/made. This is a residential neighborhood and not appropriate for heavy commercial traffic on a daily basis!

Thank you.

Sincerely,
Barbara (Clabaugh) Pugh

John Shepard

From: Fred Rosenbaum <rosenbaumf@gmail.com>
Sent: Friday, May 27, 2016 2:22 PM
To: commissioners; John Shepard
Subject: Meadows Drive

Dear Sirs,
I am writing to strongly object to the continuous use of heavy commercial vehicles on Meadows Drive. I am a homeowner who accesses our property via Meadows and have witnessed the use of our residential street over the past few summers for the hauling of heavy loads on a daily basis. I urge you to find a better route for your truck to utilize.

Fred Rosenbaum
137 Antler Court

Two Rivers Gravel Pit

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We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Coy Ross

Coy Ross

Address 10026 Hwy 84
Pagosa Springs.
Colorado.

Two Rivers Gravel Pit

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Sincerely,

Name Loretta Ross

Loretta Ross

Address 1301 Tierra Dolora Drive

Pag Spgs. CO. 81147

Two Rivers Gravel Pit

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We urge the planning department, the Planning Commission, and the Archuleta BOCC to recognize the economic benefits of having a local quality gravel resource.

Quality spec gravel will improve road conditions and need less maintenance.

Savings in trucking costs can be used for other types of improvements or simply to increase the amount of material in the budget.

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The mitigation fee that C&J Gravel will pay will speed up and significantly contribute to the improvement of roads in Archuleta County.

We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name TROY ROSS

Address 1201 TIERRA DEL ORO PAGOSA SPRINGS CO.

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Sincerely,

Name Spur Ross

Address 1201 Tierra Del Oro Pagosa Springs, Colo.

John Shepard

From: Charles L. Rutter <rutter.covenant@gmail.com>
Sent: Wednesday, June 01, 2016 10:06 AM
To: John Shepard
Cc: commissioners
Subject: Upcoming Meeting on June 8th, Actionable Line Haul route through Meadows

Dear Mr. Shepard/County Commissioners:

I am an attorney living in Pagosa full-time now for the past 2 years. We are raising four small children out here in Meadows 4. The home we purchased was an expensive home (like most homes in Pagosa or anywhere in Colorado), and we had planned to live in for the rest of our lives. When we purchased the home in February of 2014 there weren't any large semi-trucks hauling gravel. Had there been, we would not have purchased here.

Unlike the previous summer, last year we began to hear and see a multitude of speeding gravel trucks in what was apparently a line haul project going up and down Meadows Drive. This lasted for months and was truly devastating to the roads, safety of our children, and the peace and quiet of this pristine neighborhood. We complained about the speeding trucks to county representatives and were told they probably weren't county trucks, but rather were independent contractors; the drivers never slowed down and the banging noise continued. Of course we in the legal field know that the master is responsible for the actions of the servants he directs. This action on the part of the county is wholly unacceptable to each and every one of us living in Meadows, which is increasing in number by the month it seems.

We all paid a premium for our homes in this (formerly) quiet and peaceful neighborhood, all for the peace and quiet of owning acreage in Meadows. Therefore, we will not tolerate the continual damage (huge pot holes and deeply worn tracks in the blacktop roads--by the way, Meadows Drive is an absolute, deplorable mess right now with huge, gaping pot holes and tracks that were not here 2 years ago) and the resulting diminution in value (legal term of art) to our properties. Nor will we tolerate the constant noise interference with the quiet enjoyment (legal term of art) of our property. Our playing children are now at legitimate risk and so are our property interests. If the county continues this purported program through Meadows without finding alternative routes, we intend to pursue and and all remedies against any and all parties involved, which I may offer to take up for free on the part of Meadows residents (this can be discussed at the June 8th meeting). We aver this continued action on the part of the county constitutes many things, including but not limited to, an actionable nuisance, and an unreasonable governmental taking without just compensation.

Best regards,

Charlie

Charles L. Rutter
General Manager/Counsel

Covenant Roofing & Construction, LLC

Kansas City (JoCo)

5350 College Blvd
Overland Park, KS 66211
Tel. (913) 534-8963
Fax (913) 534-8964
Email: office.covenantroofing@gmail.com
Website: www.covenantroof.com

Other Offices:
KANSAS-
Topeka (Shawnee)
3118 SE Arbor Drive
Topeka, KS 66605
(785) 408-5789-Office
(785) 408-5789-Mobile

Wichita (Sedgwick)
4601 East Douglas
Wichita, KS 67218
Tel. (316) 337-5600
Fax (316) 337-5531

COLORADO-
Denver
7887 East Belleview Ave., Ste. 1100
Denver, CO 80111
Tel./Fax (303) 547-3254

TEXAS-
Dallas/Ft. Worth
**In Texas, d/b/a Regent Contracting LLC*
3010 LBJ Freeway, Ste. 1200
Dallas, TX 75234
Tel. (214) 988-9227
Fax (214) 988-9228

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Project 2015-035SG Two Rivers Pit Major Sand & Gravel Permit

S-Z - Letters received by Archuleta County Development Services through June 20, 2016.

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We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Ryan Saunders

Address 22991 RD N
Cortez, CO 81321

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Sincerely,

Name Angela Selph

Address 262 Cloud Cap Ave
Pagosa Springs, CO 81147

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Name Daron Selph

Address 262 Cloud Cap Ave
Pagosa Springs, CO 81147

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Sincerely,

Name Ruben Sanchez

Address 218 Holiday Ave
Pagosa Spgs CO 81147

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Sincerely,

Name Trish Sanchez

Address 218 Holiday Ave
Pagosa Springs Co
81147

John Shepard

From: Randy Senzig <rsenzig1960@gmail.com>
Sent: Monday, May 09, 2016 9:58 AM
To: John Shepard
Subject: Gravel pit

Hi, my wife Joann and I are against the purposed gravel pit on triujillo Rd
We are constructing a new home on antler ct and do not feel this a good place to locate a pit. We walk and ride our horses on meadows Dr and feel the truck traffic will create unsafe conditions Randy Senzig at 19 antler ct

received
5/31/16

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Sincerely,

Name Kenneth B. Smith
KEN SMITH

Address P.O. BOX 1452
PAGOSA SPRINGS 81147

John Shepard

From: Ed Snyder <edwsnyder@gmail.com>
Sent: Tuesday, June 07, 2016 5:10 PM
To: marshall@pagosasun.com; John Shepard
Subject: GRAVEL Pit

Sir:

I live in **Loma Linda** - over the mesa from Trujillo Rd. We would not be directly affected by the gravel pit.

However, what affects our neighbors affects us all. Clearly, development of the gravel pit would degrade the lives of the residents along Trujillo road. The multiple negative effects have been well articulated.

Pagosa Springs is becoming an increasingly rare gem among small Colorado towns. To take even one more step towards industrialization of our valley would ultimately be tragic.

One step leads to another and eventually we loose what makes us so special - and so attractive to the tourists who are a core element of our economy.
--
Thank you,

Ed Snyder

received
3/01/2016

Hello John,

First, thanks again for calling back last Tuesday to discuss my ideas regarding the proposed gravel pit on CR 500. To refresh you, my residence is on Cascade Ave and my concerns center on the fact that the increased heavy truck traffic that the gravel operation will generate will make what is already a bad situation worse.

At its inception, Cascade Ave was not intended to be a through traffic road. My understanding is that Cascade was originally built by the Aspen Cascade Ranch owners, with an agreement with Archuleta county that the maintenance would be the county's responsibility. As late as the early 2000s there was in fact a sign at the corner of Buttress and Cascade stating "No through Traffic". However, the situation deteriorated over time with increasing use of Cascade as a portal to south CR 500. When one of my neighbors (who has since moved) brought this to the attention of county officials their response was that the no through traffic policy was unenforceable and hence the sign was removed, resulting in Cascade now being used as a major thoroughfare to south CR 500 from the west and northwest side of the town/county.

Because the landfill is located on CR 500, Cascade is also now the main route (and conceivably only) used by the three trash companies operating in the county, as well as all construction and private individuals needing to go to the landfill from the west and northwest side of the town/county. The vehicles range from the large trash pick-up/compaction trucks, to dump trucks to pickups to cars or pickups towing trailers behind. These large heavy vehicle (often traveling faster than necessary) caused much wear and tear on Cascade creating washboard surfaces uphill and downhill as well as numerous potholes and significant erosion after rains. In addition, significant noise and dust accompanies the degradation of the road surface and is even more noticeable when the trucks and trailers return from the landfill empty (rattles, clunks and thunks). This considerable noise, dust and wear on is also evident on the unpaved part of Buttress. The inclined/sloped part of Cascade is graded multiple times per year in an attempt to smooth out the washboard surface, fill in pot holes, and thus decrease the dust and noise generated but the problem rapidly reoccurs. The same is true for the unpaved section of Buttress, although maybe less so because it is flat.

Since we spoke I have talked to several of my neighbors (and they in turn have spoken to several more who may/may not contact you; Mercer, Tollefsen, Beurgureau,Olsen, Harrell, Kurt-Mason) and we all feel that the potential impact from this increased truck traffic would be significant and deleterious to quality of life. We do not feel however that it is proper for us to deny someone's business opportunity. One potential solution to the road degradation, dust and noise on Cascade Ave and Buttress Ave would be to pave both roads as they pass by exiting residences. This would not entail the entirety of either one: Buttress only to the corner where it intersects Cascade and Cascade down the incline to the point were the Aspen Cascade Ranch begins (no more residential development past here). While expensive at first, the cost could be shared with the gravel pit operators in exchange for their use of the roads, and the upkeep of the road would be potentially less expensive to the county than the repeated gradings and magnesium chloride application now used on the gravel portions of these roads. A second possibility would for the county to require gravel pit traffic to use non-residential routes via US 84 via CR 359 and CR 542; or CR 700.

I hope this adequately explains my concerns and those of my neighbors and that the Archuleta County Planning Commission takes this into consideration when deciding to permit or not permit the gravel pit operation.

Sincerely,
Howard Strahlendorf
300 Cascade Ave
731-2340

John Shepard

From: Jean & Howard Strahlendorf <pairadocs@centurylink.net>
Sent: Friday, March 25, 2016 12:36 PM
To: John Shepard
Subject: Gravel Pit
Attachments: EPA b13s02-2.pdf

Hi John,

There's bee considerable interest in the neighborhood concerning the proposed gravel pit. I've read through the two PDF docs that were appended to the Feb Planning Commission meeting and although I see mention of some environmental impact assessments regarding wildlife and flora I see nothing regarding the health effects of dust and particular matter generated not only at the crushing sight but also on the haul routes. I have attached a report and include a link below by the EPA dating way back to the late 1990s addressing this issue. Of particular interest is the discussion relating particulate size to health effects and how the ROAD SURFACE, WIND CONDITIONS, TERRAIN, SPEED OF VEHICLE, TRUCK TYPE, TRUCK WEIGHT and TRUCK DRAFT (TURBULANCE AT REAR OF TRUCK) contribute to creation of a dust plume with micron size particulate. Please refer to sections 1, Introduction; and 2, Source Description for a discussion of the factors involved and how to analyze these. Please forward this on to the other members of the Planning Commission.

A similar analysis is requisite in this case because greater than 90% of the haul routes are on unpaved roads and this small particulate matter can provoke serious health consequences.

https://www3.epa.gov/ttnchie1/ap42/ch13/bgdocs/b13s02-2.pdf

Sincerely,

Howard Strahlendorf

received
4/11/2016

Hi John,

Just checking to see if you've received the revised/additional mitigation plan(s) for the Two Rivers Gravel pit. I would appreciate a copy as soon as you do. Last week I also noticed several traffic counting devices strategically placed on several of the proposed routes for the gravel trucks that prompted several questions/points that maybe you can clear up.

- Has the Two Rivers Pit application already received Colorado Mined Land Reclamation Division (MLRD) approval on all fronts? Because of its proximity to, and elevation above, the San Juan River, I'm particularly concerned about environmental impacts of spilled petroleum products, lubricants, antifreeze etc. from the machinery and trucks, as well as polluted water from on-site dust mitigation entering the San Juan River. Also, because of its proximity to the Ute Reservation land, has a study been done to insure no culturally important indigenous artifacts/antiquities or other important archeological features will be destroyed?
- In the application there is extensive discussion regarding the traffic situation along CR 500 immediately adjacent to their road/drive access to their bridge. But, has the County Engineer made a thorough study of the potential traffic situation(s) along the *entire length* of CR 500, if such large trucks, some with tandem trailers, are allowed to travel the road. I'm specifically referring to the "S"-curves between miles 8 and 11, none of which have significant shoulders or guard rails. Even with a reduction in speed limits at these areas, can these areas really be considered safe? I know from personal experience that speed limits on Buttress and Cascade are meaningless. Also, there is a 'blind" curve just south of the transfer station. Is the line of sight adequate around the curves and is the radii of the curves sufficient to allow two vehicles, one a large truck possibly towing another long trailer, to meet and pass without incident?
- The application contains discussion of particulate matter mitigation at the pit site, but nothing is mentioned regarding the proposed haul routes. Perhaps that is forthcoming in the requested additional materials, but several points need to be considered that can not be addressed with a traffic count alone. What exactly does the 700 ADT for a road in Archuleta county mean, and how does one reconcile average daily trips with a state or federal (EPA) air quality emission standard? ADT seems to be a meaningless unit of measure when trying to determine the amount of pollution generated by a vehicle. It is well documented by federal studies that myriad factors are at play when determining the particulate matter generated by a vehicle, e. g., size, weight, number of axles and tires, speed, turbulence under carriage, rear draft turbulence, road surface conditions, humidity etc. To cite an example, a federal study dealing with the interstate highway system found that a *single* (i. e., 1) fully loaded 18-wheeler weighing 80,000 pounds caused the same impact on the road as *2600* cars! Granted this is a semi on concrete pavement, but the same laws of physics are at work regardless of the size of the truck or the surface. Thus, for a 40,000 pound gravel truck, the equivalent is 1300 cars for each trip of the truck on paved or gravel roads. This single truck trip obviously exceeds the 700 ADT county requirement for mitigation. (Maybe the County should use equivalent metrics when evaluating the impact of the trash hauling trucks.)
- What are the weight restrictions for the roads in the county? Are residential roads the same as designated county roads (CR designations)? Are all roads constructed to the same standards, and are therefore suited to carry even the heaviest weight vehicles?
- Does the county have a noise restriction on commercial vehicles other than use of mufflers on engine brakes? Does it set a decibel level not to exceeded, such as 70db for all vehicles?
- What are the current air quality standards for the County concerning PM 10 and PM 2.5? The Colorado Air Quality Standards as posted on the CDPHE web site, and declared as effective 02/15/13, seem to say for the Pagosa Springs Attainment/Maintenance Area, either the EPA standard of 35 micrograms/cubic meter for PM 2.5 and 150 micrograms/cubic meter for PM 10 per day or 946 pounds per day for PM 10 is the limit. But is this for the entire County or a specified area; who determines if the standards are being met, and how often are measurements taken?

Once again thanks for your time and I look forward to your response.
Howard Strahlendorf

Road Rage

Yes, road rage, but a different type. But first a little causative history as I understand it. When Cascade Ave was extended in the 1990s connecting Buttress Ave and Trujillo Rd, the easement granted by the Alpine Cascade Ranch apparently carried with it a stipulation that there be no through truck traffic. Indeed, there were signs stating this at the intersection at each end of Cascade Ave. In spite of posted sign restrictions, over the ensuing years landfill destined truck traffic increased to a level that initiated numerous complaints by area residents. The response from the BoCC serving at that time was that the ban on through truck traffic was “unenforceable”. In the early 2000s, apparently as a consequence of continued complaints, the BoCC's solution was to remove the signs, resulting in marked escalation of commercial trash truck traffic over the last decade through the Meadows subdivision on South Pagosa Blvd, Meadows Dr, Buttress Ave and Cascade Ave en route to the landfill. When a current county official was asked how these changes were allowed, the response was that a previous county engineer declared the signs “illegal”. Why?

These were irresponsible and negligent actions on the part of past county officials. Pagosa Meadows I - IV are residential subdivisions. Residents chose this area because of quality of life and expected it to be quite, peaceful, safe, have low levels of air and noise pollution, and low traffic volumes in order to raise families and enjoy the outdoor surrounds. Instead, roads and streets have become truck thoroughfares, and residents are inundated daily with noise barrages and dust plumes from commercial trash trucks to and from the landfill. Posted speed limits (35mph) are higher than those suggested in the Road and Bridge Standards for residential areas (30mph, Sec 27.1.3.2B) and are mostly ignored and exceeded. Surface conditions on unpaved roads are deplorable the majority of time, and any improvement by grading and magnesium chloride application is rapidly lost due to the truck's weights and speeds.

Let me illustrate this point . A three-axle trash truck weighs between 20 and 32 tons, and while this is approximately 20 times the weight of an average car, engineering studies have shown that one trip by a three-axle trash truck is equivalent to 1,429 car trips with regard to wear and deterioration of road surfaces! The county's Road and Bridge Standards state that traffic volume in excess of 700 ADT (avg daily trips) require paving (Sec 27.1.3.2C). So the question is: 700 ADT of what type of vehicle? By the county's own regulations, one trip by a trash truck should warrant paving of Buttress and Cascade Aves.

Now you have before you a proposal to establish a gravel pit on South Trujillo Rd. The preponderance of commercial truck traffic to and from the pit is destined to course on Trujillo Rd, Cascade and Buttress Aves, Meadows Dr, and South Pagosa Blvd, or via Apache, 8th, and 6th Streets, Hot Springs Blvd and Light Plant Rd, all residential and town areas. Average weight of haul trucks will be 25 tons, thus creating the equivalent environmental chaos per vehicle as a trash truck. According to the proposal, truck volume will average 4 to 6 trucks per hour, during business hours, for 120 days per year. This excessive Increase in commercial truck traffic will make a bad situation intolerable.

It is your responsibility to the citizens and residents of the county to protect the public health, safety and welfare as proclaimed on the Archuleta County website. I ask that you respect this charge and honor all aspects of quality of life in our county, and urge you to deny the gravel pit application. Furthermore, it is incumbent upon you as county officials to begin a serious

investigation into the amount of commercial truck traffic that has been allowed on Cascade Ave, Buttress Ave, Meadows Dr and South Pagosa Blvd as the result of previous irresponsible and negligent decisions, or lack of decisions, and then to initiate positive steps to remediate and mitigate this situation.

Thank you.

Howard Strahlendorf

received
4/25/16

Dear John,

I am concerned about the use of residential roads to service the proposed gravel pit on south Trujillo Rd, and the impact of 25-ton gravel-hauling trucks on health and quality of life in our county. Archuleta County's Land Use Regulations under "Emission of Particulate Matter" state: "Every use shall be operated in compliance with CDPHE standards for particulate matter". A majority of atmospheric particulate matter (PM) comes from dust generated from unpaved roads, construction activities, and mining/quarrying activities. PM is microscopic mass suspended in the air and can contain metal, soil particles and allergens (pollen and mold spores). Air quality PM standards are established by the EPA and state governments to protect the health of all members of society. PM irritates the eyes, nose and throat and can cause serious inflammation in airways resulting in asthma, COPD, pneumonia, emphysema, pulmonary fibrosis and lung cancer. A resident whose home is on the unpaved portion of Buttress Ave. has developed a "dust-induced asthmatic condition" that according to his pulmonologist was "directly due to unhealthy air quality".

2.2.5.1 Pagosa has equaled or exceeded the upper limits for PM levels set by CDPHE and the EPA in 5 of 6 recorded years (2008-2013). Three days in 2013, Pagosa exceeded the PM limit: regulations stipulate the limit should not be exceeded more than once/year. PM measurements were taken on Lewis Street, and presumably were lower than would be expected from rural areas where unpaved roads predominate and inevitably yield vehicle-generated PM-laden dust plumes. The ubiquity of dust plumes on unpaved roads suggests that air PM levels along rural roads exceed allowable limits for PM, particularly during the summer months when roads are dry and large traffic volumes occur.

2.2.5.1.1 PM levels are related in part to: vehicle weight, number of wheels, speed, and road surface moisture. Because the quantity of PM generated on unpaved roads is directly related to weight, size and speed of vehicles, one could surmise that unpaved roads (i.e.,Trujillo, Cascade and Buttress) that currently experience heavy truck traffic from commercial trash companies are currently out of compliance with PM emissions endangering the health of nearby residents. Allowing additional large 25 ton gravel-hauling commercial trucks to traverse these unpaved roads would gravely exacerbate the problem.

2.2.5.1.2 Furthermore, the Land Use Regulations also require that sound generated by all mining operations, industrial uses and commercial businesses not exceed 45 db (about the level of noise in an office). Many commercial trucks currently emit thunder-like sounds that reverberate and echo through the neighborhood (approximate intensities of 80-120 dB) as they traverse wash-boarded road conditions on Cascade and Buttress Aves.

2.2.5.2 In the spirit of the Archuleta County Community 2020 Plan, I would encourage our elected officials to continue to "preserve the outstanding scenic and natural qualities of our county" and deny the sand and gravel pit proposal on Trujillo.

Jean Strahlendorf

19 May 2016

Dear John,

First let us start with a couple of comments by Thomas Leffew, Durango area manager for Elam Construction, a firm hired by Archuleta County to repave Park Ave in 2009, and to chip seal North Pagosa Blvd and Meadows Drive in 2011. These are excerpted form the September 28, 2011 Pagosa Daily Post.

"Those roads were only seven or eight years old, out there. And the condition they were in was horrible. I mean, whoever built those roads originally … the paving thickness varied between 1 1/2 inches to 5 inches, when we did the patching. And there were places where there was no road base under the existing roads, where the road is falling apart. So I don't know who or when or how it got built; it was some horrible workmanship."

"It's ridiculous. There's only 1 1/2 inches of paving in some spots, and that's why those roads are falling apart. And underneath them, the subgrade wasn't built properly. There were places, when we dug out to do the patching, you could smell the rotting roots and debris … you know, right underneath the roadway."

"My understanding is that Meadows was paved seven years ago. That kind of road should last 25 years, if it were built properly."

A statement by Bill Hudson later in the article stated: "According to a 2009 press release from Archuleta County, the reconstruction of Park Avenue and a portion of Cloud Cap cost the County about $1.8 million. **That comes to about $1 million per mile of reconstructed roadway. Single-layer chip seal runs about $100,000 a mile** — about one-tenth the cost of reconstruction." (emphasis added)

Then in the follow-up article published on September 30, 2011 Ken Feyen, Archuleta County Public Works Director, followed with these comments regarding the situation of paved roads in the Pagosa Lakes region, originally developed by Fairfield Pagosa. Meadows subdivisions also were part of the Fairfield Pagosa developments.

"Some of those paved roads are anywhere from seven to ten years old, and they've had zero preventative maintenance."

"Ideally, on a newly paved road, you would do a seal coat after three, four, five years, depending on weather and traffic. Then about your seventh or eighth year, you would do a chip seal. And you would alternate about every three to five years. If you do that, your asphalt will last pretty much in perpetuity."

Bill Hudson further wrote: **"Laying seal coats and "chip seal" coats on badly constructed, poorly maintained pavement is, at best, a temporary band-aid, Mr. Feyen explains. Yet even that very minimal maintenance costs us three to five times what it costs to maintain a typical gravel road. ….What basically needs to be done in Pagosa Lakes, it appears at first glance, is to rebuild all the paved roads."** (emphasis added)

One of our neighbors, knowledgeable in road construction, measured the asphalt depth on

Meadows Drive through one of thousands of convenient cracks and found it to be 1½ inches thick, far below the 4 inch thickness specified by the current County Road and Bridge Standards for a major collector road. This verifies the impressions by Mr. Leffew and Mr. Feyen made 5 years ago.

So going through the mitigation plan submitted by C & J Gravel this is what we see to be the situation.

- By C & J's engineering calculations, the impact to S. Pagosa Blvd by their trucks will be **45%** of wear and tear by all traffic, the impact to Cascade Ave by their trucks will be **63%** of wear and tear by all traffic, the impact to County Road 500 by their trucks will be **62**%.
- Our analysis of the county budget and Mr. Feyen's comments reveal the yearly cost to the county to maintain a gravel road is about $5,900 per mile and the yearly cost for a paved road is about 3-5X that, or up to $30,000 per mile.
- Therefore to mitigate ***yearly*** damage to S. Pagosa Blvd caused by C & J trucks would amount to 45% of $72,000 (2.4 miles x $30,000/mile) or **$32,400/yr**. To mitigate the damage caused to Cascade Ave (and other gravel roads) would be 63% of $5,487 ($5,900/mile x 0.93mile) or **$3,457/yr**.
- C & J is offering $16,447 yearly for S. Pagosa Blvd, and over a 20 year period the county will be ***shorted $319,060 for S. Pagosa (***$32,400-$16,447=$15,953 x 20yr= $**319,060**).
- C & J is offering $524 yearly for Cascade Ave, and over a 20 year period the county is ***shorted $58,660*** ($3,457-$524= $2,933 x20 = $**58,660**) far below the needed amount.
- County maintenance of **County Rd 500** (Trujillo Rd) for 20 yr is **$1,180,000** (10 miles x $5,900/mile x 20 yr =$1,180,000). C& J has calculated an impact factor of 62% for County Rd 500 (62% x $1,180,000 =$**731,600**).
- ***No mitigation*** from C & J for County Rd 500 has been included in their report. In fact, there is no mitigation offered by C & J for the ***alternate route*** down County Road 500 to Light Plant Road, a route that is primarily paved.
- Combining the above-mentioned shortages for Cascade, S.Pagosa, and a portion of County Rd 500, the county will experience a **$1,109,440** shortfall, just for these three roads alone, **assuming no repaving is necessary.** Please be mindful that if the county needs to pave only one mile along any of the proposed haul routes, **a cost of at least $1,000,000 per mile will be incurred.** Therefore, any purported savings claimed by C & J Gravel are erased by the calculated shortfall in maintenance costs of county roads for the proposed haul route alone.
- C & J's mitigation plans call for adding gravel to Cascade Ave every 5 years and chip sealing S. Pagosa every 10 years, **a strikingly deficient frequency and amount.** As acknowledged by road engineering standards and stated by Mr. Feyen the requisite frequency is every 3 to 5 years to be beneficial in prolonging the life of the road.
- S. Pagosa Blvd is already deteriorating because of sub-standard construction. Chip sealing even at the preferred time intervals will be insufficient to maintain it. With increased heavy truck traffic it will need to completely reconstructed in a few years, **costing the county conservatively $1million per mile and several million dollars totally.**
- C & J Gravel's proposal falls significantly short of the costs to mitigate projected deterioration to the roads they intend to use as haul routes. These figures are based on a 20 year average with no accounting for price increases or inflation.

So the question is: Is Archuleta County ready to commit to this agreement with C & J Gravel and take on the **added** expense of road maintenance that amounts to a 20-yr shortfall of **$1,109,440** (not including the cost of the paved roads for the alternate route to Light Plant Road), as well as the cost of probable repaving?

We urge county officials to closely scrutinize the numbers in the C & J proposal. As the saying goes: “The devil is in the details”. They are grossly inadequate and will leave the county in a fiscally worse situation with regard to roads than they are currently. And please also consider, this situation is for 20+ years, with no provision for escalating costs. This is a win-lose situation, with the county being the loser.

Sincerely,
Jean and Howard Strahlendorf

John Shepard

From: Jean & Howard Strahlendorf <pairadocs@centurylink.net>
Sent: Sunday, May 22, 2016 1:13 PM
To: John Shepard
Cc: KarenBynum1; Eason, Muriel; blharrell; Toby Tollefsen; George Dougherty; gbw@centurytel.net; Hawkins Jim & Gayle; Lark & Denny Beaugureau; Brian Duffin; ron christensen
Subject: TRP Proposal ESAL Statement PLEASE DON'T FORWARD

Hi John,

This is not an engineering question, so please don't forward it to the black hole of the County Engineer. This is a question that you and the entire Planning Commission (as well as the public) need to be clear on before the June 08 meeting.

In the original applications there were repeated references to 25 ton trucks (see copied paragraphs below), but in their latest submission with Roadrunner Engineering they refer to 15 tons per trip (trucks) and this was apparently the figure used in the ESAL analysis. So either they have changed the size of truck they intend to run, or this is a mistake, probably because in the tables I referred to before (my email at bottom of this),15 CYDS rather than TONS is referred to. Please have someone in your office verify with C & J and/or Roadrunner and determine which is correct. If they used 15 rather than 25 then their calculations then their ESAL impact factors are wrong. If 15 is the new truck weight, then does this mean they will need to run more trucks per hour or per day to meet the same output/deliver tonnage they mentioned in their application? This will also impact the ESAL calculation by virtue of more daily trips (ADT in the ESAL calculation). This however DOES NOT APPEAR TO BE THE CASE because they are still claiming 37 ADT for their trucks. So we conclude that the analysis of impact on roads is incorrect, until we know otherwise.

Please let us know when you get this clarified.

Thanks again,

Jean & Howard Strahlendorf

COPIED FROM C & J DOCUMENTS

From 2015-035SG-TRP Application_Text PDF, Page 26 of PDF pagination, Page 17 of Document:

TRUCKS
A variety of trucks will be used to haul materials from the Pit, including single dump trucks, semi-dump trucks, and trucks with pups. Most commonly used will be dump trucks with pups. (Sometimes called tandems.) Semi-dump trucks may include end, side, and belly dump. All loads will be tarped before departing the pit. Average haul for all vehicles will be 25 TONS PER VEHICLE.

AND FROM SAME PAGE

TRAFFIC COUNTS AND SCHEDULES
Assuming an average haul of 70,000 tons per year, 25 TONS/VEHICLE, and 120 hauling days per year, average truck traffic will be 23.33 trucks per day: 21 north and 2 south, with peak traffic counts of less than 4 per hour. Of 21 north, an estimated 6 will go to SH-160 in Pagosa West, 8 to Pagosa Springs itself, with various routes through the town, 5 east through Pagosa Springs to SH-84 for delivery to County or State shops, and 2 to delivery locations in the vicinity not requiring travel on state highways.

County zoning and conditional use permits are expected to dictate exact routes and traffic limits.
During normal operations, inspection, maintenance, and employee commuting traffic is expected to consist of 2-axle vehicles of 5 tons gross vehicle weight or less, for an average of three round trips per day to the Pit. Seasonally, depending on contracts for materials, additional truck and small vehicle traffic can be anticipated for several days, to bring in equipment (crushing and screening equipment and other processing equipment), fuel, and other support needs. This will add an average of 0.5 round trips per day, mostly to and from Pagosa Springs.
Total annual average daily traffic count estimated: 24 single or multi-unit trucks, 3 small vehicles: total 27 round trips, or 54 movements. This is the sum of the above movements.
This estimate of traffic is based on information from the Institute of Transportation Engineers, CDOT data, and experience with sand and gravel operations, particularly in southwestern Colorado.

From 2015-035SG-TRP Preliminary Traffic Impact, Page 5:

(From DRMS Permit: TRUCKS -A variety of trucks will be used to haul materials from the Pit, including single dump trucks, semi-dump trucks, and trucks with pups. Most commonly used will be dump trucks with pups. Average haul for all vehicles will be 25 TONS PER VEHICLE. All trucks are properly permitted for highway use and meet weight requirements for county and state highways. All drivers have CDL (Commercial Drivers License) if required for the vehicle being operated.) Due to the location and its distance from Pagosa Springs and subdivisions in the County, little "retail" traffic (such as buying and obtaining a small pick-up or trailer-load of gravel by a homeowner or business) is expected. In addition, due to other sources, little or no material is expected to be sold for projects outside Archuleta County.

From 2015-035SG-TRP-TIA _20150509-Narrative, Page 2:

Roadway analysis is based on 100,000 tons of aggregate material to market per year. Assuming aggregate hauling at 15-TONS PER TRIP, the number of truck trips equals: 37 Average Daily Trips (ADT).
ADT values are calculated based on 365-days. It is expected that haul days will be 5 or 6 days a week, based on demand, weather, and pit closure days.

----- Original Message -----
From: "John Shepard" <jShepard@archuletacounty.org>
To: "Jean & Howard Strahlendorf" <pairadocs@centurylink.net>
Sent: Friday, May 20, 2016 2:06:24 PM
Subject: RE: C & J Calculations

Thanks, I'll refer your concern to our County Engineer.

John C. Shepard, AICP
Planning Manager
JShepard@archuletacounty.org

-----Original Message-----
From: Jean & Howard Strahlendorf [mailto:pairadocs@centurylink.net]
Sent: Friday, May 20, 2016 1:11 PM
To: John Shepard
Subject: C & J Calculations

Hi John,

Yet another thing. Please refer to the most recent docs you received from the engineer hired by C & J.

In the "Narrative" PDF, look at Table 1 on page 14 (using document pagination). In left hand column, note AVERAGE TONS PER TRUCK category, then note the value 15 CYDS, or CUBIC YARDS, A VOLUME MEASURE, not TONS, A WEIGHT MEASURE. Assuming a cubic yard of aggregate weighs on average 1.5 tons, then this figure should be 22.5 (15cyds X 1.5 tons/cyd) plus the weight of the truck/trailer or close to the initial 24 TONS per haul that they claimed in their first proposal.

The same possible "mistake" occurs In Table 4 on page 38 (using PDF pagination) of the "Exhibits" document, also referred to as Appendix 4, ESAL Calculations Worksheets Table 4.

If this mistake is real, then the calculations for the ESAL impact factors on all roads are GREATLY skewed against the county and in favor of C & J because they are using 15 cyds as TONS rather than 24 TONS. A big deal.

Thanks once again,

Jean and Howard Strahlendorf

John Shepard

From: Jean & Howard Strahlendorf <pairadocs@centurylink.net>
Sent: Tuesday, May 24, 2016 7:12 PM
To: John Shepard
Subject: trujillo road conditiion

HI John,
Just wanted to request that you consider traversing Trujillo Road near the intersection with Bristlecone. It provides an example of road damage that has occurred within a few weeks after grading and MgCl2 application by the gravel trucks supplying the upper part of the Trujillo repaving project. This truck traffic would represent a fraction of the proposed gravel truck trips by C&J. I find the amount of damage that has occurred on Trujillo road in such a short time unacceptable for any county road.
Sincerely,
Jean Strahlendorf

Two Rivers Gravel Pit

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

We urge the planning department, the Planning Commission, and the Archuleta BOCC to recognize the economic benefits of having a local quality gravel resource.

Quality spec gravel will improve road conditions and need less maintenance.

Savings in trucking costs can be used for other types of improvements or simply to increase the amount of material in the budget.

Per ton cost of material will be less therefore allowing more discretion with the taxpayer dollars and the county budget.

The mitigation fee that C&J Gravel will pay will speed up and significantly contribute to the improvement of roads in Archuleta County.

We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Kip Strohecker

Kip Strohecker, Vice Pres
Strohecker Asphalt & Paving, Inc.

Address 37801 Hwy 160
Bayfield, CO 81122

Two Rivers Gravel Pit

received
6/6/16

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

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We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name GLENN P. STERKEL
c/o SK HAULING

Address BOX 1105
PAGOSA SPGS
CO 81147

Additional Comments:

C & J ALSO MAKES ROCK PRODUCTS THAT ARE NOT AVAILABLE IN PAGOSA.

SO, THE NEW PIT WILL ALLOW CLOSER ACCESS TO PAGOSA RATHER THAN DURANGO.

JUST MAKE SURE THEY HELP MAINTAIN/REPAIR TRUJILLO RD.

THE TRUCK TRAVEL SHOULD BE RESTRICTED THRU ROUTES AS SUCH, BRISTLECONE, MEADOWS, CASCADE ETC.

Signiture:

Colorado's Timber Ridge Home Owner's Association
and
Colorado's Timber Ridge Metropolitan District

April 21, 2016

Mr. John Shepard
Archuleta County Planning Manager
P.O. Box 1507
Pagosa Springs, CO 81147

Dear John,

The Boards of Directors for both Timber Ridge HOA and Timber Ridge Metro District are 100% in support of our community which has serious objections to any haul route through Timber Ridge Ranch as proposed by Two Rivers Gravel Pit for their potential operations on Trujillo Road.

The streets in our beautiful equestrian community are used daily by walkers, joggers, and cyclists. Bristlecone Drive, the street proposed as a potential haul route, is our main connector for all streets in our developed and expanding community and is utilized by many, with no sidewalks. The gravel trucks would create an intolerable safety risk for vehicular traffic and pedestrians, cyclists, horses, etc. A recent transportation engineer's assessment of Bristlecone Drive sheds light upon the very hazardous conditions present. The conclusion of assessments of horizontal alignment, width of roadway, and vertical slope (reaching 10%) is that Bristlecone Drive is not appropriate for heavy truck traffic.

All the streets in Timber Ridge Ranch are maintained by our Metro District, not by Archuleta County, via a 10 mill levy upon all of our property owners. All owners also pay Archuleta County taxes for the benefit of other roads in the county. Any additional financial burden

upon residents as a result of destructive gravel trucks would be overwhelming and unacceptable.

The negative impact on substantial property values with an accompanying loss of serenity due to increased noise, traffic, and dust since the lower section of Bristlecone is already quite dusty, are additional key objections.

Accompanying this letter is a Powerpoint presentation that we would like to share with you and the Planning Commission at the April 27th Planning Commission meeting. More detailed information is included addressing our objections and concerns. In addition, attached is the Bechtold Engineering report addressing current road safety findings.

Please be advised that there is considerable interest in this topic thus many community members have stated their desire and intent to attend this very important meeting. Barbara Kennedy, accompanied by Ivo Brieven, will be speaking on behalf of Timber Ridge Ranch.

Please feel free to contact us if you have any questions.

Sincerely yours,

Barbara Kennedy
President, CTRHOA
970-903-6327
barbarakennedy@ctrhoa.org

Ivo Brieven
President, CTRMD
970-731-2678
ivobrieven@ctrmd.org

BECHTOLT ENGINEERING
3059 MAIN AVENUE
DURANGO, CO. 81301
970-259-7534
970-259-7534 FAX

April 19, 2016

Ivo Brieven
Colorado Timber Ridge Metro District
P.O. Box 5601
Pagosa Springs, Colorado 81147

Mr. Brieven:

At your request, we have conducted a geometric analysis of the suitability of Bristlecone Drive to accommodate heavy vehicles expected to be generated by the development of the Two Rivers Pit. Our analyses were based upon the topographic survey of the existing roadway provided by Pinnacle Surveying, Inc. As shown on Exhibit A, our analyses was limited to a section of Bristlecone Drive approximately 1000 feet in length, including its intersection with Cool Pines Drive

Our evaluation was based upon performance characteristics of typical heavy vehicles anticipated to be generated by the development of the Pit. Specifically, we evaluated the following roadway elements and their suitability to accommodate these vehicle types:

- Horizontal Alignment
- Width of Roadway
- Vertical Alignment

This study section of Bristlecone Drive is a paved section approximately 24' to 26' in width with a posted speed limit of 25 mph. The horizontal alignment consists of two (2) horizontal curves with the following measured centerline radii:

Curve	Measured Centerline Radius
A	106'
B	166'

The vertical alignment through this section consists of grades varying from 5.5% to 10.0%.

To determine suitability of the horizontal alignment to accommodate heavy vehicles, we utilized two sources. The first are the Minimum Radius of Curvature criteria contained in the *Archuleta County Road and Bridge Design Standards and Construction Specifications*:

Design Speed	Minimum Radius of Curvature
15	75
20	125
25	175
30	250

Based upon these criteria, Curve A is inadequate for a design speed of 20 mph and Curve B is inadequate for a design speed of 25 mph. However, these minimum radii are based primarily on the available stopping sight distances and the allowable lateral acceleration of passenger cars as they traverse the curves at the design speed. Although they are generally applicable to heavy vehicles, an assessment of the Minimum Radius of Curvature for heavy vehicles must include a consideration of the available lane and roadway widths. Our assessment of these elements was based upon the performance of two vehicles that are typical for pit operations:

- WB-50 Combination Vehicle that is representative of belly dump trucks
- SU Single Unit Vehicle that is representative of dump trucks

We have prepared Exhibits B, C, D, and E illustrating the performance of these vehicles through Curves A and B. As shown, the off-tracking of the Combination Vehicle encroaches either across the roadway centerline or off of the existing pavement. The encroachment of the Single Unit Vehicle is minimal with a small encroachment on the inside of the curve for the westbound movement.

The profile grade of a of a roadway often affects its suitability to accommodate the desired design vehicle. For example, Chapter 3 of *A Policy on Geometric Design of Highways and Streets*, published by the American Association of State Highway Official (AASHTO), 2004 states:

> *"The recommended stopping sight distances are based on passenger car operation and do not explicitly consider design for truck operation. Trucks as a whole, especially the larger and heavier units, need longer stopping distances from a given speed than passenger vehicles. However, there is one factor that tends to balance the additional braking lengths for trucks with those for passenger cars. The truck driver is able to see substantially farther beyond vertical sight obstructions because of the higher position of the seat in the vehicle. Separate stopping sight distances for trucks and passenger cars, therefore, are not generally used in highway design."*
>
> *"There is one situation in which every effort should be made to provide stopping sight distances greater than the design values… . Where horizontal sight restrictions occur on downgrades, particularly at the ends of long downgrades where truck speeds closely approach or exceed those of passenger cars, the greater height of eye of the truck driver is of little value…"*

With profile grades up to 10%, it appears that Bristlecone Drive warrants a higher roadway standard related to the stopping sight distances and the adequacy of horizontal curves. However, for the purposes of this study, a detailed analysis and determination of the higher standard was not conducted.

Although these three roadway elements are often evaluated separately, a complete assessment must consider the factors jointly. Each factor typically affects the suitability of another factor. The assessment of the suitability to accommodate heavy vehicles of a specific horizontal curve is not only a function of the roadway centerline radius but also of the roadway grade and the width of the roadway. For example, the design centerline radius of a curve is often determined based upon the required vehicle stopping sight distance. However, the stopping sight distances increase

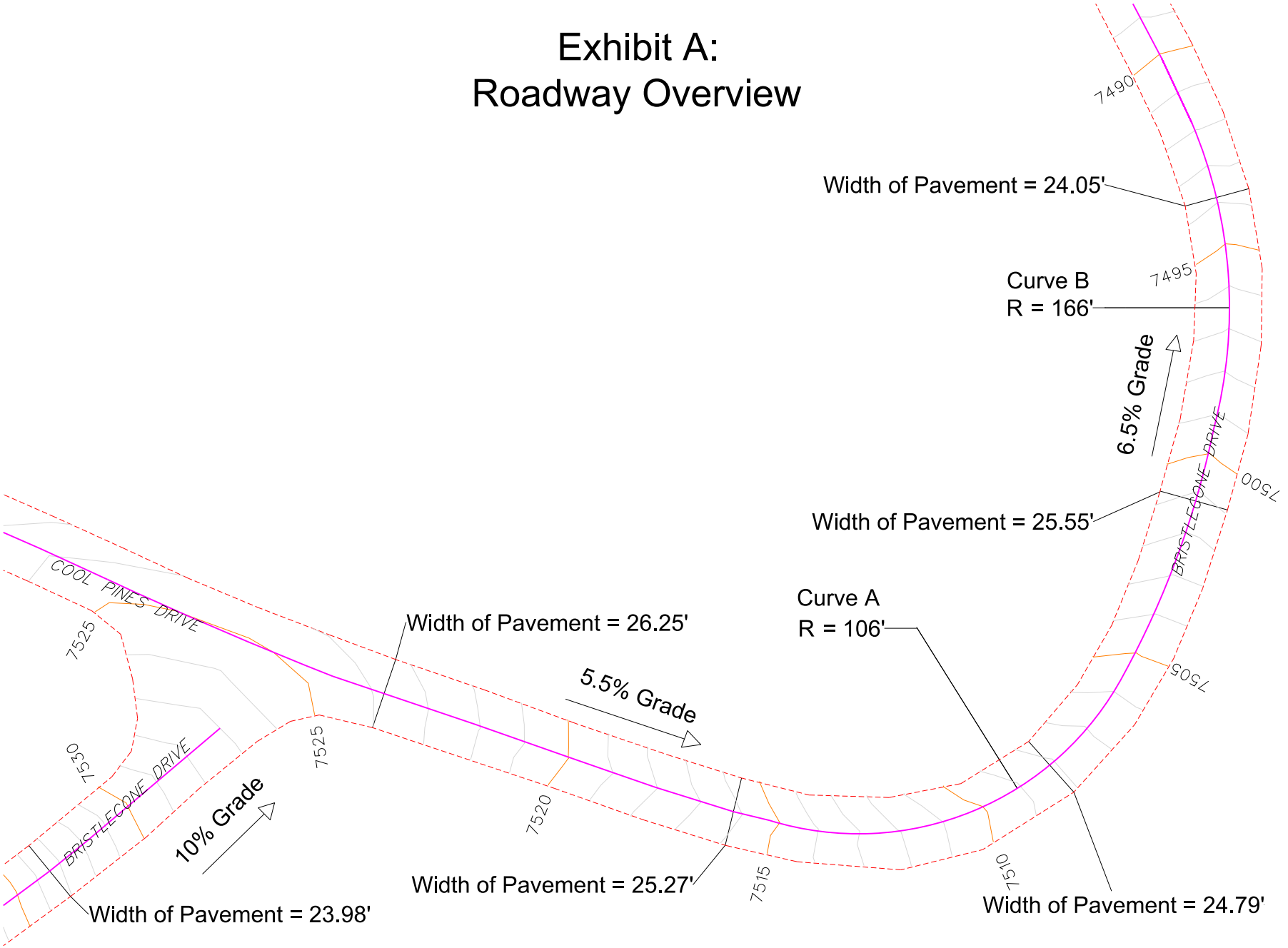
on roadways with significant grades. Operationally, a centerline radius on a significant grade may not be adequate even though the same curve in a flat area would function acceptably. Additionally, heavy vehicles require longer distances to stop and, because of their length, require more widths on curves.

In summary, our analysis of this section of Bristlecone Drive included an analysis of three individual roadway elements and their suitability to accommodate the anticipated heavy vehicles generated by the proposed Two Rivers Pit. From this analysis, it appears that there are significant safety implications that may occur should Bristlecone Drive be approved as a through haul route. It appears from our analyses that this section of roadway is inadequate to accommodate heavy vehicles on a routine basis. It is apparent that this section of Bristlecone Drive was not designed nor constructed to function as a through haul route and it is probable that significant safety issues may arise should it be designated as such. It should be noted that we did not evaluate the condition of the existing pavement structure or its ability to withstand the additional loadings created by anticipated heavy vehicle traffic, however it is unlikely that the roadway structure is sufficient to accommodate significant heavy vehicle traffic over an extended period of time.

Sincerely,

Richard D. Bechtolt, P.E.

Exhibit A:
Roadway Overview



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P.O. BOX 2683
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970.259.7534
FAX
970.259.7472

SEAL:

ISSUED:
PRELIMINARY:
FINAL:
CONSTRUCTION:

PROJ. NO.
DESIGNER:
DETAILER:
CHECKED BY:
PRINT DATE:

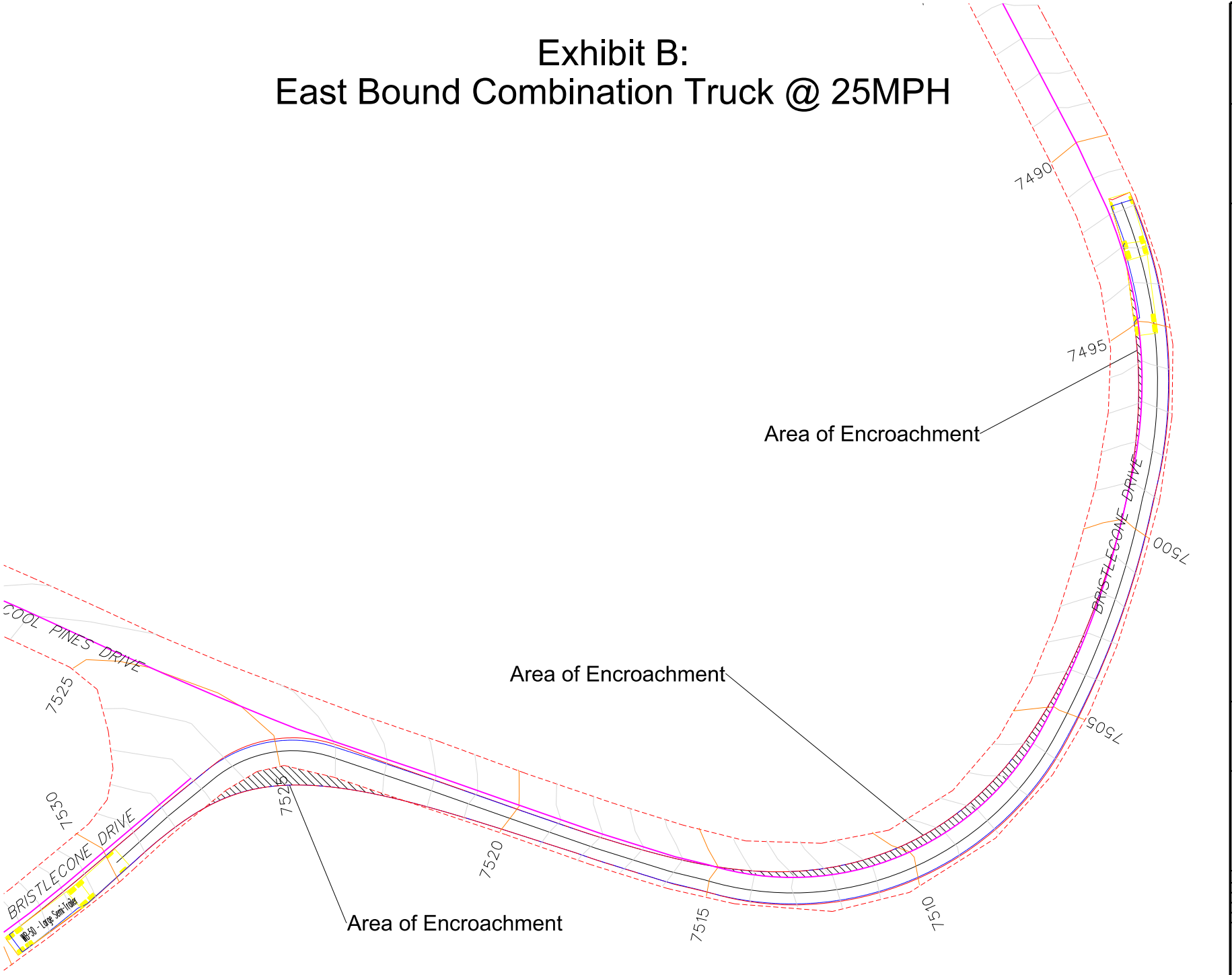
REVISIONS:

NO	DESCRIPTION	DATE

SCALE:

SHEET NUMBER:

Exhibit B:
East Bound Combination Truck @ 25MPH



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FINAL:
CONSTRUCTION:

PROJ. NO.
DESIGNER:
DETAILER:
CHECKED BY:
PRINT DATE:

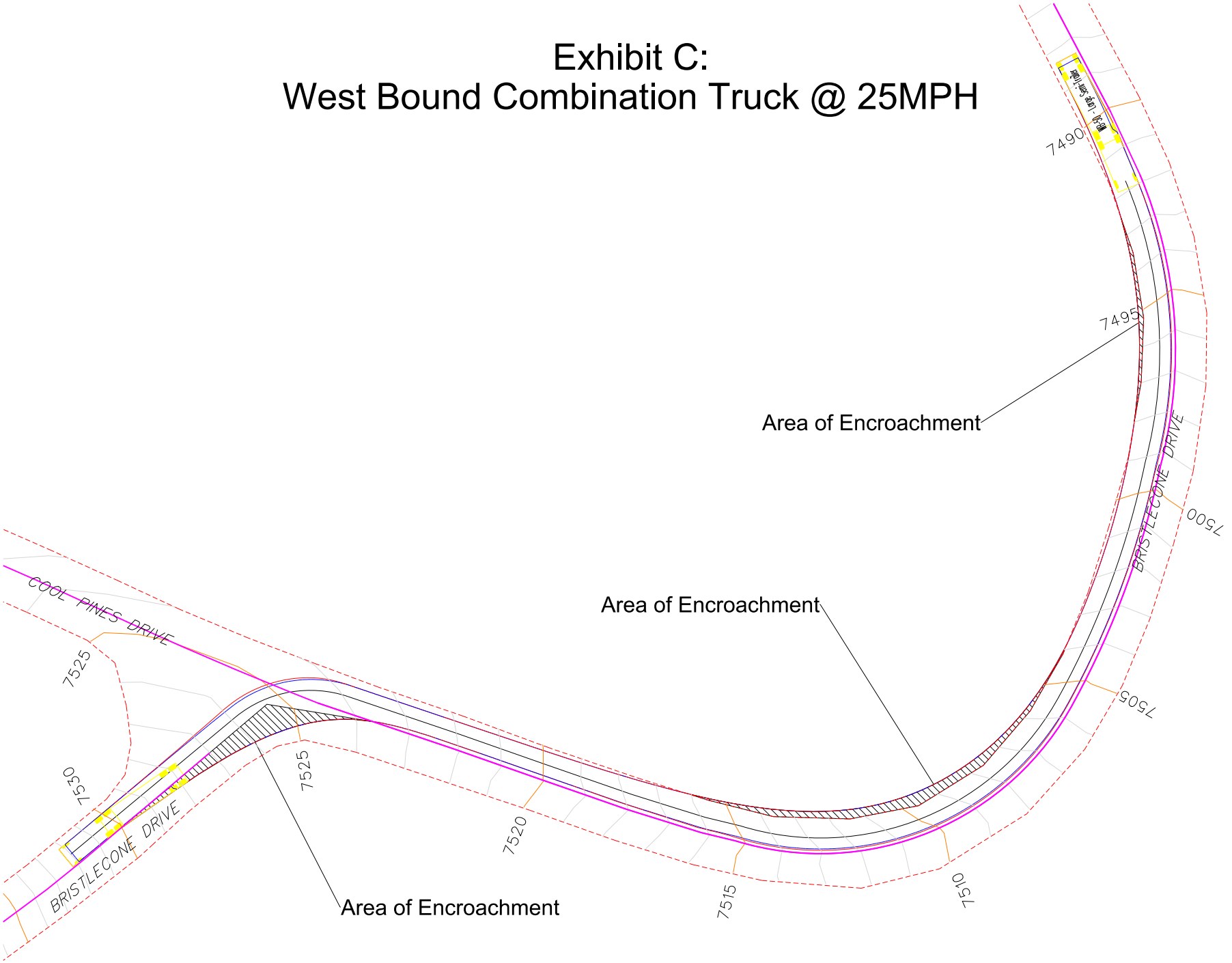
REVISIONS:

NO	DESCRIPTION	DATE

SCALE:

SHEET NUMBER:

Exhibit C:
West Bound Combination Truck @ 25MPH



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SEAL:

ISSUED:
PRELIMINARY:
FINAL:
CONSTRUCTION:

PROJ. NO.
DESIGNER:
DETAILER:
CHECKED BY:
PRINT DATE:

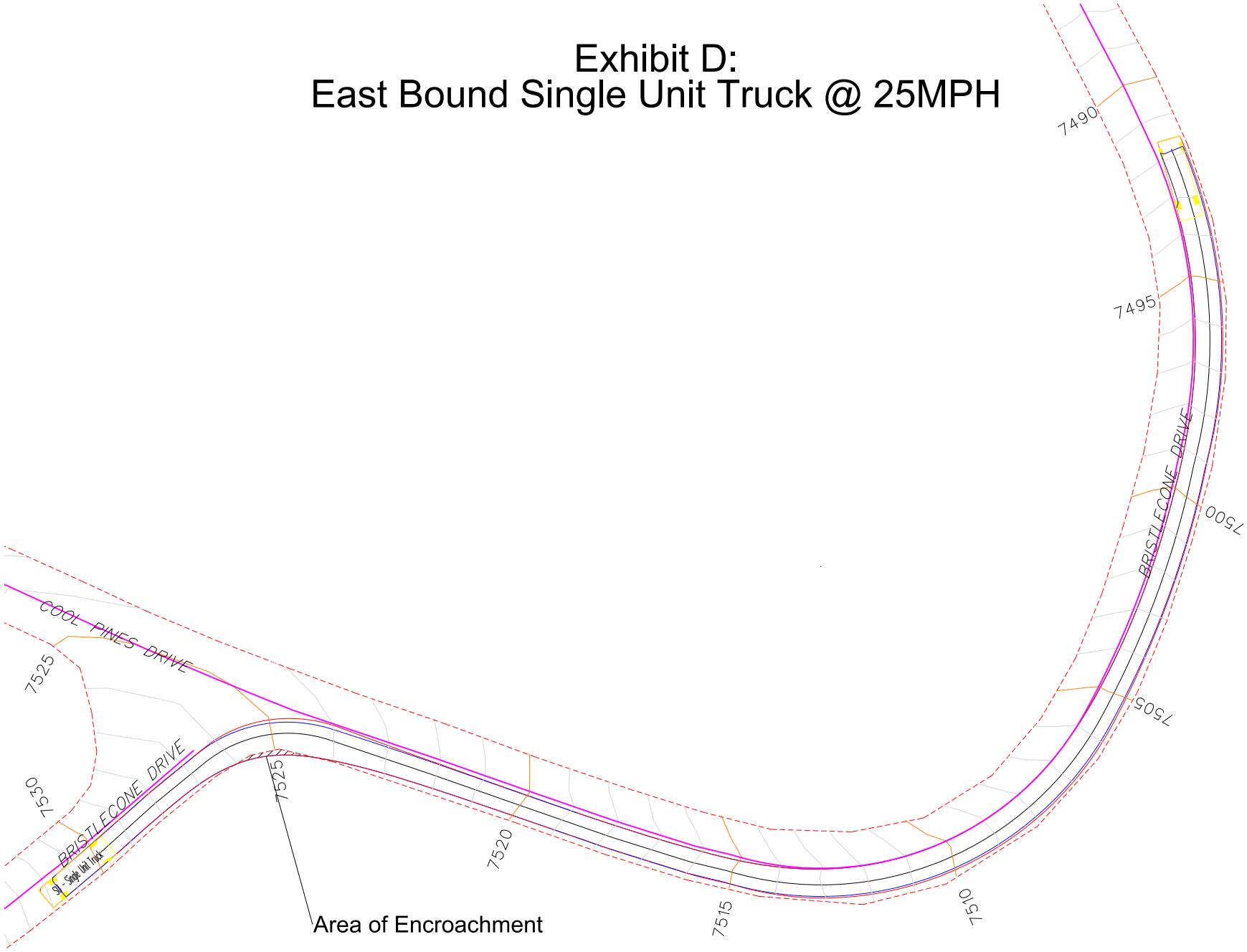
REVISIONS:

NO	DESCRIPTION	DATE

SCALE:

SHEET NUMBER:

Exhibit D:
East Bound Single Unit Truck @ 25MPH



BECHTOLT
3059 MAIN AVE
P.O. BOX 2683
DURANGO, CO
81301
TEL
970.259.7534
FAX
970.259.7472

SEAL:

ISSUED:
PRELIMINARY:
FINAL:
CONSTRUCTION:

PROJ. NO.
DESIGNER:
DETAILER:
CHECKED BY:
PRINT DATE:

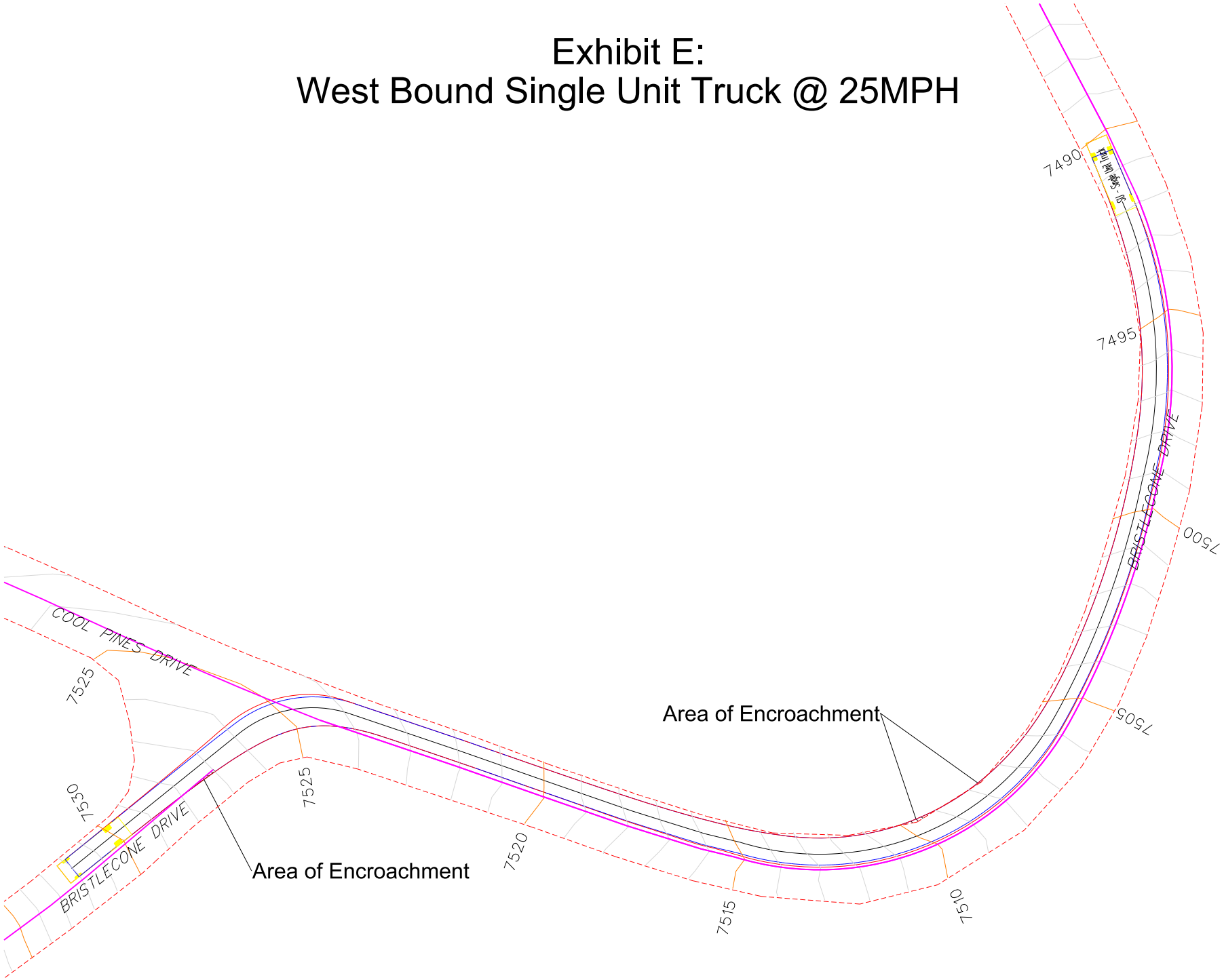
REVISIONS:

NO.	DESCRIPTION	DATE

SCALE:

SHEET NUMBER:

Exhibit E:
West Bound Single Unit Truck @ 25MPH



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PRINT DATE:

REVISIONS:

NO.	DESCRIPTION	DATE

SCALE:

SHEET NUMBER:

Two Rivers Gravel Pit

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

We urge the planning department, the Planning Commission, and the Archuleta BOCC to recognize the economic benefits of having a local quality gravel resource.

Quality spec gravel will improve road conditions and need less maintenance.

Savings in trucking costs can be used for other types of improvements or simply to increase the amount of material in the budget.

Per ton cost of material will be less therefore allowing more discretion with the taxpayer dollars and the county budget.

The mitigation fee that C&J Gravel will pay will speed up and significantly contribute to the improvement of roads in Archuleta County.

We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Kenneth Tooker

Address 2770 Ranchland Dr.
Pagosa Springs, CO
81147

John Shepard

From: Toby Tollefsen <bethandtoby12@gmail.com>
Sent: Friday, March 11, 2016 1:19 PM
To: John Shepard
Subject: Gravel Pit

Dear John,

We are writing in response to the proposed gravel pit on County Road 500. We live on the gravel part of Buttress and already are overwhelmed with garbage trucks, dump trucks, contractors flying by with trailers on the way to the dump. The speed limit is 35 but many of the vehicles go by at much higher speeds. Some we suspect are as fast as 50 mph. We have made numerous calls asking for the sheriff to enforce the speed limit to no avail. All this traffic makes for terrible dust in the summer. It has significant health issues as the dust is so thick your eyes are gritty & breathing it aggravates allergies. There is also the safety factor. There are new neighbors with kids, my neighbor has a small grandchild and these commercial vehicles fly by all day long. The black trash trucks are the worst. Last summer we were on the sharp curve where South Pagosa turns into Buttress had to take the ditch as the trash truck rounded the corner so fast that it was half in our lane in order to make the curve at the speed he was going.

Now there is a possibility of a gravel pit on CR 500! That will increase the commercial traffic ten fold. When we purchased this property we checked to be sure Cascade was not a through road for trucks. There was a no through truck sign. Mysteriously it disappeared. Now our road is washboarded and full of pot holes and Cascade, well it is a mess and the trucks gear up to go up the grade while bouncing on the washboard making a lot of noise.

This is a **residential neighborhood in a planned subdivision in PLPOA.** This is not some rural county road. The loss of the no through traffic sign on Cascade allowing all the commercial vehicles has already diminished our home value and the added commercial traffic of belly dumps will certainly diminish our home value even more.

We are requesting that you do not approve the gravel pit due to the significant loss of quality of life & property value for those who live on South Pagosa Blvd, Meadows, Buttress & Cascade.

If the gravel pit were to be approved there would need to be measures taken to fix some of the major problems associated with additional traffic.

Paving the road from Meadows to Cascade and down to CR 500. (You are thinking of spending 7 million on a bridge, spend a fraction of that on paving a road that is already used heavily for commercial traffic through a residential neighborhood)

Require gravel pit traffic to use non-residential routs- US 84 via CR 359 and CR 542 or CR 700. Establish an alternate route.

The speed limit is 35 mph, have a speed limit for commercial vehicles 25 mph. Maybe this will slow them down some. (We have spoken with Elite trash company and they agree that 35 mph is too fast currently on the gravel road & their trucks do go slower which helps a lot)

We are asking that you take all this into consideration when deciding to permit or not permit the gravel operation.

Thank you for your time.
Beth & Toby Tollefsen
706 Buttress Ave 731-2838

John Shepard

From: Toby Tollefsen <bethandtoby12@gmail.com>
Sent: Wednesday, April 13, 2016 1:07 PM
To: John Shepard
Subject: Cascade

Good afternoon John,

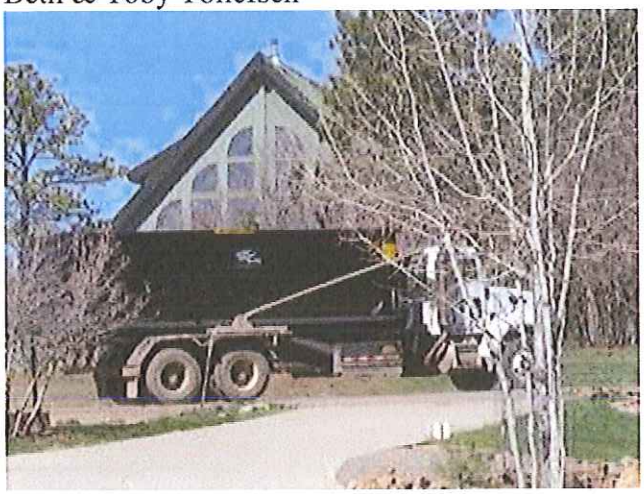
I'm sure you have received several e-mails regarding the gravel pit so we will make this short. We would like to ask you to make a quick trip up Cascade in the next few days.
We do not know the exact date that Cascade & Buttress were last graded, but is was a few days after our first e-mail regarding the gravel pit which was approximately March 11.
We do appreciate the grading that happened right away, however Cascade was washboarded not even a week later. Today if you were to drive up Cascade you will see how
badly it is washboarded and it has only been a month. While working in my yard today the noise of the trucks going up and down the road sounded like railroad cars crashing together
but a slightly higher pitch. If you have ever heard empty rail cars quickly stopping and the noise they make it will give you an idea of the level or noise created.

We have attached a photo of the trucks that are THE worst. It is magnified if the truck also has a trailer attached behind. The regular pickup trucks the contractors use with the dump
trailers behind are also bad as they bounce on the washboarding. I'm sure you know where this is leading. If this gravel pit were to happen the increased traffic of 6 dump trucks
per hour will really tear up Cascade and Buttress (& the paved roads) even faster. The county would need to grade every week or two to keep up the road in a safe condition.
For those of us who live here, it would be a nightmare of noise and dust as well.

We thank you for your time & really hope you drive up Cascade to see how bad it is already without the added traffic of thousands of graved dump trucks that will happen per summer.
We ask you drive up Cascade at the 35 mph to get the full effect of the washboarding, noise & dust.

Sincerely,

Beth & Toby Tollefsen



received
5/20

Two Rivers Gravel Pit

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We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

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We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Jim Tyrrell
Carol Tyrrell

Address 209 Anna Road
Ignacio, CO
81137

John Shepard

From: Kristin Vorhies <vorhies@centurytel.net>
Sent: Tuesday, May 24, 2016 1:31 PM
To: John Shepard
Subject: Please say NO to commercial trucks in the Pagosa Meadows residential neighborhoods

Dear Planning Members: Mr. Frederick, Ms. Hooton, Mr. Adams, Mr. Parker, and Ms. Shahan, and others,

We are writing to ask you to please consider an alternative route (perhaps Cat Creek Road) for commercial trucks accessing the proposed Two Rivers Gravel Pit instead of through our residential neighborhoods in the Pagosa Meadows area. May I say in no uncertain terms...the thought of this is SHOCKING. To think you would allow the destruction of our serene, quiet, peaceful surroundings filled with beautiful and abundant wildlife is completely heart breaking.

Please do NOT approve this invasive, relentless ruination of our neighborhood. Can you imagine if this were to be forced upon you, your home, and family? Who wants large commercial gravel trucks running up and down their streets destroying the peace, solitude, quiet, and property value; along with the safety to children, pets, humans and wildlife, not to mention the pollution, and health issues associated with the dust and noise?

The roads in this neighborhood are already compromised. They are riddled with cracks, potholes, and chipped pavement. We have, over the years, pleaded for repairs that rarely happen and when they do, they are woefully inadequate. These roads barely handle the residential traffic, let alone the major damage and destruction large, oversized and overweight trucks would impose. Surely, you are aware the proposed mitigation costs will never keep up with the damages these trucks will do. At over a million dollars per mile to re-pave (which needs to happen soon)...just how much savings will this really bring to the County? I believe over the course of time, it will cost much more than we save.

We all moved here for the peace and quiet; the beauty, the wildlife, and wonders of nature. Again, please DO NOT approve this travesty which would ruin property values, homes and families, as well as, jeopardize the safety of our children & pets; the horseback riders, walkers, runners, bikers, nature lovers, and the wonderful wildlife we so enjoy.

Thank you in advance for your thoughtful consideration in this matter.

Respectfully,
Kristin & Lee Vorhies
Property Owners
2153 So. Pagosa Blvd.
Pagosa Springs, CO. 81147

Virus-free. www.avast.com

John Shepard

From: gbw@centurytel.net
Sent: Saturday, April 09, 2016 7:50 PM
To: Clifford Lucero; Steve Wadley; Michael Whiting; John Shepard
Subject: Gravel Pit truck routes

Commissioners: Lucero, Wadley, Whiting, Planning Manager Shepard

It has come to the attention of residents living on Buttress, Meadows Drive, South Pagosa, and in Timber Ridge, that a proposal has been made to allow trucks leaving from and returning to the proposal gravel pit the ability to utilize one of these routes as their access to highway 160. According to the Gravel Pit Application for C&J Gravel Products INC.

TRUCKS

"A variety of trucks will be used to haul materials from the Pit, including single dump trucks, semi-dump trucks, and trucks with pups.
Most commonly used will be dump trucks with pups. Average haul for all vehicles will be 25 tons per vehicle".

TRAFFIC COUNTS AND SCHEDULES

"Assuming an average hauled 70,000 tons per year, 25 tons/vehicle, and 120 hauling days per year, average truck traffic will be
23.33 trucks per day". (Of course this is one way plus the return trip, makes 46 trucks per day rumbling down our residential roads)

ROUTES

"Based on anticipated markets during the life of the pit", (25-30 years) "traffic on public highways is assumed to be 90% northbound and 10% southbound on CR-500. CR-500 connects to various county roads and city streets before connecting to either SH-160 west or in Pagosa Springs or SH-84 southeast of Pagosa Springs". The Significant information here is " CR-500 connects to various county roads and city streets". Exactly what does this mean? Could it mean Buttress, Meadows Drive, South Pagosa, and in Timber Ridge? All the information indicated above is buried on page 140-141 of the Gravel Pit Application.

Those of us living on the proposed truck routes are adamantly opposed to this proposal. These are residential developments where residents moved to have a peaceful environment void of trucks rambling up and down our road, causing noise pollution, road damage, safety issues for youngsters playing, riding bikes, etc., to say nothing of what this would do to property values. A few years ago, those of us living on Buttress and Meadows experienced a situation where for several months we experienced trucks coming from Trujillo to highway 160 and back.

To put it lightly, it was terrible!!!!! We had to listen to trucks rumbling up and down the road, inconsiderate drivers unnecessarily using
their Jake breaks, to say nothing of the damage they were doing to our road. The noise level and rumbling was so irritating, residents couldn't
go out on their decks to enjoy a cup of coffee and read a book...this is not the environment we bought into when we purchased our homes in the Meadows. Meadows Drive was paved a few years back and was guaranteed to last twenty years. I suggest you Commissioners take a ride down it now ...it's a mess.

I believe it is absolutely absurd for a gravel pit developer to attempt locating their Pit nowhere close to access to a highway, but instead expect residents to give up their quiet and tranquil life to listen to rumbling and Jake breaks.

You as our representatives should tell the developers to find another location for the Pit where they have access to a highway, find other
truck routes that will not disturb residents of existing developments, or hit the road. You have an obligation to the residents of these
developments to vote NO on this gravel Pit proposal unless the make significant changes to their truck routes.
You have an obligation to represent the home owners who have large investments in their homes, and stand
to lose significant value in those investments should you approve this proposal. You owe your NO vote to the homeowners,
as you are representing us not a business entity.

Gary Waples
2980 Meadows Drive
Pagosa Springs, CO

Virus-free. www.avast.com

John Shepard

From: gbw@centurytel.net
Sent: Thursday, May 05, 2016 2:53 PM
To: John Shepard; Toby Tollefsen; Brittiany Newsome; George Dougherty; pairadocs@centurylink.net; Lark & Denny Beaugureau
Subject: Gravel Pit

John:

Recently, my wife and I drove out to Cat Creek Road and Highway 160 and recorded the mileage from there to the Diamond T Ranch ..... exactly 30 miles. We then recorded the mileage from the Diamond T Ranch down Trujillo road, up Cascade, across Buttress, and finally up Meadows to Highway 160 ..... 13.2 miles. Keep in mind that C & J Gravel selected a site for a sand and gravel operation knowing they had NO access to a highway within a reasonable distance. So, they have decided to decimate our residential developments by routing their trucks thru the developments. It is very unusual to have a S&G operation that does not have a quick easy access
to a highway, however that was the decision THEY made. Therefore, as I see it, they have two options to bring their product to Highway 160. The first option is to come thru our developments and destroy our environment and way of life, which is totally UNACCEPTABLE. This, of course, is their preferred option for financial reasons. Again keep in mind they chose the location for their S&G operation, so in my opinion they have only one option ....they can utilize CR 500 to Cat Creek Road, to Highway 160, a very isolated, sparely populated stretch of road. This route would keep their trucks out of residential developments, and bring them to a highway designed to carry heavy truck loads. Of course, THEY must decide if the additional costs to drive the extra 16.8 miles is financially feasible..... if not, I suggest they find another location for their gravel pit. Keep in mind, if this gravel pit and truck routes are approved, gravel pit trucks will not be the only trucks traveling thru our developments. Contractors and others will then traverse thru our developments to and from the gravel pit, making an already ill-advised, destructive, disastrous and devastating situation even worse.

Those of us who live in the developments along these proposed truck routes, respectfully request your support by denying the gravel pit permit.

Gary Waples
298 Meadows Drive
Pagosa Springs

Virus-free. www.avast.com

John Shepard

From: gbw@centurytel.net
Sent: Sunday, May 29, 2016 9:51 AM
To: John Shepard
Cc: John Shepard
Subject: Proposed gravel pit routes
Attachments: P1180139.jpg; P1180140.jpg; P1180141.jpg; P1180142.jpg; P1180143 (7).jpg; P1180144 (7).jpg; P1180145 (7).jpg; P1180146 (7).jpg; P1180147 (7).jpg; P1180148 (7).jpg; P1180149 (7).jpg; P1180161.jpg; P1180162.jpg; P1180163.jpg; P1180164.jpg; P1180165.jpg; P1180166.jpg; P1180167.jpg

John Shepard:

Friends of the Meadows have retained Mr. James Hawkins to evaluate the paved portion of the proposed Gravel Pit Haul Routes, with regards to their original construction, current condition/damage, and the projected damage and repair costs should the haul routes be approved.

Mr. Hawkins worked for the New Mexico State Highway and Transportation Department for 26 1/2 years. He was a certified engineer tech, a unit supervisor in the pavement evaluation and design unit, and was occasionally utilized as a road inspector. His primary responsibility was to evaluate the design of all state highways and make recommendations for change.

His inspection and evaluation of the proposed haul routes has revealed wheel rutting, centerline separation, and sub base failure which causes pavement distress leading to alligator cracking, and pot holes. In his opinion, when the roads were originally paved, approximately seven years ago, the base course, and sub base, were likely inadequate and the asphalt recently measured at 1 1/2 inches, definitely did not meet Archuleta County Road and Bridge Design Standards and Construction Specifications. The results of the inadequate road construction has resulted in the road damage we're now experiencing with the use primarily being residential, garbage trucks, and a relatively low number of dump trucks, etc., as compared to the proposed number of gravel trucks which will travel these roads on a daily basis.

In Mr. Hawkins' opinion, if these haul routes are approved, and the estimated number of trucks traveling the routes is actually experienced, in very short order these roads will be so severely damaged that they will need to be stripped down to base and rebuilt at a cost to the county at a conservative estimate of $1,000,000 per mile.

In our opinion, this adds to the body of evidence that these haul routes are not only detrimental to the residents along the routes, but an unnecessary financial burden to the Archuleta County tax payers.

Gary Waples, for
Friends of the Meadows

June 21, 2016

Archuleta County Commissioners

Subject: Two Rivers Gravel Pit Application
C & J Gravel

Attached is my public testimony given at the Planning Commissioners Meeting.

Please take the time to read my attached testimony to fully understand my total argument against the approval of this application. I have indicated below in bullet items, significant concerns I believe must be considered before making any decision regarding this application.

- The current road conditions of the proposed truck routes are in very poor condition.

- In the opinion of a Certified Engineer Tech with 26 ½ years of experience, that we retained to evaluate these routes, made the following comments. The original construction of these roads was inadequate. **(See details in attached Planning Commission testimony)** In this engineers opinion, should these truck routes be approved, in very short order these roads would have to be torn up and reconstructed at a conservative estimate of $3.5 million dollars.

- The mitigation plan submitted by C & J Gravel will do little or nothing to mitigate the costs to rebuild these roads or provide future maintenance. This plan favors only C & J Gravel, and leaves the financial burden squarely on the shoulders of Archuleta County Tax Payers **(See details in attached Planning Commission testimony)**

- The location C & J Gravel chose to establish is their gravel pit makes no sense, They are 15 miles from the nearest highway to transport their product, so then they propose routing their trucks thru residential developments.

NOTE: As you read my Planning Commission testimony, you'll see all of these issues were covered in detail. If you read the Planning Commission Chairman's comments you'll find the following, although not actual quotes word for word.

- The proposed truck routes were not designed and constructed for heavy trucks.
- The Mitigation Plan submitted by C & J Gravel is woefully inadequate.
- They should locate a gravel pit location closer to adequate roads. For these reasons, I will not vote for the approval of this application.

- **The Planning Commission voted 5-0 to deny the permit application.**

I respectfully request that you follow the Planning Commissions recommendation to deny, and deny this application.

Gary Waples, 2980Meadows Drive, Pagosa Springs

Testimony given at Planning Commission meeting

Friends of the Meadows have retained Mr. James Hawkins to evaluate the paved portion of the proposed Gravel Pit Haul Routes, with regards to their original construction, current condition, and the projected damage and repair costs should these routes be approved.

Mr. Hawkins worked for the New Mexico State Highway and Transportation Department for 26 ½ years. As a certified engineer tech his primary responsibility was to evaluate the design of all state highways and make recommendations for change.

His inspection and evaluation of the proposed routes has revealed wheel rutting, center line separation, and sub-base failure which causes pavement stress leading to alligator cracking, and pot holes. In his opinion, when the roads were originally paved, approximately seven years ago, the base course and sub base were likely inadequate, and the asphalt recently measured at 1 ½ inches, definitely did not meet Archuleta County Road and Bridge Design Standards and Construction Specifications. The results of inadequate road construction has resulted in the road damage we're now experiencing with the primary use being residential, garbage trucks, and a relatively low number of dump trucks, as compared to the proposed number of gravel trucks which will travel the roads on a daily basis .

In Mr. Hawkins' opinion, if these routes are approved, and if the estimated number of trucks traveling these routes is actually experienced, in very short order the roads will be so severely damaged that they will need to be stripped down to base and rebuilt at a cost to the county at a conservative estimate of $1,000,000 per mile. The cost to the county to reconstruct these roads, South Pagosa Blvd, and Buttress Ave. will be approximately $3,500,000+

Recently C & J Gravel submitted a Mitigation Proposal to the County. Quote from the letter "Here is what I am Proposing for mitigation, I am not sure how this would work legally as I've never done this before", further quotes " C & J Gravel is a small company and cannot afford any significant up front cost to help mitigate potential impacts" translated ... we don't have the money to mitigate the costs to the county for repairing the damage our trucks will do to your roads. The proposal is based on value credits, or discounts, to the county when purchasing gravel.

These credits will continue for twenty years in various stages, and estimated at slightly over $1,000,000 or approximately $50,000 per year. This amount is solely based on the estimated purches of gravel by Archuleta County, NO GUARANTEE, NO money in the bank.

As the life of the gravel pit is estimated to be 25-30 years, C & J Gravel has essentially worked into this proposal a non responsibility factor for road damage their trucks cause for the last 10 years of the gravel pit life.

Yes $1,000,000 dollars or $50,000/year seems like a lot money, however as Mr Hawkins explained, if these routes are approved, in very short order

the county's financial exposure will be approximately $3,500,000 to reconstruct these roads. It seems clear to me, that C & J Gravel's Mitigation Plan will actually do little to mitigate the financial burden on the County and their tax payers. Keep in mind, the $3,500,000 covers only the reconstruction of the current roads and does not account for the additional expense of yearly maintenance or another road rebuild required within the next 30 years,

C & J Gravel trucks destroy our roads, then they sell the gravel to Archuleta County to make the repairs and/or reconstruction, and who pays the bulk of the costs? Of course Archuleta County tax payers Only one winner here, C & J Gravel!

In Closing, let me point out....

C & J Gravel has other options to having their trucks travel through our residential developments to reach state highways. They have the option to access CR 500 from the gravel pit, travel on CR 500 to Cat Creek Road, to highway 160. In addition, they can access CR 500, travel to CR 542, to CR 359, to Highway 84. These options take the trucks through uninhabited or sparsely inhabited areas.

One has to ponder, why would a business invest in a gravel pit located in such a remote area, where there is no convenient access to state highways, and then propose to route their trucks through residential developments.

Two Rivers Gravel Pit

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

We urge the planning department, the Planning Commission, and the Archuleta BOCC to recognize the economic benefits of having a local quality gravel resource.

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Savings in trucking costs can be used for other types of improvements or simply to increase the amount of material in the budget.

Per ton cost of material will be less therefore allowing more discretion with the taxpayer dollars and the county budget.

The mitigation fee that C&J Gravel will pay will speed up and significantly contribute to the improvement of roads in Archuleta County.

We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name TONY WARICK

Address 27362 CR 500
Pagosa Springs, CO

Additional Comments:

The roads are always a mess and we could use gravel on CR. 500 and 700.

Signiture:

Two Rivers Gravel Pit

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We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name BRUCE WAYNE

Address 77 GOLDEN POND PL.
PAGOSA SPRINGS, CO.
81147

To: The Archuleta County Planning Commission
Cc: County Commissioners

My husband and I live on Trujillo Road and would like to express our concerns regarding the proposed Two Rivers Pit located at 12500 County Road 500/Trujillo Road.

Trujillo Road is a somewhat improved dirt road with tight curves, unstable edges, and is very narrow in many areas with no shoulders. This road is hard to drive as it is without the additional traffic of the proposed gravel trucks which would have significant impact on the road and would also pose a big safety hazard.

Another point that surprisingly has never been mentioned in the reviews of the project, is that the grazing land on both sides of Trujillo Road (especially where the two rivers, the Rio Blanco and the San Juan River, converge) is a major elk habitat and elk migration corridor.
The increased traffic would have a huge impact on the animals and maybe even endanger their well-being.

The San Juan River along Trujillo Road has a huge recreational value. At mile marker 11 is the landing point and pick-up for the river rafters coming from town and also the canoe and kayak launching point. Besides this, there are swimming and fishing spots, used by locals as well as tourists.

Trujillo Road is also a scenic drive to Pagosa Junction. Both tourists and locals come out to watch elk and deer, also mountain lions, bears and bald-eagles.

Without even taking into consideration the locals, do you think our tourists will appreciate the noise, dust, washboard, and potholes caused by the additional projected 24 belly-dump trucks per day (which might become 50 to 70 trucks during the peak summer season) on top of the garbage trucks that are already using the road to the landfill?

And I don't even want to mention the impact the trucks would have on the downtown area and all residential areas between Trujillo Road and Hwy. 160 and the cost to maintain these roads for the next 20 years.

Thank you very much for your time and consideration,

Karla & Heiko Weber

Attached: 4 photos picturing the road condition of Trujillo Road in 2015/2016

03/2016
Trujillo Rd.

Trujillo Rd. 2015

Trujillo Rd/ 2015

03/2016
Trujillo Rd.
approx.mile marker 11

John Shepard

From: Barbara Wilcop <barbarawilcop1204@icloud.com>
Sent: Friday, May 06, 2016 8:45 PM
To: John Shepard
Subject: Gravel pit trucks

We are homeowners in Meadows 4. We have owned our home for 11 years. We value our quiet area and definitely DO NOT want gravel pit trucks going through our community!! We do not want our home devalued!!
Please stop this proposal!

Donald & Barbara Wilcop
Buttress Ave.

Sent from my iPad

Two Rivers Gravel Pit

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

We understand that C&J Gravel is a family business and has been in operation for over 38 years in the Sand and Gravel business. They are professional in what they do and have the utmost concern for the environment and the local community. C&J Gravel has provided material from the Durango pit for numerous projects in Archuleta County over the years because specified material could not be supplied from existing local pits. This of course adds significant cost to any project because of the cost of delivery. We feel that it is in the best interest of the residents and businesses of Archuleta county to have a local quality gravel resource such as the proposed Two Rivers Pit in Pagosa.

We urge the planning department, the Planning Commission, and the Archuleta BOCC to recognize the economic benefits of having a local quality gravel resource.

Quality spec gravel will improve road conditions and need less maintenance.

Savings in trucking costs can be used for other types of improvements or simply to increase the amount of material in the budget.

Per ton cost of material will be less therefore allowing more discretion with the taxpayer dollars and the county budget.

The mitigation fee that C&J Gravel will pay will speed up and significantly contribute to the improvement of roads in Archuleta County.

We strongly support this project and request that the Planning commission and the Archuleta BOCC approve this permit for the benefit and future improvement of Archuleta county.

Sincerely,

Name Alice Willis
20010 CR 500
Pagosa Springs

Address 20010 CR 500
Pagosa Springs Co
81147

Additional Comments:

Please allow this company to perform as we need better roads these spring, fall and winter roads tear up my vehicle and also my own body.
This is badly needed, please allow Alice Wilcox

Signiture:

Two Rivers Gravel Pit

This letter is being put forward in regards to the matter of C&J Gravel Products of Durango Colorado who is applying for a permit to operate a Sand and Gravel operation on the property of Jac and Lee Constant residing in Archuleta county.

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Sincerely,

Name KW ENTERPRISES LLC Address PO BOX 2055

Steven J. Weiss DURANGO Colo.

Additional Comments:

Archuleta Co. is in need of a quality gravel operation in the south half of the County. K W Enterprises LLC has dealt with C & J. gravel for many years and have found them to be fair, honest & supply quality material

Signiture: Everett Wiens

May 28, 2016

Attn: Mr. John Shepard/ Archuleta County Commission
Archuleta County Planning Manager
Archuleta County Development Services
P.O. Box 1507
Pagosa Springs, CO 81147

RE: Two Rivers Gravel Pit
Major Sand & Gravel Pit Application Operated by C&J Gravel Products, Inc. Through Meadows Subdivisions 1 Through 4

Mr. John Shepard et al,

I am writing to protest the proposed traffic route of gravel trucking operated by C&J Gravel through the Meadows subdivisions 1-4. As a recent purchaser of a unit in Meadows 4, I am vehemently opposed to this. The removal of signs restricting heavy traffic on the main connection route of Cascade Avenue off of Buttress without a public hearing, much less that of the PLPOA is outright dishonest and devious.

After an exhausting search throughout Archuleta County for a build plot, I chose Meadows 4 for its serene a quite location. Per the previous comments, I will not spend my retirement years battling dust, noise and reduced road service life generated by heavy equipment routinely traversing my neighborhood.

As this is my planned retirement place of residence, I am tendering my vote against this proposed route through my neighborhood. C&J Gravel must be required to use the most direct route which is Highway 160 to Trujillo Road. If C&J Gravel cannot accept this, they can move their operation elsewhere.

Scott Wolff

65 East Monroe Street
4707
Chicago, IL 60603
(312) 332-3230
(195 Cameron Place | Pagosa Springs, CO 81147)

Cc: Sue Passant/Pagosa Lakes Property Owners Association ("PLPOA")

Project 2015-035SG Two Rivers Pit Major Sand & Gravel Permit

Colorado Timber Ridge HOA Powerpoint - received by Archuleta County Development Services through June 20, 2016.

PLANNING COMMISSION MEETING
APRIL 27, 2016

Timber Ridge Ranch
Gravel Pit Haul Route Objections

TIMBER RIDGE RANCH

OUR COMMUNITY

BEAUTIFUL EQUESTRIAN COMMUNITY

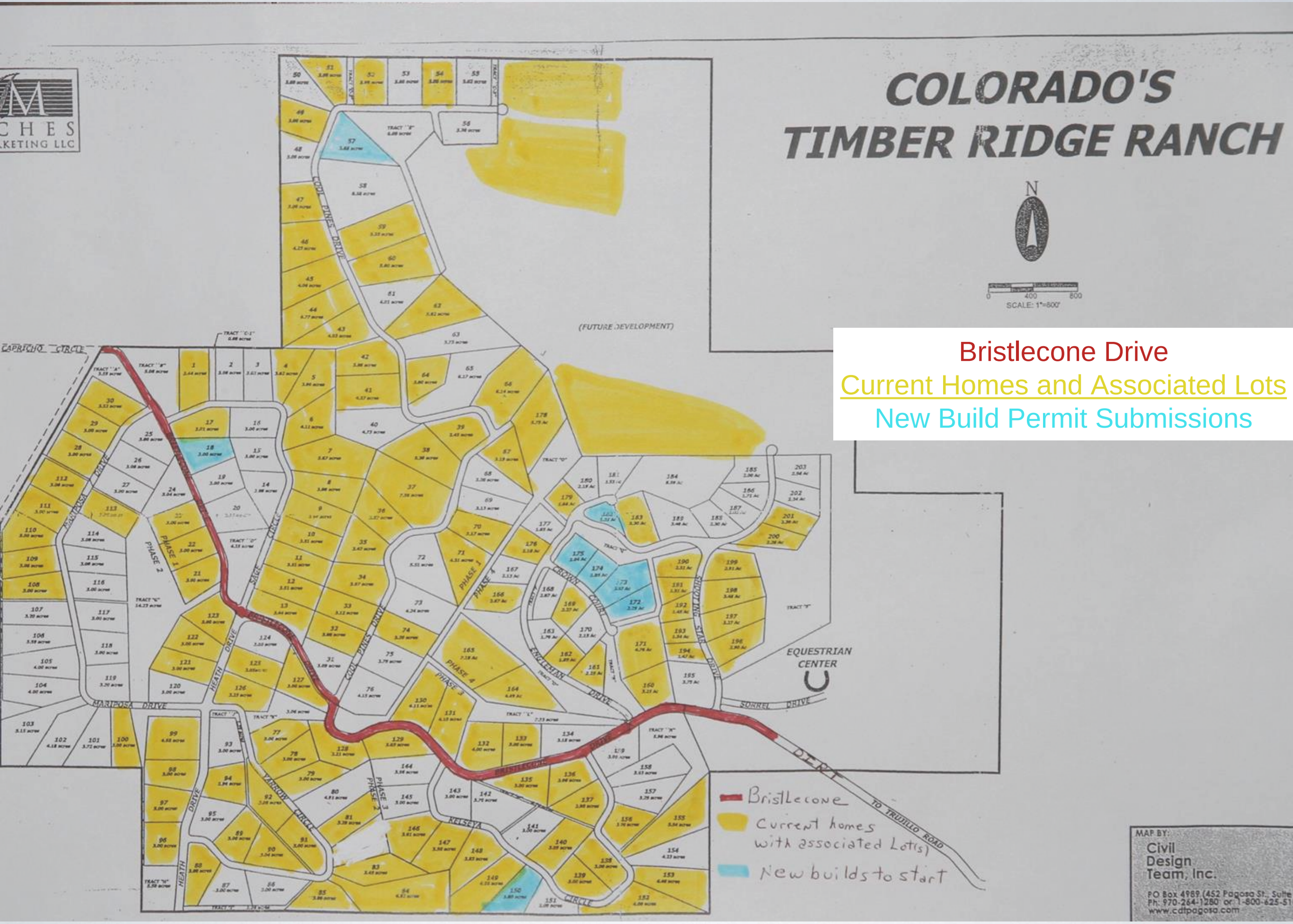
SIGNIFICANT HOME VALUATIONS

MANY WALKERS, JOGGERS, AND CYCLISTS USE OUR RESIDENTIAL STREETS ON A DAILY BASIS…no sidewalks

WE ARE AN ESTABLISHED AND RAPIDLY GROWING RESIDENTIAL COMMUNITY

OVER 100 HOMES BUILT AND MANY ADDITIONAL NEW BUILDS STARTING

ROADS ARE MAINTAINED BY THE PROPERTY OWNERS OF TIMBER RIDGE, NOT BY ARCHULETA COUNTY


COLORADO'S
TIMBER RIDGE RANCH
N
SCALE: 1"=600'
Bristlecone Drive
Current Homes and Associated Lots
New Build Permit Submissions
(FUTURE DEVELOPMENT)
EQUESTRIAN CENTER
COOL PINES DRIVE
CAPRICHO CIRCLE
MARIPOSA DRIVE
HEATH DRIVE
SAGE CIRCLE
YARROW CIRCLE
KELSEYA CIRCLE
CROWN COURT
ENGLEMAN DRIVE
SORREL DRIVE
TO TRUJILLO ROAD
Bristlecone
Current homes with associated Lot(s)
New builds to start
MAP BY:
Civil Design Team, Inc.
PO Box 4989 (452 Pagosa St., Suite
Ph: 970-264-1280 or 1-800-625-51
www.cdtpagosa.com

SERIOUS OBJECTIONS
REGARDING POTENTIAL HAUL ROUTE THROUGH
TIMBER RIDGE RANCH

1) SAFETY

2) DESTRUCTION OF ROADS

3) SIGNIFICANT ROAD MAINTENANCE COSTS

4) NOISE/LOSS OF SERENITY

5) DUST

6) NEGATIVE IMPACT ON PROPERTY VALUES

KEY OBJECTIONS TO GRAVEL PIT HAUL ROUTE THROUGH TIMBER RIDGE

Safety:

1) Timber Ridge is a residential community of approximately 100 homes and many new homes are being built.

2) Many residents and their children/grandchildren walk, jog, ride bikes, and walk dogs on our residential streets. No sidewalks exist thus there would be a significant safety hazard to our residents, guests, and others in Pagosa that use our roads.

3) Bristlecone Drive is a long, steep uphill/downhill drive with blind bends and several near 90 degree turns. Weather conditions also affect the ability to maneuver the turns or to stop on descent to lower Bristlecone area.

4) Timber Ridge is an equestrian community, meaning that horses are allowed and riding on the streets is permitted. Heavy trucks pose a significant danger to riders and the horses and speed limit is reduced to 5 MPH when horses are present.

EQUESTRIAN COMMUNITY
SLOW to 5mph
When Horses are Present
STOP
for Horses at "Horse" Crossings
EQUESTRIAN
XING

RESIDENTS PICKING UP MAIL

Significantly Increased Danger with large gravel trucks.

There is no room to spare!

WALKING, JOGGING,CYCLING

BRISTLECONE DRIVE —— ONLY STREET THAT CAN BE USED TO REACH THE UPPER AND LOWER SECTIONS OF OUR DEVELOPMENT

No sidewalks and gravel trucks equals DANGER

WHY SERIOUS SAFETY CONCERNS IN ADDITION TO THE PREVIOUS SITUATIONS?

- **Sections of Bristlecone Drive were evaluated by Bechtolt Engineering of Durango, Colorado, a professional engineering firm specializing in traffic and roadway engineering**
- **Assessments of : Horizontal alignment, Width of Roadway, Vertical slope (reaching 10%) were completed**
- **Multiple encroachments by truck traffic either across the roadway centerline or off of the existing pavement were projected**
- **Profile grades up to 10% warrant a higher roadway standard related to stopping sight distances and the adequacy of horizontal curves**
- **Safety Findings: "significant safety implications, … Bristlecone Drive was not designed nor constructed as a through haul route….significant safety issues may arise should it be designated as such".**
- **Conclusion: Bristlecone Drive is not appropriate for heavy truck traffic and significant safety concerns are present.**

Destruction of roads and subsequent road maintenance costs:

1. All Timber Ridge roads are maintained by our Metro District, but practically by the property owners of our community, private citizens, not by Archuleta County, via a 10 mill tax levy.

2. There are approximately 175 individual owners. It would be impossible for them to bear the burden of the exorbitant road repair and maintenance cost of heavy commercial truck traffic.

3. Heavy trucks would have an impact on chipping away the road edges and would impact erosion and degradation of the shoulders of the road, thus negatively impacting road integrity.

4. The road life would be significantly diminished with each day of heavy truck traffic resulting in significantly increased ongoing maintenance costs and a more frequent need for full depth reclamation and restoration…costing at least $1,000,000 per mile, each time.

Noise levels, traffic congestion, dust, and impact on property values:

1) Tranquility lost as large heavy trucks climb the Bristlecone Hill with engines racing or while braking on the descent and around sharp curves

2) Traffic congestion while following slow trucks. Increased safety concerns as “speeders” try to go around.

3) Lower Bristlecone is not paved, thus increased dust would impact those that live in the east end of our community. Several beautiful large acreage tracts, currently for sale, would be significantly affected by the dust levels.

4) Elk and other abundant wildlife in Timber Ridge cross Bristlecone frequently or gather in the meadows adjacent to Bristlecone. Their safe haven would be significantly impacted.
5) Timber Ridge is a beautiful, high-end community that provides significant tax dollars to our County based on property values. Heavy commercial truck traffic would have a negative impact on property values.

We are an established and rapidly growing residential community

SUMMARY
RESIDENTS FEEL **NO WAY/NO HOW** RE:
A GRAVEL PIT HAUL ROUTE THROUGH TIMBER RIDGE RANCH

- **TIMBER RIDGE IS A RESIDENTIAL COMMUNITY THAT WOULD BE SEVERELY NEGATIVELY IMPACTED IF A GRAVEL PIT HAUL ROUTE THROUGH IT WERE IMPLEMENTED.**

- **RESIDENTS WOULD BE EXPOSED TO AN INTOLERABLE SAFETY RISK.**

- **WE MAINTAIN OUR ROADS, NOT THE COUNTY. THE FINANCIAL BURDEN RESULTING FROM ROAD DESTRUCTION WOULD BE OVERWHELMING, UNREASONABLE AND REPREHENSIBLE.**

- **SIGNIFICANT NEGATIVE IMPACT ON PROPERTY VALUES.**

- **NEGATIVE IMPACT ON OUR WAY OF LIFE, SERENITY, AND THE SAFE USE OF OUR RESIDENTIAL STREETS FOR NECESSITY AND LEISURE ACTIVITIES.**

Two Rivers Pit

C&J GRAVEL PRODUCTS, INC.

27661 Highway 160, Durango, Colorado 81301

(970) 385-4112

12 November 2015

WASTELINE, INC.

P.O. Box 3471 Rapid City, SD 57709-3471 (605)939-0650

PO Box 88 Cortez, CO 81321-0088 (970) 564-1380

E-mail: WASTELINE6@aol.com

WASTELINE, INC.

P.O. Box 3471 Rapid City, SD 57709-3471 (605)939-0650
PO Box 88 Cortez, CO 81321-0088 (970) 564-1380
E-mail: WASTELINE6@aol.com

12 November 2015

County of Archuleta
Board of County Commissioners
c/o Mr. John Shepherd, Planning Director
VIA Hand delivery and E-mail

Subject: Application for County Land Use Permit for Two Rivers Pit (Landowners: Jac & Lee Constant, Operator/Applicant: C&J Gravel Products, Inc.)

Dear Gentlemen:

The following application is respectfully submitted as requested in the regulations, permitting meeting and correspondence.

Please feel free to contact us with any questions or concerns:

1. Mr. John Gilliland, President, C&J Gravel Products, Inc.
2. Mr. Perry Neil, Project Manager
3. Mr. Nathan Barton, Engineer
4. Mr. and Mrs. Jac Constant, landowners

Respectfully,

Prepared by Nathan A. Barton, CE, PE, DEE
Environmental and Permitting Compliance Engineer
FOR C&J GRAVEL PRODUCTS, Inc.

Project: #5064.3 Two Rivers Pit

TABLE OF CONTENTS

TWO RIVERS PIT APPLICATION TO ARCHULETA COUNTY PLANNING OFFICE

1.	Application Cover	1 page
2.	Table of Contents	1 page
3.	Application Form	2 pages
4.	Check for application fee (copy)	1 page
5.	Checklist	2 pages
6.	Evidence of Good Title/Legal Description	
	a. Title Report (AR21502281.pdf)	10 pages
	b. Legal description	2 pages
7.	Tax Statement	1 page
8.	Project Narrative	1 page
9.	Engineering	
	a. Bridge Evaluation Report	3 pages
	b. Road design/construction standards and proposal	5 pages
	c. Fire Safety Plan	3 pages
	d. Weed Management Plan	6 pages
	e. Fugitive Dust Control Plan (CDPHE Format)	11 pages
	g. Hazard report	1 page
10.	Existing Or Proposed Agreements or CC&R's	NONE
11.	Mineral, Oil & Gas Rights Documentation (including Timber)	1 page
12.	Surrounding & Interested Property Ownership	3 pages
	a. 8 landowners within 500 feet	
	b. 60 landowners within 1 mile	
13.	Public Hearing Notification Envelopes	SEPARATE
14.	Submittal Narrative (Section 9.1.7)	
	a. Itemized Listing, County Standards Section 3.2.3.4	2 pages
	b. Itemized Listing, County Standards Section 5.2	2 pages
	c. Itemized Listing, County Standards Section 9.1.6.	2 pages
	d. Itemized Listing, County Standards Section 9.1.7.	2 pages
15.	Site Plan Showing Existing and Proposed Development	3 pages
16.	State Permit Application (submitted to DRMS) w/approval	Electronic (PDF)
17.	Visualization for select phases	2 pages
18.	State (DRMS/MLRB) Approval Letter	2 pages

LAND USE PERMIT APPLICATION

TO SUBMIT THIS APPLICATION, COMPLETE AND DELIVER WITH THE APPROPRIATE FEE & SUBMITTAL REQUIREMENTS. FOR QUESTIONS CALL 970-264-1390 AND ASK FOR PLANNING

BY MAIL TO:
Archuleta County Planning Department
PO Box 1507
Pagosa Springs, CO 81147

IN PERSON TO:
Planning Department
1122 HWY 84
Pagosa Springs, CO 81147

TYPE OF REQUEST:

X	CONDITIONAL USE PERMIT (CUP)
	USE BY RIGHT PERMIT (UBR)
	PLANNED UNIT DEVELOPMENT (PUD)
	CONCEPT REVIEW
	GENERAL DEVELOPMENT PLAN
	VESTED RIGHTS
	MINOR LOT LINE ADJUSTMENT (MLLA)
	PLAT AMENDMENT
	LOT CONSOLIDATION
	LOT UNCONSOLIDATION
	SIGN PERMIT
	RE-ZONING
	OIL AND GAS (MINOR or MAJOR please circle)
X	SAND AND GRAVEL (MINOR or MAJOR please circle)
	TEMPORARY USE PERMIT (TUP)
	SUBDIVISION (MINOR or MAJOR please circle)
	SKETCH PLAN (SUBDIVISION)
	PRELIMINARY PLAN (SUBDIVISION)
	FINAL PLAN (SUBDIVISION)
	SUBDIVISION EXEMPTION PLAT (Final Plat)
	VARIANCE (GENERAL or ADMIN please circle)

GENERAL INFORMATION:

PROJECT: TWO RIVERS PIT

PROJECT NUMBER: _____

PROJECT ADDRESS: 12500 County Road 500
Pagosa Springs, CO 81147

ASSESSOR'S PARCEL NO. 5965-10-100015

CURRENT ZONING: AR PROPOSED ZONING: No change

CURRENT USE: GRAZING LAND

PROPOSED USE: MINING OF SAND & GRAVEL

PROJECT DESCRIPTION:
Using the existing road and bridge, sand and gravel will be mined on the ridge above the river, and transported to project locations in Archuleta County.

APPLICANT:
C & J GRAVEL PRODUCTS, INC., Attn: Perry Neil, Pit Manager

MAILING ADDRESS: 27661 Hwy 160-E, Durango, CO 81301

PHONE: 970-385-4112 cell: 970-749-1444 EMAIL ADDRESS: PNeil@cjgravel.com

REPRESENTATIVE: Nathan A. Barton, Environmental and Permitting Compliance Engr.

MAILING ADDRESS: 11501 Road 34, Mancos, CO 81328

PHONE: 605-939-0650 cell: 605-390-7255 EMAIL ADDRESS: Wasteline6@aol.com

PROPERTY OWNER (IF DIFFERENT FROM APPLICANT): Jac & Lee Constant

MAILING ADDRESS: 12500 CR-500, P. Spgs 81147 PHONE: 970-264-4818

(NOTARIZED AGENT AUTHORIZATION FORM SIGNED BY ALL PROPERTY OWNERS IS REQUIRED AND MUST ACCOMPANY THIS APPLICATION IF APPLICATION IS MADE BY OTHER THAN OWNER(S) OF RECORD.)

APPLICATION RECEIVED BY: _____ DATE RECEIVED: _____

FEE AMOUNT REQUIRED: $ _____ DATE PAID: _____

APPLICATION DEEMED COMPLETE BY _____ ON: _____

Continued on reverse

LAND USE PERMIT APPLICATION
CONTINUED

THE UNDERSIGNED AUTHORIZES THE LAND USE ADMINISTRATOR(S) TO PROCEED WITH PROCESSING THIS APPLICATION UNDER THE REQUIREMENTS SET BY THE ARCHULETA COUNTY LAND USE REGULATIONS.

☑ **(Required if checked)** THE LANDOWNER GIVES PERMISSION FOR COUNTY STAFF TO ACCESS THE PROPERTY FOR INSPECTION OF THE DETAILS OF THIS APPLICATION.

(Required if checked) THE UNDERSIGNED ACKNOWLEDGES THAT THE APPLICANT IS RESPONSIBLE FOR PROVIDING THE COUNTY WITH THE LIST OF NAMES OF THE ADJACENT PROPERTY OWNERS LOCATED WITHIN **500 FEET** OF ALL BOUNDARIES OF THE PROPERTY AND PROVIDE **ADDRESSED STAMPED ENVELOPES** FOR ALL THESE PROPERTY OWNERS PURSUANT TO THE REQUIREMENTS AS SET FORTH IN THE LAND USE REGULATIONS.

.....

(Required if checked) THE UNDERSIGNED ACKNOWLEDGES THAT MINERAL ESTATE OWNERS/LESSEES WERE NOTIIFED IN ACCORDANCE WITH C.R.S 24-65.5-101-105. LAND USE PERMIT APPLICATIONS REQUIRING MINERAL ESTATE OWNERS/LESSEES NOTIFICATION. THIS NOTIFICATION REQUIREMENT IS STRICTLY THE APPLICANT'S RESPONSIBILITY.

APPLICANT'S INITIALS _____

LANDOWNER'S SIGNATURE AS ACKNOWLEDGEMENT: _____

.....

PUT COPY OF CHECK TO COUNTY HERE

Archuleta County Sand & Gravel Permit Application Requirements

For full information see Archuleta County Land Use Code, Section 9.1.

Conditional Uses and Uses by Right: A Major Sand and Gravel Permit must obtain a Conditional Use Permit (CUP), see the Land Use Code, Section 3.2.3. Material submitted for a Land Use Permit shall meet the following requirements.
Approximate Timeline: 3 – 4 weeks for Administrative review or 2-4 months for Planning Commission and Board of County Commissioners review (CUP), depending on complete information.

Project Reference Name: C&J Gravel/Two Rivers Pit (Constant) Date: 7/21/2015

Type of Use: Minor Sand and Gravel Permit ❑ Major Sand and Gravel Permit ☑
Nature of Proposal: New Construction ❑ Modification of Existing Site ❑ No Change to Existing Site ❑

Submittal Requirements Checklist.....

Completed Land Use Application (a)	✓	Mineral, Oil and Gas Rights Documentation (k)	✓
Land Use Application Fees	✓	Surrounding & Interested Property Ownership Report (i)	✓
Evidence of Good Title/Legal Description (g)	✓	Public Hearing Notification Envelopes (j)	✓
Tax Statement (h)	✓		
Project Narrative	✓	Submittal Narrative (Section 9.1.7)	✓
Engineering (s) *see below for specific requirements	✓	Site Plan Showing Existing AND Proposed Development (24X36 and 11X17 or 8X11)	✓
Existing OR Proposed Agreements or CC&R's governing the use (***contracts, agreements, etc)***	✓	Other: State Permit copies (submitted to CO DRMS)	✓
Number of Submittal Packages: 24 x 36 11 x 17 or 8 x 11 1	✓	Other:	

INSTRUCTIONS:

1. Submit the items on this checklist along with the completed Land Use Application
2. Staff will need to review the application submittal for completeness. For Major projects requiring a hearing, a date will be set when the application is complete. No Board hearing will be set until after the Planning Commission recommendation is made.
3. If a hearing is required, the applicant is required to make proper notices, working with staff.
    a. For a Conditional Use Permit (CUP), there is a ***required meeting before the Planning Commission and a required hearing before the Board of County Commissioners.*** The required notices for the Board hearing are:
        i. published notice; twice in the 21-day period before the hearing; and
        ii. posted notice; poster sited on the subject property at least 21 days before the hearing.
    b. Notices will be provided by the Planning Department but the applicant is responsible for obtaining notices from staff; before the notices can be provided, the hearing date must be set.

Submittal Requirement Checklist:

(a) Land Use Application Form: Obtain from Planning Department or online.
(e) Land Use Application Fees: All land use application fees are determined by Board of County Commissioners and reviewed annually. Fees are non-refundable.

Continued on reverse

(g) <u>Evidence of Good Title</u>: A current report providing evidence that the applicant owns the subject property, acceptable examples include: title commitment, title policy and ownership & encumbrance report. Reports shall include a legal description of the property and be dated no more than thirty (30) days from the date of application submittal.
(h) <u>Tax Statement:</u> Statement of taxes due from the County Treasurer showing no taxes are due or delinquent.
(i) <u>Surrounding and Interested Property Ownership Report</u>: A current list of the names and addresses of the surrounding property owners within 500 feet of the property, mineral owners of record, mineral and oil and gas lessees for the property and appropriate ditch companies. Reports shall be dated no more than thirty (30) days from the date of application submittal. The applicant shall certify that the report is complete and accurate. Applicants should contact the Archuleta County Assessors Office to obtain current and an accurate list of ownership and the 500 foot radius map.
(j) <u>Public Hearing Notification Envelopes</u>: Applicants shall provide one (1) set of stamped, addressed, Number 10 (letter size) self-sealing envelopes. The envelopes shall have the County Planning Department's address as the return address and the envelopes shall be addressed to the surrounding property owners listed in the **Surrounding and Interested Property Ownership Report**.
(s) <u>Engineering</u>: All road, access, driveway, parking and drainage shall meet the Archuleta County Road and Bridge Design Standards Adopted by Resolution #2005-40, November 2, 2005. This includes the following unless Road and Bridge staff has determined the requirement does not apply:

- ✓ (a) Detailed grading and drainage plans as specified in Road and Bridge Standards
- ✓ (b) Storm water runoff calculations for historic and developed runoff. If runoff calculations show that storm water detention is required, the engineer shall supply calculations and plans for detention pond location, volume, and outlet structures with the plans.
- ✓ (c) Engineered and or construction details for culverts, or other drainage structures, adequate to handle the drainage.
- ✓ (d) Proposed and existing contours shown on plans as well as final grade.
- ✓ (e) Proposed water and sewer services and existing mains.
- ✓ (f) Utility easements, existing or proposed.
- ✓ (g) Traffic control devices in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) 2003 Edition.

Performance Narrative

1. Describe how the project meets each of the Performance Standards in Section 9.1.6 of the Land Use Regulations, as well as the CUP Review Criteria in Section 3.2.3.4.

Submittals for Sand, Soil and Gravel Mining Operations (Section 9.1.7 of the Land Use Regulations)

1. Copy of application submitted to the Colorado Division of Minerals and Geology (CDMG)
2. Maps, including Quadrangle map of site and one (1) mile radius
3. Site Plan
4. Grading Plan
5. Two (2) foot contour map (existing and final)
6. Site Description
7. Written description of access roads
8. Project description
9. Blasting Plan
10. Reclamation Plan
11. Environmental and Vicinity Impact Analysis
12. Proposed Impact Mitigation Plan
13. Fugitive Dust Control Plan

Particular to this application:

- Confirm status of bridge (permitted as ag structure) & Floodplain Development Permit
- Consider visualization for select phases (Section 9.1.6.1.3)

Order No. AR21502281

MEP /

Colorado Title & Closing Services, LLC
dba Colorado Land Title Company, LLC

Serving All of Colorado

ISSUING AGENT FOR
WESTCOR LAND TITLE INSURANCE COMPANY

Prepared for:
LEILA & JAMES CONSTANT
12500 County Road 500
Pagosa Springs, CO 81147

Issuing Office:
456 Lewis Street, P.O. Box 334
Pagosa Springs, CO 81147
Phone: (970) 264-4178
Fax: (970) 264-4775
Title Examiner:
Margaret E. Poer
mep@coloradotitleservices.com
(970) 375-5959

Copies to:
WASTELINE INC./NATHAN

SCHEDULE A

	POLICY LIABILITY	PREMIUM CHARGES
ALTA Owner's Policy (06/17/2006)		**$0.00**
ALTA Loan Policy (06/17/2006)		**$0.00**
Search Charge		**500.00**
Less Amount Paid		**-500.00**
Tax Certification		
	Total Due	**$0.00**

SEARCH CHARGE
NOTE: The above search charge is a non-refundable fee, a portion of which may be credited toward the total premium charge.

IF THE PROPOSED POLICY IS NOT PAID FOR, THEN THE SEARCH CHARGE WILL BE APPLIED AS A CANCELLATION FEE FOR THE WORK PERFORMED AND ANY LIABILITY OF COLORADO LAND TITLE COMPANY AND WESTCOR LAND TITLE INSURANCE COMPANY SHALL CEASE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE COMMITMENT.

1. Effective date: **July 27, 2015 at 5:00 PM** **Verified October 27, 2015 at 5:00 PM**

2. Policy or Policies to be issued:
   ALTA Owner's Policy (06/17/2006)
   Proposed Insured:

   ALTA Loan Policy (06/17/2006)
   Proposed Insured:

3. Title to the **FEE SIMPLE** estate or interest in said land is at the effective date hereof vested in:

   JAMES A. CONSTANT, JR. REVOCABLE TRUST DATED MAY 30, 1995, as to an undivided 1/2 interest and LEILA B. CONSTANT REVOCABLE TRUST DATED MAY 30, 1995, as to an undivided 1/2 interest

4. The land referred to in this Commitment is located in the County of **Archuleta**, State of Colorado and described as follows:

Township 33 North, Range 2 West

Section 10: NW1/4NE1/4; S1/2NE1/4 and NE1/4SE1/4
Section 11: N1/2SW1/4 and S1/2NW1/4

SCHEDULE B - SECTION 1
REQUIREMENTS

The following requirements must be met:

(1.) Pay the agreed amounts for the interest in the land and/or for the mortgage to be insured.

(2.) Pay us the premiums, fees and charges for the policy.

(3.) The following documents satisfactory to us must be signed, delivered and recorded.

(4.) A Certificate of Taxes Due listing each taxing jurisdiction shall be obtained from the County Treasurer or the County Treasurer's authorized agent.

NOTE: There is no liability by or through this commitment until an insured is identified together with the amount to be insured and the applicable premium is paid, at which time any liability will be in accordance with the terms and conditions of the Title Insurance Policy. The company reserves the right to make additional requirements and/or exceptions, if necessary, once the proposed insured and amounts are identified.

SCHEDULE B - SECTION 2
EXCEPTIONS

Any policy we issue will have the following exceptions unless they are taken care of to our satisfaction:

1. Any facts, rights, interests or claims which are not shown by the Public Records, but which could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.

2. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.

3. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.

4. Any lien, or right to a lien, for services, labor or materials heretofore or hereafter furnished, imposed by law and not shown by the Public Records.

5. Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the Public Records or attaching subsequent to the Effective Date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by the Commitment.

6. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

7. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) ditches and ditch rights; water rights, claims or title to water; (d) all interest in oil, gas, coal and other mineral rights severed by predecessors in Title and any and all assignments thereof or interests therein; whether or not the matters excepted under (a), (b), (c) or (d) are shown by the Public Records.

8. Any rights, title or interest of the general public, the State of Colorado and/or the United States in and to the waters, bed and banks of the San Juan River.

9. Any question, dispute or adverse claims as to any loss or gain of land as a result of any change in the river bed location by other than natural causes, or alteration through accretion, reliction, erosion or avulsion of the center thread, bank, channel or flow of waters in the San Juan River lying within subject land; and any question as to the location of such center, thread, bed, bank or channel as a legal description monument or marker for purposes of describing or locating subject lands.

10. Right of way for County Road 500.

11. All standing growth, standing and down merchantable and usable timber as conveyed in Quit Claim Deed from Whitney Newton to The National Lumber and Creosoting Company, recorded November 30, 1927 in Book 42 at Page 439.

12. An undivided 1/2 interest in all oil, gas and other minerals in and under said property as conveyed by Arthur W. King, Eula L. King, Marcelino Harris, Adnelde Aguilar Harris, and Charles E. Harris, Sr. to Harold Payne in Mineral Deed, recorded September 30, 1947 in Book 86 at Page 103, and any and all assignments thereof or interests therein.

13. An undivided 1/2 interest in all oil, gas and other minerals and mineral substances as ordered and decreed to P.B. English and Byrd-Frost Incorporated in Quiet Title Decree, recorded June 11, 1948 in Book 86 at Page 429, and any and all assignments thereof or interests therein.

14. The effect of Disclosure Notice from James A. Constant, Jr. and Leila B. Constant recorded June 3, 1998 as Reception No. 98004440.

15. Easement as described in instrument from James A. Constant, Jr. Revocable Trust and the Leila B. Constant Revocable Trust to The Richard A. Berlanti Trust dated January 16, 1996, recorded September 6, 2006 as Reception No. 20608559.

16. Terms, agreements, provisions, conditions, obligations and easement as contained in Settlement Agreement and Release, between James A. Constant, Jr., Leila B. Constant, James A. Constant, Jr. Revocable Trust, the Leila B. Constant Revocable Trust, Quince Associates, LP and The Richard A. Berlanti Trust, recorded November 20, 2006 as Reception No. 20611211.

17. Oil and Gas Lease between James A. Constant, Jr. Revocable Trust dated May 30, 1995, Lessor(s), and Finney Land Co., Lessee(s), dated May 15, 2013, recorded June 11, 2013 as Reception No. 21303844, and any and all assignments thereof or interests therein and any easements or right of entry with respect thereto.

18. Oil and Gas Lease between Leila B. Constant Revocable Trust dated May 30, 1995, Lessor(s), and Finney Land Co., Lessee(s), dated May 15, 2013, recorded February 20, 2014 as Reception No. 21400849, and any and all assignments thereof or interests therein and any easements or right of entry with respect thereto.

Note 1: Colorado Division of Insurance Regulations 3-5-1, Paragraph C of Article VII, requires that "Every title entity shall be responsible for all matters which appear of record prior to the time of recording whenever the title entity conducts the closing and is responsible for recording or filing of legal documents resulting from the transaction which was closed." (Gap Protection)

Note 2: Exception No. 4 of Schedule B, Section 2 of this Commitment may be deleted from the Owner's Policy to be issued hereunder upon compliance with the following conditions and at the written request of the insured:

A. The land described in Schedule A of this commitment must be a single family residence, which includes a condominium or townhouse unit.
B. No labor or materials may have been furnished by mechanics or materialmen for purpose of construction on the land described in Schedule A of this Commitment within the past 13 months.
C. The Company must receive an appropriate affidavit indemnifying the Company against unfiled mechanic's and materialmen's liens.
D. Any deviation from conditions A through C above is subject to such additional requirements or information as the Company may deem necessary, or, at its option, the Company may refuse to delete the exception.
E. Payment of the premium for said coverage.

Note 3: The following disclosures are hereby made pursuant to §10-11-122, C.R.S.:

(i) The subject real property may be located in a special taxing district;
(ii) A certificate of taxes due listing each taxing jurisdiction shall be obtained from the County Treasurer or the County Treasurer's authorized agent; and
(iii) Information regarding special districts and the boundaries of such districts may be obtained from the County Commissioners, the County Clerk and Recorder, or the County Assessor.

Note 4: If the sales price of the subject property exceeds $100,000.00, the seller shall be required to comply with the disclosure or withholding provisions of C.R.S. §39-22-604.5 (Non-resident withholding)

Note 5: Pursuant to CRS 10-11-123 Notice is hereby given:

(a) If there is recorded evidence that a mineral estate has been severed, leased or otherwise conveyed from the surface estate then there is a substantial likelihood that a third party holds some or all interest in oil, gas, other minerals, or geothermal energy in the property; and
(b) That such mineral estate may include the right to enter and use the property without the surface owner’s permission.

Note 6: Effective September 1, 1997, C.R.S. 30-10-406 requires that all documents received for recording or filing in the clerk and recorder's office shall contain a top margin of at least one inch and a left, right and bottom margin of at least one-half inch. The clerk and recorder may refuse to record or file any document that does not conform.

Note 7: Our Privacy Policy is attached to this commitment.

Note 8: Pursuant to C.R.S. 38-35-125(2) no person or entity that provides closing and settlement services for a real estate transaction shall disburse funds as a part of such services until those funds have been received and are available for immediate withdrawal as a matter of right.

Note 9: C.R.S. 39-14-102 requires that a real property transfer declaration accompany any conveyance document presented for recordation in the State of Colorado. Said declaration shall be completed and signed by either the grantor or grantee.

Note 10: Pursuant to C.R.S. 10-1-128 (6)(a), It is unlawful to knowingly provide false, incomplete, or misleading facts or information to an insurance company for the purpose of defrauding or attempting to defraud the company. Penalties may include imprisonment, fines, denial of insurance and civil damages. Any insurance company or agent of an insurance company who knowingly provides false, incomplete, or misleading facts or information to a policyholder or claimant for the purpose of defrauding or attempting to defraud the policyholder or claimant with regard to a settlement or award payable from insurance proceeds shall be reported to the Colorado division of insurance within the department of regulatory agencies.

Nothing herein contained will be deemed to obligate the company to provide any of the coverages referred to herein unless the above conditions are fully satisfied.

COLORADO
TITLE & CLOSING
SERVICES

Privacy Policy Statement

This notice is being provided on behalf of Colorado Title & Closing Services; Affiliates: Colorado land Title Co. Inc, CLX Exchange Accommodators Inc, Rocky Mountain Escrow Inc and La Plata Abstract Co. dba Colorado Abstract and Title Services. It describes how information about you is handled and the steps we take to protect your privacy. We call this information "customer data" or just "data". If your relationship with us ends, we will continue to handle data about you the same way we handle current customer data.

Protecting Customer Data

We will use our best efforts to ensure that no unauthorized parties have access to any of your information. We restrict access to customer data about you to those individuals and entities who need to know that information to provide products or services to you. We will use our best efforts to train and oversee our employees to ensure that your information will be handled responsibly and in accordance with our privacy policy. We require our employees to keep the data secure and confidential.

Information We Collect

In the course of our business some of the customer data we collect may be nonpublic personal information about you from the following sources:

- Information we receive from you or your authorized representative on applications or other forms;
- Information about your transactions with us, our affiliates, or others;
- Information we receive from our internet web sites;
- Information we receive from the public records maintained by governmental entities that we either obtain directly from those entities, or from our affiliates or others;
- Information we receive from consumer or other reporting agencies; and
- Information from lenders and third parties involved in your transaction.

We maintain safeguards to protect your customer data from unauthorized access or intrusion. We limit access to your customer data only to those employees who need such access in connection with providing products or services to you or for other legitimate business purposes.

Use of Information

We may provide your customer data to various individuals and companies, as permitted by law, without obtaining your prior authorization. Disclosures may include, without limitation, the following:

- To our affiliates and/or successor in interest;
- To agents, brokers, lenders or representatives to provide you with services you have requested;
- To third-party contractors or service providers who provide services or perform marketing or other functions on our behalf;
- To others with whom we enter into joint marketing agreements for products or services that we believe you may find of interest; and
- To lenders, lien holders, judgment creditors, or other parties claiming an encumbrance or an interest in title whose claim or interest must be determined, settled, paid or released prior to a title or escrow closing.

We may also disclose data as permitted or required by law, for example:

- To law enforcement officials;
- In response to subpoenas or a government investigation;
- To regulators and the Insurance Companies we represent; or
- To prevent fraud.

Links to Other Websites

Our websites contain links to websites that are provided and maintained by third parties and that are not subject to our Privacy Policy Statement. Please review the privacy policy statements on those websites. We make no representations concerning and are not responsible for any such third party websites or their privacy policies or practices.

Changes to this Privacy Policy Statement

This Privacy Policy Statement may be amended from time to time consistent with applicable privacy laws. When we amend this Privacy Policy Statement, we will post a notice of such changes on our website. The effective date of the Privacy Policy Statement, as stated below, indicates the last time this Privacy Policy Statement was revised or materially changed.

Rev. 6-01-2015

WESTCOR
LAND TITLE INSURANCE COMPANY

ALTA Commitment Form (6-17-06)

COMMITMENT FOR TITLE INSURANCE

ISSUED BY

CLT

COLORADO LAND TITLE CO. LLC

Providing your Title & Closing needs for over 60 years

AGENT FOR

WESTCOR LAND TITLE INSURANCE COMPANY

Westcor Land Title Insurance Company, a California corporation ("Company"), for a valuable consideration, commits to issue its policy or policies of title insurance, as identified in Schedule A, in favor of the Proposed Insured named in Schedule A, as owner or mortgagee of the estate or interest in the land described or referred to in Schedule A, upon payment of the premiums and charges and compliance with the Requirements; all subject to the provisions of Schedules A and B and to the Conditions of this Commitment.

This Commitment shall be effective only when the identity of the Proposed Insured and the amount of the policy or policies committed for have been inserted in Schedule A by the Company.

All liability and obligation under this Commitment shall cease and terminate six (6) months after the Effective Date or when the policy or policies committed for shall issue, whichever first occurs, provided that the failure to issue the policy or policies is not the fault of the Company.

The Company will provide a sample of the policy form upon request.

IN WITNESS WHEREOF, **WESTCOR LAND TITLE INSURANCE COMPANY** has caused its corporate name and seal to be hereunto affixed and by these presents to be signed in facsimile under authority of its by-laws, effective as of the date of Commitment shown in Schedule A.

Issued By:

COLORADO LAND TITLE COMPANY LLC
970 Main Avenue (P.O. Box 3389)
Durango, CO 81302
(970) 247-5464
Fax: (970) 247-0105
As Agent

WESTCOR LAND TITLE INSURANCE COMPANY

By: Mary O'Donnell
President

Attest: Patricia W Power
Secretary

CONDITIONS

1. The term mortgage, when used herein, shall include deed of trust, trust deed, or other security instrument.

2. If the proposed Insured has or acquired actual knowledge of any defect, lien, encumbrance, adverse claim or other matter affecting the estate or interest or mortgage thereon covered by this Commitment other than those shown in Schedule B hereof, and shall fail to disclose such knowledge to the Company in writing, the Company shall be relieved from liability for any loss or damage resulting from any act of reliance hereon to the extent the Company is prejudiced by failure to so disclose such knowledge. If the proposed Insured shall disclose such knowledge to the Company, or if the Company otherwise acquires actual knowledge of any such defect, lien, encumbrance, adverse claim or other matter, the Company at its option may amend Schedule B of this Commitment accordingly, but such amendment shall not relieve the Company from liability previously incurred pursuant to paragraph 3 of these Conditions.

3. Liability of the Company under this Commitment shall be only to the named proposed Insured and such parties included under the definition of Insured in the form of policy or policies committed for and only for actual loss incurred in reliance hereon in undertaking in good faith (a) to comply with the requirements hereof, or (b) to eliminate exceptions shown in Schedule B, or (c) to acquire or create the estate or interest or mortgage thereon covered by this Commitment. In no event shall such liability exceed the amount stated in Schedule A for the policy or policies committed for and such liability is subject to the insuring provisions and Conditions and the Exclusions from Coverage of the form of policy or policies committed for in favor of the proposed Insured which are hereby incorporated by reference and are made a part of this Commitment except as expressly modified herein.

4. This Commitment is a contract to issue one or more title insurance policies and is not an abstract of title or a report of the condition of title. Any action or actions or rights of action that the proposed Insured may have or may bring against the Company arising out of the status of the title to the estate or interest or the status of the mortgage thereon covered by this Commitment must be based on and are subject to the provisions of this Commitment.

5. *The policy to be issued contains an arbitration clause. All arbitrable matters when the Amount of Insurance is $2,000,000 or less shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. You may review a copy of the arbitration rules at http://www. alta.org.*

AMERICAN LAND TITLE ASSOCIATION COMMITMENT 6-17-06

WESTCOR LAND TITLE INSURANCE COMPANY

COMMITMENT FOR TITLE INSURANCE

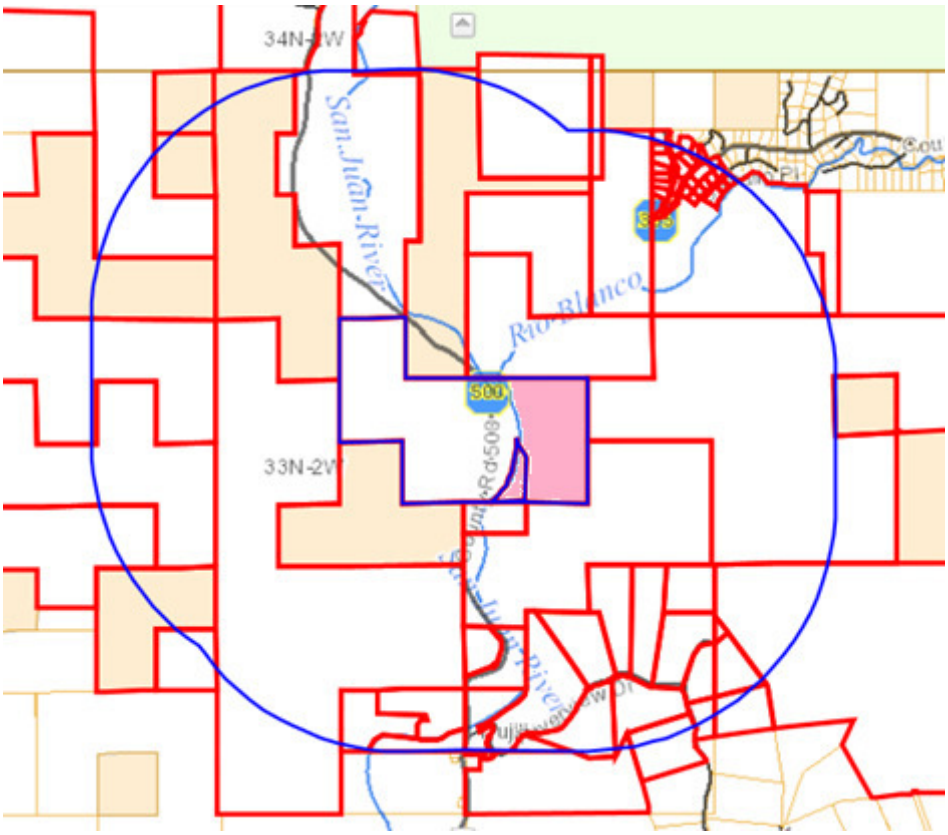
HOME OFFICE
201 N. New York Avenue, Suite 200
Winter Park, Florida 32789
Telephone: (407) 629-5842

LEGAL DESCRIPTION

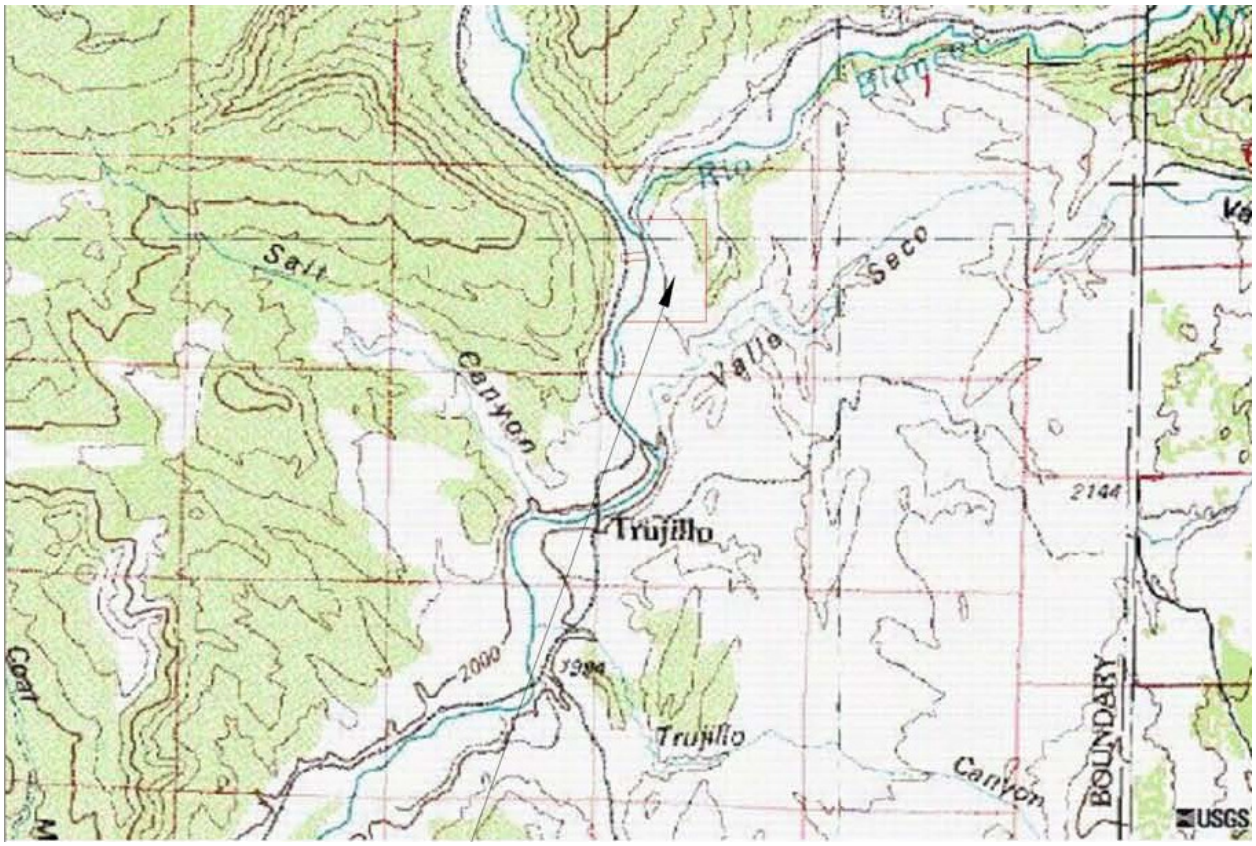
A parcel of land in Section 11, Township 33 North, Range 2 West, N.M. (10th) P.M., Archuleta County, Colorado, a portion of county parcel number 5965-10-100015, being more particularly described as follows:

> That portion of the S ½ of the NW ¼ and the N ½ of the SW ¼ of Section 11, east of the San Juan River, approximately 99.7 acres more or less, plus an access easement or zone of 150 feet by 562 feet[1] west of the San Juan River (1.9 acres more or less), for a total of 102.6 acres, more or less.

Property corners are marked with standard survey markers; corners which might be disturbed by mining activities will also be marked with witness markers and delineators. The permit boundary along the east bank of the San Juan River is described as ten feet above the normal high-water mark, and the boundary along the irrigation ditch described as being on the east bank at the normal maximum flow level.



CONSTANT RANCH (Purple) and 1-mile radius from property line (NOTE: TWO RIVERS PIT is only that portion of the parcel EAST of the San Juan River/Rio Blanco (shaded area).)



TWO RIVERS PIT .

Location on USGS map, showing section lines.

Type of right	Known owner/leasee	Document	Date	Reference	Citation	Date Expiration
½ undivided interest in oil, gas and other minerals	Harold Payne	Mineral Deed	30 SEP 1947	PB86, P103	Item 12	
½ undivided interest in oil, gas and other minerals	P.B. English & Byrd-Frost Inc	Quiet Title Decree	11 JUN 1948	PB86, P329	Item 13	
Oil and Gas Lease	Finney Land Co.	Lease	15 MAY 2013	21303844	Item 17	15 MAY 2018
Oil and Gas Lease	Finney Land Co.	Lease	15 MAY 2013	21400849	Item 18	15 MAY 2018
Oil and Gas Lease	Energen	Lease Assigned	15 MAY 2013	No record		15 MAY 2018
Oil and Gas Lease	Southland Royalty Company	Lease Assigned	15 MAY 2013	No record		15 MAY 2018

Note 1: No documentation has been found indicating the present owner of that interest belonging to Mr. Payne.
Note 2: No documentation has been found indicating the present owner of P.B. English interest. English may have been a contract geologist for Byrd-Frost
Note 3: Byrd-Frost Inc. - See attached report.
Note 4: Mike Finny of Finney Land Co. stated that tl
Note 5: Brian Lewis of Energen stated that the lease had been assigned to Southland Royalty Company and that he had no records.
Note 6: Southland Royalty has not returned calls for information, except to state that they didn't think that they had any leases in Archuleta County.
Note 7: No leases or contracts for timber exist: vegetation is not highly rated for timber production.

SYNOPSIS OF TWO RIVERS PIT PROJECT

Prepared for Archuleta County Planning Manager, Planning Commission, and Board of County Commissioners

Date: 27 July 2015 Rev 01 September 2015, 30 October 2015

Property Parcel: 5965-10-100015

Address of Project (proposed): 12550 Trujillo Road South (CR-500)

Landowners: Jac & Lee Constant, (CONSTANT JAMES A JR REVOCABLE TRUST & CONSTANT LEILA B REVOCABLE TRUST) 12500 Trujillo Road South (CR-500)

Operator: C&J Gravel Products, Inc., Durango, CO

C&J Gravel proposes to construct and operate a construction minerals extraction (sand and gravel mining and processing) operation, to be called the Two Rivers Pit, on property of the landowners. Located on a 320-acre parcel, the operation would have a permit area (by state law) of 102.6 acres, of which 62.6 acres would be affected (that is, disturbed by mining and related activities, and require reclamation). Access west of the river uses 3 acres. The remaining 37 acres is contained in buffer zones which will NOT be disturbed in any way by mining activities, and which therefore ensure (in accordance with state law) that neighboring property (including structures) are not damaged by mining operations. The entire affected area is located on the bench above and east of the San Juan River, on an area of mixed forest, savannah (scrub) and grass, and will be reclaimed as improved, irrigated range for the landowners' cattle grazing operations.

The actual excavation will begin near the center of the eastern edge of the affected area and then move south, so that the nearest neighboring residences are sheltered from impacts, since the activities involve excavation below the original ground level. Each year, about 2 acres of land will be mined, for up to 84,000 tons of raw material, generally processed to produce up to 70,000 tons of actual construction materials (sand and gravel) to be shipped from site. In addition, an area of between 4 and 5 acres will be stripped and leveled and shaped to provide space for stockpiles, processing, and loadout (including a site for temporarily locating ready-mixed concrete plants and/or hot-mix asphalt facilities for specific projects and in accordance with state and county requirements). Areas to be mined will be reclaimed, usually 2-3 years after the mining on that particular area is done, so that of the total area, less than 10-12 acres will be disturbed at any one time.

Access to the pit will use the existing bridge (constructed in 2013) and the existing road/ramp cut up the face of the bench east of the San Juan River, and will connect to CR-500 via a new access point to the south of the existing residential access road. Since all mining and plant activities will be located at least 200 feet from both the bank of the San Juan River and the Harris Ditch, and approximately 150-200 feet higher elevation than either of the two waterways, visibility of the operations from CR-500 will be minimized. Since extraction will be done working in the direction of the nearest neighbor, and will be done below grade, and between 20 and 60 feet below the original terrain, visibility of the operations from neighboring property will also be minimized. No mining or related activities will be done in the floodplain. Following completion of the mining and reclamation, both access and internal ranch existing roads and some roads constructed during mining will be left in place for ranch use. Ground water will not be exposed in mining or reclamation.

Engineering Evaluation Report – Constant Bridge, 12550 Trujillo Road South (CR-500), Archuleta County

1. Purpose: to evaluate the capacity and other features of the bridge constructed in 2013 across the San Juan River

2. Scope: Review of documentation and general inspection, including measurements, of the bridge, and a brief summary of findings.

3. Preparer: Nathan A. Barton, licensed Professional Engineer (PE), State of Colorado, environmental and civil/permitting compliance engineer for C&J Gravel Products, Inc.

4. Facility/Structure: Steel-stringer with composite deck (gravel-surfaced) and concrete/steel abutments and pier, over San Juan River, owned by Jac & Lee Constant. Earth/gravel approach ramps. Constructed 2013.

5. Documents reviewed for engineering purposes:

- Approved Archuleta County bridge permit application and file
- Construction plans and photos of construction in-progress
- Agreement and addendum to agreement between Constants (owners of bridge and laacind) and owner of Harris Ditch (on an easement across Constant land)

6. Actions performed:

- Reconnaissance of bridge, including all spans and abutments/approaches
- Measurements to verify compliance with agreements and suitability for truck traffic

7. Actions NOT performed:

- Specific review and verification of calculations
- Inspection of individual members, such as stringers, elements of deck, railings, abutments and other superstructure and substructure components
- Legal review of documents

8. Findings: It is my professional opinion that:

a. the bridge and its components are in compliance with the physical measurements as stated in the Addendum to the Agreement (Item 4c above), specifically the distance between the exterior faces of the bridge abutments on either side of the Harris Ditch, the width of the bridge deck, and the height of the bridge deck above the ditch invert, and that the clearance between the elements protecting the abutments are adequate for equipment to move through for maintenance of the Harris Ditch.

b. the bridge is properly designed and constructed to meet both county requirements and good engineering practice for the safe, continued use by trucks and other equipment fully and properly loaded, including standard commercial, over-the-road trucks hauling sand and gravel, provided traffic is properly managed.

c. improvements to the road connecting the bridge and its existing earth and gravel approach ramp between the river and CR-500 necessary to support heavy truck traffic will not (assuming proper design and construction) change the base flood elevation of the 100-year floodplain in the area, require any mitigation to preserve the ability of the floodplain to hold the same amount of river flow for up to a 100-year (1% probability storm) event, as historically has been the case, and that the bridge is not in the floodway.

9. General observations and notes:

a. The bridge consists of three spans, two to span the San Juan River and one to span the Harris Ditch, together with four bridge abutments and one pier located mid-stream in the San Juan.

   a.i. The span and height over the San Juan River was not measured, but is definitely outside the ordinary high water mark of the river.

   a.ii. The width of the deck is 15 feet, 3/8-inches, and it is surfaced with Class VI base course.

   a.iii. The span over Harris Ditch, as measured at the base of the deck, is 32 feet, between the face of the abutments.

b. The bridge, including superstructure and substructure (including abutments), was designed by a licensed professional engineer with experience in bridge design and related disciplines, and appear to be adequately constructed in accordance with the plans and specifications.

c. The bridge was constructed in accordance with a bridge application as approved by Archuleta County, and as reviewed by the local regulatory office of the US Army Corps of Engineers. The application indicates the purpose is for agricultural use but there is nothing in the approval or County regulations that limits such use to agricultural purposes.

d. The bottom of the stringers and the deck appear to be well above the base flood elevation (BFE) for the 100-year floodplain (Zone A) for this location on the San Juan River.

e. The abutments and pier of the bridge appear to be properly constructed and protected against damage from flood waters, debris, and other hazards associated with high water.

f. The weight limits as posted on both bridge approaches on sign (multi-unit trucks 65T, three-axle trucks 49T, two axle trucks 45T) were provided by engineer designing/supervising construction of the bridge.

g. Guardrails (W-beam with steel posts) are 30 inches high (measured from top of deck) and installed by welding and bolting, and appear in compliance with CDOT standards.

h. Bridge deck is designed for one-lane truck traffic.

i. The Harris Ditch has not been maintained (cleaned) during the present season and may not have been maintained in the previous season, based on vegetation and other features.

j. If used for transportation related to mining of mineral/non-metallic materials, the bridge and approaches are not considered to be part of the mining operation (per US MSHA) but are transportation related.

10. Recommendations:

a. Signage and Markings (Safety/Traffic):

a.i. Post speed limit signs: recommended 15 mph (dust control and safety)

a.ii. Install delineators at 30-foot intervals on both sides of bridge and approaches (standard yellow/white retroreflective 3”x3” markers).

a.iii. Control traffic by automatic (weight-triggered) and radio-controlled traffic light at the bottom of ramp west of river and at top of ramp/cut on the bench above the river to the east. There is not direct line of sight between these points.

b. Inspection, maintenance, and repairs:

b.i. Maintain a daily log of all vehicle traffic greater than 20 tons gross vehicle weight. (Part of scale/sales log.)

b.ii. Inspect deck at least quarterly and at beginning of operations if seasonal in nature. Maintain or repair as needed.

b.iii. Repair surfacing (gravel) on deck as needed, and inspect monthly during heavy use (10 or more trips/day). Maintain or repair as needed.

b.iv. Inspect superstructure annually. Maintain or repair as needed.

b.v. Inspect substructure (including abutments) annually. Maintain or repair as needed.

b.vi. Inspect approaches on both sides of river/ditch annually. Maintain or repair as needed.

b.vii. Inspect gabions and rocks protecting abutments every three years. Maintain or repair as needed.

b.viii. Document inspections with dated photographs and an inspection log; document repairs and maintenance with log, including time and quantities of materials.

b.ix. At minimum, the monthly and quarterly inspections should be performed by an experienced construction supervisor.

Prepared by Nathan A. Barton, CE, PE, DEE 31 JULY 2015

Attachment 2. Revised Engineering Report on Two Rivers Pit road.

EXISTING SITE CONDITIONS:

TO BE UNCHANGED: West bank access ramp to Bridge, Bridge, and Access Road on east bank from Bridge to top of valley face. Existing Constant ranchstead yard access to CR-500. To be used for both ranching and mining.

PROPOSED TO BE MODIFIED: Access road from bridge through Constant ranchstead yard: no non-farm truck traffic to be on this road. To be limited to ranch/residential use only.

PROPOSED NEW CONSTRUCTION: Access road from curve (approximately 300 feet W of Bridge) to CR-500, including new access to County Road. To be used for both ranching and mining.

PROPOSED CLASSIFICATION: The proposed road will allow access ONLY to the Constant Property (although of course, access will be allowed across the property for firefighting and other emergencies). Therefore, no right-of-way and no easement is requested. Based on proposed temporary and permanent use, and discussions with County Planning and County Engineer, we believe the appropriate classification is as a "Primitive Road." (Section 27.1.2.7) (See calculations below: anticipated traffic expected to be less than 400 vehicles per day).

ROAD DESIGN:

I am a qualified Colorado Licensed Professional Engineer, per Section 27.1.3. I am a graduate of the Colorado School of Mines (1979), have been licensed in Colorado since 1990, have 37 years service in the United States Army Corps of Engineers (11 active duty, 26 reserve), and recent experience includes design of highway improvements and new construction on Colorado and South Dakota state/federal highways, as well as on private property. I have done the design, plans and specifications for this project, myself or by persons responsible to me and under my immediate and direct supervision.

FUTURE PLANNING:

A. Design period: As stated in DRMS Application Exhibits, the Two Rivers Pit will operate for an estimated 25 to 30 years. This is being used as the design period.

B. Projected development: As stated in the DRMS Application Exhibits, the Two Rivers Pit will be a temporary (estimated 25-30 years), and will include annual mining of approximately 2 acres (100,000 tons/year of pit run, producing 70,000 tons of construction material shipped from the site, either as sand and gravel or in products such as hot-mix asphalt or ready-mixed concrete/concrete products). Areas not actively mined and not in reclamation status will continue to be used for agriculture (grazing), and following mining, the site will be used entirely for grazing. The site is not located near areas anticipated to be developed for residential, commercial, or industrial purposes, and access roads to the Pit are not anticipated to be used in the future to provide access to other properties.

C. Projected Traffic Volumes. Standard categories for traffic volumes do not apply to this project. Traffic volumes are calculated based on average and maximum anticipated shipment of construction materials from the Two Rivers Pit, plus allowances for support traffic (inspection, maintenance and repair, employee commuting, etc.) to the pit. These assumptions and calculations are found in the DRMS Application Package, Exhibit M. and restated here, with additional comments and information in italics:

TRUCKS

A variety of trucks will be used to haul materials from the Pit, including single dump trucks, semi-dump trucks, and trucks with pups. Most commonly used will be dump trucks with pups. (Sometimes called tandems.) *Semi-dump trucks may include end, side, and belly dump. All loads will be tarped before departing the pit.* Average haul for all vehicles will be 25 tons per vehicle.

TRAFFIC COUNTS AND SCHEDULES

Assuming an average haul of 70,000 tons per year, 25 tons/vehicle, and 120 hauling days per year, average truck traffic will be 23.33 trucks per day: 21 north and 2 south, with peak traffic counts of less than 4 per hour. Of 21 north, an estimated 6 will go to SH-160 in Pagosa West, 8 to Pagosa Springs itself, with various routes through the town, 5 east through Pagosa Springs to SH-84 for delivery to County or State shops, and 2 to delivery locations in the vicinity not requiring travel on state highways. County zoning and conditional use permits are expected to dictate exact routes and traffic limits. During normal operations, inspection, maintenance, and employee commuting traffic is expected to consist of 2-axle vehicles of 5 tons gross vehicle weight or less, for an average of three round trips per day to the Pit. Seasonally, depending on contracts for materials, additional truck and small vehicle

traffic can be anticipated for several days, to bring in equipment (crushing and screening equipment and other processing equipment), fuel, and other support needs. This will add an average of 0.5 round trips per day, mostly to and from Pagosa Springs.
Total annual average daily traffic count estimated: 24 single or multi-unit trucks, 3 small vehicles: total 27 round trips, or 54 movements. *This is the sum of the above movements.*
This estimate of traffic is based on information from the Institute of Transportation Engineers, CDOT data, and experience with sand and gravel operations, particularly in southwestern Colorado.

General Design Elements

Design Capacities

No information is available on the category of County Road 500 *(Trujillo Road)*, nor existing traffic counts for the road. *(Traffic data obtained from the County Engineer in January 2016 is limited and will require supplementation.)* Based on observations from 2008 to present, this design assumes that the increased traffic in both directions from this operation will not exceed the range specified for its functional category. *(It is assumed to be a "Major Collector Road" based on connections to local access roads and residences/ranches along the road itself).*

The traffic count is also not expected to exceed the planned capacity of the access road itself.

Design Speed

Interior to project: Based on the bridge, radius of existing curves, traffic control, grade of the ramp E of the bridge and the ramp to the Pit W of the bridge, sight distances (from the top of the hill and bridge), as well as environmental and miner safety and health requirements (such as dust control and traffic management) the speed limit on the access road is proposed to be made 15 mph, going uphill, and 10 mph going downhill when loaded.

Exterior to project (CR-500): Semi-trucks can operate safely at existing posted speed limits, based on observation of trucks.

Surfacing Requirement

The anticipated traffic, even during peak periods, is significantly less than 700 ADT. Therefore, paving is not planned. However, for environmental requirements (dust control) and to reduce potential nuisance and safety issues, the entire access road will have dust chemicals (mag-water or equal) applied regularly. The road surface will be graveled, using Class 6 base-course material, compacted in accordance with CDOT/County specifications. *Minimum of 6 inches of compacted aggregate base course will be used, exceeding county standards of 4 inches.*

Right-of-Way

As this is a private access road, there is no right-of-way proposed.

One-Way Roads

The access road will be a two-way road. The portion of the road from the toe of the ramp W of the Bridge to the top of the ramp up to the Pit itself will have automatic/remote-control traffic signals to provide for alternating traffic, for safety and environmental considerations. Roads within the pit itself will be one- or two-way based on safety and traffic control requirements (MSHA and DRMS).

Striping

As the road is proposed to be unpaved, no striping is proposed.

Specific Design Elements

Alignment

Alignment is dictated by the terrain and location of the Bridge. The terrain allows for both horizontal and vertical alignment to comply with County requirements, together with the proposed posted speed limit. Curbs will not be used, except that existing on the bridge deck itself, where a W-rail protects against going over the curb.
The radii of the intersection of the access road with CR 500 is proposed to be 40 feet, due to truck traffic. This exceeds County requirements *of 35 feet (27.1.3.3.)*.
Sight distance is estimated to be greater than 1500 feet to the S on CR-500, and 1200 feet to the N on CR-500. Traffic in both directions on CR-500 has a clear view of the access road (Bridge to CR-500).
The grades proposed are as follows:
Within 200 feet of the intersection with CR-500: between 0.5 and 2%. (Note: bridge abutment is approximately 500 feet from CR-500.)
Bridge approach from the West (direction of CR-500): 8% (16 feet in 200 feet)
Bridge approach and ramp to the top of the hill (Pit): 8% (100 feet in 1200 feet)

Geometric Cross Sections *See Sheets C4 and C5 in DRMS Exhibits.*

It is proposed that the travel lane widths be as follows:
Between Bridge Ramp on W and CR-500 (400 feet): 2 each 13-foot lanes (26 feet total) with 1-foot shoulders each side: in last 100 feet (single-lane, alternating traffic) before Bridge, total width narrows to 15 feet. *This will provide a minimum of 360 feet of two-lane road for queuing of vehicles.*
Bridge, including E approach: 15-foot lane (single-lane, alternating traffic) (not including curve widening)
Ramp from E approach to Bridge to top of hill (Pit): 16-foot lane (single-lane, alternating traffic).
Roads on the operating area of the Gravel Pit: for haul trucks (one or two-way traffic): minimum 11-foot lane, with 2-foot minimum shoulder or berms.
Crown slope except at the bridge will be between 2 and 3 percent. Superelevation will be limited to 0.08 feet per foot.
Curve Widening at the E approach to the Bridge and at the top of the hill (Pit) will have a driving lane width minimum of 16 feet, with 2-foot shoulders on the outside of the curve.
A “bulb-type” turnaround will be provided at the top of the hill (Pit) and at the plant site, with a minimum exterior radius of 105 feet and a minimum interior radius of 90 feet, clear space, to meet requirements for emergency vehicles. Haul roads in the working area of the pit will normally terminate in cleared working face and pit floor areas at least 100 feet on a side.
Note: Although existing vegetation on site should be considered to have a “high wildfire hazard” rating, construction of the plant site and areas actually being mined will have all vegetation grubbed and the soil stripped and placed into berms (stockpiles) for reclamation, so fire hazard will be reduced to a minimum. See fire safety plan discussion.

Structural Sections

Not applicable (no paving). If paving is done in the future, structural sections will be designed and built in accordance with County requirements.

Drainage

The intersection of the access road will be at or near a crest in CR-500's vertical alignment, and the intersection, including radii, will be constructed to ensure that water continues to flow away from the County Road and access road in both directions, and the crown of the access road will be modified in

the approach to ensure that the crown of CR-500 is protected. Total fill to match the access road with the existing edge of driving lane of CR-500 has been surveyed at less than 2 feet vertical height. Therefore, no culvert is needed at the access point.
Crown of the access road between the Bridge and CR-500 will be matched with bar ditches to catch and allow flow off the roadway to infiltrate or be transported as sheet flow to the surrounding irrigated pastureland (on both north and south sides of the access road. Water from the ramp to the Bridge will continue to flow into the bosque on the west bank of the San Juan River: no changes are proposed. Therefore, no culvert is needed for that portion of the access road which is located between the CR-500 intersection and the Bridge.
The existing road from the E approach of the Bridge to the top of the hill (Pit) has existing drainage ditches on both sides of the road; the one on the uphill side flows into the river north of the bridge, near the mouth of Harris Ditch. The one on the downhill side flows into grassed areas between the face of the hill and the Harris Ditch, and either infiltrates or flows into Harris Ditch. At present, an area of approximately 1.3 acres at the top of the Hill is part of the basin which drains into these two ditches, or down the road itself. With grubbing and stripping and construction of roads in the Pit, including access to the plant site and initial areas to be mined, this will be reduced to approximately 0.4 acres in size or less, thus reducing surface water runoff along the road and in its ditches. Maintenance and inspection (M&I) of these ditches is included in the surface water management plan (SWMP) for the Two Rivers Pit. The M&I of the roadway itself is included in the operating plan for the Pit.

Side slopes

The side slopes for the radii of the intersection with CR-500, and along the 400 feet between CR-500 and the W Bridge Ramp shall be 3:1 or flatter.
No change is proposed for existing side slopes of the road E of the Bridge to the top of the hill (Pit). These slopes have been examined by a licensed civil engineer qualified in soils and rock analysis and are stable since their construction in 2013, or earlier.
Side slopes for roads in the Pit itself may be steeper than 3:1 during active mining operations, but shall be reclaimed to 3:1 or less as required by DRMS.

Sidewalks

No sidewalks are proposed. Pedestrian traffic is not expected.

Traffic Control and Safety

Guardrails: None proposed, except for existing guardrails on Bridge, which meet CDOT standards and specifications.

Traffic Control Devices (Signage and Signals)

All signage shall be in conformance to the MUTCD, including CDOT addenda as applicable. During construction of the access to CR-500, all construction signage shall be in accordance with MUTCD and CDOT policy, and flaggers and other traffic control personnel shall be qualified in accordance with CDOT requirements.
Signage and traffic signals proposed:
R-1 STOP 24-inch, on standard breakaway post, to be installed 40 feet from edge of CR-500 (outside ROW and radii).
R-2 (15) SPEED LIMIT, 24-inch, (3 each) on standard breakaway post, to be installed 100 feet from edge of CR-500, at toe of W Bridge ramp (for outgoing traffic), and on approach E of Bridge.
R-2 (10) SPEED LIMIT, 24-inch, (2 each) on standard breakaway post, to be installed at top of hill and approximately 100 feet W of Bridge (both for outgoing traffic).
W-X 8% GRADE WARNING SIGN, 24-inch, (1 each) to be installed at the top of the hill (for outgoing traffic)
Automated and remote control traffic signals, standard LED 4-inch tri-color lenses, two sets, one at the

top of the hill for outgoing traffic, and one at the toe of the W Bridge ramp for inbound traffic. Signals will be controlled both by remote and by sensors to determine presence and passage of traffic, to control alternating traffic on the Bridge, Bridge ramps, and road to the top of the Hill (total distance approximately 1600 feet).
MSHA and Company Policy, and other (State) Permits require that additional signage be installed for various purposes, including traffic safety.
Delineators shall be installed at 100-foot (or closer) intervals on both sides of the access road between CR-500 and the toe of the road up the hill. Delineators shall be white Carsonite blades with yellow/white retroreflective squares, approved for CDOT projects.

Sight Triangles

At the intersection of the access road with CR-500, a sight triangle minimum of 70 feet shall be maintained in accordance with Section 27.1.6.3.
Aboveground Utility Locations
No aboveground or underground utilities are proposed to be constructed along the access road. All existing aboveground utilities are located on the W side of CR-500, opposite the access road.

Mail Delivery

No USPS mail delivery is proposed to the Two Rivers Pit. Delivery to the Constants' homes will continue unchanged.

Design Standards for Driveways

Although we are requesting classification as a "primitive road" the design meets or exceeds all requirements for driveways for commercial activities in County Road and Bridge Engineering Standards except for paving. Paving does not make sense as CR-500 is not itself paved. As stated above, dust control measures will be instituted and maintained on the roadway between the bridge and CR-500).

Location of *Road*

The access road is a minimum of 1500 feet from any road intersections with CR-500, and is proposed to be located approximately 60 feet S (center-to-center) of the existing Constant ranchstead driveway, meeting the 30-foot spacing rule. County Road personnel have inspected the proposed site and have indicated that the existing driveway can be left in place.
Stacking: Approximately 360 feet of two-lane access road is available for stacking both to enter onto CR-500 and to cross the Bridge using signal-controlled alternating-traffic pattern, thus providing for stacking of at least five multi-unit trucks (maximum legal length 65 feet). Due to low traffic volumes, left turns are not expected to be an issue.

Other Design Standards for Driveways

The above discussion of standards meets or exceeds requirements for driveways.

This document has been revised on 29 January 2016 and replaces all previous versions. Provided to County Planning, County Engineer, and Town Planning. *©2016 WASTELINE, Inc. & C&J Gravel Products, Inc. All rights reserved.* *Prepared by Nathan A. Barton, CE, PE, DEE*
Attachments:

1. General County Requirements (omitted: see Attachment 5)
2. Copies of Sheets C4 and C5 from DRMS Application Exhibits.

FIRE SAFETY PLAN

1. Site
2. Purpose
3. Scope
4. Site Assessment
5. Objectives of this plan
6. Tasks
7. Responsibilities
8. Review, update, and approvals]
9. Regulatory requirements

1. Site: Two Rivers Pit, Constant Ranch, 12550 County Road 500, Trujillo, CO (Archuleta County)

2. Purpose: To identify and guide actions necessary to prevent fires, reduce potential for spread of wildfire and damage from wildfire, and fight fires both on- and off-site, both initially and with fire service support.

3. Scope: This plan applies to the 102.6-acre permit area of Two Rivers Pit, including the access road and buffers, and to immediately adjacent parts of the Constant ranch, and is limited to those actions which can be done with the personnel and equipment of C&J Gravel Products Inc. and the landowners.

4. Site Assessment: The site does not have any significant fire hazards.
   1. This site is not identified by the Archuleta County fire service as a "community of concern" for risk of wildfires (map, http://assessorrecords.archuletacounty.org/SubRanking_11x17.pdf)
   2. The site is at moderate risk of wildfire, as it currently exists, with a mixture of low-density forest and scrubland, and grassland, bounded on the west side by the river and the other three sides by similar grazing land. The only nearby residences are:
      1. Two residences located to the south (Diamond-T Ranch) which appear (based on satellite photos) to be "firesafe" as far as cleared safety zones and access.
      2. Two residences on the Constant ranch, located in the valley bottom west of the river, which are "firesafe" as regards cleared safety zones, access, and availability of water for fighting fire.
   3. At present, while water is available on the Constant Ranch either directly from the river or via irrigation systems, this water will have to be trucked to the top of the valley wall where mining and processing will take place. River and irrigation water is assumed to be frozen during part of the winter, so access may be limited.
   4. It is planned that irrigation water will be available via a pipeline installed along the access road ramp, but this may not be available in wintertime due to freezing.
   5. Access to/from the areas to be mined and used for processing and stockpiles is available only through the access road/ramp from CR-500. While the Constants are willing to allow emergency access across their land to reach land of adjacent property owners to the north, east, and south, those landowners are assumed to continue to prohibit any trespass on their land from the Constant property, regardless of purpose.

5. Assessment of Proposed Project: The project does not present any significant fire hazards.
   1. Since areas to be mined are first cleared and grubbed, then stripped of soil, these areas are

not at significant risk due to fire and form firebreaks.

2. Plant and stockpile areas are likewise cleared and grubbed and have soil stripped, and are generally large enough both to protect equipment from wildfire and to provide fire breaks against possible sources of ignition and fuels, such as fuel storage tanks, engines, other mechanical equipment, and human activities.
3. The primary points of concern for wildfire at a construction materials operation are:
    1. Brush piles from clearing and grubbing.
    2. Roots and grass mixed with stripped and stockpiled soil.
    3. Equipment, including crushers, screens, and conveyors, mobile equipment (loaders, trucks, backhoes, etc.), fuel/lubricant storage, and activities, including fueling, maintenance, material processing, smoking, and other sources of sparks and fuel.
4. Most operations will be conducted in spring, summer and fall; the only anticipated activities in wintertime may be limited hauling of materials from the site.
5. Mining and material processing operations are uniquely equipped to allow most fires to be fought with personnel and equipment on-hand, including loaders, dozers, water trucks, and hand-tools, with MSHA-trained personnel (experienced miner).

6. Objectives of this plan: To prevent fires on the property, especially those caused by mining and processing and related activities; and to ensure that preparations are made to fight fires which cross onto the property or do start on the property, while preventing and minimizing damage to property and injury to persons and livestock.

7. Tasks
    1. PREVENT FIRES ON-SITE:
        1. Ensure that all working areas (mining, processing, and transportation) are free from fire hazards such as weeds and other fuels.
        2. Ensure that equipment and working areas have adequate fire breaks against areas with vegetation or potential fire hazards.
        3. Prohibit activities on-site which can create fire hazards.
        4. Follow proper procedures for fuel storage and transfer, maintenance, equipment storage, material storage, and site inspection.
        5. Inspect work areas daily and weekly to identify and correct fire hazards and other unsafe conditions, especially after maintenance work is done.
        6. Post warning and regulatory signs for no-smoking and other actions.
        7. Control weeds. Control tall grass and other vegetation in traffic areas, including parking. Cut weeds and tall grass back from roadways.
        8. Control waste and litter. Collect and dispose of properly.
        9. DO NOT BURN TRASH.
        10. Properly store fuels and lubricants to protect against spills and being struck or shot at.
        11. Clean up spills of fuels and lubricants promptly.

    2. PROTECT SITE, EQUIPMENT AND OPERATIONS FROM FIRE:
        1. Integrate protections with other environmental, safety and health measures.
        2. Establish and maintain adequate fire breaks (safety zones) minimum 50 feet from all equipment, brush/grubbing stockpiles, etc.
        3. Block off and control trails and access to areas not prepared for traffic.
        4. Prevent trespassing by blocking access points and posting signs.
        5. Inspect engines and other fuel-burning equipment for spark arrestors and other protective features.

6. Inspect site and equipment if fires are observed or reported in the vicinity (within 5 miles).
7. In coordination with county fire service authorities and landowners, consider controlled burns to remove thick stands of grass or weeds not otherwise able to be controlled.
8. Control access to site by untrained personnel.
9. Ensure that notification procedures (phone, radio, etc.) for calling County Sheriff and Fire Service are posted and accurate.

3. BE PREPARED TO AND FIGHT AND CONTROL FIRES ON-SITE:
   1. Ensure that access for emergency equipment is maintained, including minimum 108-foot radii turn-arounds at ends of roads and access above highwalls.
   2. Ensure that water is available in tankers, trailers, or bladders on and adjacent to the plant site for dust and fire control.
   3. Ensure that all fuel-burning equipment and all equipment likely to cause sparks or friction during operation are equipped with fire extinguishers (minimum 5-pound ABC), and that fire extinguishers are properly inspected and serviceable.
   4. Ensure that hand tools for fighting grass and fuel spill fires are available on-site (shovels, picks, at minimum).
   5. Ensure that personnel are trained to respond properly to fires.
   6. As possible, coordinate with County and local fire service personnel, to include site visits to review preparation and actions.
   7. Follow established MSHA practices for alert and warning of persons on-site for fire and other responsibilities.
   8. Determine whether or not a fire can be controlled with hand tools, motorized equipment (loaders, etc.), water, or other means, or whether fire service should be called.
   9. During fires, ensure that nonessential personnel and equipment are evacuated.

8. Responsibilities: The site safety officer is also the site fire safety coordinator (FSC). The FSC shall assign responsibilities for the above tasks, in writing. The FSC shall ensure that all persons on-site are trained in their tasks.

9. Review, update, and approvals: This plan shall be reviewed at least annually, prior to beginning of operations on-site each year, and prior to moving crushing-screening train to the site. The pan shall be updated as necessary, with copies provided to the landowner and home office. This plan is effective immediately upon review and approval by the owner or manager. The plan shall be updated if determined to be inadequate or incorrect by a Fire Service, DRMS, or MSHA inspector.
10. Regulatory requirements:
    1. This Fire Safety Plan is part of the Mine Emergency Response Plan required by MSHA Policy Letter P06-V-10.
    2. This Fire Safety Plan is incorporated into the DRMS Mining Plan and DRMS Reclamation Plan by reference.
    3. The Fire Safety Plan is incorporated into the MSHA Part 48 Fire Fighting Program (of Instruction)
    4. As this site is not located within an established fire protection district, there are no known local regulatory requirements. Although this site is located within the exterior boundaries of the Southern Ute Indian Reservation, there are no known tribal regulatory requirements.

NOXIOUS WEED CONTROL PLAN

1. Purpose: To identify actions to prevent and control infestations of noxious weeds on the lands as described in "Scope" and to comply with all applicable statutes, regulations, and guidelines.

2. Scope: This Noxious Weed Control Plan (NWCP) applies to the Two Rivers Pit (extraction and processing of construction materials and related activities) on the Constant Ranch, Archuleta County, Colorado, to include:

a. Permitted area under CDRMS-approved reclamation permitting application and adjacent areas, including access road to County Highway 200, bridge approaches, and immediately adjacent ditches on private land.

3. Responsibilities: The following organizations/agencies have responsibilities in this plan:

a. C&J Gravel Products, Inc., permitted operator

b. Constant Ranch (Jak and Lee Constant (trustees), as landowner

4. Concept: The land will be managed in a way to minimize infestations of noxious weeds and prevent spread of weeds to adjacent areas. Regular and routine inspections will be made of land to identify weed infestations. Infestations will be controlled and eradicated as much as possible as quickly as possible. Assistance will be requested as necessary. Priority of weed control methods will be established and followed. All operations shall be conducted in a safe and environmentally sound manner and in compliance with all applicable local, state, and federal regulations and statutes, and in compliance with DRMS and other state guidelines.

6. TASKING STATEMENT

Task: To control and when possible eliminate noxious weed infestations on the permitted area and immediately adjacent areas on property owned by landowners, both on affected and on unaffected land, and to prevent spread of weeds to adjoining sites and weed seeds when shipping sand and gravel from the site.

Conditions: Given normal operating conditions, year-round, with areas of disturbance (affected lands being stripped, mined, and reclaimed), unaffected areas, and reclaimed areas either released or still in revegetation stage.

Standards: Comply with:

a. CDRMS Construction Materials Rules and Permit Conditions,
b. Mining and Reclamation Plan and related documents in DRMS application package.
c. Colorado Noxious Weed Control Act,
d. DRMS weed control policy (17JUL1998 and revised, 14 FEB 2002 and 28 OCT 2002) implementing Rule 3.1.10(6);
e. County regulations and policies;
f. NRCS/Natural Resource Conservation District recommendations; and
g. landowner desires;

while documenting all actions.

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5. DEFINITIONS AND EXPLANATION OF ISSUES:

Legally, a noxious weed is any plant designated by a federal, state or county government as injurious to public health, agriculture, recreation, wildlife or property. Once established, noxious weeds aggressively out-compete desirable native plants for vital resources (moisture, nutrients, space, and sunlight). Without weed management programs, noxious weeds can degrade the local ecosystem by replacing native vegetation communities with annual plant communities, and altering the fire ecology.
Established weed populations damage the ecosystem by forming monocultures that eliminate diverse native communities, increase soil erosion, diminish native forage production and cover for herbivores, and alter natural fire regimes. Additionally, invasive and noxious weeds reduce opportunities for hunting, fishing, camping and other recreational activities; displace many threatened, endangered or sensitive species; reduce plant and animal diversity because of weed monocultures-single plant species that over run other species in an area; disrupt waterfowl and neo-tropical migratory bird flight patterns and nesting habitats; and cost millions of dollars in treatment and loss of productivity to private land owners.
For recycling of aggregate materials, soils, and earth, as with aggregate producers, weed control is critical for additional reasons. First, many specifications for aggregates, including base course, specifically require that the materials be certified as weed-free, and achieving this specification is usually done by on-site inspection of the production and stockpile areas.

5. THREATS: In Archuleta County, various noxious weeds are identified by the County Weed Control Program using recommendations from various state agencies. In addition, state agencies have specified specific weeds to be controlled on areas which they permit. TASK: The permitted operator and user shall review these list (see references) annually and train one or more personnel in recognizing the listed weeds. See Attachment 2.
Weed seed may be transported to the site by animals (livestock and wildlife), vehicles, pedestrians, and by wind. Weed seed is unlikely to be transmitted by flow of water on this location.

6. MINIMIZE/PREVENT INFESTATIONS: (See also Attachment 2.)

a. Minimize disturbed areas, including traffic ways.

b. Revegetate disturbed areas as quickly as possible.

c. Ensure that vehicles and equipment are cleaned and free of mud and vegetation when moving to/from work sites.

d. Ensure that stockpiles are kept compact and vegetated whenever possible.

e. Protect areas (especially newly-seeded areas) from overgrazing by livestock and/or wildlife by fencing.

f. Assist upwind neighbors with weed control, including informing them if weed infestations exist on their property near the Constant property/mining permit.

g. Prior to affecting land for extraction or plant sites, and to shipment of materials, inspect for and remove all possible weeds found, before shipping.

h. Obtain and use only certified weed-free straw or use fiber roll logs for sediment control and (when required) reclamation.

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7. INSPECT AND OBSERVE FOR WEED INFESTATIONS

a. Ensure that personnel are trained (including annual refresher training) on identification of weeds and other tasks.

b. Observe all work areas, including berms and water retention basins weekly during growing season (especially in early spring) for signs of weed growth.

c. Take photographs of operating areas, road shoulders, stockpiles, and other key areas and use to compare over subsequent inspections.

d. Document inspections in work logs: include date of observation, types of weeds suspected, approximate extent of weeds found, estimated quantities or density of weeds, and whether weeds are flowering or seeds have developed.

e. Report to supervisor for action.

8. ERADICATE/CONTROL INFESTATIONS

a. Whenever possible and economically feasible, remove specimen (single) plants mechanically (uprooting/cutting at ground level). A single weed such as a thistle can produce thousands of seeds resulting in hundreds of new plants in a single season, if not removed promptly.

b. For larger populations and infestations:

(1) Identify and mark limits of area.

(2) Determine height, density, and maturity of weeds in defined area.

(3) Remove weeds: Preferred method is to use mechanical means to uproot and remove entire plant. Second preferred method is to mow area (not less than 2 inches high or more than 4 inches high). Third preferred method is application of chemical pesticides. Specific method of removal will depend on the density and maturity of weeds in the area.

(4) Cutting and uprooting of weeds should be done as much as possible immediately after flowering and well before seed pods or heads are mature, since weed seed can continue to develop after the weed has been cut or uprooted.

(5) Burn weed patches, but only under limited conditions and with careful preparation only, and in coordination with county and adjacent landowners (including Southern Ute Indian Tribe). Rather than setting a fire and allowing it to burn across an area, use of a propane torch is highly recommended.

(5) Application of pesticide is most effective at specific times in the life cycle of a weed: consult a trained pesticide applicator for specific requirements and recommendations.

(6) Depose of uprooted and mowed weeds properly. As much as possible, do NOT leave weeds where cut or pulled, but either dispose of as municipal solid waste or immediately bury at depths of greater than three feet in clean, root free material. When

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allowed, weeds can be burned in a barrel or burn pit, but only with adequate spark protection and precautions, in accordance with county/fire marshal requirements.

(7) Ensure that pesticides are used in areas where livestock, wildlife, and human contact can be minimized for recommended periods, and that pesticides are not allowed to wash off and into ravines or basins on-site or into San Juan River, or mixed with construction materials in processing or treatment, as much as possible.

(8) Inspect all treated areas (mechanical or chemical) one week and one month after treatment, at the end of the growing season and at the beginning of the next growing season. Conduct additional treatment as necessary.

c. Unless otherwise specified or recommended by County Weed Control, use one of two types of non-restricted herbicides--Roundup and 2-4-D. These chemicals are the least hazardous that can be used and still achieve the quality results needed to be cost effective and efficient.

1. Round Up is a direct contact spray. It will kill all plants that it comes in contact with (not a grown killer). It has very little odor and very little drifting qualities.

2. 2,4-D is a broad leaf weed killer which will not harm grasses, and will drift considerably at any time. 2,4-D has a more offensive odor than Round Up. 2,4-D should not be used on windy or breezy days.

3. Activator 90 is a supplemental chemical added to both herbicides to act as a wetting agent and increase adhesion to the plants.

9. PRACTICE WEED CONTROL SAFELY AND IN COMPLIANCE WITH REGULATIONS

a. Ensure that regular safety measures, including personal protective equipment and administrative controls (right-to-know, confined spaces entry, etc.) are followed.

b. Ensure that only EPA-registered and county-approved pesticides are used.

c. Ensure that pesticide applicators are appropriately trained and certified.

d. Ensure that new personnel are trained and refresher training is provided as necessary.

e. Establish access controls after application of pesticides as per manufacturers instructions.

f. Maintain records of inspections and treatment.

g. Coordinate with landowners periodically (usually at least twice a year, at the beginning and end of the growing season) on weed issues. Landowners will coordinate with adjacent property owners, including owner of Harris Ditch.

h. Coordinate with County Weed Control personnel at least annually (see Att 2.)

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REFERENCES:

(1) Weed Management Plan and Site
http://www.dolorescounty.org/special_tax_districts/dolores_county_mandatory_pest_and_weed_district.html

(2) DRMS Weed Control Policy, 28 October 2002 (http://www.mining.state.co.us)

(3) Pagosa Springs Conservation District (http://tinyurl.com/pyuomeo)

(4) Colorado Department of Agriculture
(http://www.colorado.gov/cs/Satellite/ag_Conservation/CBON/1251618780047)

(5) CSU Extension Service (http://www.ext.colostate.edu/pubs/natres/03106.html)

(6) Colorado Weed Management Association (http://www.cwma.org/noxweeds.html)

Attachment 1. Elements of Prevention

The elements of prevention include:
• Limit the introduction of weed seeds into an area.
• Early detection and eradication of small patches of weeds.
• Minimize disturbance of desirable vegetation along roadsides, trails, and waterways.
• Manage land to build and maintain healthy communities of native and desirable plants to compete with weeds.
• Careful monitoring of high-risk areas such as human and animal transportation corridors and disturbed or bare ground.
• Re-vegetate disturbed sites with desirable plants.
• Annual evaluations of the effectiveness of the prevention plan so appropriate adaptations can be implemented the following year.

The spread of invasive and noxious weeds is a significant issue in mining and construction projects that involve land disturbance. Measures must be taken to prevent the spread of noxious and invasive weeds during all proposed mining and construction activities. Earth moving activities and the use of contaminated construction fill, seed, or erosion-control products contribute to the spread of weeds. Prevention is the least expensive and most effective way to halt the spread of noxious and invasive weeds.

Attachment 2. The State of Colorado Noxious Weed List

The following weed species were identified by individual Colorado counties as problem weeds or were recommended for management through public testimony.

List A species in Colorado are designated by the Commissioner for eradication:

Absinth wormwood (Artemisia absinthium)	Mediterranean sage (Salvia aethiopis)
African rue (Peganum harmala)	Medusahead (Taeniatherum caput-medusae)
Black henbane (Hyoscyamus niger)	Myrtle spurge (Euphorbia myrsinites)
Camelthorn (Alhagi pseudalhagi)	Perennial pepperweed (Lepidium latifolium)
Common crupina (Crupina vulgaris)	Plumeless thistle (Carduus acanthoides)
Cypress spurge (Euphorbia cyparissias)	Purple loosestrife (Lythrum salicaria)
Diffuse knapweed (Centaurea diffusa)	Rush skeletonweed (Chondrilla juncea)
Dyer's woad (Isatis tinctoria)	Sericea lespedeza (Lespedeza cuneata)

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Giant salvinia (Salvinia molesta) Hydrilla (Hydrilla verticillata) Meadow knapweed (Centaurea pratensis)	Squarrose knapweed (Centaurea virgata) Tansy ragwort (Senecio jacobaea) Yellow starthistle (Centaurea solstitialis)

List B noxious weed species have (or will have) a state noxious weed management plan developed to stop their spread.

Bouncingbet (Saponaria officinalis) Bull thistle (Cirsium vulgare) Canada thistle (Cirsium arvense) Chinese clematis (Clematis orientalis) Common tansy (Tanacetum vulgare) Common teasel (Dipsacus fullonum) Corn chamomile (Anthemis arvensis) Cutleaf teasel (Dipsacus laciniatus) Dalmatian toadflax, broad-leaved (Linaria dalmatica) Dalmatian toadflax, narrow-leaved (Linaria genistifolia) Dame's rocket (Hesperis matronalis) Eurasian watermilfoil (Myriophyllum spicatum) Hoary cress (Cardaria draba) Houndstongue (Cynoglossum officinale) Jointed goatgrass (Aegilops cylindrica) Leafy spurge (Euphorbia esula) Mayweed chamomile (Anthemis cotula)	Moth mullein (Verbascum blattaria) Musk thistle (Carduus nutans) Orange hawkweed (Hieracium aurantiacum) Oxeye daisy (Chrysanthemum leucanthemum) Quackgrass (Elytrigia repens) Russian knapweed (Acroptilon repens) Russian-olive (Elaeagnus angustifolia) Scentless chamomile (Matricaria perforata) Scotch thistle (Onopordum acanthium L.) Spotted knapweed (Centaurea maculosa) Spurred anoda (Anoda cristata) Sulfur cinquefoil (Potentilla recta) Tamarisk (Tamarix chinensis, T.parviflora, and T. ramosissima) Venice mallow (Hibiscus trionum) Wild caraway (Carum carvi) Yellow nutsedge (Cyperus esculentus) Yellow toadflax (Linaria vulgaris)

List C noxious weed species:
Resources will be provided to jurisdictions that choose to require management of these species.

Chicory (Cichorium intybus) Common burdock (Arctium inus) Common mullein (Verbascum thapsus) Common St. Johnswort (Hypericum perforatum) Downy brome (Bromus tectorum) Field bindweed (Convolvulus arvensis) Halogeton (Halogeton glomeratus)	Johnsongrass (Sorghum halepense) Perennial sowthistle (Sonchus arvensis) Poison hemlock (Conium maculatum) Puncturevine (Tribulus terrestris) Redstem filaree (Erodium cicutarium) Velvetleaf (Abutilon theophrasti) Wild proso millet (Panicum miliaceum

County and Conservation District shall be consulted at least annually to obtain current information on the county weed control/noxious weed list, any information on non-noxious weeds (native plants) which require control, and to coordinate any issues with adjacent landowners and the County Road Department. This plan shall be updated as necessary based on that annual consultation.

Prepared by Nathan A. Barton, CE, PE, DEE; Revised 01FEB2014. Mr. Barton is an environmental and civil engineer with 25 years experience in mining and reclamation, and related areas.

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- MINING OPERATIONS -

GENERAL INSTRUCTIONS FOR FUGITIVE PARTICULATE AIR POLLUTANT EMISSION NOTICE / CONTROL PLAN

Complete only those sections of this form which are applicable to your operation. All data given, such as production rates, topsoil removal, etc., should be for that period of 12 months that is expected to have the greatest amount of activity, usually for the first year. Emissions will be calculated in terms of pounds per day and tons per year of particulates generated. Also, please submit the following, if available:

1. A map showing site location and boundaries, haul roads, and nearby residences or commercial structures. See DRMS Application Package Exhibits B and C.
2. Production schedule. No production schedule firmly established at this time. Depends largely on County restrictions.
3. Schematic of the operation. See DRMS Application Package Exhibit D (page 17).
4. Engineering or manufacturing data on control equipment. Not applicable. Only portable equipment used.

PERMITS REQUIRED

Fugitive Particulate Emission Permits are issued for site-specific activities, such as mining, storage of materials, haul road activities, etc.

The Division will use the information submitted on this form to estimate emissions from the activity.

Any processing equipment, such as a crusher, screen, concrete batch plant, or asphalt plant is considered to be portable and requires a separate permit application, Air Pollution Emission Notice, and filing fee.

This aids the applicant by requiring only a revised Air Pollution Emission Notice for Relocation, whenever the equipment is moved to a new site.

FEES

A filing fee of $152.90 shall accompany each Air Pollution Emission Notice / Control Plan filed with a permit application. Permit processing fees will be charged for the amount of time the Division spends evaluating the permit application. These fees, (currently $76.45 per hour) plus any required public notice fees, must be paid before an Initial Approval Permit will be issued. Once the project has commenced operation, the source has 180 days to certify compliance with the permit conditions. Once the source has self-certified, Final Approval processing will begin. Final Approval Permit processing fees must be paid before the Final Approval Permit is issued.

For more information or assistance call:

Small Business Assistance Program
(303) 692-3148 or (303) 692-3175

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- MINING OPERATIONS -

Air Pollutant Emission Notice (APEN) – and – Application for Construction Permit - and Fugitive Particulate Emissions Control Plan

☒ New Facility ☐ Transfer of Ownership[1] ☐ Change in Production ☐ APEN Update

All sections of this APEN and application must be completed for both new and existing facilities, including APEN updates. An application with missing information may be determined incomplete and may be returned to you or result in longer engineer processing times. You will be charged an additional APEN fee if APEN is filled out incorrectly or missing information and requires re-submittal.

[1] For transfer of ownership or company name change, you must submit proof of ownership transfer (e.g., Transfer of Ownership Form signed by the previous owner or a copy of a Bill of Sale with this form).

Permit Number _____ **AIRS Number** _____

Company Name:	C&J Gravel Products, Inc.		
Pit/Mine Name:	Two Rivers Pit	County:	Archuleta
Pit/Mine Location:	12550 Trujillo Road S (CR 500), Archuleta County		
Billing Address:	27661 Hwy 160-E	Zip Code:	81301
	Durango, Colorado		
Person to Contact:	Perry Neil or Nathan Barton	Phone Number:	970-385-4112
E-Mail Address:	pneil@cjgravel.com	Fax Number:	970-385-5014

Please provide description of the activity: (Also, please provide a site map)

Mining and processing of construction materials, no ground water exposed. All processing to be done with portable equipment (no fixed conveyors, screens, crushers). Site map provided in Exhibits C and F of DRMS application package. No washing or drying planned. No drilling and blasting planned.

If facility is NOT yet constructed:

What is the projected start-up date? Spring 2016 (based on County approvals)

Normal Operation of this Source:

8-10 Hours per day 5 Days per week 20-40 Weeks per year

Seasonal Throughput (% of Annual):

Dec - Feb 5+ Mar - May 20+ June - Aug 50+ Sept - Nov 25+/-

Actual Annual Production: max 70,000 Tons Per Year Actual Data Year: 2016 (i.e. 2010)

Requested Annual Production: 70,000 Tons Per Year
(The requested level will be your permit limit (maximum allowed))

Commodity Produced: (Please be consistent with the ~~Division of Minerals and Geology~~ permit)

☒ Aggregate / Sand and Gravel Div of Reclamation Mining and Safet
☐ Stone
☐ Coal
☐ Minerals or Metals Type:
☐ Other:

Revised Dec. 2013

- MINING OPERATIONS -

ESTIMATED EMISSIONS

	Year For Which Actual Data Applies: 2016			
Pollutant	Estimated Emissions (tons/yr) at throughputs requested		Actual Emissions From Data Year	Estimation Method
	Controlled	Uncontrolled		
Particulate	4.0	7.9	2016	Previous Permits
PM-10	1.7	3.5	2016	issued by APCD
PM-2.5	0.33	0.67	2015	in 2015

A. TOPSOIL REMOVAL

Maximum Tons Removed Per Day: 870

Tons Removed Per Year: 2170

Topsoil removal using dozer, loader, and/or scraper. See notes 1-5.

Proposed Controls For **Topsoil** Removal:

- ■ Moist Material
- ■ Water Spray — As needed; if matl is too dry. See notes.
- ☐ Other **(specify)**

B. TOPSOIL STOCKPILE(S)

Maximum Stored At One Time: 4300 Tons

After first two years ops, soil moved directly to area being reclaimed, not stockpiles.

Proposed Controls For **Topsoil Stockpile**:

- ■ Watering — initially as needed Times/Day
- ☐ Chemical Stabilizer
- ■ Compacting Of Piles
- ☐ Enclosures Type: _____ (Complete or Partial)
- ■ Revegetation — Revegetation Must Occur Within One Year Of Soil Disturbance
- ☐ Other **(specify)**

C. OVERBURDEN REMOVAL

No overburden anticipated to be removed

Equipment Used For Removal: Unanswered

Maximum Tons Removed Per Day By Dragline: 0

Tons Removed Per Year By Dragline: 0

Number Of Scraper Hours Per Day: 0

Number Of Scraper Hours Per Year: 0

Proposed Controls For **Overburden** Removal:

- ☐ Moist Material
- ☐ Water Spray
- ☐ Other **(specify)**

- MINING OPERATIONS -

D. OVERBURDEN STOCKPILE(S) No overburden expected to be stored

Maximum Stored At One Time: 0 Tons

Proposed Controls For **Overburden Stockpile:**

- ☐ Watering _____ Times/Day
- ☐ Chemical Stabilizer
- ☐ Compacting Of Piles
- ☐ Enclosures _____ (Complete or Partial)
- ☐ Revegetation Revegetation Must Occur Within One Year Of Soil Disturbance
- ☐ Other **(specify)** _____

E. DRILLING

Number Of Holes Drilled Per Day: 0

Number Of Holes Drilled Per Year: 0

NO DRILLING.

Proposed Controls For **Drilling:**

- ☐ Water Injection
- ☐ Chemical Stabilizer
- ☐ Bag Collectors
- ☐ Other **(specify)** _____

F. BLASTING

NO BLASTING.

Number Of Blasts Per Day: 0

Number Of Blasts Per Year: 0

Type of Blasting Material Used: N/A

Tons of Blasting Material Used: N/A

Hours Of Emissions Per Day: N/A

G. RAW MATERIAL REMOVAL

Maximum Tons Removed Per Day: 1500

Tons Removed Per Year: 84,000

Drop Height: max 10 Feet

Specify Moisture Content: min 2 %, (if known)

Proposed Controls For **Raw Material** Removal:

- ☒ Moist Material
- ☒ Water Spray
- ☒ Other **(specify)** shut down with high winds

H. RAW MATERIAL STOCKPILE(S)

Maximum Stored At One Time: 21,000

Normally will be moved directly from face to plant, but stockpile proposed in case of scheduling issues.

Proposed Controls For **Raw Material Stockpile**:

- ☒ Watering as needed Times/Day
- ☐ Chemical Stabilizer
- ☐ Compacting Of Piles
- ☐ Enclosures Type: _____ (Complete or Partial)
- ☒ Other **(specify)** shut down with high winds (>25 mph)

- MINING OPERATIONS -

I. PROCESSING

Will processing (i.e., crushing, screening, etc.) occur on site? Yes

Expected equipment permitted as 07PO0957 and 07PO0958. May change.

NOTE: ALL PROCESS EQUIPMENT REQUIRES A SEPARATE PERMIT APPLICATION AND APEN. All process equipment will be portable and not permanently on site. Quantities are estimated based on equipment, schedule/materials.

PRIMARY CRUSHING

Maximum tons crushed per year: 42,000 Tons
Maximum tons crushed per hour: 250 avg 150 Tons
Hours of crushing per day: 12
Proposed Controls:
- ■ Moist Material
- ■ Water Spray As needed
- ☐ Enclosure Type:
- ■ Other **(specify)** not operate in strong winds

SCREENING/CLASSIFYING

Maximum tons screened per year: 84,000 Tons
Maximum tons screened per hour: 250 avg 150 Tons
Hours of screening per day: 12
Proposed Controls:
- ■ Moist Material
- ■ Water Spray As needed
- ☐ Enclosure Type:
- ☐ Other **(specify)** not operate in strong winds

SECONDARY CRUSHING

Maximum tons crushed per year: 21,000 Tons
Maximum tons crushed per hour: 150 Tons
Hours of crushing per day: 12
Proposed Controls:
- ■ Moist Material
- ■ Water Spray As needed
- ☐ Enclosure Type:
- ☐ Other **(specify)** not operate in strong winds

RESCREENING/CLASSIFYING

Maximum tons screened per year: 42,000 Tons
Maximum tons screened per hour: 150 Tons
Hours of screening per day: 12
Proposed Controls:
- ■ Moist Material
- ■ Water Spray As needed
- ☐ Enclosure Type:
- ☐ Other **(specify)** not operate in strong winds

J. CONVEYORS/TRANSFER POINTS

Tons Of Material Conveyed Per Year Total 84,000 Tons.
Tons Of Material Conveyed Per Day Total 1,800 Tons.
Proposed Controls
- ☐ Enclosure Type: (Complete or Partial)
- ■ Other **(specify)** moist materials

Number Of Transfer Points : Est 10
Proposed Controls
- ☐ Enclosure Type: (Complete or Partial)
- ■ Water Spray
- ☐ Chemical Stabilizer
- ■ Other **(specify)** moist materials

(Indicate On A Separate Diagram How Conveyor System Is Set Up)

Only temporary portable conveyors will be used, as part of the crushing and screening train. Configuration will vary based on equipment and materials (raw and produced). Tonnage assumes 20% loss of fines: only 70,000 tons or less will be produced. There is NO transfer of material by conveyor on this site NOT associated with a portable plant. Generally, material will be moved from working face directly to plant by loader, and then from product stockpiles (at end of plant stacker) directly to trucks.

- MINING OPERATIONS -

K. FINISHED PRODUCT STOCKPILE(S)

Maximum Stored At One Time: 70,000 Tons

Proposed Controls For **Finished Product Stockpile**:

- ☒ Watering — as needed Times/Day
- ☐ Chemical Stabilizer
- ☐ Compacting Of Piles
- ☐ Enclosures Type: _____ (Complete or Partial)
- ☐ Revegetation — Revegetation Must Occur Within One Year Of Soil Disturbance
- ☒ Other **(specify)** — Limit size of stockpile to 1 acre.

L. RAW MATERIAL TRANSPORT FROM REMOVAL SITE TO STOCKPILE(S)

Haul road distance (one way): max 500 Feet Initially 100 ft or less

Road surface silt content (if known): 2 % Gravel (pit-run) surface

Posted speed limit on haul road: 20 m.p.h.

- ☒ Watering
  - ☐ Frequent (Watering Frequency of 2 or More Times Per Day)
  - ☒ As Needed
- ☒ Chemical Stabilizer
- ☒ Gravelling

Other: Keeping haul distance as short as possible.

	Vehicle Type	Capacity		Empty Weight		No. Of Trips Per/Day
1	18-Wheelers		Tons		Tons	
2	10-Wheelers		Tons		Tons	
3	4-Wheelers	8	Tons	26	Tons	Average 235 Max 250
4			Tons		Tons	

M. FINISHED PRODUCT TRANSPORT (ON SITE)

Amount of material for off-site transfer: 70,000 Tons per year

On-site haul road distance (one way): 2,300 Feet

Road surface silt content (if known): max %

Posted speed limit on-site: 20 m.p.h.

- ☒ Watering
  - ☐ Frequent (Watering Frequency of 2 or More Times Per Day)
  - ☒ As Needed
- ☒ Chemical Stabilizer
- ☒ Gravelling
- ☐ Paving

Other: _____

	Vehicle Type	Capacity		Empty Weight		No. Of Trips Per/Day
1	18-Wheelers	24	Tons	16	Tons	60% = 5 avg
2	10-Wheelers	20	Tons	20	Tons	30% = 3 avg
3	4-Wheelers	4	Tons	4	Tons	5% = 2-1/2 avg
4	6-Wheelers	5	Tons	4	Tons	5% = 2 avg

Average annual daily traffic (AADT) for 70,000 tons/year: 12 (rounding)

- MINING OPERATIONS -

N. SITE DISTURBANCE

Total Area of Site: 102.6 Acres

Total Disturbed Area of Site: 62.6 Acres

Proposed Controls:

- ☐ Watering
  - ☐ Frequent (Watering Frequency of 2 or More Times Per Day)
  - ☒ As Needed
- ☐ Chemical Stabilizer
- ☒ Revegetation — Revegetation Must Occur Within One Year Of Site Disturbance
  - ☒ Seeding With Mulch
  - ☒ Seeding Without Mulch

  Based on soil conditions
- ☐ Other **(specify)** _____

Additional Sources of Emissions

List any other sources of emissions and related controls (includes fugitive emissions)

None

Original signed by Perry Neil, Manager — 16 November 2015

Signature of Legally Authorized Person (not a vendor or consultant) — Date

Name (please print) — Title

Check the appropriate box if you want:

☐ Copy of Preliminary Analysis conducted by the Division

☐ To review a draft of the permit prior to issuance

(Checking any of these boxes may result in an increased fee and/or processing time)

This notice is valid for five (5) years unless a significant change is made, such as an increased production, new equipment, change in fuel type, etc. A revised APEN shall be filed no less than 30 days prior to the expiration date of this APEN form.

Send this form along with $152.90 to:
Telephone: (303) 692-3150

Colorado Department of Public Health and Environment
Air Pollution Control Division
APCD-SS-B1
4300 Cherry Creek Drive South
Denver, CO 80246-1530

NOTES FOR APEN FOR TWO RIVERS PIT.

1 **PRODUCTION** This tonnage of 70,000 tons per year (TPY) is the maximum amount of material expected to be shipped from the site, and does not include waste generated, overburden, topsoil, or materials mined and stockpiled but not shipped from the site.

2 **PRODUCTION** As with equipment APENs and permits, the actual production may not be the full amount requested as the permit limit, in order to provide flexibility. If production increases from the data year, appropriate agencies will be notified in accordance with permit conditions. This is the planned average production to be shipped from this site per year, but the actual amount is based on market demand and may be unpredictable.

3 **TOPSOIL REMOVAL** Soil in-place 2300 lbs/CY (1.15 T/CY). Does not include removal from pre-existing stockpiles for reclamation purposes. Topsoil on the site ranges from 3" to 12" in depth. Based on an assumption of 6" average soil depth, or 800 CY (920 T) per acre, a maximum of 1 acre stripped per day (800 CY= 920 T), and an average of 1/4 acre (200 CY = 230 T) stripped per day. Stripping is expected to be relatively fast. For the next five years a maximum of 12.5 acres is expected to be stripped, in equal amounts (2-5 to 3.1 acres/year), for a total of 2900 TPY.
Other controls: As much as possible, stripping of topsoil is scheduled for days with little or no wind, and when soil is relatively moist, since this promotes both safe and environmentally sound operations. Stripping is generally done early in the construction season, when more moisture is present and some frost remains in the ground, reducing dust generated. Under some conditions, soil may be watered prior to removal, but this is not always possible. As stated in storm water management plans, work includes silt fencing, berms, ditches, mulching, and similar measures where needed in conjunction with or in lieu of revegetation. Average haul distance 500 feet one-way, 5 ton/load: 580 trips, 110 miles per year.

4 **TOPSOIL STOCKPILES** Soil in-place 2300 lbs/CY (1.15 T/CY). Does not include removal from stockpiles for reclamation purposes, which will be done at end of project. As much as possible, topsoil will be moved directly from stripped locations to areas in process of reclamation, so a total of two years' material is stored in stockpiles, and after that, stripped topsoil will be moved immediately to areas being reclaimed. In some cases, stockpiles are used only for a few hours or days, when the soil is immediately used for reclamation. For the first two years' stripping, the stockpile will probably remain in place until all mining is completed and reclamation is done at the end of the life of the pit.
Controls: Watering as used in this completed form means application by some method, not strictly spraying. Application rates and frequency will vary and are not fixed unless so stated.
Revegetation as used in this completed form means the preparation and planting or seeding of an area, and does not imply that revegetation standards of the Division of Mining and Geology reclamation permit have been met. Revegetation is accomplished in accordance with reclamation and storm water management plans. Since irrigation water is not available, planting will be done during recommended periods (fall) at the end of the production season.
Other: Move soil directly to reclaim areas, to minimize stockpile size and additional disturbance. (See storm water management plans): includes silt fencing, berms, ditches, mulching, and similar measures where needed in conjunction with or in lieu of revegetation. Limit stockpile area to 1 acre or less. Avg 18 ft high.

5 **OVERBURDEN REMOVAL: No overburden is expected to be removed: usable raw materials are available immediately below soil.**

6 **OVERBURDEN STOCKPILES: No overburden is expected to be removed: usable raw materials are available immediately below soil.**

7 **RAW MATERIAL REMOVAL: controls: other:** Average haul distance from excavation point to plant directly or through stockpile is maximum 500 feet one-way, assuming 8 ton/trip, requiring 8,750 trips and 1,660 miles of travel per year 70,000 tons/year.

8 This is based on a maximum of 70,000 tons (56,000 CY) per year and 60 work days per year, for an average maximum of 1,200 tons/day and a maximum of 50% higher, or 1,800 tons/day. With an average face height of 40 feet and 1.15 tons/CY, this means a maximum 2.5 acres per year.. Equipment has a maximum capacity of 500 TPH, and operates 8-10 hours per day, but actual working capacity is based on haul distance involved, and capacity of processing plant versus pit-run shipped off-site. Raw material is moved (preferably) directly from point of excavation into processing plant (and not stockpiles, due to economics and scheduling), and usually is NOT loaded into a truck for haul on-site. This material is sand and gravel, and includes an estimated 20% fines washed or screened out and used for backfill, as well as material used in the pit for dust control and other uses. Some material may not be processed on site, but most is processed onsite. This APEN and estimates assume no shipment of pitrun material directly off-site without processing. Raw "pitrun" material averages >2% (up to 5%) moisture when first excavated. Since it is normally fed directly to plant, there is little loss in moisture. Although raw materials might be stockpiled for up to 120 days, most will be in a stockpile for a far shorter time or not stockpiled at all. This depends on equipment availability, production schedule, and demand. Amount stockpiled also varies based on plant capacity available on-site. As used in this completed form, only processing using fixed (non-portable) equipment will be described in this APEN; otherwise, please refer to the APEN for the portable equipment which might be used on this site. Only equipment permitted in the State of Colorado will be used in this pit: EPA/SUIT will be notified as appropriate in accordance with EPA regs.

9 Maximum product stockpiles is based on materials left on-site at the end of the crushing/screening session, from which product is shipped over the course of approximately three months, to the beginning of the next production session. Product stockpiles are usually disturbed daily during construction season, as material is sold. However, in wintertime, remaining stockpiles may not be touched for much or all of the season, depending on weather. Piles are not separately watered, but materials put into stockpiles are wet as they come from the crushing and screening plants, where they are wetted by spray bars at multiple points.

10 Average distance, based on use of loaders (4-wheelers) directly from source to stockpile OR plant. When possible, there is no "haul road" per se; the plant is located in the pit and the pit floor is used to transport materials to the plant infeed. Depending on processing plant used, hauls range from 100 feet to 500 feet in length and average 300 or less. Several sizes loaders may be used in the pit: this APEN assumes an "average" such as a Volvo L220E with an 8-CY bucket. Trips are based on a maximum average of 1,800 TPD.

11 This is assumed, for completion of this form, to include the following actions: (1) movement from stockpile at end of conveyor to distant stockpiles, (2) movement of stockpiled material on-site for use in the site or to further process (by washing, etc.), and (3) movement from stockpile to gate of site. Double handling is limited as much as possible; haul distances vary significantly, and equipment used may vary. Generally, off-site transport is done in trucks; on-site transport is done by loaders.

12 Average distance from product stockpile areas to gate of site (intersection of CR-500 with access road).

13 Highest posted for loaded trucks from product stockpiles (past scale) to CR-500. Lower speeds apply in some areas. Steep grade limits speed. Based on average 1,800 TPD, 60% by semi, 30% by dump truck 10% by small dump/vehicle Although a large percentage of the permit area of the site is disturbed, only a portion of that is disturbed at any one time. Areas which have been reclaimed are assumed not to be disturbed for purposes of calculation of dust emissions. Plant areas will be limited to a maximum of 5 acres at any one time, access road is a permenent post-reclamation feature, per mine reclamation plan.

14 Restrict traffic from unneeded areas, limit traffic routes, restrict speeds, partially enclosed by walls of pit and terrain, storage of equipment and materials, reclaim as soon as possible. Note: disturbed areas used for traffic, stockpiles, and plant sites cannot be reclaimed within one year of disturbance.

GEOLOGICAL, RADIATION AND RELATED HAZARDS

Reconnaissance of the site and surrounding area, as well as research into publicly-available records and coordination with specialists, has found no indication of any geological hazards related to the site or which the proposed operation would create on or off-site, to include:

- Landslides and rockslides
- Earthquakes and other seismic events
- Flooding, and/or Excessive Erosion and/or Sedimentation
- Avalanches
- Naturally-occurring radioactive materials (NORM)

Setting: The material to be mined is unconsolidated conglomerate in Tertiary and Quaternary deposits, resting above the bedrock Mesaverde Group, a series of formations which include the Point Lookout Sandstone, Menefee Formation, and Cliff House Sandstone. At this location, the Menefee Formation appears to form most of the profile. The Mesaverde Group rests on top of the Mancos Shale, and consists primarily of sandstone, with fine-grained mixed clastic rock, some conglomerate, and sometimes coal. As discussed in the DRMS application, mining will not extend into the bedrock, which will form the floor of the pit.

Site reconnaissance and research: In addition to inspection of the site by a number of licensed professional engineers with civil experience, including one specializing in mineral resources and geology, review was made of published geological maps, studies, and reports, including published and available unpublished literature and on-line materials. The siting and potential issues were discussed with staff of the Colorado Geological Survey (CGS).

Findings: There are no documented hazards, which are potentially significant.

- There are no recorded instances of landslides or significant rockfalls in the area. As discussed elsewhere, inspection of the existing road cut for the ramp from the bridge to the planned operational area will include inspection for potentially unstable rock and other materials. If rock is disturbed and falls from the cut, rockfall may delay operations until they are removed, but there is no potential for impact on permanent structures or off-site.
- Although there are various faults in the area, there are no recorded earthquakes in state records, since 1867. The nearest recorded earthquakes, according to the CGS 6.75 mi S (intensity I, lowest) and 7.60 miles S (magnitude <2.6).
- The proposed operations are located 120 feet or more above and outside of the designated flood hazard areas, per Federal Emergency Management Agency documents. No direct discharge of water from affected lands to the San Juan River, Harris Ditch, or any tributaries to those streams is planned. Basins to retain water (for evaporation and/or infiltration) will reduce potential for erosion and prevent discharge of sediment.
- There is no evidence of, and no terrain features or other conditions which would allow avalanches to develop.
- Discussion with Dr. Paul Morgan, Senior Geologist with CGS, determined that there are no potential radioactive hazards (NORM) associated with the Mesaverde Group. While there are very minute quantities of natural uranium, thorium, and radioactive isotopes of potassium which may be present in the formations, there is no potential for greater than normal background radioactivity, even if the formation is disturbed. Any radon released in excavation of soils, sand, and gravel, will quickly dissipate, as no structures which would trap that gas are planned.

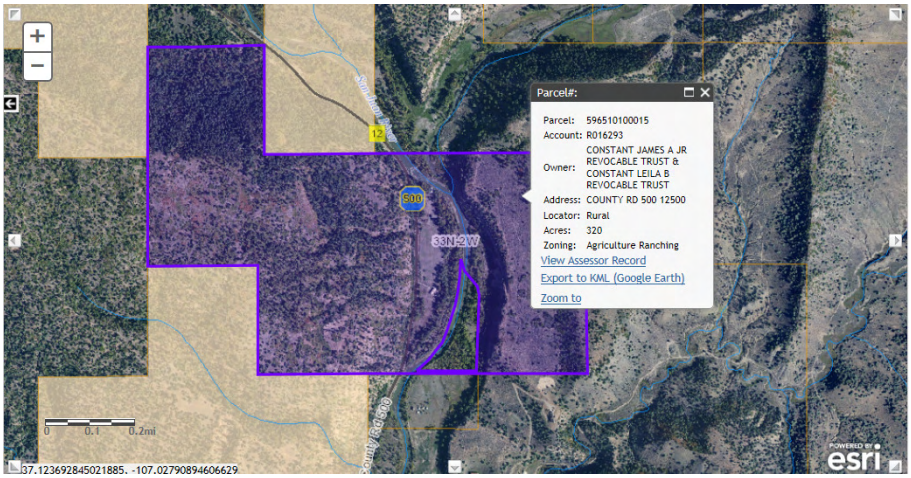
Recommendations: None.

Prepared by Nathan A. Barton, CE, PE, DEE, Environmental and Permitting Compliance Engineer
Mr. Barton is a graduate of the Colorado School of Mines, with 36 years experience in civil and mineral engineering, environmental design, geology, and site assessments.

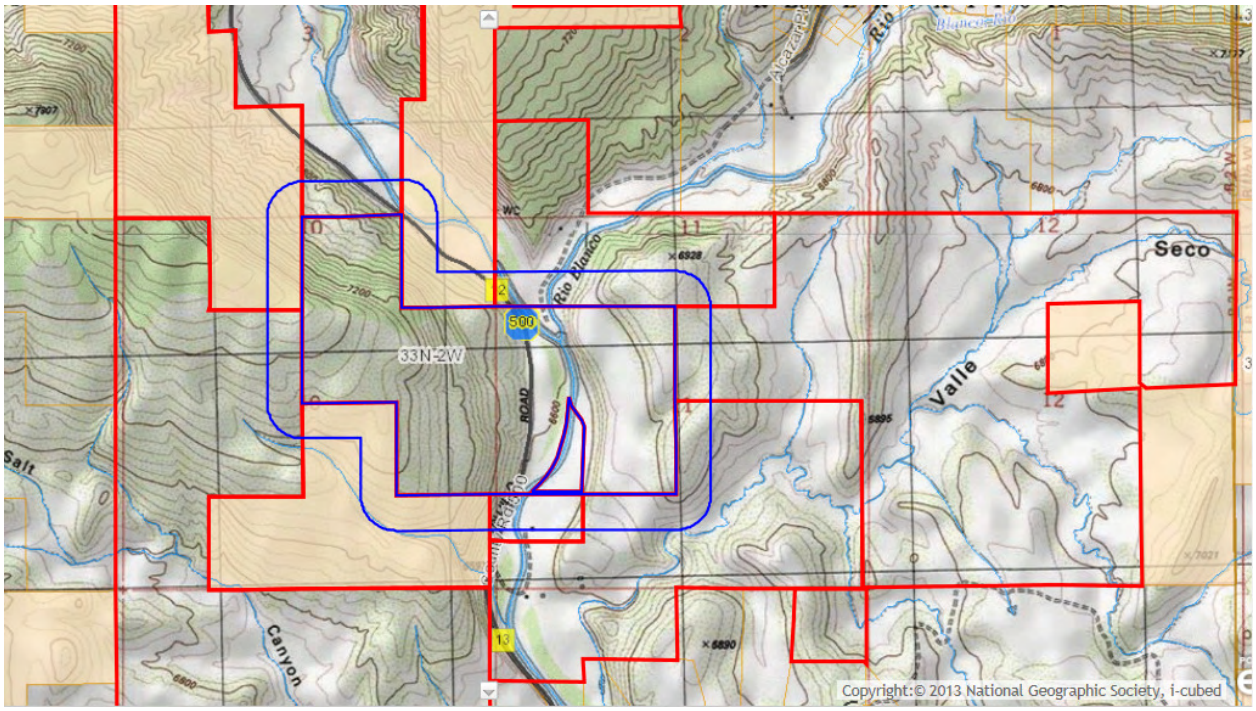
LAND OWNERS WITHIN 500 FEET AND ONE MILE
From Archuleta County GIS, as of 30 OCT 2015

Property on which Two Rivers Pit is proposed (blue outline).

(Note: triangular parcel was a proposed pit some years ago: it is within the state-approved permit boundary but NO disturbance is proposed in that part of the property.)



Property and parcels within 500 feet (blue radius) with topography



500-ft County Landowner list

PID	MAP	AccountN	MailAdd	SitusAdd	Owner
589134300038	H	R014855	10300 CR 500 PAGOSA SPRINGS, CO 81147	11000 CTY RD 500	ONE IN THE SPIRIT LTD
596501200002	E G I	R016177	PO BOX 737 IGNACIO, CO 81137-0000	500-542 CTY RD	UNITED STATES OF AMERICA T/F SOUTHERN UTE TRIBE
596501400005	B	R016246	3900 S WADSWORTH BLVD SUITE 440 LAKEWOOD, CO 80235	13790 & 13830 CTY RD 500	DIAMOND T RANCH LLC
596509100013	F	R016288	PO BOX 4027 CROSSVILLE, TN 38557	X CTY RD 500	EAGLE SHADOW RANCH LLC
596510100015	Situs	R016293	12500 CTY RD 500 PAGOSA SPRINGS, CO 81147	12500 CTY RD 500	CONSTANT JAMES A JR REV TRUST, CONSTANT LEILA B REV TRUST
596511200016	A	R016297	355 S GRAND AVE, 26TH FLOOR LOS ANGELES, CA 90071	12272 CTY RD 335	AE GRETHER LAND & CATTLE LLC
596511300017	D	R016298	414 ROLLING HILLS CIR COPPELL, TX 75019-0000	12664 CTY RD 500	WATERMAN JAMES O
596511400018	B	R016299	3900 S WADSWORTH BLVD STE 440 LAKEWOOD, CO 80235	12800 CTY RD 500	DIAMOND T RANCH

As of 30 October 2015

Property and parcels within 1 mile (blue radius)

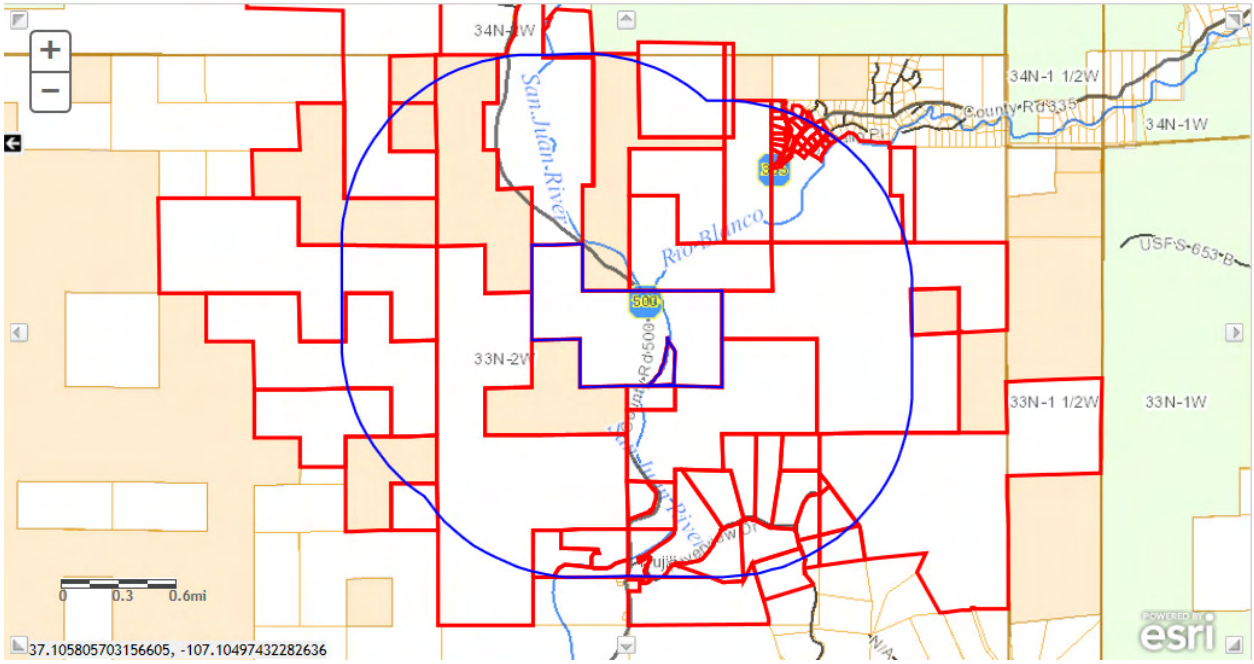


Table on Next Page

Parcel Number	AccountN	MailAdd	SitusAdd	Owner
589134300038	R014855	10300 CR 500 PAGOSA SPRINGS, CO 81147	11000 COUNTY RD 500	ONE IN THE SPIRIT LTD
589134400012	R014856	3820 WINSLOW DR FT WORTH, TX 76109-0000	10210C COUNTY RD 500	SAN JUAN RUNNING M INVESTORS LP
596501200002	R016177	PO BOX 737 IGNACIO, CO 81137-0000	500-542 COUNTY RD	UNITED STATES OF AMERICA T/F SOUTHERN UTE TRIBE
596501203004	R016213	6015 ONYX AVE SCOTTSDALE, AZ 85235	X COUNTY RD 335	WILLIAMS ANDREW D
596501203005	R016214	921 ORTIZ DR SE ALBUQUERQUE, NM 87108	136 CABALLO PL	PARSONS WILLIAM W
596501204001	R016215	1929 E LIBRA DR TEMPE, AZ 85283-3229	X CABALLO PL	SOWELL STEVEN R
596501204002	R016216	PO BOX 2083 PAGOSA SPRINGS, CO 81147	125 CABALLO PL	RICKER DEARLE ANN
596501300003	R016241	355 S GRAND AVE, 26TH FLOOR LOS ANGELES, CA 90071	PONY EXPRESS ESMT TR	AE GRETHER LAND & CATTLE LLC
596501300006	R016243	355 S GRAND AVE, 26TH FLOOR LOS ANGELES, CA 90071	PONY EXPRESS ESMT TR	AE GRETHER LAND & CATTLE LLC
596501400005	R016246	3900 S WADSWORTH BLVD SUITE 440 LAKEWOOD, CO 80235	13790 & 13830 COUNTY RD	DIAMOND T RANCH LLC
596502101003	R016253	727 RCR 1531 POINT, TX 75472	X CABRIPO PL	DELUCHE DANIEL ERWIN , DELUCHE BRENDA SUE
596502101004	R016254	PO BOX 91487 SAN DIEGO, CA 92169	299 ALCAZAR PL	WARD CHRISTY
596502101005	R016255	PO BOX 103 PAGOSA SPRINGS, CO 81147-0000	344 ALCAZAR PL	WEISSINGER RONALD ALLEN
596502101006	R016256	PO BOX 103 PAGOSA SPRINGS, CO 81147-0000	300 ALCAZAR PL	WEISSINGER RONALD ALLEN
596502101007	R016257	4252 COUNTY RD 335 PAGOSA SPRINGS, CO 81147	246 ALCAZAR PL	ANGLE GABE
596502101008	R016258	P O BOX 304 PAGOSA SPRINGS, CO 81147	206 ALCAZAR PL	RUEGGER STEVE
596502101009	R016259	P O BOX 4474 PAGOSA SPRINGS, CO 81147	176 ALCAZAR PL	ROLLINS SANDRA L , ROLLINS LEON C JR
596502101010	R016260	PO BOX 5104 PAGOSA SPRINGS, CO 81147	142 ALCAZAR PL	MUNRO PETER G
596502101011	R016261	355 S GRAND AVE, 26TH FLOOR LOS ANGELES, CA 90071	104 ALCAZAR PL	AE GRETHER LAND & CATTLE LLC
596502101013	R016262	355 S GRAND AVE, 26TH FLOOR LOS ANGELES, CA 90071	53 ALCAZAR PL	AE GRETHER LAND & CATTLE LLC
596502101014	R016263	355 S GRAND AVE, 26TH FLOOR LOS ANGELES, CA 90071	167 ALCAZAR PL	AE GRETHER LAND & CATTLE LLC
596502101015	R016264	4521 S ENSENADA ST AURORA, CO 80015	245 ALCAZAR PL	DRAKE JAMES T , DRAKE PATRICIA M
596502101016	R016265	4521 S ENSENADA ST AURORA, CO 80015	X ALCAZAR PL	DRAKE JAMES T , DRAKE PATRICIA M
596502101017	R016266	8 S FULTON DR MONTAUK, NY 11954	X CABRIPO PL	PASSIE JOHN
596502101018	R016267	8 S FULTON DR MONTAUK, NY 11954	X CABRIPO PL	PASSIE JOHN
596502102001	R016270	5700 COUNTY RD 335 PAGOSA SPRINGS, CO 81147	5700 COUNTY RD 335	BALDREY RALPH H
596502102002	R016271	2935 COUNTY RD 335 PAGOSA SPRINGS, CO 81147	5462 COUNTY RD 335	BARROWS ALEXANDER , DICKINSON DANITA
596502102003	R016272	2935 COUNTY RD 335 PAGOSA SPRINGS, CO 81147	5576 COUNTY RD 335	BARROWS ALEXANDER , DICKINSON DANITA
596502102004	R016273	2935 COUNTY RD 335 PAGOSA SPRINGS, CO 81147	X CABALLO PL	BARROWS ALEXANDER S , DICKINSON DANITA K
596502102005	R016274	308 County Rd 216 DURANGO, CO 81303-7829	X CABALLO PL	HAGEN RANDALL S
596502102006	R016275	1164 COUNTY ROAD 7611 DEVINE, TX 78061	106 CABALLO PL	WHITNEY CULLEN STILER , WHITNEY PATSY ELAINE
596502102007	R016276	PO BOX 2083 PAGOSA SPRINGS, CO 81147	X CABALLO PL	RICKER DEARLE ANN
596502200003	R016278	355 S GRAND AVE, 26TH FLOOR LOS ANGELES, CA 90071	X COUNTY RD 335 ESMT	AE GRETHER LAND & CATTLE LLC
596502300004	R016279	355 S GRAND AVE, 26TH FLOOR LOS ANGELES, CA 90071	6130 COUNTY RD 335	AE GRETHER LAND & CATTLE LLC
596502401012	R016280	355 S GRAND AVE, 26TH FLOOR LOS ANGELES, CA 90071	42 ALCAZAR PL	AE GRETHER LAND & CATTLE LLC
596509100013	R016288	PO BOX 4027 CROSSVILLE, TN 38557	X COUNTY RD 500	EAGLE SHADOW RANCH LLC
596509300012	R016289	PO BOX 4027 CROSSVILLE, TN 38557	X COUNTY RD 500	EAGLE SHADOW RANCH LLC
596509400068	R016292	PO BOX 4027 CROSSVILLE, TN 38557	X COUNTY RD 500	EAGLE SHADOW RANCH LLC
596510100015	R016293	12500 COUNTY RD 500 PAGOSA SPRINGS, CO 81147	12500 COUNTY RD 500	CONSTANT JAMES A JR REV TRUST , CONSTANT LEILA B REV TRUST
596511200016	R016297	355 S GRAND AVE, 26TH FLOOR LOS ANGELES, CA 90071	12272 COUNTY RD 335	AE GRETHER LAND & CATTLE LLC
596511300017	R016298	414 ROLLING HILLS CIR COPPELL, TX 75019-0000	12664 COUNTY RD 500	WATERMAN JAMES O
596511400018	R016299	3900 S WADSWORTH BLVD STE 440 LAKEWOOD, CO 80235	12800 COUNTY RD 500	DIAMOND T RANCH
596514123002	R016305	2121 LOMA LINDA DR PAGOSA SPRINGS, CO 81147-0000	290 S ROCKCLIFF CIR	HOPKINS GARY L & PAMELA K TRUST
596514123023	R016306	10501 LAGRIMA DE ORO #204 NE ALBUQUERQUE, NM 87111	X RIVERVIEW DR	CRAWFORD PINON HILLS LLC
596514123025	R016308	425 SACRED EAGLE LANE SEDONA, AZ 86336-0000	X RIVERVIEW DR	FOLEY JERRY & ROXANNE

596514123029	R016309	4801 NORTH HILLS BLVD NORTH LITTLE ROCK, AR 72116-00	X RIVERVIEW DR	MATTHEWS JAMES P & ALIX C
596514123030	R016310	4801 NORTH HILLS BLVD NORTH LITTLE ROCK, AR 72116-00	X RIVERVIEW DR	MATTHEWS JAMES P & ALIX C
596514323001	R016315	11300 FM 1960 W HOUSTON, TX 77065	X RIVERVIEW DR	DIAMOND M KING RANCH LLC
596514323027	R016317	PO BOX 245 ASHLAND, OR 97520	X RIVERVIEW DR	HEALY DOUG K AND NINA M , PILOT ROCK CAPTIAL INC
596514323028	R016318	P O BOX 246 PAGOSA SPRINGS, CO 81147-0246	X RIVERVIEW DR	PINON HILLS RANCH PROPERTY OWNERS ASSOCIATION INC
596514423003	R016319	519 LONA VISTA PAGOSA SPRINGS, CO 81147-0000	X S ROCKCLIFF CIR	ROTH JAMES A & KRISTEN J
596514423021	R016323	11040 PINEVALE LANE FRANKTOWN, CO 80116	X S ROCKCLIFF CIR	MCAFEE LEIF & KAROLYN J
596514423022	R016324	630 VINCENT PARK REDONDO BEACH, CA 90277-0000	X S ROCKCLIFF CIR	GRANT FAMILY TRUST
596515400002	R016326	8563 TL RANCH RD PONDER, TX 76259-0000	13831 COUNTY RD 500	TERRELL CHRISTINE FRANCIS
596515410001	R016330	PO BOX 4027 CROSSVILLE, TN 38557	13687 COUNTY RD 500	EAGLE SHADOW RANCH LLC
596515410002	R016331	PO BOX 4027 CROSSVILLE, TN 38557	13685 COUNTY RD 500	EAGLE SHADOW RANCH LLC
596514300059	R018629	PO BOX 1028 BRECKENRIDGE, TX 76424	13926 COUNTY RD 500	KILLION INVESTMENTS INC
596502103002	R018633	700 E RT 66 #98 GLENDORA, CA 91740	105 CABALLO PL	CONNER SHERYL J
596514200053	R019043	PO BOX 4027 CROSSVILLE, TN 38557	X COUNTY RD 500	EAGLE SHADOW RANCH LLC
596514200054	R019044	4 CRESTWOOD DR HOUSTON, TX 77007	13300 COUNTY RD 500	DIAMOND M KING RANCH LLC

As of 30 OCT 2015

Section	Title/Description	Actions/Condition/Task
3.2.3.4	Review Criteria	We believe that this application demonstrates that the proposed use:
3.2.3.4(1)	Relationship/Impact on Development Objectives	complies with and furthers the development objectives of Archuleta County by providing needed materials in a responsible way.
3.2.3.4(2)	Effect of use on:	
	Light	has no impact
	Air	has no impact beyond that allowed by environmental statutes and regulations.
	Distribution of population	has no impact, except to provide more sources of material for development
	Transportation facilities	will provide needed materials and more competition to supply those materials for county transportation facilities (roads), while impacts on roads (for transportation of those materials will be mitigated, and in some cases, reduced from the current situation.
	Utilities	has no impact, including supply of water, except that utilities will also have an additional source and competition to provide them needed construction materials.
	Schools	has no impact: there will be part time employees, but will generally be local residents and there will be no influx of new families or residents into the area.
	Parks and recreation facilities	has no impact: there will be part time employees, but will generally be local residents and there will be no influx of new families or residents into the area.
	Other public facilities	has no impact
3.2.3.4(3)	Effect of use on:	
	Traffic, especially:	
	Congestion	has no significant impact: increased annual average daily traffic of trucks will be relatively low and within capacity of the existing road net; this new source will reduce traffic on other roads.
	Vehicular and Pedestrian Circulation	has no impact
	Safety and convenience	has no impact
	Traffic flow and control	has no significant impact: traffic signage and entry design will ensure no significant change to CR-500
	Access	has no impact
	Maneuverability	has no impact
	Removal of snow from roads	will make sand more readily available for use in snow and ice control and removal for county and city
	Sidewalks	has no impact
	Parking areas	has not impact; all parking is on site
3.2.3.4(4)	Effect of use on:	
	Character of the area	has no significant impact: site design (including buffers) and other measures described in mining and reclamation plan address and mitigate impacts on area
	Relational scale and bulk of proposed use	is compatible both in scale and bulk with the agricultural nature of the area, and is at a sufficient distance from more dense residential use to create no problems.
3.2.3.4(5)	Adequacy of the design features to accommodate:	
	Accessibility	is adequately designed to provide required accessibility.
	Services areas	is adequately designed to accommodate all existing and future known services areas
	Parking	is adequately designed and has adequate on-site parking to accommodate all parking needs.
	Loading	is adequately designed to provide for safe loading and unloading
	Landscaping	is designed (including both mining and reclamation) to minimize visual impacts, and restore to a landscape appropriate for agricultural (ranching) use.

	Buffering	is designed to provide 200 feet or more buffer from other properties and significant manmade structures, as well as significant natural resources.
	Lighting	is designed to adequately address both needed lighting for safety and security but not contribute to light pollution.
3.2.3.4(6)	Natural resources and wildlife habitat areas:	
	Natural resources	is designed to obtain and use natural resources (sand and gravel) while protecting and conserving other natural resources and allowing development and use of those, including rangeland and other agricultural use, oil and gas, and water, to improve use of agricultural natural resources by increasing productivity. (NOTE: mining of sand and gravel is considered an irrevocable use of that natural resource.)
	Wildlife habitat	has been determined by state and federal agencies to not impact negatively on wildlife habitat, and will result in improved wildlife habitat (shared with livestock and other agricultural use) at the end of mining.
3.2.3.4(7)	Other factors:	have been addressed in the DRMS application process. The operator/landowner will address other factors as requested by the Planning Commission and Board of County Commissioners.

Section	Title/Description	Actions/Condition/Task
5.2	Environmental Standards	
5.2.1	Preservation of Natural Features and Resources	
5.2.1.1.	Natural Features	200-ft buffer zone in all directions No unusual rock formations Face of cliffs already changed by existing roadway to be used Existing bridge over river and irrigation ditch to be used
5.2.1.2	Archeological, Cultural, and Historical Resources	DRMS Package, Exhibit M Reviewed by SHPO
5.2.1.3.	Water Quality Control	DRMS Package, Exhibit H NOI for mining under MSGP for Indian Country (storm water Not covered by construction permit: falls under MSGP for Indian
5.2.1.4.	Water Body Setbacks	200 feet from River OHWM and irrigation ditch Existing bridge over river and irrigation ditch to be used
5.2.1.5.	Wetlands Protection	DRMS Package, Exhibit G No wetlands delineated on affected USACE Durango Regulatory Office reviewed state reclamation application and bridge construction No wetlands inventoried or likely to exist on site Storm water management plan protects waters of the US
5.2.1.6	Wildlife Habitat Protection	Located outside Critical Habitat per Map 2, AC Cmty Plan DRMS Package, Exhibit H CDPW reviewed state reclamation application
5.2.1.7.	Scenic View Protection	No viewshed overlay district established No permenent structures/buildings Processing plants and stockpiles located in interior and after initial several years will be in mined out areas, generally below original 200-foot buffer on N, E, and S sides; at top of and behind façade of
5.2.2	Mitigation of Natural Hazards	See DRMS Package Exhibits C, D and S.
5.2.2.1	Steep land	Reclamation to 3:1 slopes stated in reclamation plan, DRMS No habitable structures
5.2.2.2	Geologic Hazard Areas	200 foot buffer zone to west includes setback from face of hill No habitable structures within 300-feet + of proposed operations See hazards report: no geological or radiation hazard areas.
5.2.2.3	Flood Hazard Areas	All proposed operations are located outside the FEMA-designated

		The proposed operations are approximately 120 feet above base There is no direct discharge of water into the San Juan or its
5.2.2.4	Wildfire Hazards	See fire safety plan: no significant threat of wildfire to operations or from operations to adjacent lands. Site is not located within an organized fire district but has SUIT and federal/state support to adjacent lands.
5.2.2.5	Radiation Hazard Areas	See hazards report: no geological or radiation hazard areas.
5.3	Infrastructure Standards	
5.3.1	Survey Monuments	Not applicable: no subdivision proposed
5.3.2	Access Permit Required	See Engineering. Access and road design information provided. Site has adequate access, including emergency access, to and from Access Plan included in DRMS Package, Exhibits C and D.
5.3.3	Roads	See Engineering. Access and road design information provided.
5.3.4	Drainage System	See Engineering. Access and road design information provided. The DRMS Package includes the equivalent of a drainage study
5.3.4.1	On-site retention	All affected areas proposed shall have no surface discharge of
5.3.4.2	Design criteria (25- & 100-yr storms)	Interior drainage is designed to at least the 24-year, 24-hour storm Exterior drainage, including roads, is designed to at least the 10- Retention basin design is also based on annual precipitation and evaporation, in addition to the 72-hour rule (DWR)
5.3.4.3	Design criteria (100-yr storms)	See above: duplicate requirement.

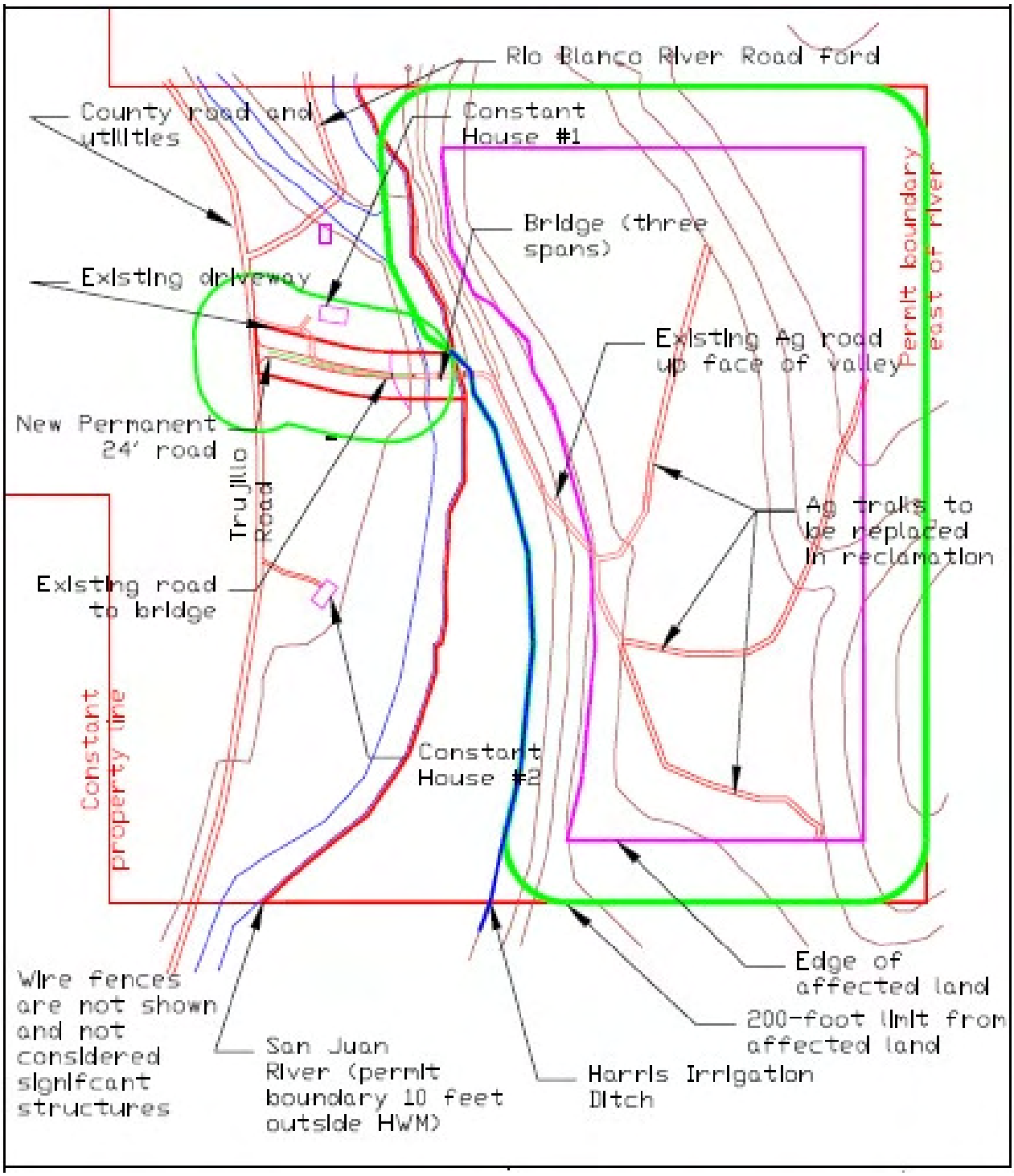
Section	Title/Description	Actions/Condition/Task
9.1.6	Performance Standards [Mining Operations]	
9.1.6.1	Compatibility with surrounding land use	The LO/O believe that the TRP is fully compatible with existing surrounding land use.
(1)	are primarily ag, forestry, or industrial	The LO/O believes the TRP complies with this requirement. See maps in DRMS Package.
(2)	no truck access thru res, rec, or comml	The LO/O believes the TRP complies with this requirement. See maps in DRMS Package.
(3)	not visible to adjacent surrounding residences (ASR)	As described in the DRM Package, terrain and the sequence of operations limits visible from ASR.
(3)a	or mitigated	Vegetated berms (protected soil stockpiles) will further reduce visibility of operations.
(3)b	placed suff dist from public roadways	The LO/O believes the TRP complies with this requirement. See maps in DRMS Package.
(3)c	placed behind natural landforms/exist veg	The LO/O believes the TRP complies with this requirement. See maps in DRMS Package.
(3)d	away from growth centers	The LO/O believes the TRP complies with this requirement. See maps in DRMS Package.
(3)e	minimize visual contact	The LO/O believes the TRP complies with this requirement. See maps in DRMS Package.
(4)	equipment not visible from adj surr. Residences	The LO/O believes the TRP complies with this requirement. See maps in DRMS Package.
(4)a	or mitigated	
(5)	no generation of noise/vibration	The LO/O believes the TRP complies with this requirement. See maps in DRMS Package.
(5)a	or mitigated per 5.4.2.1	
9.1.6.2	Air Quality	
(1)a	gravel, water, or chem access roads	The LO/O believes the TRP complies with this requirement. See maps in DRMS Package.
(1)b	gravel, water, or chem stripped areas	
(1)c	gravel, water, or chem excavations	
(2)	increase watering ops immed in response	The LO/O will comply with this requirement
(3)a	plant stripped areas/stockpiles > 1 season	The LO/O will comply with this requirement
(4)	cease aeration ops at WW pond during events	Not applicable: no aeration operations proposed.
9.1.6.3.	Visual Amenities and Scenic Quality	
(1)a	Low profile permanent equipment	Not applicable: no permanent equipment (located on site > 1 year) is planned
(1)b	Paint to blend	Not applicable: no permanent equipment (located on site > 1 year) is planned
(1)c	Screen permanent equipment	Not applicable: no permanent equipment (located on site > 1 year) is planned
(1)d	Color selection reviewed/approved by DCD	Not applicable: no permanent equipment (located on site > 1 year) is planned
(2)	maintain weed control	The LO/O will comply with this requirement
(2)b	maintain watering program	Not applicable: no watering planned for landscaping or reclamation. LO may irrigate grazing areas.
(3)	visual impact mitigation appvd by DCD	
(3)a	landscaping	Not applicable: no landscaping planned
(3)b	screening	Not applicable: other than berms for stockpile and operational use, no screeniing is planned.
(3)c	fencing	Not applicable: no fencing other than existing livestock fencing is planned.
(3)d	other	Not applicable: no other visual impact mitigation planned.
(4)	Not visible along highways (>1 year)	Not applicable: not along highway.
(5)	Distant from other mining (cumulative impacts)	There are no other mining operations within at least one mile of the parcel on which this is located.
9.1.6.4	Crushing, Processing, Batching, and HMA	
(1)	Current CDPHE APCD notices/permits	LO/O will comply with this requirement.
(2)	Mitigate visual impacts from batch plants	LO/O will comply with this requirement.
(3)	No batch plants within 100-yr floodplain	LO/O will comply with this requirement.
(4)a	Fully lined recirculation ponds or tanks	LO/O will comply with this requirement.
(4)b	Divert runoff from batch plant areas	LO/O will comply with this requirement.
(5)	Stationary sources meet APCD standards	LO/O will comply with this requirement.
(5)b	Stationary sources meet WQCD standards	LO/O will comply with this requirement.
(5)c	More stringent requirements by BOCC	LO/O request that information be provided as to likely requirements to be imposed; LO/O will comply if possible.

(6)a	Submit relocation inspection of batch plant to CPD	To our knowledge, there are no inspections by CDPHE Divisions upon relocation of equipment.
(6)b	Submit annual inspection of batch plant to CPD	To our knowledge, there are no annual inspections by CDPHE of equipment. If CDPHE inspects, O will submit copy of report when (if) received.
(7)a	County permit limited to 20 years	Although anticipated estimated operations in DRMS package is greater than 20 year, LO/O understand this limit.
(7)b	New permit review required for renewal	LO/O understand that a new permit review is required and that the BOCC may add conditions
(8)a	County performance guarantee	LO/O request that a copy of the required guarantee be provided for review and to ensure we can comply
(8)b	Provide BOCC certified copy of DRMS bond (warranties) LO/O Landowner/Operator O Operator LO Landowner	LO/O will comply with this requirement.

Section	Title/Description	Actions/Condition/Task
9.1.7	Submittals	
9.1.7.1	**Copy of Application submitted to CDMG**	Note: CDMG is now the Colorado Division of Reclamation, Mining, and Safety (DRMS)
(1)	Site Plan	Exhibits B (Sheets B1-B3) and C (Sheets C1-C3) are the "site plan"
(2)	Operations Plan	Exhibit C (Mining Plan) appears to be the closest to this request, but portions of other exhibits may also be included.
(3)	Road Use Plan	There is no "road use plan" or similar in the DRMS Package. Sheets C4-C5 show the access road.
(4)	Reclamation Plan	Exhibits E (Reclamation Plan) and F (Reclamation Plan Maps and Cross-Sections)
(5)	Copy of Bond	The Performance Warranty and Financial Warranty are not prepared or issued until the Reclamation Permit Application is approved and posted: after county process is completed.
(6)a	Wildlife	DRMS Package Exhibit H
(6)b	Soils	DRMS Package Exhibit I
(6)c	Geology	DRMS Package Exhibit I, and Sheet B-3
(6)d	Hydrology	DRMS Package Exhibit G
(6)e	Other environmental information	DRMS Package, Exhibits C, D, E, F, G, I, J, L, M, and S
9.1.7.2.	**Maps and Plans**	
(1)a	Maps: Location	DRMS Package, Exhibit B
(1)b	Maps: Mining	DRMS Package, Exhibit C
(1)c	Maps: Reclamation	DRMS Package, Exhibit F
(1)d	Maps: Adjacent owners	DRMS Package, Exhibit(s)
(1)e	Maps: Water	DRMS Package, Exhibit G
(1)f	Maps: Soil	DRMS Package, Exhibit(s)
(1)g	Maps: Geology	DRMS Package, Exhibit B Sheet B-3, and Exhibit
(1)h	Maps: Structures	DRMS Package, Exhibit S
(2)	USGS Quad 1-mile radius	Exhibit B of DRMS Package
(3)	Site Plan … exploration operation	Not applicable: no exploration planned. Mining and Reclamation Site Plans are in DRMS Package Exhibits C and F
(4)	Grading Plan	Maps in Exhibits C and F of DRMS Package
(5)	Contour Map	Maps in Exhibits C and F of DRMS Package
(6)	Site Description:	Exhibit D of DRMS Package has a written description of the site, and references other Exhibits
(6)a	Existing vegetative types	DRMS Package Exhibit J.
(6)b	Existing land use of site, surrounding	DRMS Package, Exhibit M, Map M-1, and Exhibit O
(6)c	Location of various items	Extraction areas: stockpiles, topsoil stockpiles: overburden stockpiles: None, Nearest waterways Nearest residences: Proposed/existing fencing: All shown in various maps in DRMS Package
(7)	Written description of access roads:	ATT # 9 (Engineering) Sections a and b.
(7)a	Route recon details	ATT # 9 (Engineering) Sections a and b.
(7)b	Anticipated impacts and traffic	ATT # 9 (Engineering) Sections a and b.
(7)c	Areas along route	ATT # 9 (Engineering) Sections a and b.
(7)d	Location of internal haul roads	DRMS Package, Sheet F3
(8)	Project description	DRMS Package, Exhibit D (Mining) and Exhibit E (Reclamation)
(8)a	Size/timing of extraction	DRMS Package, Exhibit D (Mining) and Exhibit E (Reclamation)
(8)b	Depth of topsoil/overburden	DRMS Package, Exhibit D (Mining) and Exhibit E (Reclamation)
(8)c	Max area to be disturbed at any one time	DRMS Package, Exhibit D (Mining) and Exhibit E (Reclamation)
(8)d	Methods, times of extraction, employees	DRMS Package, Exhibit D (Mining) and Exhibit E (Reclamation), normally 2-3 employees on-site.
(8)e	Expected volume/annual volume	DRMS Package, Exhibits C and M (fr discussion of haul and traffic)
(8)f	Outdoor storage and weed control plan	DRMS Package Exhibit J. All outdoor storage shall be on the plant site and within the working floor of the pit. See also item (10)e below (ATT # 9 (Engineering) Section D

(9)	Blasting plan and information	DRMS Package, Exhibit M: No blasting is proposed for the Two Rivers Pit
(10)	Reclamation Plan	DRMS Package, Exhibits E and F
(10)a	Proposed final land use	DRMS Package, Exhibit E (Reclamation)
(10)b	Timing of reclamation	DRMS Package, Exhibits E and F
(10)c	Salvage, redistribution and disposal	DRMS Package, Exhibit D (Mining) and Exhibit E (Reclamation)
(10)d	SCS/MLRB seeding/revegetation	DRMS Package, Exhibit J. ATT #
(10)e	Weed control plan	DRMS Policy Letter and DRMS Package Exhibit J, ATT # 9 (Engineering) Section D
(11)	Environmental/vicinity impact	DRMS Package, Exhibits C, D, E, F, G, I, J, L, M, and S
(11)a	Soils	DRMS Package, Exhibit I
(11)b	Visual impacts: area/neighborhood, roads	DRMS Package, Exhibit M
(11)c	Wildlife	DRMS Package, Exhibit H
(11)d	Geologic, floodplain, hydo, wildfire hazards	DRMS Package: Geology: Exhibits B & I Floodplain: Exhibit G Sheet G-X Hydrological: Exhibit G, Wildfire:
(11)e	Potential pollution incl noise, water rights	DRMS Package, Exhibit M
(11)f	Climatological data	DRMS Package, Exhibit K
(11)g	Surrounding property uses, land values	DRMS Package, Exhibit M, Map M-1, and Exhibit O
(12)	Impact mitigation plan	DRMS Package, Exhibits C, D, E, F, G, I, J, L, M, and S
(12)a	Visual	DRMS Package, Exhibit M and ATT # 17
(12)b	Wildlife	DRMS Package, Exhibit H
(12)c	Geologic, floodplain, hydo, wildfire hazards	DRMS Package: Geology: Exhibits B & I Floodplain: Exhibit G Sheet G-X Hydrological: Exhibit G, Wildfire:
(12)d	Air pollution	DRMS Package, Exhibit M
(12)e	Water quality and quantity/augmentation	DRMS Package, Exhibit G
(12)f	Significant vegetation preservation	DRMS Package, Exhibit J
(13)	Fugitive Dust Control Plan	DRMS Package, Exhibit M and ATT # 9 (Engineering) Section e.

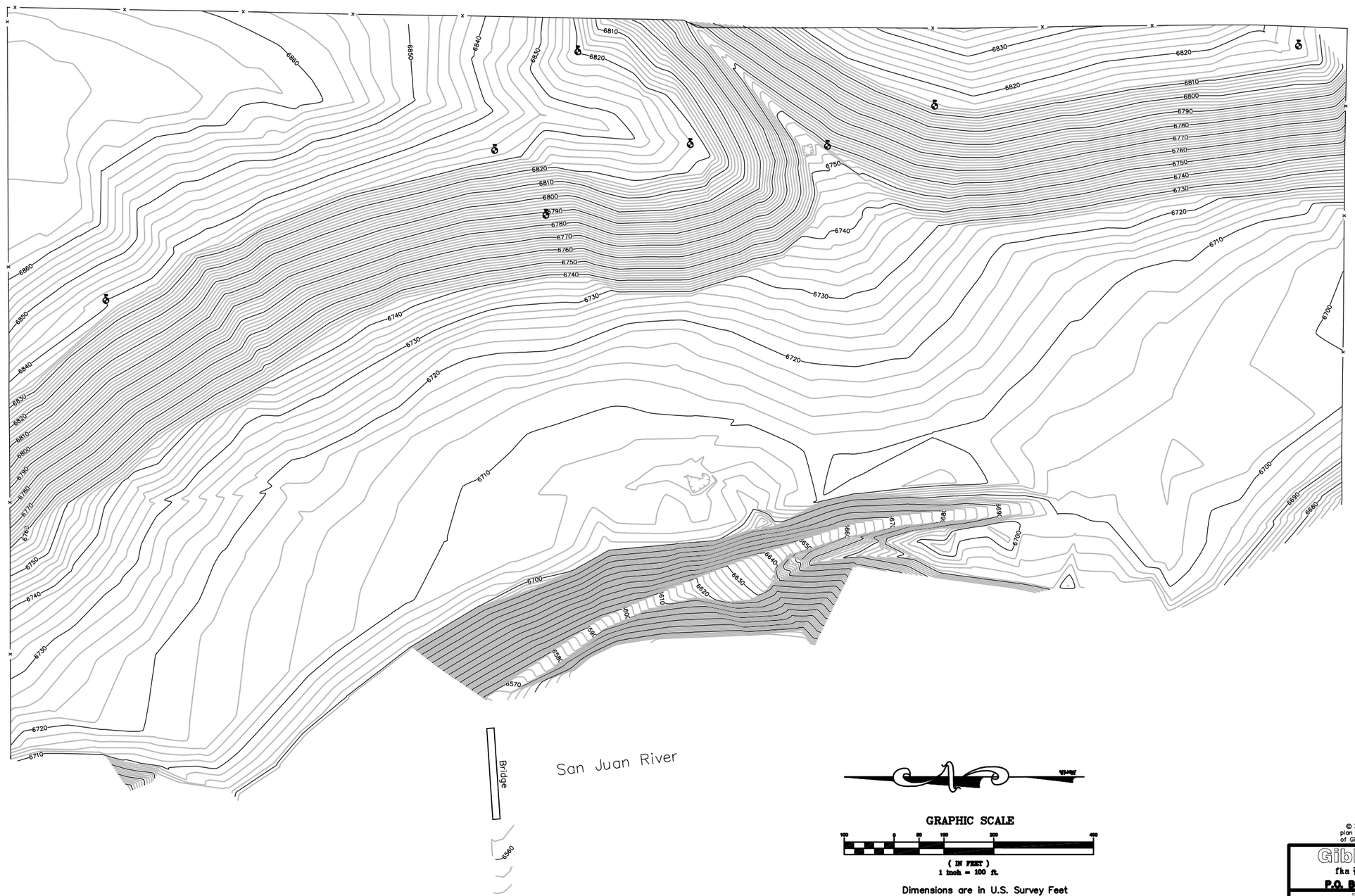
DRMS Package is Attachment 16 and includes approval letter after MLRB decision.



KEY EXISTING FEATURES OF THE SITE, AND CURRENT CONTOURS

Topographical Mapping
of the Constant Property
located in
Section 11, T33N, R2E, N.M.P.M.

Archuleta County **Colorado**



Dimensions are in U.S. Survey Feet
Elevation Datum: NAVD88
Countour Interval: 2 ft

: Test Pit

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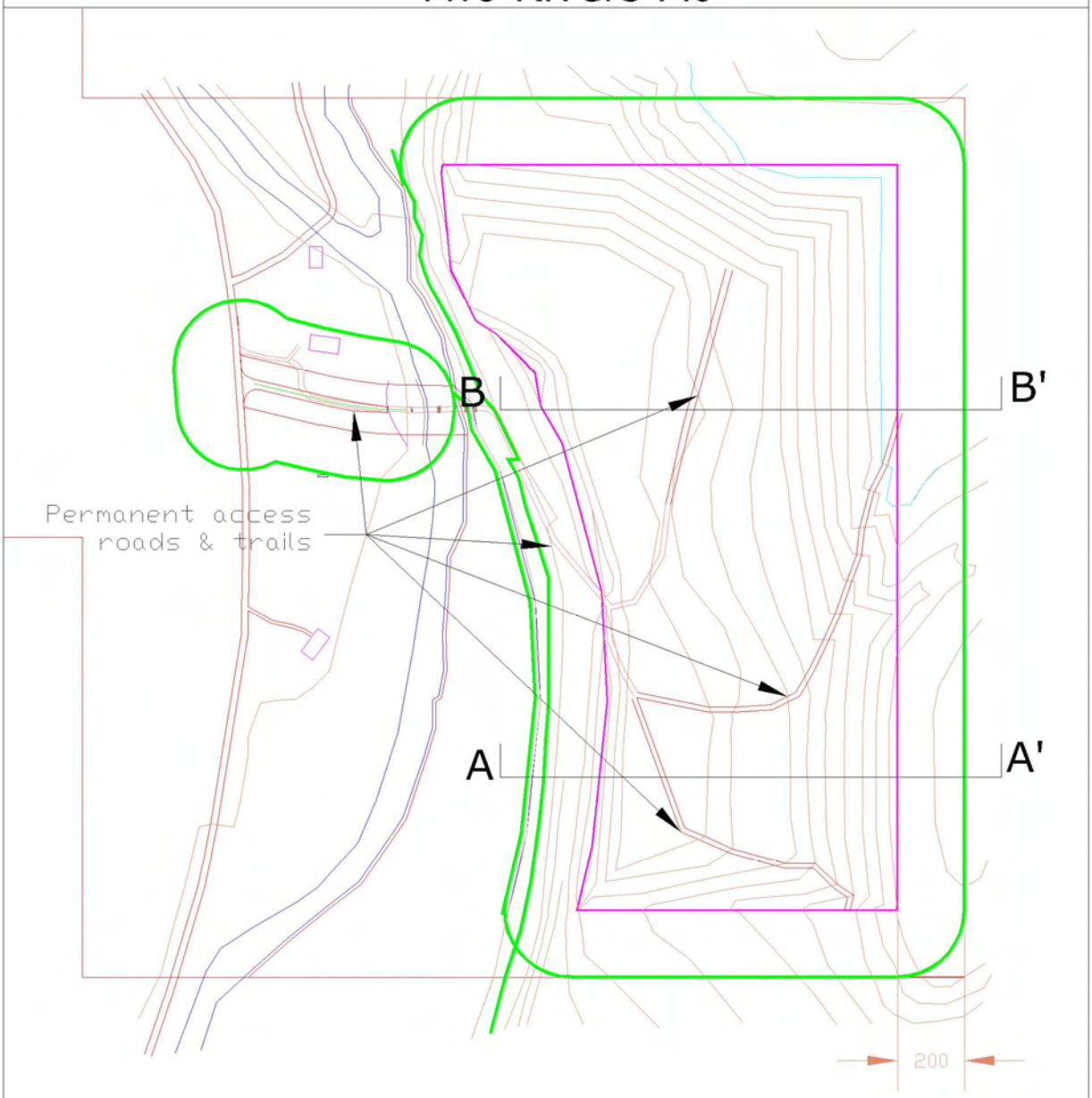
Gibbons - NBQ Inc.
fka Ernst Engineering Co. Inc.
P.O. Box 3178 DURANGO, CO. 81302

Topographical Mapping
of the Constant Property
located in
Section 11, T33N, R2E, N.M.P.M.
Archuleta County Colorado

Job: Constant15.dwg	Drawn by: GW	
Checked by:	Rev:	
Scale: 1"= 50'	Date: Sept. 17, 2015	

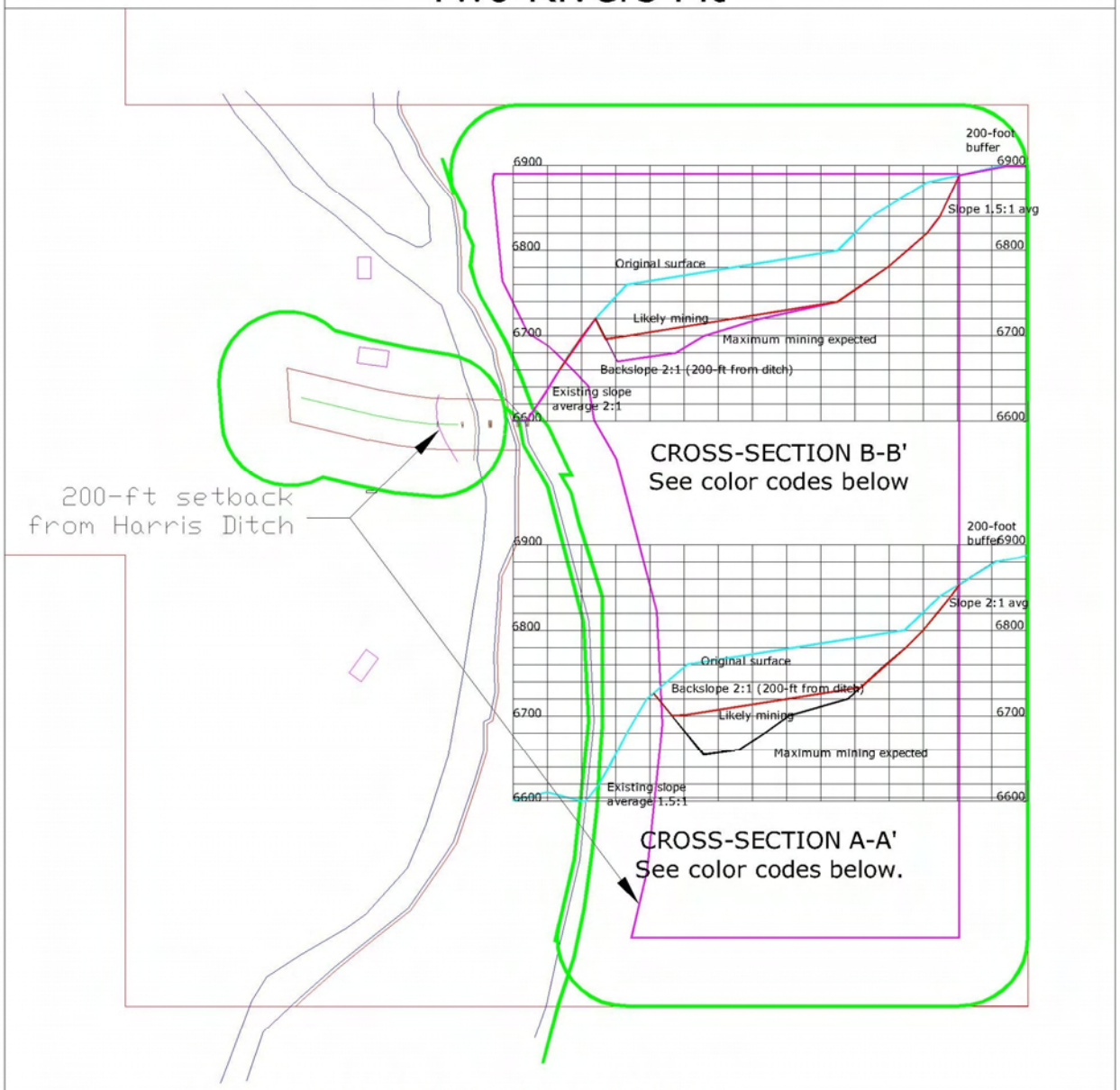
C&J Gravel Products, Inc.
Two Rivers Pit



A A'
CROSS-SECTIONS

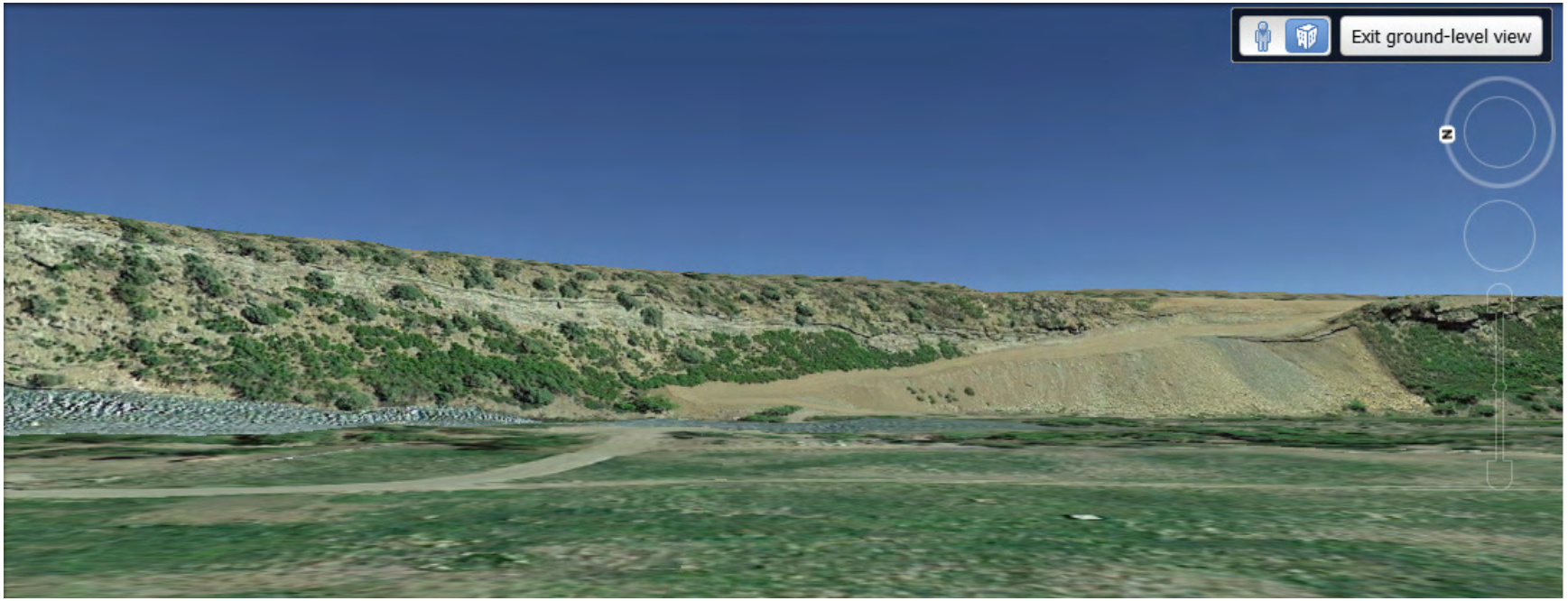
POST=RECLAMATION CONTOURS AND FEATURES

C&J Gravel Products, Inc.
Two Rivers Pit

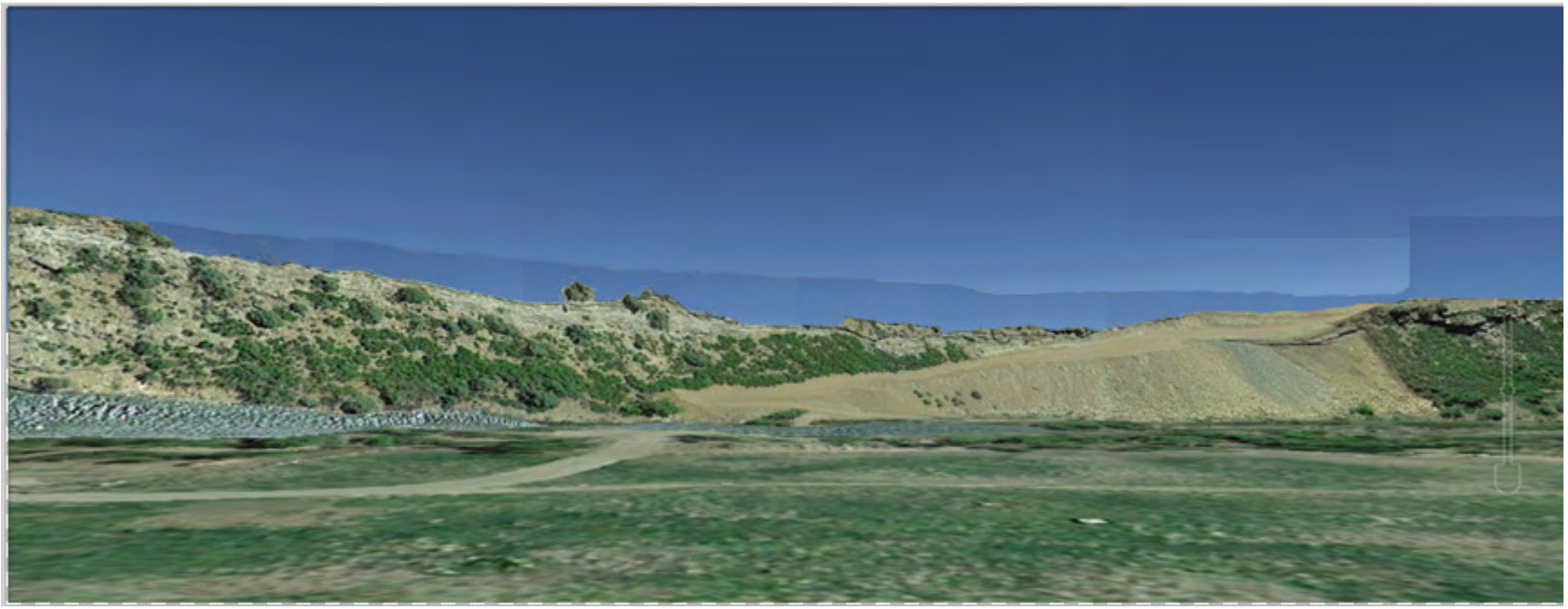


CROSS SECTIONS LOOKING NORTH

HORIZONTAL SCALE: 1 block = 100 feet
VERTICAL SCALE: 1 block = 20 feet
Cyan: Original
Red: Likely final contours (60 foot max)
Magenta: Possible maximum contours (110 foot max)



View of Pit from CR-500 (using Google Street View) – façade of the pit facing San Juan River and CR-500 will remain, hiding the excavation and reclamation from view.



Views of the Bridge Approach and Face of the Valley Wall in Summer 2015. Façade (cliff and trees) will remain: the ridge to the east will be gone.

October 6, 2015

C & J Gravel Products, Inc.
Perry Neil
27661 Highway 160 E
Durango, CO 81301

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

RE: Two Rivers Pit, File No.M-2015-004, Contruction Material Regular (112) Operation Reclamation Permit Application Decision Letter – Financial and Performance Warranty Request

Dear Mr. Neil:

On September 23, 2015, the Division of Reclamation, Mining and Safety (Division) approved the above noted permit application.

The amount of financial warranty set by the Division for this operation is an amount of *($140,354.28).* A financial warranty of the entire amount, as well as a performance warranty, must be submitted to the Division before a Reclamation Permit may be issued. Please select a type of financial warranty from those detailed in Rule 4.3. Once a financial warranty type is selected, please download the applicable financial warranty and performance warranty forms from the Division's website http://mining.state.co.us/Mineral%20Forms.htm. You may also contact the the Division to have copies of your selected warranty forms mailed to you.

Please make arrangements with Barbara Coria at the Division of Reclamation, Mining and Safety Denver Office, phone no. 303.866.3567, ext. 8148 for submittal of the financial and performance warranties. Any questions regarding completion, execution and/or submittal of financial and/or performance warranty forms should also be directed to Barbara Coria.

PLEASE NOTE THAT MINING OPERATIONS MAY NOT COMMENCE UNTIL A PERMIT HAS BEEN ISSUED BY THE DIVISION AFTER RECEIPT OF THE FINANCIAL AND PERFORMANCE WARRANTIES. A PERMIT WILL NOT BE ISSUED UNTIL THE ADEQUACY OF BOTH THE FINANCIAL WARRANTY AND PERFORMANCE WARRANTY ARE VERIFIED BY THE DIVISION.

If you require additional information, or have questions or concerns, please contact me at the Division's Grand Junction Field Office.

Sincerely,

Stephanie Mitchell
Environmental Protection Specialist
Department of Natural Resources
Division of Reclamation, Mining and Safety
101 South 3rd, Suite 301
Grand Junction, CO 81501
Phone: (970) 242-5025
Fax: (970) 241-1516

Cc: Barbara Coria, DRMS
Russ Means, DRMS

ADDENDUM TO THE PROJECT NARRATIVE

This report addresses specific issues which the County Planning Office requested clarification regarding mining and affected (disturbed) land on-site.

Hours of operation are proposed to be Monday – Friday 8AM-4PM, for October – March, and Monday – Friday 7:30AM – 5PM and Saturday 8AM-12Noon, for April – September. The crushing and screening train will be on site up to 90 calendar days per year, with a crew of 3 men. Otherwise, there will be a crew of two to run the scale and loader.

A series of five sequential maps shows the initial phases of mining. This varies from that originally approved by the state, to meet concerns of neighbors, and the mining and reclamation plans in the application to DRMS will be revised in accordance with DRMS rules, if this is approved by the county.

> In each of these drawings, existing roads are shown in red, and roads built just for the mining are shown in gray. The initial location of the crushing and screening train and product stockpiles is shown with a magenta circle about 100 yards in diameter. The areas actually mined (each about 200 by 400 feet) are shown in red, with a number indicating the phase or year. Green areas north and south of the plant site show where soil removed from the plant site and first area mined are stored: the berm to the south reduces noise, dust, and visual impact of the plant and traffic for neighbors.
>
> For phases (years) 2-5, red are areas mined, and the green areas are where reclamation is being done after mining: first by grading and replacing soil then seeding with grass. It usually takes several seasons to meet the standards. By the time area 5 is being mined, areas 1 and 2 are completely reclaimed, area 3 is well under way, and area 4 is being reclaimed.
> After this 5th phase, the plant would be moved to area 5, so that haul distances from the mining face are kept relatively short. Note the plant will only be present about 30-60 days/year.
> In any given year, the plant/stockpile area ia about 4 acres, and the area actually mined will be about 2 acres, for a total of 6 acres, about 10% of the total area to be disturbed for the life of the project. About 4-8 acres will be in the process of reclamation at that same time.

The next map shows the total area (green-striped with a magenta boundary; about 53 acres) on top of the mesa, to be mined and reclaimed over the life of the project. This is 200 feet back from the north, east, and south property lines. This is also 200 feet back from the Harris Ditch, shown by the thick blue line, which flows UNDER the existing bridge providing access to the east bank of the San Juan and the mesa top. The Diamond T. Ranch has a ***non-exclusive*** easement across the Constant property to access and maintain the Harris Ditch.

> As the Colorado Supreme Court has explained, a non-exclusive easement is one where the property owner, the Constants, are free to use the entirety of property, including the easement, at any time and for any reason that does not interfere with the purpose of the easement. *Lazy Dog Ranch v. Telluray Ranch Corp.,* 965 P.2d 1229, 1238 (Colo. 1988). Since the purpose of the easement is merely to allow access to maintain and operate the ditch, the Constants use of the property on which the easement sits, the ditch itself, and the airspace, for any activities is unrestricted as a matter of law provided that the use does not unreasonably interfere with the Diamond T's ability to access and maintain the ditch.

The easement does not prohibit, in any way, the crossing of the ditch. Indeed, a small culvert has existed further down the ditch for decades, which is used for access across the ditch without needing to ford the ditch. The bridge, built in 2013, meets the requirements of the agreement between the ditch owner and the land owner as recognized in the recent court hearing.

The Diamond T Ranch recently attempted to block the use of the bridge to facilitate operating the gravel operation by seeking a temporary injunction in the District Court in and for Archuleta County, case number 2015CV030251. After an all-day hearing where witnesses were called on behalf of the Diamond T Ranch by their Denver lawyers and rebuttal witnesses were called by the lawyer representing the Constants and C&J, the Court took the matter under advisement. On April 26, 2016, Judge Gregory Lyman issued his ruling and denied the injunction finding specifically that (a) there was no proof of any irreparable harm from alleged infiltration of the water in the ditch or nearby wells; (b) that the purpose of the easement was shown to be unencumbered by the unrebutted evidence at the hearing, and that (c) the Diamond T had not established a reasonable probability of success on the merits of its claims.

The 200 foot also provides a setback of about 50 feet from the top of the cliff above the river, thus preserving the facade of the valley AND ensuring that water (or rock) from the mining areas does not flow over the cliff and into the river or ditch.

Information was provided in the MLRB hearing, as well, to demonstrate that the existing ramp, up the hill from the bridge to the top of the ridge, also built in 2013, does not contribute runoff to the ditch. As noted, the District Court reached a similar conclusion. However, there is no prohibition in any easement, agreement, or state law from runoff entering the ditch from any part of the landowner's property.
Swales dug and berms of the soil placed between the area being mined and the buffer zone, will divert and retain storm water and water used in operations, as well as any chemicals used and stored on-site.

The next map shows that drainage. Berms in the interior of the affected area are not shown. The ditches on both sides of the road up the hill, and the berm on the downhill side (an MSHA requirement) are shown on the next, detail drawing.

The preparation of the area to be used for plant, stockpile, and loading areas, will include stripping of soil and stockpiling that soil so that berms are created to prevent any discharge of storm water from the areas; that will control at least a 24-hour, 100-year storm event (rain or snowmelt) and therefore, there is no physical way that surface runoff from the plant site (or from areas being mined) can flow over the side of the ridge, down the sides of the ramp, and into either the ditch or the river. Vehicles will actually go uphill a short distance when going from the plant area to the top of the ramp, and then down the ramp. As has been the case since 2013, runoff from the surface of the ramp will flow into the ditches along the side of the ramp and then down those ditches to the bottom of the ramp, near the bridge. Most of that water will infiltrate or evaporate; the rest possibly may ultimately enter the ditch or the river, but in relatively small quantities and at low velocity, due to the configuration of the slope and

the toe of the slope east of the ditch and river.

The last map comes from the DRMS application, and shows significant permanent structures. The DRMS 200-foot requirement is the standard distance that affected land is to be from those manmade structures without requiring special analysis and agreements.

Analysis, as reviewed by DRMS, finds no potential for significant impact on permanent manmade structures shown on this map, either inside or outside the 200-foot buffer.

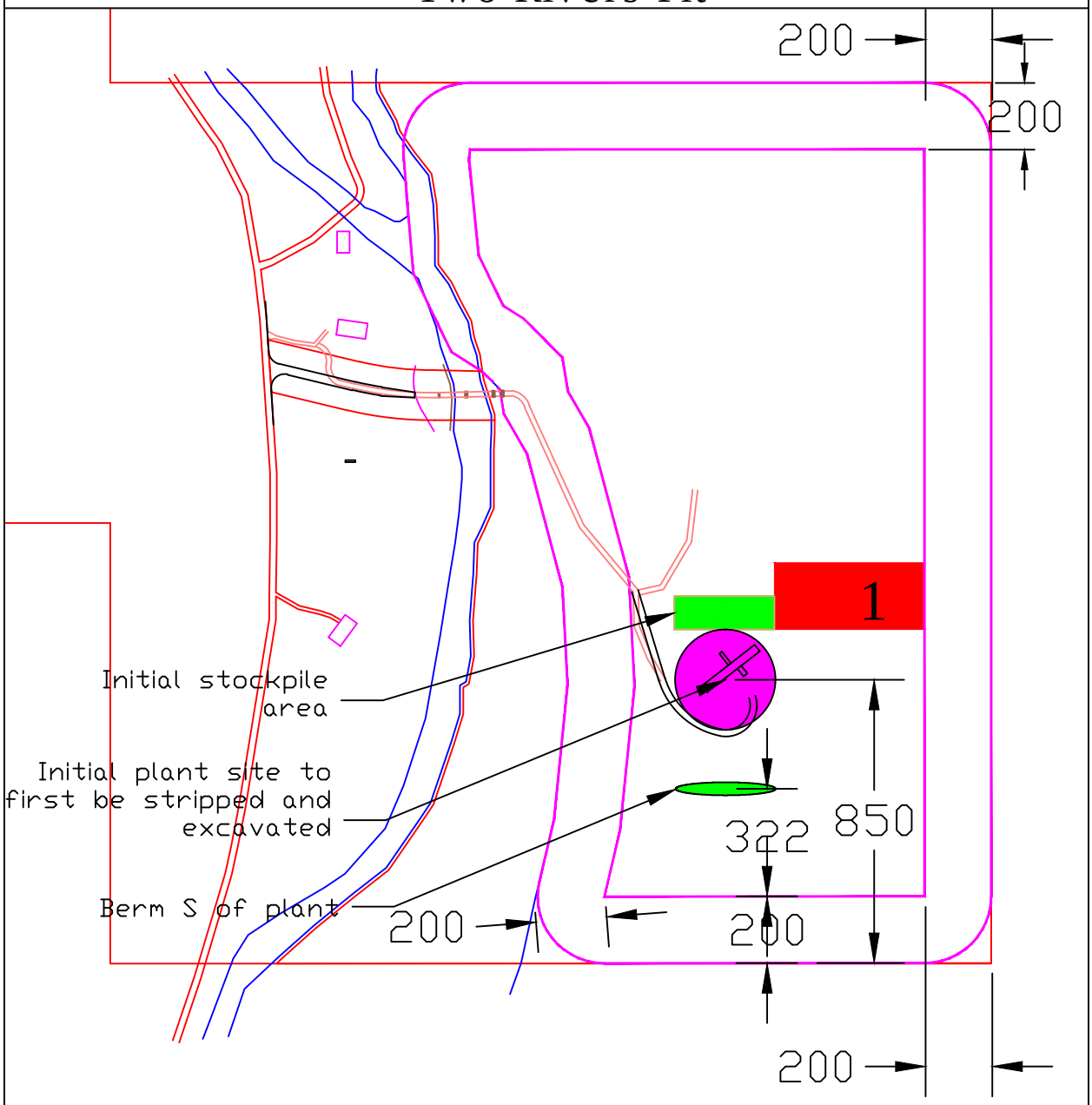
The final page is a general cross-section showing the relation of the pit and the depth of nearby wells, and information regarding water use needed for the site and its source. Adequate water is available for all needs, without taking water from other users.

Water rights and requirements are discussed in the original state DRMS application. Several of the points of objection raised by the Diamond-T Ranch to the MLRB concerned these issues. These issues were reviewed by both the DRMS staff and the MLRB, and deemed to be adequate. Once again, the Diamond T Ranch attempted this same argument in District Court, but the Judge, like the MLRB, did not find any evidence of any actual harm.

As stated in the application, “health facilities” are portable toilets and water containers, and require very little water. Calculations on dust suppression assume NO precipitation at all during operations and hauls, so any precipitation will reduce water needs. The DRMS and MLRB found no reasonable potential for significant negative impacts on either water quality (pollution) or quantity of either the Harris Ditch or the San Juan River.

Prepared 29 APR 2016

C&J Gravel Products, Inc.
Two Rivers Pit

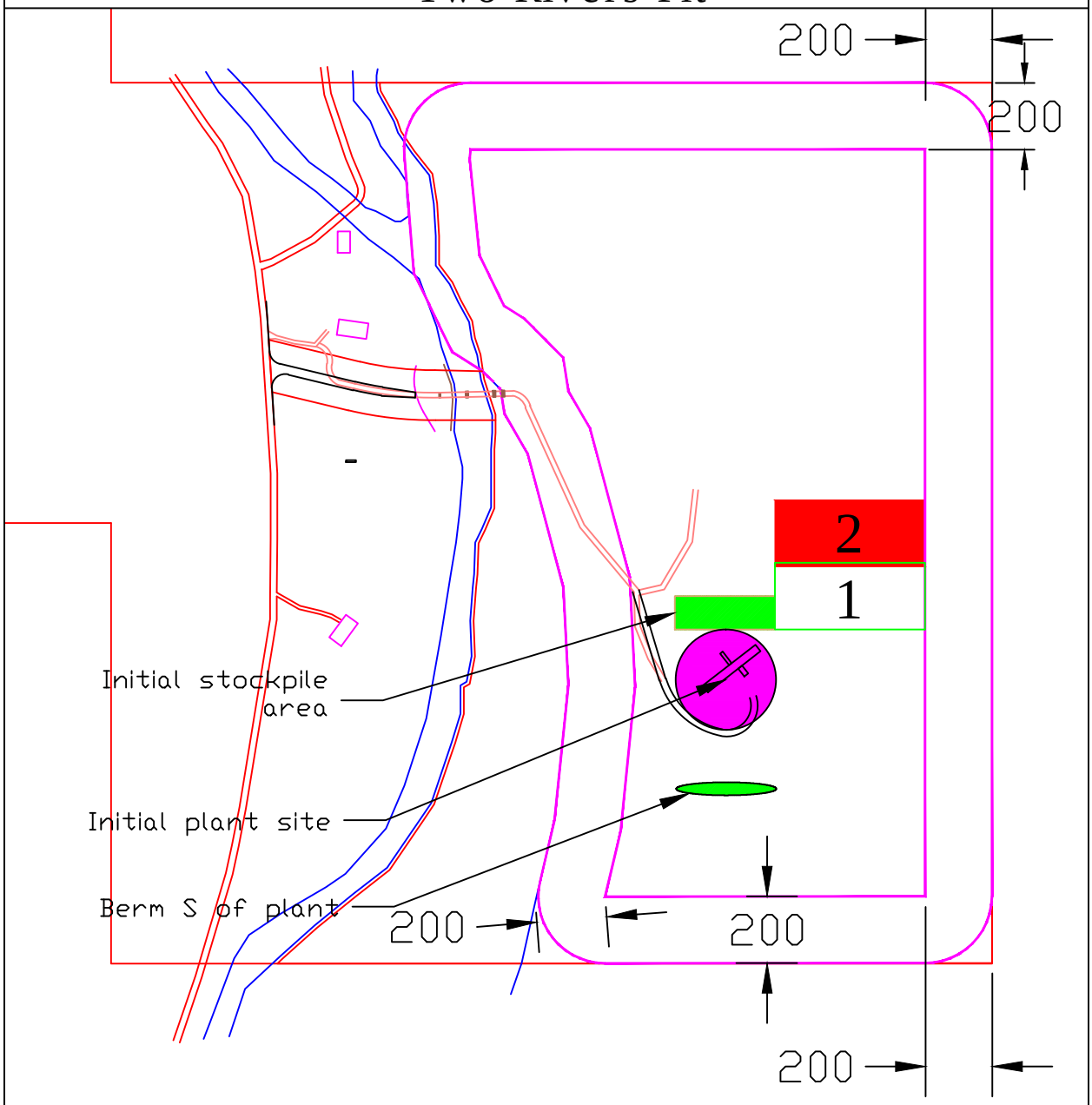


BERMS AND STOCKPILES (revegetated after building.

Plant site to be used for first 5-6 years

Initial Mining (First Year)

C&J Gravel Products, Inc.
Two Rivers Pit

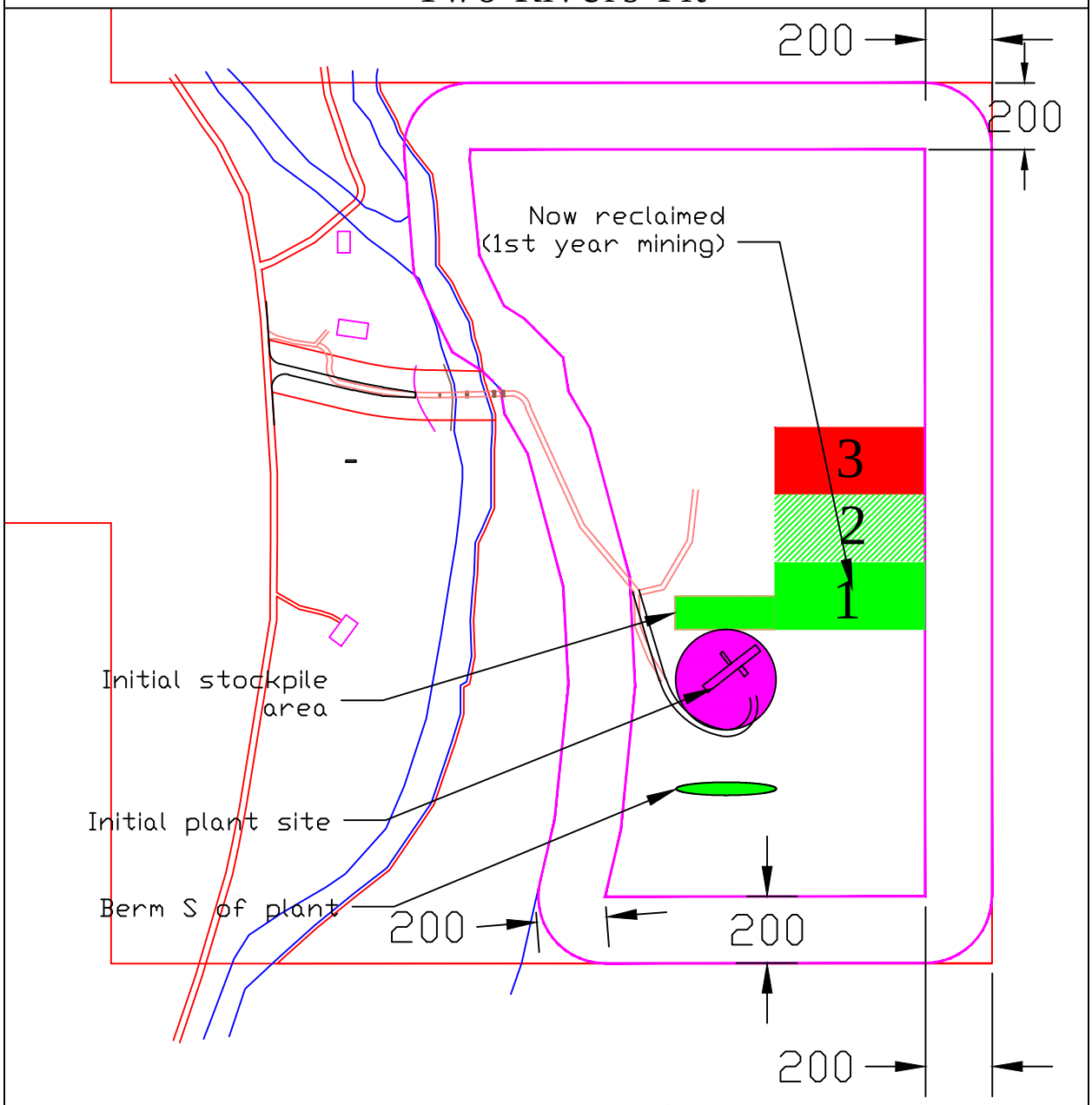


BERMS AND STOCKPILES (revegetated after building.

Plant site to be used for first 5-6 years

Initial Mining (Second Year)

C&J Gravel Products, Inc.
Two Rivers Pit

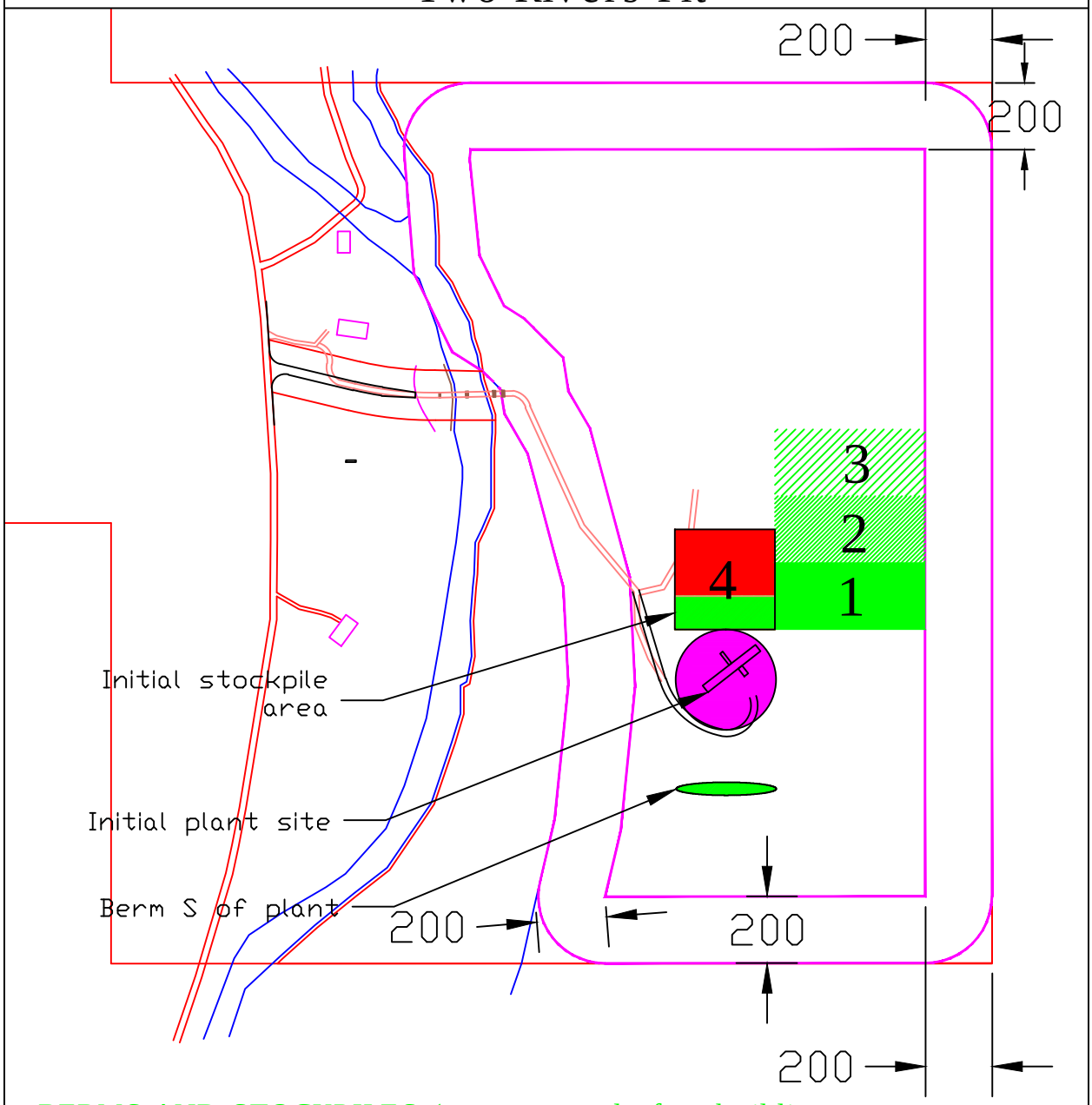


BERMS AND STOCKPILES (revegetated after building.

Plant site to be used for first 5-6 years

Initial Mining (Third Year)

C&J Gravel Products, Inc.
Two Rivers Pit

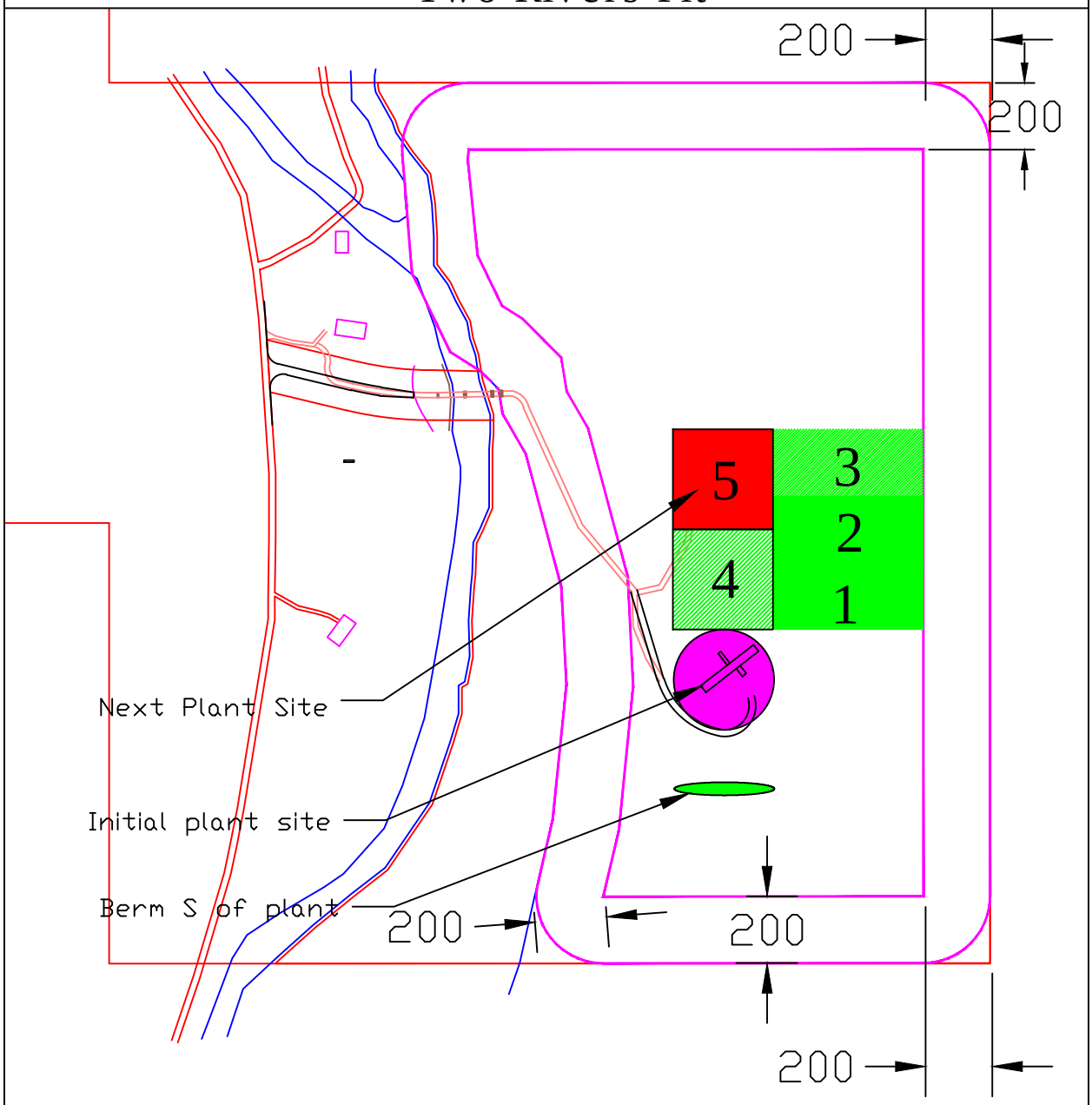


BERMS AND STOCKPILES (revegetated after building.

Plant site to be used for first 5-6 years

Initial Mining (Fourth Year)

C&J Gravel Products, Inc.
Two Rivers Pit

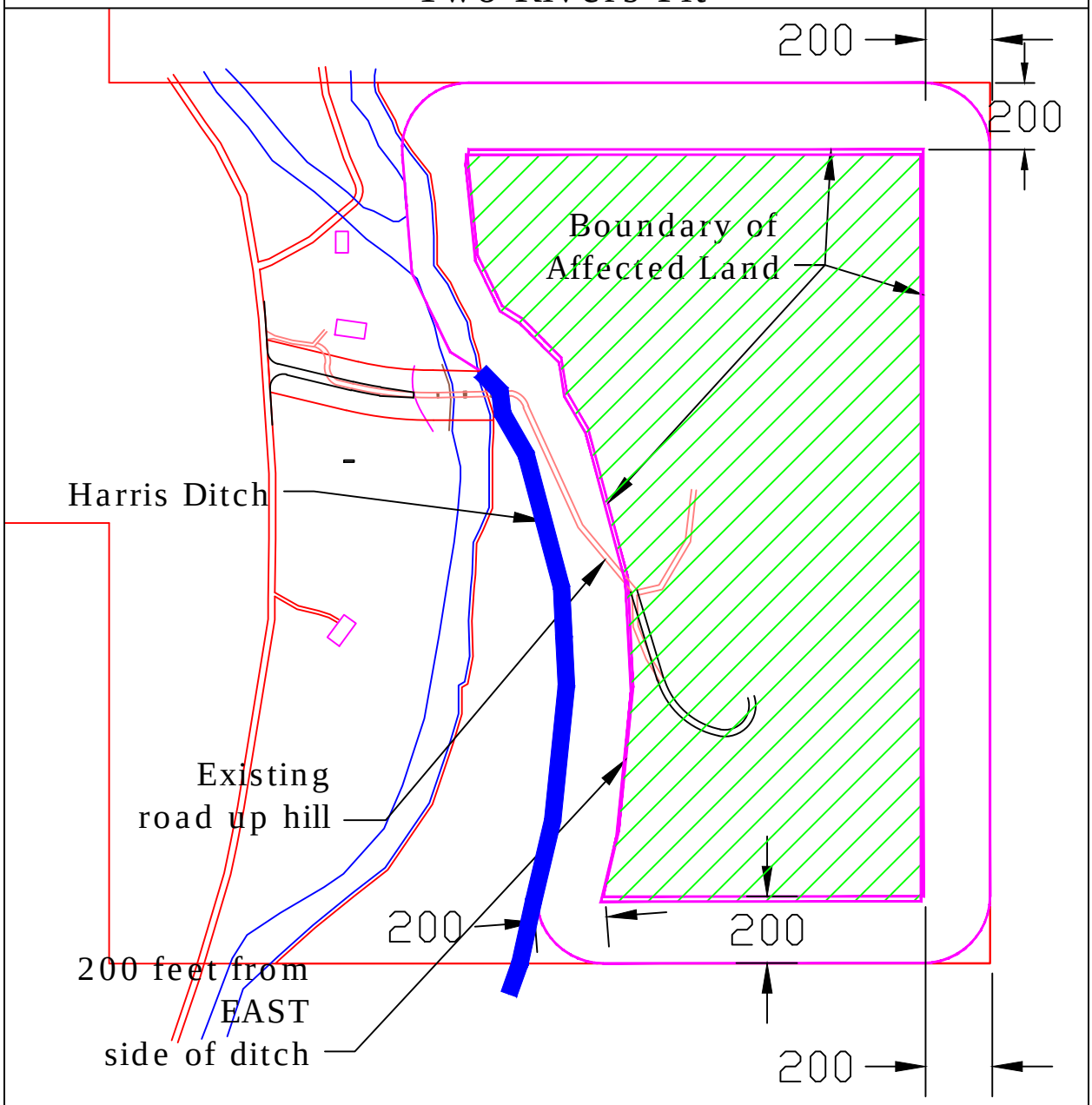


BERMS AND STOCKPILES (revegetated after building.

Plant site to be used for first 5-6 years, then relocate to the north (to area mined in Year 5).

Initial Mining (Fifth Year)

C&J Gravel Products, Inc.
Two Rivers Pit

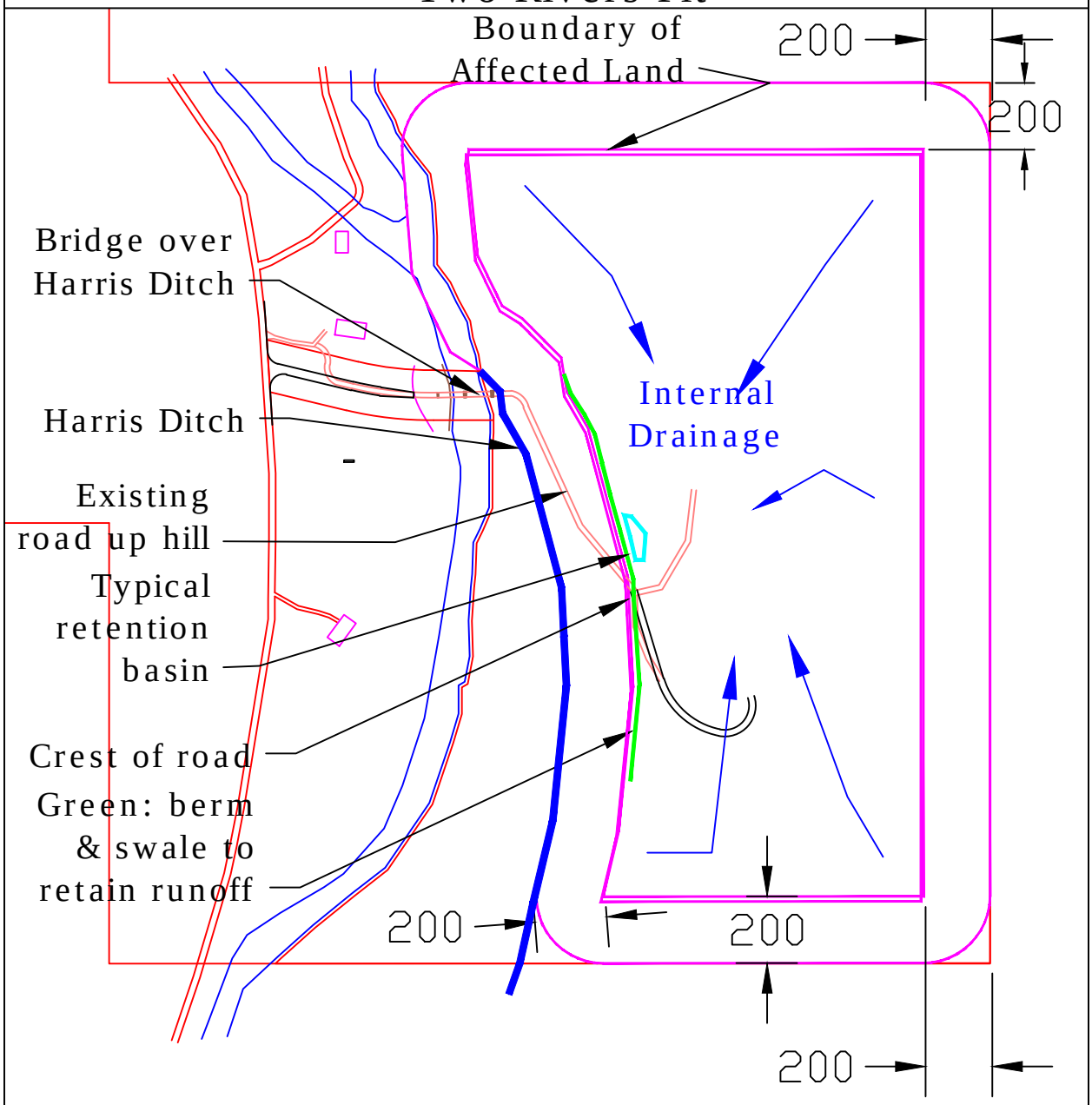


Harris Ditch is NOT an exclusive easement.

Red roads already exist (pre-2015); black roads to be built.
Bridge already exists.

Harris Ditch Easement

C&J Gravel Products, Inc.
Two Rivers Pit

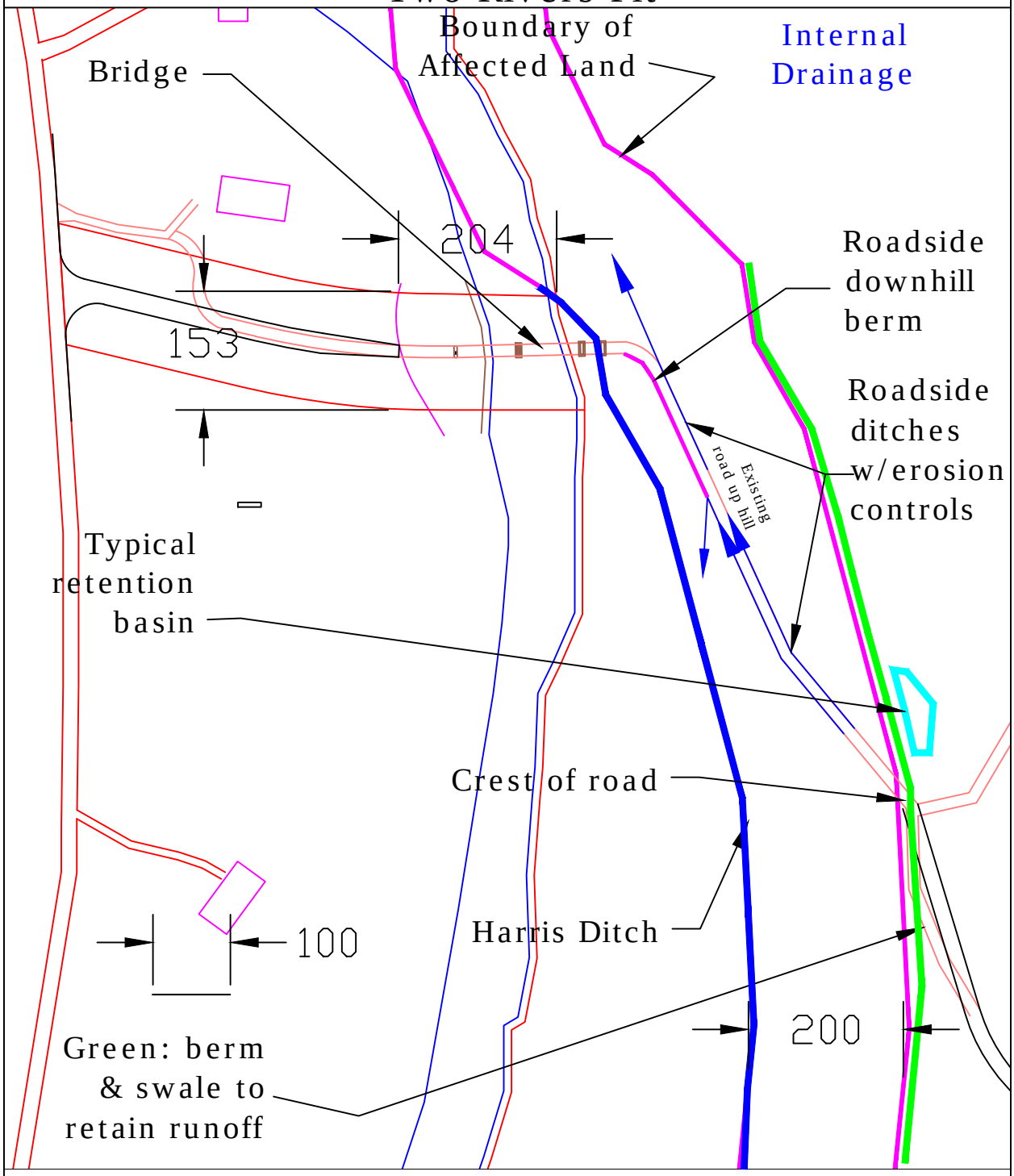


Harris Ditch is NOT an exclusive easement.

Red roads already exist (pre-2015); black roads to be built.
Bridge already exists.

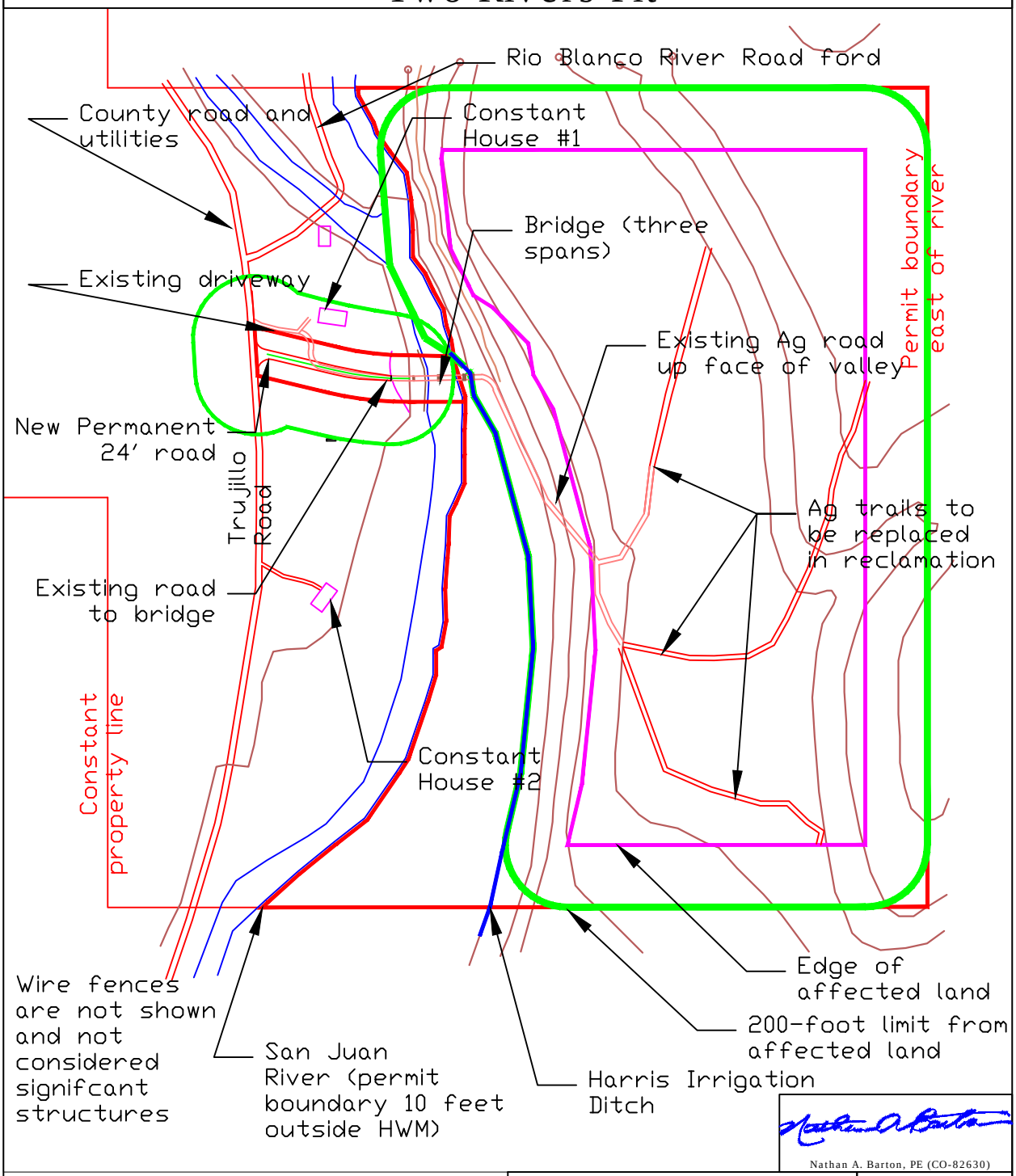
Drainage Patterns/Controls

C&J Gravel Products, Inc.
Two Rivers Pit



Drainage Detail on Road

C&J Gravel Products, Inc.
Two Rivers Pit



Nathan A. Barton, PE (CO-82630)

Prepared for C&J Gravel by and (c) WASTELINE, INC.
Date: 21 DEC 2014 By: N. Barton Rv: P. Neil
Scale: 1"=500' 40-ft contours Source: USGS Map/Photo.
Portions SW 1/4 Sec 11, T33N, R2W, 10th PM, Archuleta Co., CO, Pertaining to Application: Two Rivers Pit M-2015_____ Legend: standard USGS

SIGNIFICANT PERMANENT STRUCTURES
showing 200-foot zone

Drawing/ Sheet No.
S1

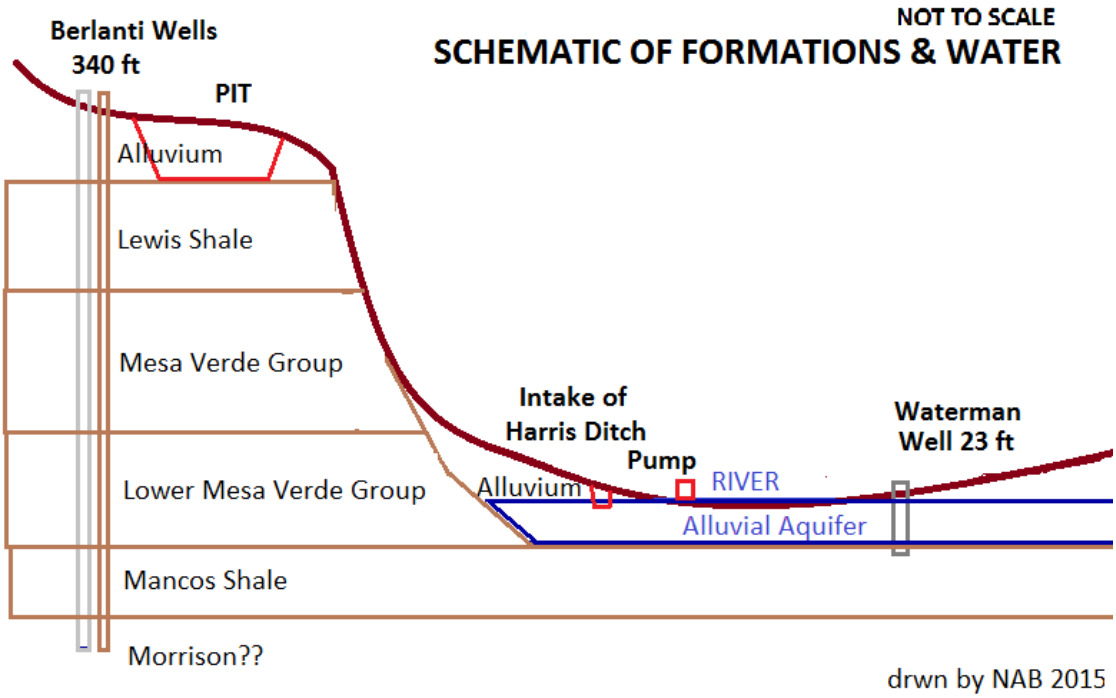


Table G-4. Maximum Project Water Requirements

Activity	Acre-Feet per year	Period	Flow (gal/day)	Remarks
Dust control of roads	2.0	0.1 in/day, 120 days	5,430	2.0 acres max
Dust control of plant sites	1.0	0.1 in/day, 30 days	11,132	4.1 acres max
Dust control of pit area	1.0	0.1 in/day, 60 days	5,702	2.1 acres max
Water removed with materials mined	0.03	Variable	11,191	4% of weight of product
Washing of materials	1.2	30 days	6,667	Evaporative loss
Total water required	5.23	acre-feet	40,122	Worst-case
Water available	9.00	As needed		Not including direct precipitation

Note: Water for personal use (including hygiene) is a very tiny amount: assuming a very HIGH consumption of 50 gal/person/day for a crew of 5 and 120 days, this is 30,000 gallons per year, or 8021 CF (0.18 acre-feet) per year. Chemical toilets use no on-site water, and this reduces total water use to not more than 2 gal/person/day or 1200 gallons (161 CF, 0.00368 acre-feet) per year.

Note the above requirements are MAXIMUM for a year, based on no natural precipitation during the period that extraction, processing, and hauling is being done: normal precipitation patterns greatly reduce the need for water for dust control; if washing is not done on site in a given year, water needs are still further reduced.

Dust control for roads include all roads in use on the project site, the road (ramp) up the hill, and the road between the bridge and CR-500, and assumes NO use of dust-control chemicals to meet US EPA, CDPHE, and Tribal requirements.

Water available comes from water already adjudicated for the Constant Pit for irrigation, to be provided either through a Substitute Water Supply Plan or temporary-use agreement (as determined by DWR/State Engineer). However, the San Juan River in this location is not over-appropriated, and C&J and/or Constants can file for a new water right for surface water directly from the San Juan River. Although this would have lower priority than older, already existing water rights on the River,

RCO
GRM

STATE OF COLORADO

DIVISION OF RECLAMATION, MINING AND SAFETY
Department of Natural Resources

1313 Sherman St., Room 215
Denver, Colorado 80203
Phone: (303) 866-3567
FAX: (303) 832-8106

COLORADO DIVISION OF RECLAMATION MINING & SAFETY

RECEIVED
FEB 03 2015
DIVISION OF RECLAMATION, MINING AND SAFETY

CONSTRUCTION MATERIALS
REGULAR (112) OPERATION
RECLAMATION PERMIT APPLICATION FORM

CHECK ONE: ☐ **There is a File Number Already Assigned to this Operation**

Permit # M-2015-004 (Please reference the file number currently assigned to this operation)

☑ New Application (Rule 1.4.5) ☐ **Amendment** Application (Rule 1.10)

☐ **Conversion** Application (Rule 1.11)

Permit # M -____-____-____ (provide for **Amendments** and **Conversions** of existing permits)

This application is for the same site as M-2008-057.

The application for a Construction Materials Regular 112 Operation Reclamation Permit contains three major parts: (1) the application form; (2) Exhibits A-S, Addendum 1, any sections of Exhibit 6.5 (Geotechnical Stability Exhibit; and (3) the application fee. When you submit your application, be sure to include one (1) complete signed and notarized **ORIGINAL** and one (1) copy of the completed application form, two (2) copies of Exhibits A-S, Addendum 1, appropriate sections of 6.5 (Geotechnical Stability Exhibit, and a check for the application fee described under Section (4) below. Exhibits should **NOT** be bound or in a 3-ring binder; maps should be folded to 8 1/2" X 11" or 8 1/2" X 14" size. To expedite processing, please provide the information in the format and order described in this form.

GENERAL OPERATION INFORMATION

Type or print clearly, in the space provided, ALL information requested below.

1. **Applicant/operator or company name (name to be used on permit):** C&J Gravel Products, Inc.
   1.1 Type of organization (corporation, partnership, etc.): Corporation

2. **Operation name (pit, mine or site name):** TWO RIVERS PIT

3. **Permitted acreage (new or existing site):** 102.6 permitted acres
   3.1 Change in acreage (+) ____ acres
   3.2 Total acreage in Permit area ____ acres

4. **Fees:**
   4.1 New Application $2,696.00 application fee
   4.2 New Quarry Application $3,342.00 quarry application
   4.4 Amendment Fee $2,229.00 amendment fee
   4.5 Conversion to 112 operation (set by statute) $2,696.00 conversion fee

5. **Primary commoditie(s) to be mined:** Sand Gravel (Aggregates) ____ ____
   5.1 Incidental commoditie(s) to be mined: 1. ____ - ____ lbs/Tons/yr 2. ____ / ____ lbs/Tons/yr
   3. ____ / ____ lbs/Tons/yr 4. ____ / ____ lbs/Tons/yr 5. ____ / ____ lbs/Tons/yr
   5.2 Anticipated end use of primary commoditie(s) to be mined: Construction Materials
   5.3 Anticipated end use of incidental commoditie(s) to be mined: ____

6. **Name of owner of subsurface rights of affected land**: Jac and Lee Constant Trusts
   If 2 or more owners, "refer to Exhibit O".

7. **Name of owner of surface of affected land**: Jack and Lee Constant Trusts

8. **Type of mining operation**: ☑ Surface ☐ Underground

9. **Location Information**: The center of the area where the majority of mining will occur:

COUNTY: Archuleta

PRINCIPAL MERIDIAN (check one): ☐ 6th (Colorado) ☑ 10th (New Mexico) ☐ Ute

SECTION (write number): S 11

TOWNSHIP (write number and check direction): T 33 ☑ North ☐ South

RANGE (write number and check direction): R 02 ☐ East ☑ West

QUARTER SECTION (check one): ☐ NE ☐ NW ☐ SE ☑ SW

QUARTER/QUARTER SECTION (check one): ☐ NE ☐ NW ☐ SE ☐ SW

GENERAL DESCRIPTION: (the number of miles and direction from the nearest town and the approximate elevation):
Located approximately 12 mi S of Pagosa Springs, 1 mile N of Trujillo, elevation 6800

10. **Primary Mine Entrance Location** (report in either Latitude/Longitude **OR** UTM):

Latitude/Longitude:

Example: (N) 39° 44′ 12.98″
(W) 104° 59′ 3.87″

Latitude (N): deg _____ min _____ sec ____._____ (2 decimal places)

Longitude (W): deg _____ min _____ sec ____._____ (2 decimal places)

OR

Example: (N) 39.73691°
(W) -104.98449°

Latitude (N) _____._____ (5 decimal places)

Longitude(W) _____._____ (5 decimal places)

OR

Universal Tranverse Mercator (UTM)

Example: 201336.3 E NAD27 Zone 13
4398351.2 N

UTM Datum (specify NAD27, NAD83 or WGS 84) WGS 84 Zone 13

Easting 318350

Northing 4110104

11. **Correspondence Information**:

APPLICANT/OPERATOR (name, address, and phone of name to be used on permit)

Contact's Name: Perry Neil Title: Pit Manager

Company Name: C & J Gravel Products, Inc.

Street/P.O. Box: 27661 Highway 160-E P.O. Box:

City: Durango

State: Colorado Zip Code: 81301

Telephone Number: (970) - 385-4112 E-mail: pneil@cjgravel.com

Fax Number: (970) - 385-5014 Alt. contact: Doug Farley, baersguy@gmail.com

PERMITTING CONTACT (if different from applicant/operator above)

Contact's Name: Nathan A. Barton Title: Environmental Engineer

Company Name: WASTELINE, Inc.

Street/P.O. Box: 11501 County Road 34 P.O. Box: PO Box 88

City: Mancos (PO Box, Cortez)

State: Colorado Zip Code: 81323/31321

Telephone Number: (605) - 56401380 OR (605) 939-0650, (605) 390-7255

Fax Number: ( ) - Wasteline6@aol.com

INSPECTION CONTACT

Contact's Name: Same as above Title:

Company Name:

Street/P.O. Box: P.O. Box:

City:

State: Zip Code:

Telephone Number: ( ) -

Fax Number: ( ) -

CC: STATE OR FEDERAL LANDOWNER (if any)

Agency: NONE

Street:

City:

State: Zip Code:

Telephone Number: ( ) -

CC: STATE OR FEDERAL LANDOWNER (if any)

Agency:

Street:

City:

State: Zip Code:

Telephone Number: ( ) -

12. **Primary future (Post-mining) land use (check one):**

- [ ] Cropland(CR)
- [ ] Pastureland(PL)
- [ ] General Agriculture(GA)
- [x] Rangeland(RL)
- [ ] Forestry(FR)
- [ ] Wildlife Habitat(WL)
- [ ] Residential(RS)
- [ ] Recreation(RC)
- [ ] Industrial/Commercial(IC)
- [ ] Developed Water Resources(WR)
- [ ] Solid Waste Disposal(WD)

13. **Primary present land use (check one):**

- [ ] Cropland(CR)
- [ ] Pastureland(PL)
- [ ] General Agriculture(GA)
- [x] Rangeland(RL)
- [ ] Forestry(FR)
- [ ] Wildlife Habitat(WL)
- [ ] Residential(RS)
- [ ] Recreation(RC)
- [ ] Industrial/Commercial(IC)
- [ ] Developed Water Resources(WR)

14. **Method of Mining**: Briefly explain mining method (e.g. truck/shovel): Standard wheeled/tracked loader with/without dump truck

15. **On Site Processing**: [x] Crushing/Screening

13.1 Briefly explain mining method (e.g. truck/shovel): Standard processing using portable screens, crushers, washers, and similar plants.

List any designated chemicals or acid-producing materials to be used or stored within permit area: Standard fuels and lubricants, and materials for maintaining vehicles and equipment

16. **Description of Amendment or Conversion**:

If you are amending or converting an existing operation, provide a brief narrative describing the proposed change(s).

This application is for the same site as M-2008-057, which was approved but did not have a permit issued. There are changes to take into account changes in structures and existing conditions, as well as reducing the planned area to be affected.

Maps and Exhibits:

Two (2) complete, unbound application packages must be submitted. One complete application package consists of a signed application form and the set of maps and exhibits referenced below as Exhibits A-S, Addendum 1, and the Geotechnical Stability Exhibit. Each exhibit within the application must be presented as a separate section. Begin each exhibit on a new page. Pages should be numbered consecutively for ease of reference. If separate documents are used as appendices, please reference these by name in the exhibit.

With each of the two (2) signed application forms, you must submit a corresponding set of the maps and exhibits as described in the following references to Rule 6.4, 6.5, and 1.6.2(1)(b):

EXHIBIT A	Legal Description
EXHIBIT B	Index Map
EXHIBIT C	Pre-Mining and Mining Plan Map(s) of Affected Lands
EXHIBIT D	Mining Plan
EXHIBIT E	Reclamation Plan
EXHIBIT F	Reclamation Plan Map
EXHIBIT G	Water Information
EXHIBIT H	Wildlife Information
EXHIBIT I	Soils Information
EXHIBIT J	Vegetation Information
EXHIBIT K	Climate Information
EXHIBIT L	Reclamation Costs
EXHIBIT M	Other Permits and Licenses
EXHIBIT N	Source of Legal Right-To-Enter
EXHIBIT O	Owners of Record of Affected Land (Surface Area) and Owners of Substance to be Mined
EXHIBIT P	Municipalities Within Two Miles
EXHIBIT Q	Proof of Mailing of Notices to County Commissioners and Conservation District
EXHIBIT R	Proof of Filing with County Clerk or Recorder
EXHIBIT S	Permanent Man-Made Structures
Rule 1.6.2(1)(b)	ADDENDUM 1 - Notice Requirements (sample enclosed)
Rule 6.5	Geotechnical Stability Exhibit (any required sections)

The instructions for preparing Exhibits A-S, Addendum 1, and Geotechnical Stability Exhibit are specified under Rule 6.4 and 6.5 and Rule 1.6.2(1)(b) of the Rules and Regulations. If you have any questions on preparing the Exhibits or content of the information required, or would like to schedule a pre-application meeting you may contact the Office at 303-866-3567.

Responsibilities as a Permittee:

Upon application approval and permit issuance, this application becomes a legally binding document. Therefore, there are a number of important requirements which you, as a permittee, should fully understand. These requirements are listed below. Please read and initial each requirement, in the space provided, to acknowledge that you understand your obligations. If you do not understand these obligations then please contact this Office for a full explanation.

JS 1. Your obligation to reclaim the site is not limited to the amount of the financial warranty. You assume legal liability for all reasonable expenses which the Board or the Office may incur to reclaim the affected lands associated with your mining operation in the event your permit is revoked and financial warranty is forfeited;

2. The Board may suspend or revoke this permit, or assess a civil penalty, upon a finding that the permittee violated the terms or conditions of this permit, the Act, the Mineral Rules and Regulations, or that information contained in the application or your permit misrepresent important material facts;

3. If your mining and reclamation operations affect areas beyond the boundaries of an approved permit boundary, substantial civil penalties, to you as permittee can result;

4. Any modification to the approved mining and reclamation plan from those described in your approved application requires you to submit a permit modification and obtain approval from the Board or Office;

5. It is your responsibility to notify the Office of any changes in your address or phone number;

6. Upon permit issuance and prior to beginning on-site mining activity, you must post a sign at the entrance of the mine site, which shall be clearly visible from the access road, with the following information (Rule 3.1.12):

   a. the name of the operator;

   b. a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board; and,

   c. the permit number.

7. The boundaries of the permit boundary area must be marked by monuments or other markers that are clearly visible and adequate to delineate such boundaries prior to site disturbance.

8. It is a provision of this permit that the operations will be conducted in accordance with the terms and conditions listed in your application, as well as with the provisions of the Act and the Construction Material Rules and Regulations in effect at the time the permit is issued.

9. Annually, on the anniversary date of permit issuance, you must submit an annual fee as specified by Statute, and an annual report which includes a map describing the acreage affected and the acreage reclaimed to date (if there are changes from the previous year), any monitoring required by the Reclamation Plan to be submitted annually on the anniversary date of the permit approval. Annual fees are for the previous year a permit is held. For example, a permit with the anniversary date of July 1, 1995, the annual fee is for the period of July 1, 1994 through June 30, 1995. Failure to submit your annual fee and report by the permit anniversary date may result in a civil penalty, revocation of your permit, and forfeiture of your financial warranty. It is your responsibility, as the permittee, to continue to pay your annual fee to the Office until the Board releases you from your total reclamation responsibility.

10. <u>For joint venture/partnership operators</u>: the signing representative is authorized to sign this document and a power of attorney (provided by the partner(s)) authorizing the signature of the representative is attached to this application.

NOTE TO COMMENTORS/OBJECTORS:

It is likely there will be additions, changes, and deletions to this document prior to final decision by the Office. Therefore, if you have any comments or concerns you must contact the applicant or the Office prior to the decision date so that you will know what changes may have been made to the application document.

The Office is not allowed to consider comments, unless they are written, and received prior to the end of the public comment period. You should contact the applicant for the final date of the public comment period.

If you have questions about the Mined Land Reclamation Board and Office's review and decision or appeals process, you may contact the Office at (303) 866-3567.

Certification:

As an authorized representative of the applicant, I hereby certify that the operation described has met the minimum requirements of the following terms and conditions:

1. To the best of my knowledge, all significant, valuable and permanent man-made structure(s) in existence at the time this application is filed, and located within 200 feet of the proposed affected area have been identified in this application (Section 34-32.5-115(4)(e), C.R.S.).

2. No mining operation will be located on lands where such operations are prohibited by law (Section 34-32.5-115(4)(f), C.R.S.;

3. As the applicant/operator, I do not have any extraction/exploration operations in the State of Colorado currently in violation of the provisions of the Colorado Land Reclamation Act for the Extraction of Construction Materials (Section 34-32.5-120, C.R.S.) as determined through a Board finding.

4. I understand that statements in the application are being made under penalty of perjury and that false statements made herein are punishable as a Class 1 misdemeanor pursuant to Section 18-8-503, C.R.S.

This form has been approved by the Mined Land Reclamation Board pursuant to section 34-32.5-112,C.R.S., of the Colorado Land Reclamation Act for the Extraction of Construction Materials. Any alteration or modification of this form shall result in voiding any permit issued on the altered or modified form and subject the operator to cease and desist orders and civil penalties for operating without a permit pursuant to section 34-32.5-123, C.R.S.

Signed and dated this 23 day of JANUARY, 2015.

C&J Gravel Products, Inc.
Applicant/Operator or Company Name

If Corporation Attest (Seal)

Signed: [signature]

Signed: _____
Corporate Secretary or Equivalent
Town/City/County Clerk

Title: President

State of Colorado)
) ss.
County of La Plata)

The foregoing instrument was acknowledged before me this 23 day of January, 2015, by John Gilleland as President of C&J Gravel Products, Inc.

BETH OCHSENREITER
Notary Public
State of Colorado

[signature]
Notary Public

My Commission expires: 6-10-16

SIGNATURES MUST BE IN BLUE INK

You must post sufficient Notices at the location of the proposed mine site to clearly identify the site as the location of a

Exhibits to 112 Permit Application M-2015-0__
Filed with Colorado Division of Reclamation, Mining, and Safety

Two Rivers Pit

12550 Trujillo Road S (CR-500)
Archuleta County, Colorado

Owned by:

Jac and Lee Constant

12500 CR-500, Pagosa Springs, CO 81147

Operated by:

C&J Gravel Products, Inc.

27661 Hwy 160-E, Durango, CO 81301

Prepared by:

WASTELINE, INC.

PO Box 88, Cortez, CO 81321

01 January 2015

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EXHIBIT A -LEGAL DESCRIPTION

A parcel of land in Section 11, Township 33 North, Range 2 West, N.M. (10th) P.M., Archuleta County, Colorado, a portion of county parcel number 5965-10-100015, being more particularly described as follows:

> That portion of the S ½ of the NW ¼ and the N ½ of the SW ¼ of Section 11, east of the San Juan River, approximately 99.7 acres more or less, plus an access easement or zone of 150 feet by 562 feet[1] west of the San Juan River (1.9 acres more or less), for a total of 102.6 acres, more or less.

Property corners are marked with standard survey markers; corners which might be disturbed by mining activities will also be marked with witness markers and delineators. The permit boundary along the east bank of the San Juan River is described as ten feet above the normal high-water mark, and the boundary along the irrigation ditch described as being on the east bank at the normal maximum flow level.

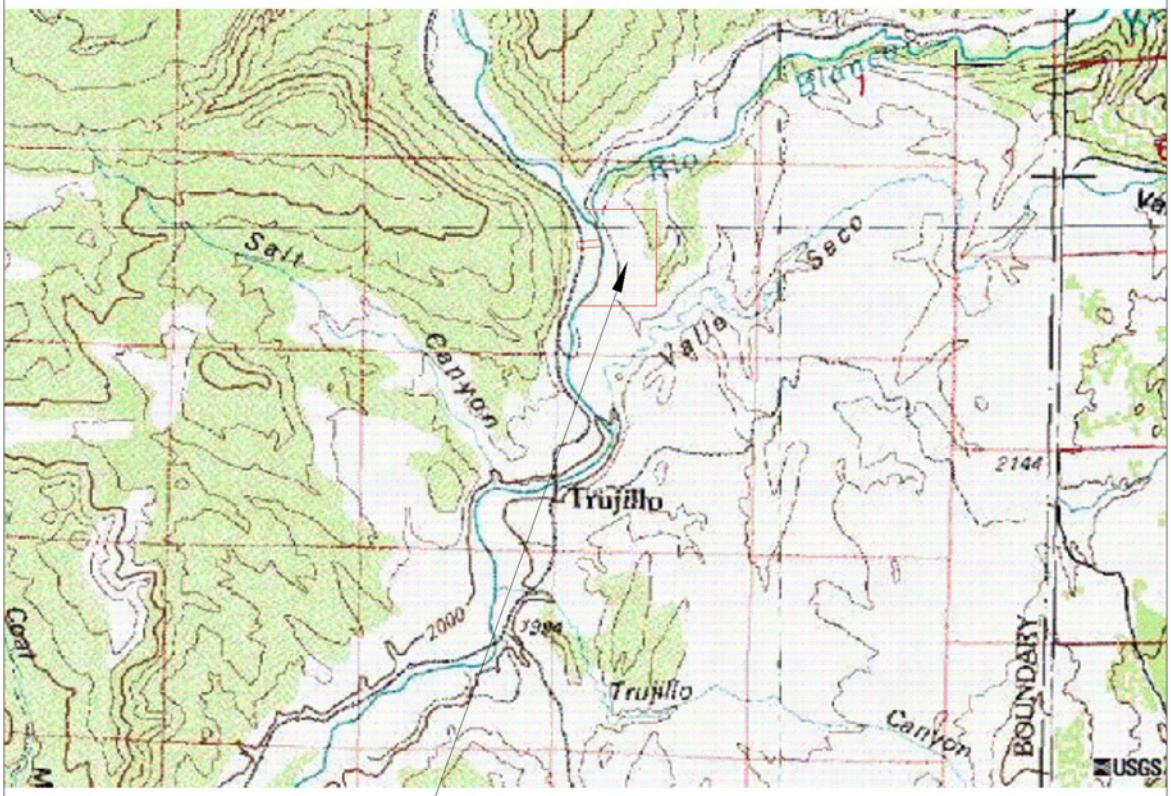
Oblique view of Two Rivers Pit, viewed from West. Taken before bridge was built.

[1] The distance of 561.4 feet (rounded to 562) is the centerline of the existing and proposed road, measured from the center abutment of the bridge to the edge of CR-500, defined as:

EXHIBIT B - INDEX MAP

C&J Gravel Products, Inc.
Two Rivers Pit

12550 Trujillo Road (CR-500)
Approximately 12 miles S of Pagosa Springs, Archuleta County, CO



TWO RIVERS PIT 102.6 Acres

Nathan A. Barton, PE (CO-82630)

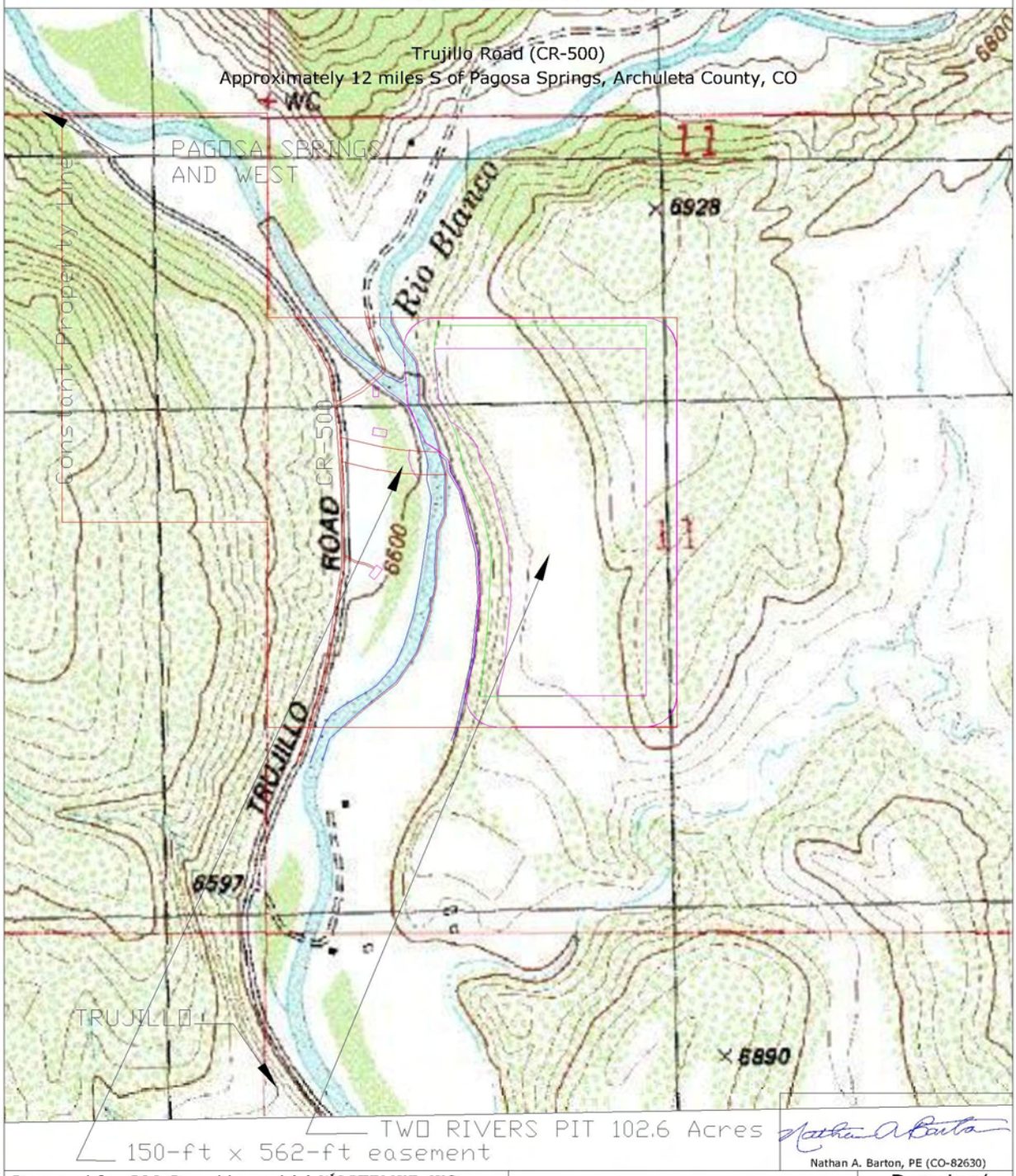
Prepared for C&J Gravel by and (c) WASTELINE, INC.
Date: 21 NOV 14 By: N. Barton Rv: P. Neil
Scale: 1"=1000' Source: USGS Map/Photo.
Portions T33N, R2W, 10th PM, Archuleta Co., Colorado,
Pertaining to Application: Two Rivers Pit M-2015-____
Legend: standard USGS

INDEX/LOCATION MAP
Source: USGS Trujillo 7.5-min Quad Map (July 1978)
note: USGS map does not accurately show section lines.

Drawing/ Sheet No.
B1

Address: 12550 Trujillo Road S (CR 500)Pagosa Springs-Trujillo, CO.
Entrance to Site (Bridge across River): UTM 13S 318350E, 4110104N elev 6628

C&J Gravel Products, Inc.
Two Rivers Pit

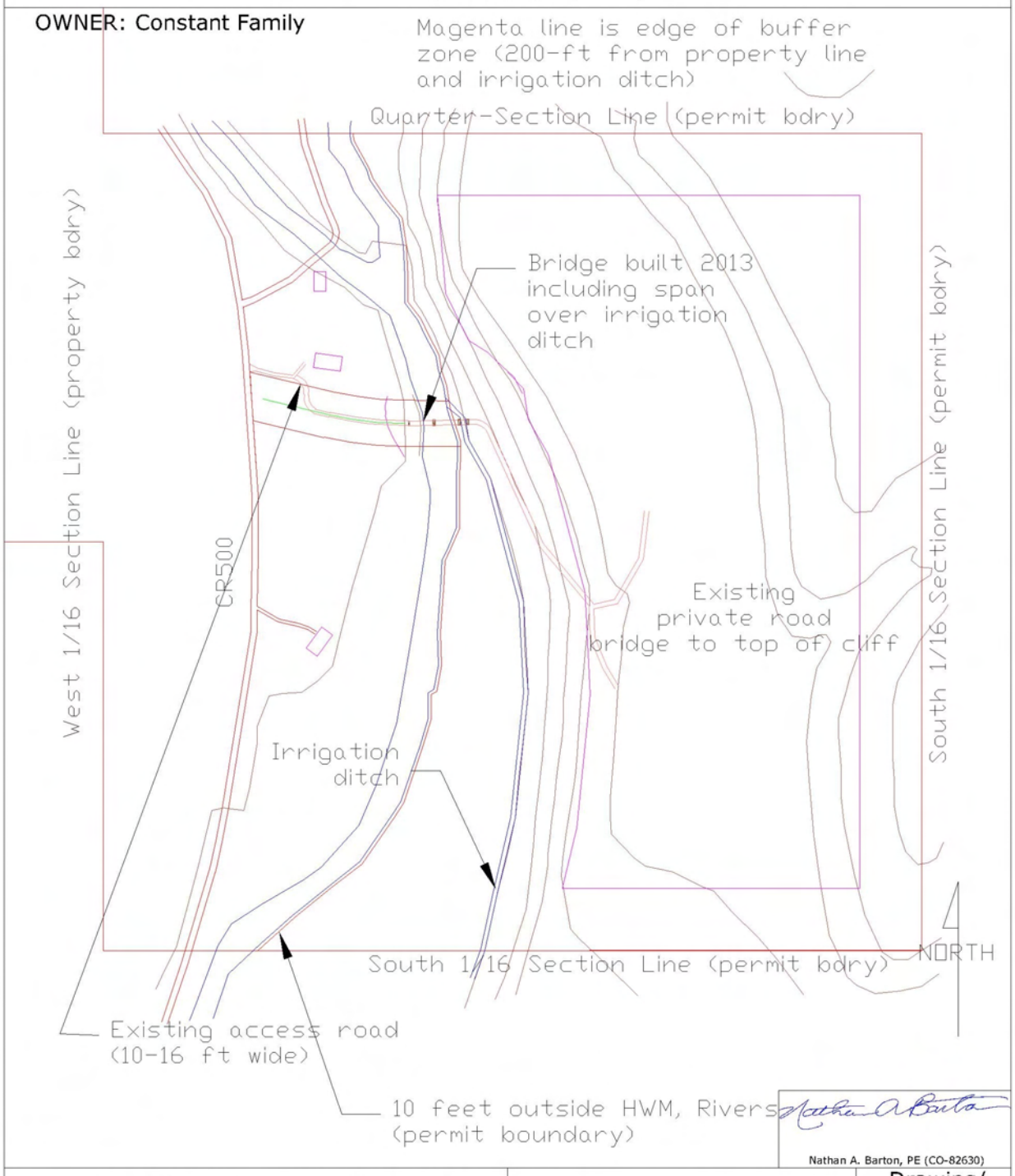


Prepared for C&J Gravel by and (c) WASTELINE, INC.
Date: 21 DEC 2014 By: N. Barton Rv: P. Neil
Scale: 1"=1000' Source: USGS Map/Photo, bridge survey.
Portions SW 1/4 Sec 11, T33N, R2W, 10th PM, Archuleta Co., CO, Pertaining to Application: Two Rivers Pit M-2015-____ Legend: standard USGS

INDEX/LOCATION MAP
Source: USGS Trujillo 7.5-min Quad Map (July 1978)
note: USGS map does not accurately show section lines.

Drawing/ Sheet No.
B2

C&J Gravel Products, Inc.
Two Rivers Pit

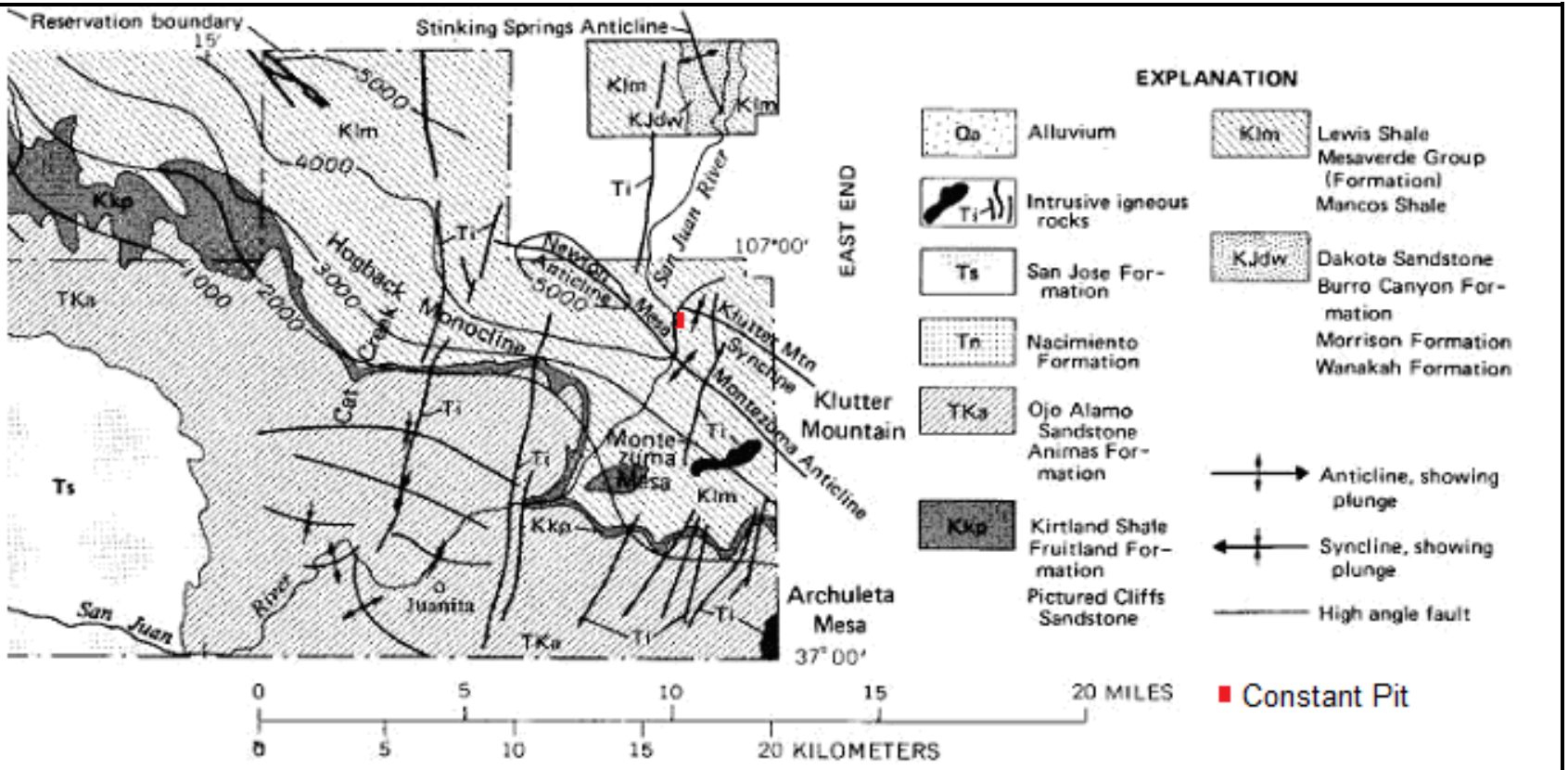


Nathan A. Barton, PE (CO-82630)

Prepared for C&J Gravel by and (c) WASTELINE, INC.
Date: 21 DEC 14 By: N. Barton Rv: P. Neil
Scale: 1"=500' 40-ft contours. Source: USGS Map/Photo
Portions SW 1/4 Sec 11, T33N, R2W, 10th PM, Archuleta Co., CO, Pertaining to Application: Two Rivers Pit M-2015-____ Legend: as indicated

LOCATION MAP
Source: USGS Trujillo 7.5-min Quad Map (July 1978)

Drawing/ Sheet No.
B3



C&J Gravel Products	Map Title	Constant Pit Area Surficial Geology Map	Scale	As shown	North↑ Date: 15 NOV 2014
	Source of Map	BIA Resource Info Report, 1976 http://www1.eere.energy.gov/tribalenergy/guide/pdfs/southern_ute_19.pdf	Permit No. & Name	M-2014-____ Constant Pit	Drawn by NAB Checked by NAB
	Legend	As shown above. Red box marks pit.			File No. B-4

EXHIBIT C - PRE-MINING AND MINING PLAN MAPS OF AFFECTED LANDS

INDEX

SHEET C-1: Entire site showing present contours and permanent structures with owners.

SHEET C-2: Entire site showing proposed mining and facilities, including sequence, by years.

SHEET C-3: Aerial (satellite) photo.

SHEET C-4: Detail maps of access road and river/ditch crossing.

SHEET C-5: Plan of existing and planned access road and related features.

Notes:

1. There are no recorded easements on the property within the permit boundary. The Harris Ditch just inside the permit boundary on the east bank of the San Juan River is an established water right, but has no defined easement recorded.

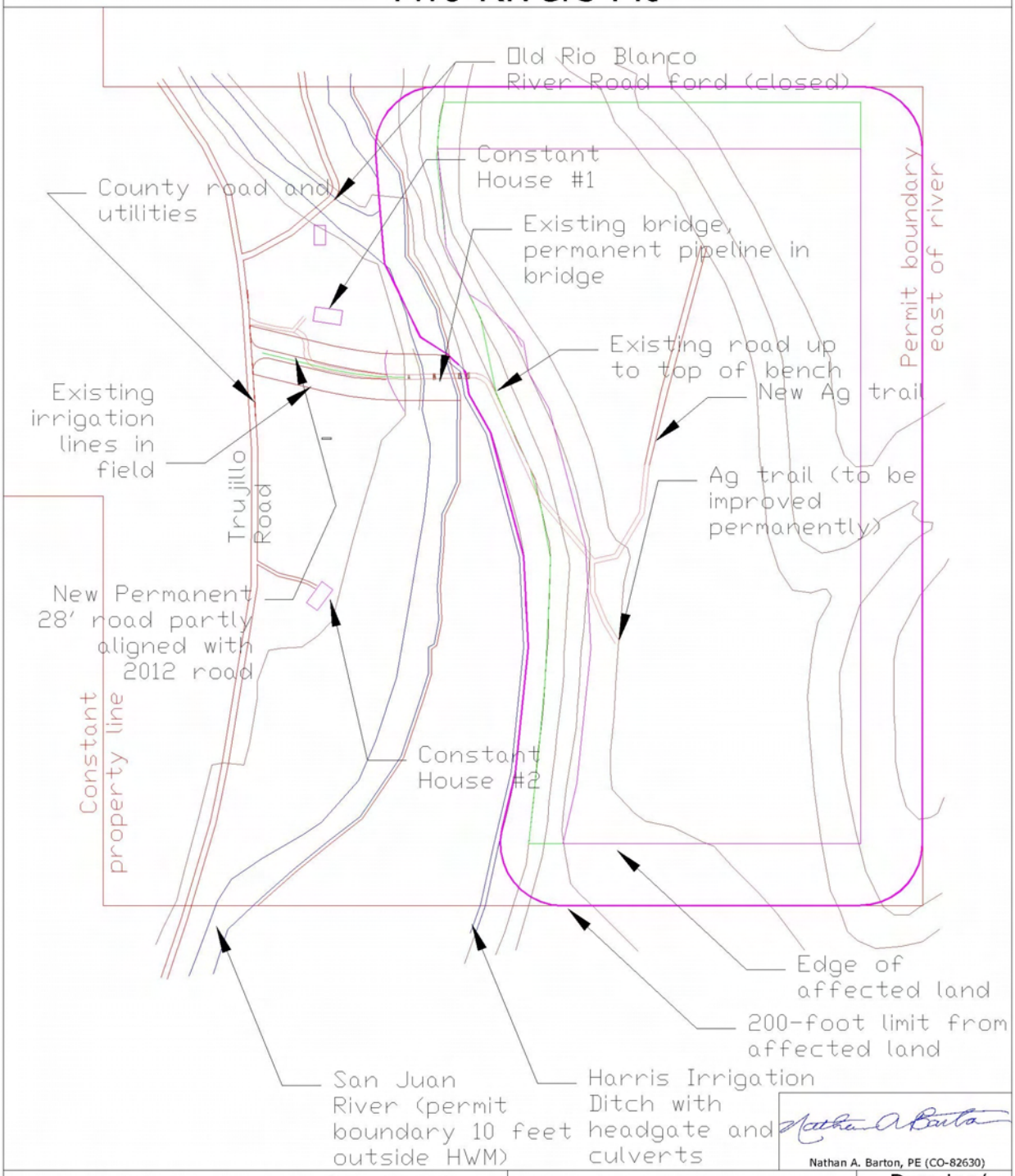
2. Information on soils is shown on Map in Exhibit I.

3. Information on vegetation is shown on Map in Exhibit J.

4. Adjoining surface owners of record are shown on Map in Exhibit O.

5. Information on permanent or man-made structures is shown in Table in Exhibit S.

C&J Gravel Products, Inc.
Two Rivers Pit



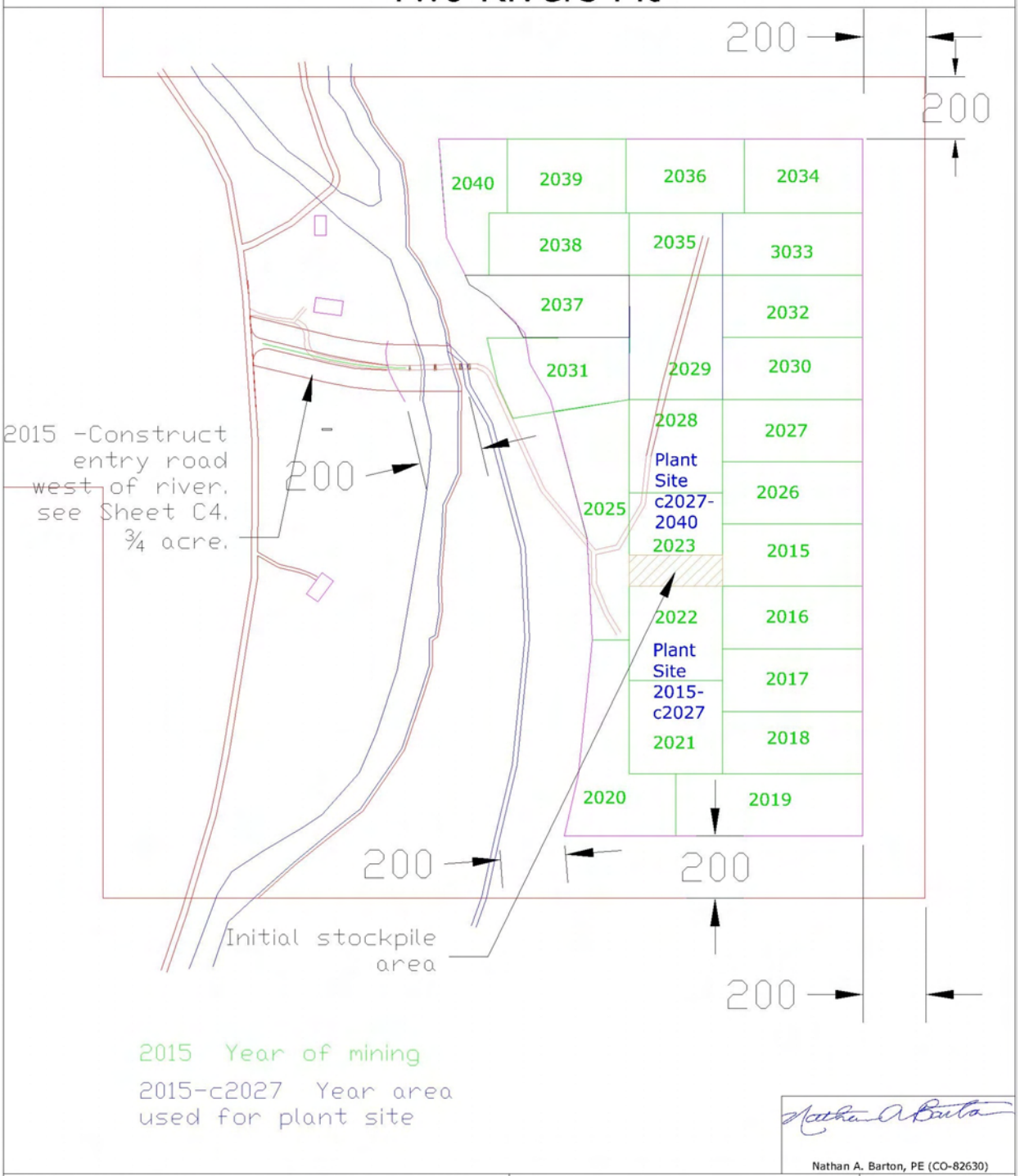
Nathan A. Barton, PE (CO-82630)

Prepared for C&J Gravel by and (c) WASTELINE, INC.
Date: 21DEC14 By: N. Barton Rv: P. Neil
Scale: 1"=500' 40-ft contours Source: USGS Map/Photo.
Portions SW 1/4 Sec 11, T33N, R2W, 10th PM, Archuleta Co., CO, Pertaining to Application: Two Rivers Pit M-2015-____ Legend: as indicated

MAP SHOWING SITE FEATURES BEFORE MINING

Drawing/ Sheet No.
C1

C&J Gravel Products, Inc.
Two Rivers Pit



Nathan A. Barton, PE (CO-82630)

Prepared for C&J Gravel by and (c) WASTELINE, INC.
Date: 21DEC14 By: N. Barton Rv: P. Neil
Scale: 1"=500' Source: USGS Map/Photo.
Portions SW 1/4 Sec 11, T33N, R2W, 10th PM, Archuleta Co., CO, Pertaining to Application: Two Rivers Pit M-2015-____ Legend: as indicated

MAP SHOWING MINING SEQUENCE

Drawing/ Sheet No.
C2

C&J Gravel Products, Inc.
Two Rivers Pit

Photo taken before bridge built, but after road to east built

Nathan A. Barton, PE (CO-82630)

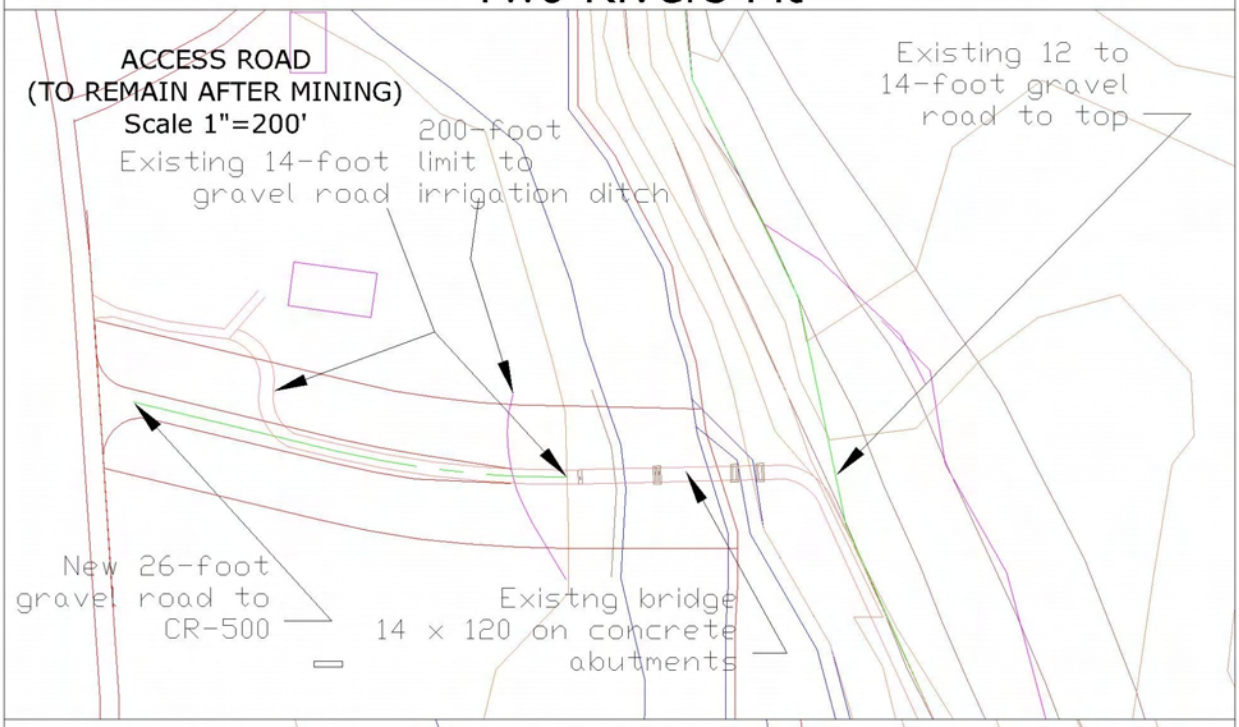
Prepared for C&J Gravel by and (c) WASTELINE, INC.
Date: Photo 31 MAY 2012 By: N. Barton Rv: P. Neil
Scale: 1"=500' Source: Google Earth Map/Photo.
Portions SW 1/4 Sec 11, T33N, R2W, 10th PM, Archuleta Co., CO, Pertaining to Application: Two Rivers Pit M-2015-_____ Legend: standard USGS

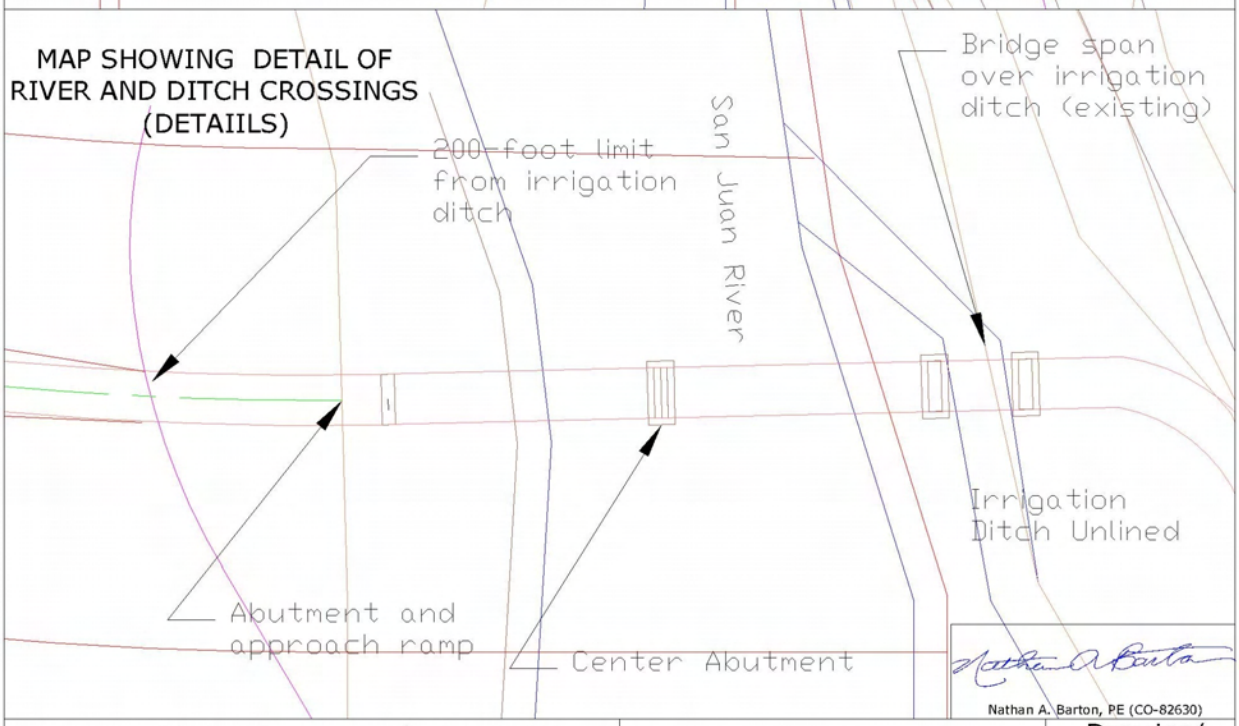
AERIAL PHOTOGRAPHY OF SITE

Drawing/ Sheet No.

C3

C&J Gravel Products, Inc.
Two Rivers Pit





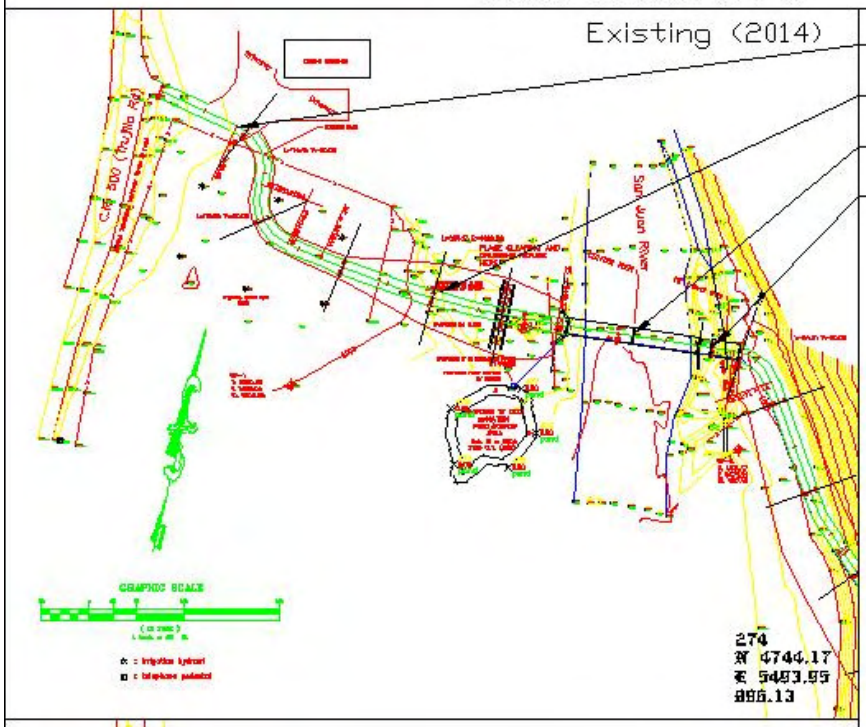
Nathan A. Barton, PE (CO-82630)

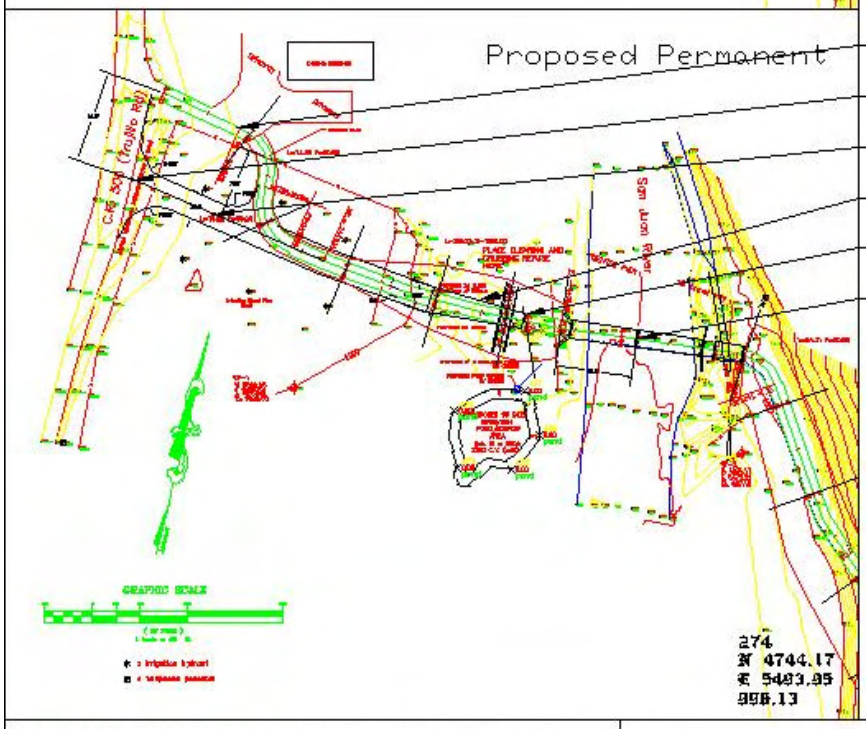
Prepared for C&J Gravel by and (c) WASTELINE, INC.
Date: 21DEC14 By: N. Barton Rv: P. Neil
Scale as shown 20-ft contours Source: USGS Map/Photo.
Portions SW 1/4 Sec 11, T33N, R2W, 10th PM, Archuleta Co., CO, Pertaining to Application: Two Rivers Pit M-2015-____ Legend: standard USGS

MAP SHOWING PERMANENT AND MINING FEATURES (DETAIILS)

Drawing/ Sheet No.
C4

C&J Gravel Products, Inc.
Two Rivers Pit





Prepared for C&J Gravel by and (c) WASTELINE, INC.
Date: 21DEC14 By: N. Barton & F. Gibbons, Rv: P. Neil
Scale: 1"=500' Source: USGS Map/Photo.
Portions SW 1/4 Sec 11, T33N, R2W, 10th PM, Archuleta Co., CO, Pertaining to Application: Two Rivers Pit M-2015-____ Legend: as indicated

PLAN
DETAIL OF ACCESS
LAND AND BRIDGE

Drawing/
Sheet No.
C5

EXHIBIT D - MINING PLAN

GENERAL CONCEPT:

The site consists of quaternary sand and gravel deposits on top of a bench of the Lewis Shale Mesa Verde Group, located on the East side of the San Juan River Valley, essentially at the Confluence of the Rio Blanco with the Rio San Juan. Mining will be limited to the upper bench, and will not be done below the cliff along the river (or in the floodplain). Except for grading necessary to construct the access road (connecting the existing road and bridge with CR-500) there will be no operations below elevation 6640.

Activities west of the San Juan River will be limited to the construction and use of the access road, and necessary drainage, which will be permanent. This uses part of the existing access road which goes through the ranch headquarters, so that pit traffic goes straight to CR-500. This road, including the bridge, will be maintained by the operator during mining operations. No improvements or additions to this road are within 200 feet of the irrigation ditch or other significant manmade structures other than those of the landowner.

Mining of the site will be done in an estimated 25- to 30-year period, beginning as described above, moving south, then east and north, to mine out the southern portion by 2026 (12 years), then continuing north to finish in the northeast corner in 2040 (26 years). During this period, two general areas will be used for plant operations: in the south 2014-c2027, and north c2027-2040. The main haul road east of the existing intersection at the top of the face of then bench (more than 200 feet from the irrigation ditch) will be shifted as necessary to support the plant area and operations.

The other initial activities on the site will be (1) necessary excavation past the road junction to widen existing trails for access and establish an area to locate scales, (2) clearing and grubbing the initial plant site, stockpile areas, and access to the area to be mined in the first year, which will (3) be stripped. Soil from the plant site and initial area to be mined, as well as from road work on top of the bench, will be stockpiled long-term for reclamation

Access from approximately 200 feet west of the bridge to the top of the face of the bench will be single, one-way alternating traffic. Approximately 300 feet of the access road (immediately east of CR-500) will be two-lane (26+ feet wide) to allow for stacking of trucks as part of the alternating traffic pattern.

Issues of concern: These existing slopes are permanent but will be subject to engineering evaluation to determine safety and what actions (if any) are necessary to stabilize slopes both during and after mining operations. Such actions which might be implemented as necessary include grouting, use of retaining walls (such as sandbags, Keystone™ blocks, wire mesh, and gabions). Evaluation will be done at the beginning and end of each season of operations, and on completion and the Operator commits to stabilizing the slopes as necessary.

The plant site, including raw material and product stockpiles, will occupy approximately 180,000 SF (4.1 acres) and the initial topsoil stockpile will use approximately 30,000 SF (0.7 acres). Soil will be stripped from this site, and the site will be graded and leveled as necessary for stockpiles, traffic, and plant set-up and operations. Soil from this plant site will be stockpiled in the initial soil stockpile; other materials excavated to level and shape the site will be used to create a temporary berm for visual and noise control to the south (nearest neighbor). Some soil may be placed on this berm to allow temporary seeding with grass to further reduce visual impacts.

Actual extraction operations will begin just east of the soil stockpile (east of the initial plant site), approximately 1000 feet north of the southern permit boundary. This will minimize impact by operations at surface level for neighbors to the south. The object is to have as much mining in the south 1/3 of the site to be done by moving the highwall TOWARDS the neighboring properties, to reduce noise and visual impact. For the first four years, excavation will move to the south, with an estimated 2.1 acres mined each year. Due to terrain and geology, depth will vary from 20 to 110 feet, and expected to average about 30 feet. Bench height will be limited to 30 feet and bench width will be a minimum of 2 times bench height, unless engineering evaluation determines that a higher/narrower bench is safe IAW MSHA requirements.

The soil removed from the first year's mining will be stockpiled at the north end of the initial plant site, and will remain in place for an extended period. Soil from subsequent years' mining will be used to reclaim areas previously mined. The soil in the first year's area is expected to be thicker than that in years two to five, because of the location at the small ravine. Soil depth is extremely variable, and initially, the area on which soil is replaced may be smaller than the area stripped; this is expected to be made up as mining is done in the flatter areas of the site, or when the original stockpile is used. Soil will not be removed from buffer areas, but will be removed at least ten feet behind the planned final face of the excavation area. This will both protect in-place soil from erosion and provide for material to create final slopes for reclamation. Prior to placement in stockpiles, soil may be screened to remove cobbles for use as extracted material and improve soil quality.

As demand is expected to vary significantly from year to year and depth of the deposit also varies, mining will also vary greatly during the life of the pit. For planning purposes only, assumptions for average mining are stated below.

The first year, mining will be done on a face approximately 200 feet wide, for a depth of 450 feet (to the eastern limit of the mining area). In the next four years, mining will be done along a face of 450 to 600 feet in width, with areas of roughly 2 acres being mined at any given time, to produce an estimated 100,000 CY of raw material per year. (Crushing and screening will reduce this to an estimated 70,000 CY of product (94,500 Tons dry) at maximum expected production.) Excess overburden and unsuitable materials will be used to bring exterior edges to the planned 2H:1V outer slope.

Access above the highwall to the stripped area will be via adjacent unmined areas. As much as possible, loaders will remove material from the working face and feed directly into the processing plant. The plant site is selected to allow the plant feed system to be located as close to the working face as feasible for each season. Since portable plants will be used, the plant configuration may change each year. Based on production levels, portable conveyors or trucks may also be used to haul from the working face to the plant. As much as possible, the floor of the pit will be left at final grade as mining progresses. Berms and shallow swales may be placed for storm water and erosion control, but these generally will be part of final reclamation. If wash water sediment ponds are necessary, these will be located as much as possible in the plant area, or in areas being reclaimed. No ground water is expected to be exposed in mining, due to the location on the high bench, forty or more feet above the river level and without significant catchments upslope.

TABLE D-1. SUMMARY OF LANDS

Area	Description/Activity	Acres	Affected Acres	Period Impacted	Remarks
A	Access W of river	2.96	0.42	Life of Pit	Affected area permanent
B	Buffer zones	37.07	0.41	Life of Pit	Affected area permanent
C	Mining area	62.62	62.62	See schedule	Some areas permanent
		102.65			

ASSUMPTIONS:

1. Annual production will be variable, but is assumed excavation is maximum 100,000 CY per year (cypy), average 65,000 cypy, to produce maximum 70,000 cypy average 45,500 cypy, assuming an average of 30% removed by screening and washing.
2. Screenings and wash fines will be used for backfill and attaining final grade.
3. Soil ranges from 0.25 to 2 foot in depth, and averages 6 inches. Soil, including subsoil suitable for rooting zone use will be salvaged and stored or used in reclamation as work progresses.
4. Overburden (clay and loam) varies significantly, but is assumed to occupy about 30% of the profile, or 8-10 feet out of an average 30-foot to be mined, and is expected to be found throughout the profile, in lenses of alluvial terrace deposits.
5. Sand and gravel deposit ranges from 20 to 60 feet in depth, expected to be thinner on the east and north sides of the site and deeper on the bench immediately above the river.

6. Excavation will be above the water table.
7. Slopes for edges of the pit, including the edges along the pipeline easement, will be 2:1 and will be cut as mining progresses, rather than cutting a highwall and using part of the highwall to provide material for the final slope.
8. Pit floors will slope to the west (towards the river) and will allow precipitation to infiltrate; no surface discharge or impoundment is planned. Ephemeral ponds may exist during mining, based on slopes, stages of mining, and the need to control and prevent sediment runoff, with infiltration to ground water and through unmined alluvial materials (above shale) to the river.

MINED, UNMINED, AND DISTURBED AREAS:

A total of approximately 62.6 acres will be mined, or 61% of the total site/permit area.
These areas, totaling 40.0 acres, will not be mined:

1. All areas below natural elevation of 6640, approximately 40 feet above the high water mark (HWM) of the San Juan River and Rio Blanco, and approximately 60 to 90 feet behind that HWM, and also 200 feet from the east bank of the irrigation ditch. This will form a buffer zone to protect the river, ensure that the Harris Irrigation Ditch and riverine wetlands are not impacted, and provide for visual impact mitigation.
2. A 200-foot buffer zone on the north, east, and south boundaries of the site, to provide a buffer for neighboring landowners (and visual impact mitigation), and provide for reservoirs for grass and forbs for reseeding of species not in seed mix.

In addition to the area being mined, a portion of the 150-foot access lane west of the River, (1.60 acres, including 0.42 for a permanent road), will be affected by the permanent access road construction, and stockpile areas, not including areas.

STRIPPING AND MINING TECHNIQUE:

STRIPPING: Soil, and overburden (subsoil and pockets of loam, silt and clay) is expected to be quite variable, as defined by standard NRCS methods. All soil on the mining areas is expected to have a significant amount of large materials (cobbles and smaller stones, 4-inch and larger).

Following harvest of timber and grubbing of woody species, the soil, with grasses and forbs, will be stripped using scraper, dozer, and/or loaders. Soil may be screened to remove roots and larger materials for processing and sale or use, and to improve use for reclamation. After screening, for the first year (+/-), soil will be placed in a stockpile at a convenient location for long-term storage and protection of soil. In following years, soil will be moved to directly to reclaim areas or, when necessary very short-term (4-6 month) stockpiles on the pit floor before moving to reclamation. No excess soil is anticipated.

In general, the stripping will be done on a yearly basis. There will be no discharge of storm water from a stripped area (except for the access road improvements, if necessary) without first flowing through a sediment basin and other storm water controls; most storm water will infiltrate into the ground directly, or flow overland into temporary closed basins to infiltrate; rather than discharge on the surface. The goal is zero discharge from disturbed and un-reclaimed areas, in accordance with the Surface Water Management Plan (SWMP).

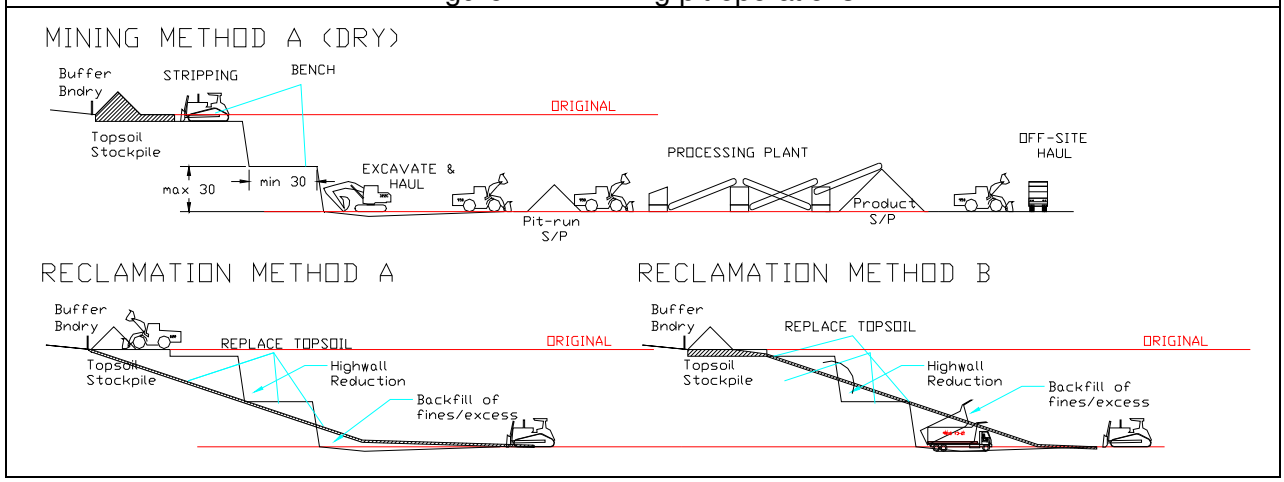
MINING: Mining will be conducted in one to three cuts, each not exceeding 30 feet in depth. Exact depth will vary to ensure proper drainage, convenient reclamation to an acceptable slope, and to allow for storm water control during and after mining. No dewatering is anticipated.

Mining consists of:

1. Cutting of timber and grubbing of woody species;
2. Stripping and conserving soil;
3. As necessary, removing and relocating overburden to backfill areas or stockpiles;
4. Removing the raw material with loaders and/or backhoes/trackhoes;
5. Moving these excavated materials by loader or truck directly to plant or to stockpiles for the screening and crushing (processing) plant;

6. Screening , crushing, and/or washing of sand and gravel (using portable plants), moving these to stockpiles in the plant area prior to use in on-site plants (such as ready-mix or hot-mix plants) or shipping from the site; and
7. Placement of excess materials (overburden, fines, and oversize) by loader for backfilling and compaction, generally as soon as possible and as material is made available to final slopes.

Figure D-1. Mining pit operations.



ROADS:

The major road is to be permanent, as requested by the landowner. An existing trail (approximately 1500 feet in length) will be improved and left as a road for access to the upper area. An existing portion of this road (0.4 acres) is located in the west buffer zone. The north part of the site will be accessed via a road of approximately 1000 feet in length, again permanent, connecting to the first at the top of the cliff (just inside the buffer zone).

ACCESS: For mining purposes, access to the pit shall be limited to the road and private bridge over the San Juan River on the west perimeter of the permit area, connecting County Road 500 (Trujillo Road South). This road will be graveled according to Archuleta and user requirements, and may be treated with mag-water or other dust control agents, as part of regular maintenance. This access will also be used for agricultural purposes.

PIT ROADS (HAUL): Various other pit roads will be constructed and used in the permit area for various periods of time. The exact routing of those roads will be identified as mining proceeds, and are not shown on maps. These roads will normally be on a mined surface, but may be on the original ground surface (after stripping). All roads providing access to temporary plant sites will be all-weather, gravel, minimum 24-feet width or as required by MSHA standards for mine haulage, mine access, fire and other emergency purposes; other roads may be narrower but will meet MSHA standards. Roads will include drainage features (ditches, culverts, berms, check dams, etc.) as required by proper design and maintenance requirements, storm water and related permits, safety berms or other devices as required by MSHA, and signage as required by MSHA and OSHA standards for mining and industrial/commercial purposes.

The existing road/trail and new, temporary trails will be used as necessary to provide ranching access to areas of the property not being mined, as well as access where needed on a seasonal, short-term basis for preparation, emergency access, reclamation, and inspection, and are not be shown. Existing bridge and roads (but not trails) are considered significant permanent structures.

TABLE D-2. ROADS

Road	Dim's (ft)	Area (ac)	Const period	Status	Remarks
Access (W of river)	562x24	0.45	Existing/init.	Permanent	Access to CR-500
Access (E of river)	1200x24	1.10	Existing	Permanent	Up side of valley face
	300x24	0.21	2018-2019	Permanent	Final
North Access	1000x20	0.69	2024-2026	Permanent	

MISCELLANEOUS ACTIVITIES:

Plant areas and adjacent areas in which reclamation is delayed may be used during mining operations to provide space for temporary plants, including portable plants which may or may not be directly related to mining activities, including hot mix asphalt facilities and ready-mix plants.

Portable plants will be brought into the site as required. Oversize materials (cobbles) either will be crushed for aggregate, stockpiled and sold as-is, or used as backfill. Clean construction debris (earth, rock, concrete rubble, asphalt pavement) may be classified (characterized), determined to be safe for use in accordance with CDRMS and CDPHE requirements, and brought to the site for processing similar to excavated material for recycling as aggregate or raw material for concrete batch plants and/or asphalt plants, or for use as backfill for reclamation. Certain other materials, such as that produced by clearing and grubbing, or logging operations on the site or other lands (such as lands owned by the landowner), such as bark, sawdust, and woody materials, may be stored on-site and may be used as mulch or organic additives to soil (as part of reclamation activities), or may be processed for sale and use off-site. Livestock manure may be present on-site, and incorporated into reclamation. Such material may be stockpiled until needed.

Concrete (ready-mix), asphalt (hot-mix), and other plants may locate on site on a temporary basis to support various projects in the area which cannot be better supported from elsewhere; these may be either portable or stationary plants and will be located at the designated plant site. Fuel tanks necessary for equipment and plants may be located on-site (in the plant area or on the access road), in adequate secondary containment to meet US EPA, SUIT, CDRMS, CDPHE, and CDLE requirements. Some maintenance of rolling stock may be performed in the permit area. Other chemicals necessary for maintenance, including cleaning, of equipment and rolling stock, may be stored and used on site, and will be kept in suitable containers and secondary containment.

The size of the plant site may vary from year to year, based on demand for material, availability of portable processing plants, requirements for additional plants to be placed in the area, and other factors, but is assumed to remain fairly constant on average at 180,000 SF (20000 SY/4.1 acres). The plant site will be graded to post-mining (reclamation) contours but will not have soil replaced nor revegetated, if there is a significant chance that the area will be used in the next year. The plant site will generally relocate further north, but exact location may shift only slightly from year to year. Plant sites (or portions) will have soil replaced and be reclaimed within 12 months after an area is determined to no longer be needed for plant, stockpile, and traffic use. Exposed (unplanted) areas will use alternative dust- and erosion-control measures, and fencing or other markings will be used to prevent problems with traffic and other activities in such areas. Portions of the site may be leased out to other operators; such leases will include requirements to ensure control of dust, storm water, and other potential pollution problems.

A water pipeline exists across the bridge and alongside or in the access road to allow water to be transported from the river to the upper portion of the site being mined, for use of the water in mining and related activities, and for pre-mining and post-reclamation use for irrigation and/or stock watering.

PREVIOUS SITE DEVELOPMENT AND ACCOMODATION:

Except for prior construction of the bridge and access, construction and operation of an irrigation ditch and related items, and construction of the existing trail, the site has been used only for agricultural purposes. The access corridor west of the river has been farmed and used for pasture; the area east of the river has been used for grazing.

There are virtually no improvements located on the site immediately east of the river other than the bridge, road and the headworks for the Harris Irrigation ditch. Fencing, where it exists, is at least 50 feet from proposed disturbances and excavation. West of the river, in addition to the bridge and road, there are improvements to the pasture (including irrigation lines), fencing, and utilities along the County road.

STOCKPILE CONSTRUCTION:

SOIL: Soil will be stockpiled immediately after removal (unless moved directly to an area being reclaimed). Stockpiles will have a maximum slope of 1:1, and will be stabilized against erosion as necessary as they are

completed. Stockpiles to be in place for less than 12 months will NOT be vegetated (seeded and mulched), although other erosion control measures may be employed. If stockpiles remain significantly longer than this period, seeding would be done in the fall, as recommended by NRCS.

The initial stockpile area (See Figure C-2) of 30,000 SF (0.7 acres) will be able to contain up to 25,000 CY of soil or soil from approximately 675,000 SF (assuming 1 foot of soil), which is far in excess of the maximum area expected to be stripped for mining, plant site, and roads at any one time by a factor of 2.5. Stockpiles will be set back from any highwall a minimum of 20 feet or the height of the highwall, whichever is greater. In case of problems with vegetating (due to drought, severe winter conditions, or other issues), soil will be protected by application of erosion control agents as necessary to prevent erosion and loss.

No other stockpile areas are planned; since the access road is permanent, soil reclaimed from its improvement/construction will be added to the initial stockpile for other reclamation use.

"EXCESS": Overburden, fines from washing and screening, and other suitable materials will be placed as necessary to enhance reclamation. This includes shallow sediment basins, with the intent of using the filled basins as part of final post-mining grade, and at the toe of highwalls. These materials will be able to be treated and used as subsoil and backfill, for reclamation.

RAW AND PROCESSED MATERIALS: As much as possible, there will be little or no stockpiling of raw materials: excavated material will be moved directly to the plant hoppers and trucks will be loaded directly from outfeed conveyor stockpiles to haul off-site. However, the use of portable plants operating in the site for limited periods of time and the expected demand for material on a year-round basis will require that some stockpiles of processed materials (ready for haul off-site) will be necessary. Temporary operation of ready-mix or asphalt plants on-site will also require stockpiles of aggregate for production of ready-mix and asphaltic cement concrete only immediately before and when plants are present and operating. Material stockpiles will not be placed directly on un-stripped/undisturbed or fully-reclaimed land.

GENERAL: Overburden and soil stockpile areas are placed where the material will be available for reclamation as planned with minimum movement and re-handling. There may be some very temporary stockpiles for soil and excess material, located at various convenient locations along roads, on the floor of the pit, in the plant area, or in stripped areas. The use of silt-fencing at the toe of stockpiles will be avoided as much as possible, but sediment control may be provided by shallow swales at the toe.

SURFACE WATER MANAGEMENT:

See Exhibit G.

EXHIBIT E - RECLAMATION PLAN

GENERAL CONCEPT (6.4.5(2)a.)

The mine will be reclaimed as grazing land, possibly irrigated. In general, soil stripped from mined areas will be replaced and converted to grassland initially; processing fines, overburden, and some construction debris will be used to do shaping to final post-mining grade, and roads (as discussed in Exhibit D) will remain in place for future access to all portions of the site. Acreages are shown in Table E-1. This reclamation plan is in accordance with existing pre-mining land use and land use in the surrounding area; the site and all surrounding property is zoned by Archuleta County as "Agricultural Ranching."

The objective of the reclamation is to create a stable topography and biological community which can sustain the proposed post-mining use of the land and protect downstream water quality and quantities. As much as possible, as they are mined, soil and excess fines will be placed into stockpiles which can be easily moved to their permanent locations as part of the reclamation, and roads are designed to be located properly both for mining and for future post-mining use as access to portions of the site and areas off-site. As much as possible, roads and long-term plant areas are laid out and developed during mining in what is essentially their final post-mining, reclaimed configuration to minimize reclamation requirements.

TABLE E-1 SUMMARY OF RECLAMATION AREAS

Area	Nature	Acres	Key features	Actions (Remarks)
A	Access W of river	0.9	Access road, bridge	Permanent
B	Access E of river	1.1	Access road	Permanent
B1	North access road	0.7	Access road	Permanent
C,D,E	buffer zones	32.7	Grazing land	Permanent
F	Grazing land	66.3	Grazing land	Permanent
	TOTAL	101.7		

1. A small portion of the various buffer zones will be used for the pre-existing roads as shown above.
2. A small portion of the riparian buffer zones may be used for road and for surface discharge of water, if necessary.

COMPARISON OF LAND USE (6.4.5.(2)b.)

We believe that the proposed post-mining use conforms to present and planned land use for the area. The official zoning classification by the County for the site (Agricultural Ranching, AR) will continue after mining is finished. There are no state or tribal land use plans, to our knowledge.

Zoning to the north:	Agricultural Ranching (private land)
Zoning to the east:	Agricultural Ranching (private land)
Zoning to the south:	Agricultural-Ranching with some residential use (private land)
Zoning to the west:	Agricultural-Ranching with some residential use (private land) River floodplain.
Zoning in the general area:	There is some Southern Ute Indian Tribe (SUIT) land in the vicinity but not within 500 feet. There is some land zoned as "Agricultural-Forestry" in the vicinity.

Nearest community is Trujillo, an unincorporated hamlet located approximately one mile to the south.

COMPLIANCE WITH RECLAMATION STANDARDS (6.4.5.(2)c.)

In demonstration of compliance with state standards (Rule 3.1), the following information is provided. Please refer to maps in Exhibit F.

Grading (3.1.5(1)) and Backfilling (3.1.5(2))

Most mining faces will be a vertical slope; with soil stripped approximately 10 feet to the rear of the face. Excess fines may also be stored in stockpiles on the final floor of the pit, until placed in final reclamation areas for backfill. All backfill will be placed as engineered fill and compacted to approximately 75% Proctor density or better, as field-determined. Exterior (perimeter) faces of pits will be mined at a taper, backfilled, or left sufficiently distant from the permit boundary or buffer zone boundary to cut and fill to a 1V:2H slope or flatter, OR where adjacent natural slopes are steeper than 1V:2H, to match adjacent slopes within 20% +/-. There are some areas, which will be left at a permanent steeper slope of 1V:1H or vertical, based on rock conditions as evaluated by an engineer at the time of mining, and stabilized as necessary. This includes cuts for the existing trail climbing the cliff from the river to the bench being mined, and converted to a permanent road. Slope widths and heights will vary from area to area based on total depth of mining accomplished. All final slopes of 1V:2H or flatter will be covered with stockpiled soil. See cross-sections in Exhibit F.

Grading to control erosion, siltation and prevent damage (3.1.5(3))

Grading will be done so that erosion and sediment is controlled on affected lands and so that there is no damage to areas outside the effected land. All highwalls (mining faces) will be eliminated except as noted above. Where highwalls of 1V:1H or steeper (vertical) are left, temporary and permanent storm water management and erosion control features will be used on the uphill side as part of stabilization and reclamation. All slopes greater than 2:1 will be located at least 50 feet from all exterior property boundaries and a horizontal distance equal to or greater than the height of the cut slope and any natural change in elevation between the back of the cut slope and the permit boundary, to prevent off-property damage due to slope failure, and to prevent potential slides or other damage on affected lands or outside the permit boundary. No mining, disturbance, or reclamation is planned within delineated floodplains. No surface discharge is planned; if surface discharge of water is necessary, detention basins, outfall armoring, and other techniques will be employed to prevent discharge of sediment and siltation off-site.

Performance as soon as feasible (3.1.5(4))

Some areas, such as those involved in the replacement/improvement of the San Juan access road and any field drainage performed prior to mining, will be reclaimed immediately upon completion of work. However, for most of the affected area, the time between initial disturbance and final reclamation will be approximately one-two years. Because of the size and the post-reclamation uses, the time to meet reclamation standards will vary. Backfilling, grading, and placement of soil should be accomplished within one year of completion of extraction of construction materials, with seeding to follow as soon as possible based on recommendations, seasons, and weather conditions (See Exhibit J).

Refuse and acid-forming or toxic producing materials (3.1.5(5))

There is no reason to believe that toxic or acid-forming, or toxic producing materials are found or will be brought on site. Therefore no special action is necessary to prevent leaching, protect the drainage system, or prevent unauthorized release of pollutants to surface water or groundwater, beyond that necessary for erosion control and prevention and control of spills and leaks from vehicles and equipment. Fines will be almost immediately moved to final locations for final reclamation surfaces and slopes. Normal municipal solid waste generated during operations will be hauled off-site for disposal, and will not be buried or burned on-site. There may be some use of various wastes, including wood waste (sawdust, bark, similar materials) for reclamation, to provide mulches, sediment control, and for other purposes. Clean construction debris (such as materials from clearing and grubbing, asphatic cement concrete rubble, Portland cement concrete rubble, and excavated soil and rock) may be used for backfill and related use on site for reclamation and road construction/maintenance, as provided by haulers, and in accordance with CDRMS requirements for verification of nature and condition.

Holes, etc. (3.1.5(6))

There are no drill holes, auger holes, adits or shafts to reclaim.

Maximum slopes (3.1.5(7))

For most areas on the perimeter of the mined areas, slopes of 1V:2H or less, as proposed, are compatible with surrounding conditions and land use. In some locations, such as the western edge of the mined area at the edge of the valley floor, final slopes may be steeper to match adjacent hillside and cliff slopes, as discussed above. See Table E-1. Areas with slopes steeper than 1V:2H will have engineer review for stability and stabilization measures (such as but not limited to: grouting, placement of sandbags, block walls (such as Keystone ™ or similar), wire mesh, etc.) or have retaining structures as needed.

Use of farm equipment (3.1.5(8))

There is no intent to use farm equipment except as feasible for seeding as part of reclamation. Access roads is and will be usable by standard ranching vehicles and equipment.

Notice of other backfill (3.1.5(9))

The Applicant will comply with this requirement to notify the Division if other backfill is used. Use of clean construction debris, such as soil, subsoil, waste rock, overburden, clean Portland or asphaltic cement concrete rubble, for backfill, to be covered by soil as appropriate for intended post-mining use, is proposed. No acid-bearing materials, tailings, or other toxic or potentially toxic materials shall be used. When in doubt, standard characterization methods shall be used to evaluate the suitability of such materials for use on site. Records of off-site sources of backfill material shall be maintained for the life of the operation, in accordance with CDRMS requirements, including notarized certification statements as needed.

Prevention of unauthorized release of pollutants to surface water (3.1.5(10))

The Applicant will handle chemicals, equipment, materials, and mined material to be disposed of on-site in a way to prevent unauthorized release of pollutants to surface water, and comply with this requirement.

Prevention of unauthorized release of pollutants to groundwater (3.1.5(11))

The Applicant will handle chemicals, equipment, material mined, handled, or disposed of on-site in a way to prevent unauthorized release of pollutants to groundwater, and comply with this requirement.

General water hydrology and water quality (3.1.6(1))

Hydrology and water quality issues are addressed at length in Exhibit G. The Applicant will comply with applicable water and water rights laws and regulations, and water quality laws and regulations. No dredge or fill in waters of Colorado or the United States is proposed, and no temporary or large siltation structures will be placed except as required by permits,[2] and will be removed in accordance with those permits. No storm water structures are proposed which are intended to retain storm water for longer than 72 hours.

Earth dams (3.1.6.(2))

Mining will be done only in areas which will not present potential for negative impact on the stability of any off-site earth dams. Except for storm water control systems in and around plant areas, there will be no earth or other dams constructed: for the most part, water features (such as storm water detention and retention basins) will be incised. Those berms and basins will contain less than 1.0 acre-feet of water at any time, including immediately following 24-hour, 25-year storm events, except as approved by the Colorado Division of Water Resources, and are not planned to contain more than 10.0 acre-feet of water. Mining is expected to remain above the normal ground water table. No permanent ponds are planned.

[2] Primarily CDPS storm water permits.

Erosion control (3.1.6.(3))

All surfaces will be stabilized and protected to control erosion. Stockpiles of soil and excess fines will be protected against erosion, traffic, and weed invasion; either by seeding (temporary seed mix or agricultural products) or application of dust-control and crusting agents (such as polymers or other soil treatments), wind or silt fencing. (See Exhibit J for seeding data, Exhibit D for additional stockpile information.)

Groundwater (3.1.7.)

The Applicant shall comply with all applicable statewide and classified standards, based on existing and reasonably potential future uses, and with new standards which may be applicable in the future. (See Exhibit G.) Based on information from other operations in the area with similar conditions, the operation is designed to have no reasonable potential to adversely impact groundwater quality or quantity, or cause any further lowering of quality. It is not anticipated that tributary water will be encountered in the mining. The Applicant will comply with any conditions as established by permits.

Wildlife safety and protection (3.1.8.(1))

Wildlife issues are addressed at length in Exhibit H. A buffer zone will exist between the pit and major features either on or off site, and the San Juan River. Since mining will be done in annual steps, there will be no long-term, wide barrier to migration. The buffer zones, areas not yet mined, and reclaimed areas will provide space for wildlife to migrate around the pit operations. Weeds shall be controlled. Steeply-sloped stocipiles/berms will assist in deterring wildlife and livestock from nearing the top of highwalls of greater height than cliffs naturally occurring in the area, and temporary fencing will be used to reduce potential for livestock and wildlife to graze on areas being reclaimed. Priority, however, will be given to use for livestock rather than wildlife.

Wildlife habitat management and creation (3.1.8.(2))

In accordance with the wishes of the landowner, and based on current and planned post-reclamation use as grazing land, no actions specifically to create or improve wildlife habitat in the permit area shall be undertaken. Priority shall be given to agricultural use for livestock, not wildlife.

Topsoil (3.1.9.)

Approximately 3-24 inches of soil (based on USDA data) will be removed prior to extraction and stockpiled for protection (See discussion in Exhibit D and above). Any woody vegetation will be removed. (Refer to Exhibit I for detailed information on soil.) Except for the plant areas, relocation of stockpiled soil will be done on an annual basis as mined areas are reclaimed. If necessary, as material is available, and as authorized by DRMS, materials may be added to amend and improve soil, including fertilizers, commercial soil amendments, manure from livestock, soil or non-toxic organic materials from on- or off-site (such as sawdust, fines from sediment basins, and mulch), in accordance with standard agricultural practices and based on soil testing for suitability and benefit. There are not expected to be any heavily textured backfill slopes which could have a potential for instability of soil placed on them. Soil existing on site appears to be of adequate quality and quantity to allow for reclamation to grazing land as appropriate, to include placement of a minimum of 12 inches of bedding, porous material above any solid rock or impermeable layer.

Revegetation (3.1.10.)

Final reclamation will be for use as grazing land, including access roads and water supply. The reclamation on areas suitable for, and planned at the time of reclamation to be used for, grazing land, will include the seeding of a standard agricultural pasture grass and forbs mix, again to be determined by the owners at the time of reclamation, upon advice of the Natural Resources Conservation District and County Extension Agent (see Exhibits I and J). There will be no intentional seeding with native grasses, forbs, or other plant species unless those are determined to be desirable for pasture land. (Portions of the site within permit boundaries and not to be mined will have existing woody vegetation left in place.) Verification of completed reclamation will be done by a statement prepared and signed by the landowner confirming that the site is acceptable for grazing, and upon demonstration of achieving 75% of pre-disturbance vegetative cover. During reclamation, weed control methods (Exhibit J) as approved by Conservation District and County officials will be used on all affected land to

prevent/control weed infestation. Final approval of reclamation will be granted by the Colorado Department of Natural Resources after reporting, submitting the statement and verification of notifications in accordance with DNR procedures, and inspection.

SOIL, SPOIL, AND REVEGETATION (6.4.5.(2)d.)

As discussed above, soil will be removed from the pit and segregated in stockpiles then used for reclamation. Stockpile areas, whether or not subsequently mined, will be reclaimed and revegetated in the same way as other mined areas. Where soil was left at the time of building the stockpile (because soil was placed in the stockpile) and the area will not be mined for more than 12 months, the areas will be chiseled or ripped (scarified) prior to replacement of soil and seeding. Any spoil will be used as subsoil to establish final contours, and will be covered by soil for revegetation (see also Exhibit J). It is anticipated that a minimum of 12 inches of soil or subsoil will be placed on all surfaces of 2H:1V or flatter, above impermeable or bedrock materials, except on steep slopes in the caprock along the access road between the river and the upper area, where topsoil cannot be placed due to steep or vertical slopes in the road cut.

Exhibit F includes cross-sections of various portions of the pit, showing a profile of the surface before and after mining, and after reclamation. Maps in Exhibit F shows scheduled reclamation by year, planned, approximate contours after mining and reclamation, and general drainage information, including probable location of basins and outfalls if necessary for storm water and erosion/sediment control.

PLAN/SCHEDULE (6.4.5.(2)e.)

The following features constructed during mining or reclamation will be left in place as permanent post-reclamation features, as requested by the landowner:

1. Access roads: approximately 3200 linear feet of 20- or 24- foot-wide County Standard roads, with bridge, culverts, berms, embankments, cuts, fills, bridge, ditch crossing, and associated drainage features.
2. Perimeter and internal fencing to secure site, divide pasture areas, and otherwise control access and animal movement.
3. Water pipeline, if installed, between the river and the upper area, whether surface-laid or buried.

Backfilling, grading, and placement of soil should be accomplished within one year of completion of extraction of construction materials from a given area, except for temporary and rebuilt roadways (See Maps in Exhibit F, and Exhibit J). Depending upon the date of completion of the backfill, grading, and placement, the land will remain in fallow until the appropriate planting season for the crop(s) or forage selected, where revegetation is planned.

Items specified for the Reclamation Plan in Rule 6.4.5.(1) and 6.4.5.(2)f. have been included in other items in this Exhibit or have been included in other Exhibits referenced above, and therefore are not separately listed in this exhibit.

EXHIBIT F – Reclamation Plan Maps and Cross-Sections

INDEX

SHEET F-1: Entire site showing reclamation sequence and areas by year.

SHEET F-2: Cross-sections before and after mining and reclamation.

SHEET F-3: Entire site showing post-reclamation contours (20-foot intervals) assuming maximum mining depth is possible.

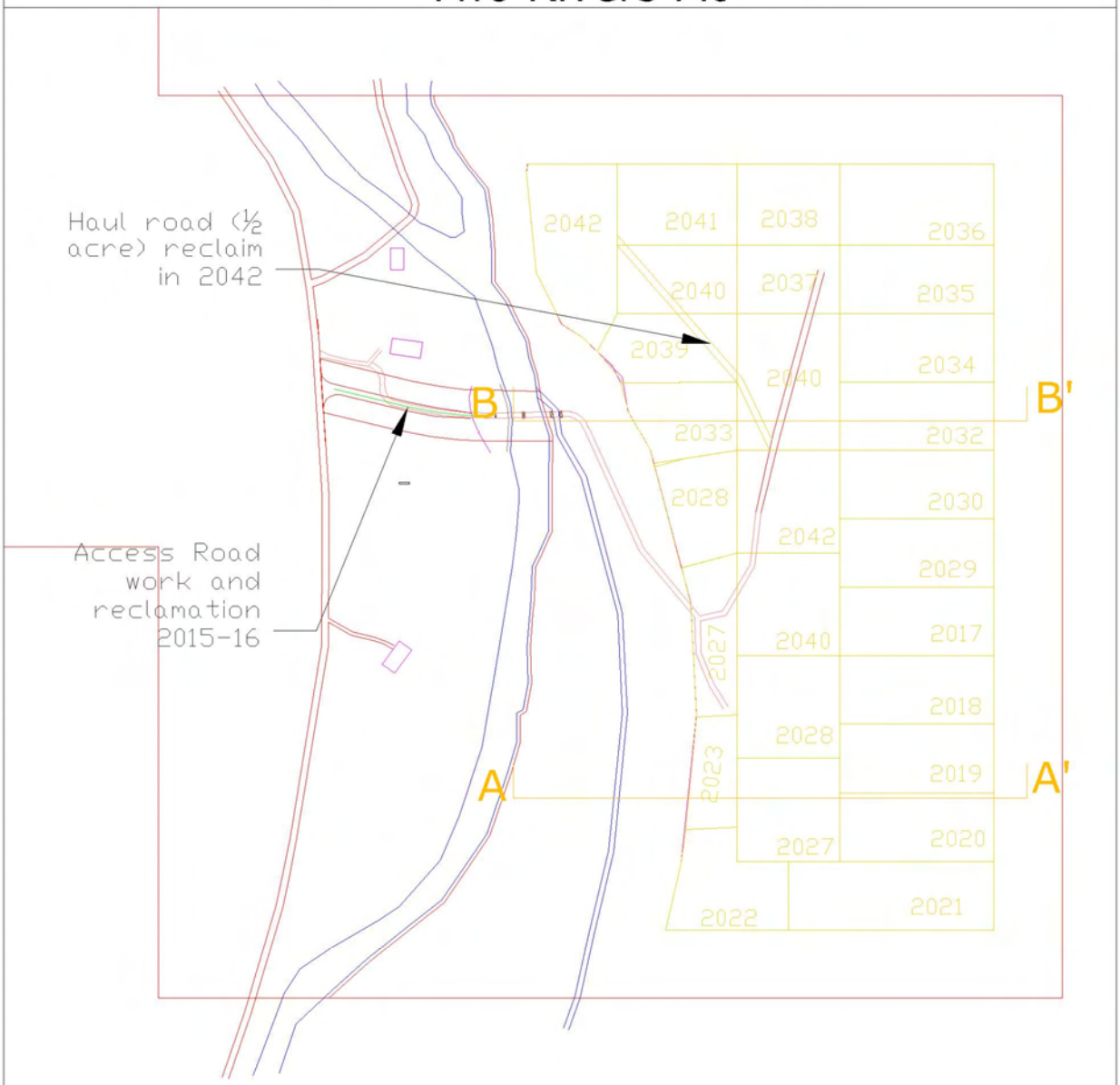
Notes:

Years shown for reclamation assume generally a two year lag from original disturbance (stripping) for areas used strictly for mining, and variable delay for areas used for plant siting.

Cross-section on Sheet F-2 shows existing (pre-mining) profile approximately 500 feet north of S permit boundary and 1000 feet south of N pe rmit boundary, as showing on Sheet F-1.

Existing contours in Exhibit C were shown at 40-foot intervals for clarity. The final contours are shown at 20 foot intervals for permit area and immediately adjacent area, to more accurately describe the terrain. Not all 20-foot contours are shown on the face of the valley.

C&J Gravel Products, Inc.
Two Rivers Pit



A A'
CROSS-SECTIONS
SEE SHEET F2

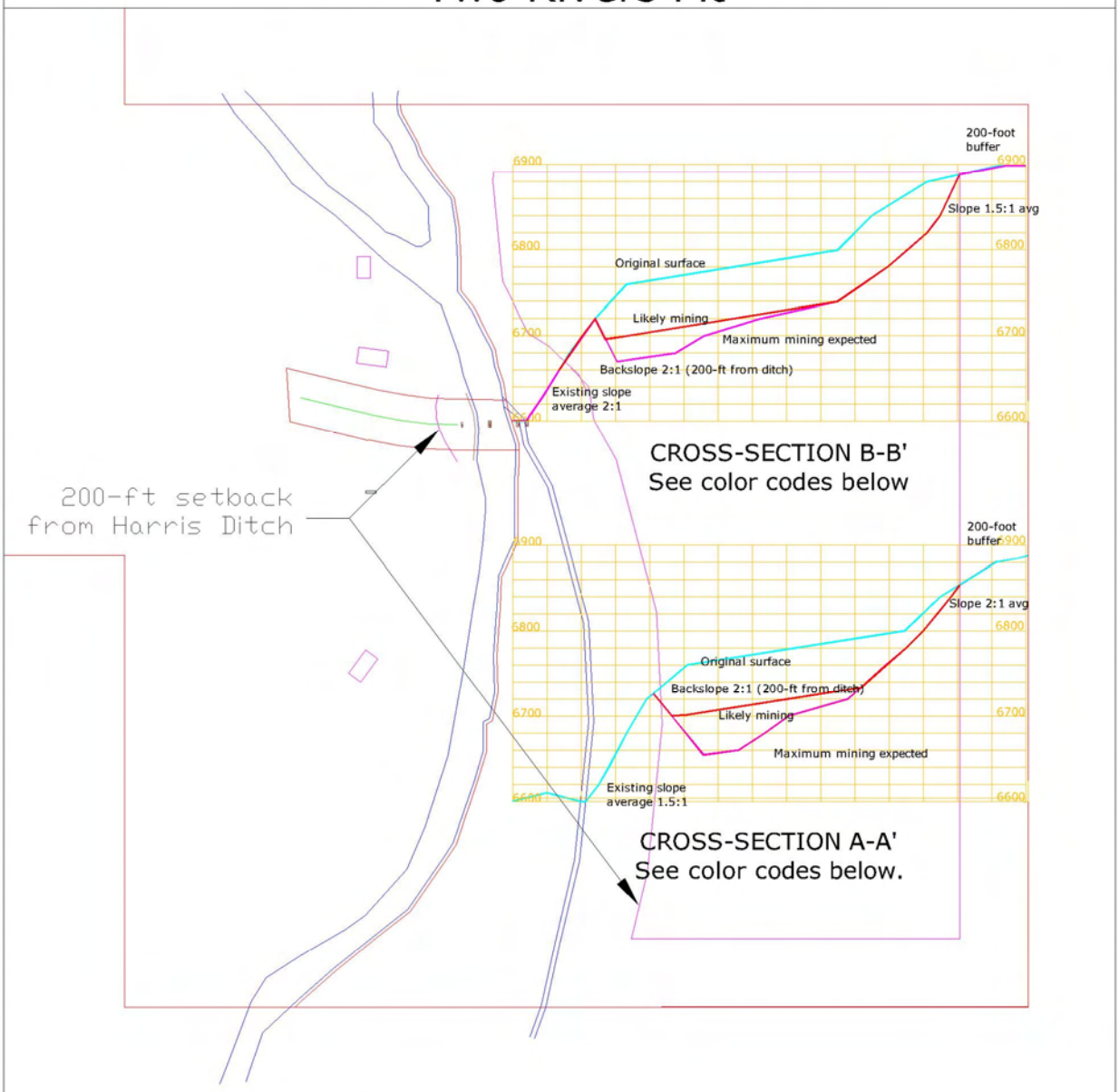
Nathan A. Barton, PE (CO-82630)

Prepared for C&J Gravel by and (c) WASTELINE, INC.
Date: 21 DEC 14 By: N. Barton Rv: P. Neil
Scale: 1"=500' 40-ft contours Source: USGS Map/Photo.
Portions SW 1/4 Sec 11, T33N, R2W, 10th PM, Archuleta Co., CO, Pertaining to Application: Two Rivers Pit M-2015- ____ Legend: standard USGS

RECLAMATION SEQUENCE AND AREAS BY YEARS

Drawing/ Sheet No.
F1

C&J Gravel Products, Inc.
Two Rivers Pit



HORIZONTAL SCALE: 1 block = 100 feet
VERTICAL SCALE: 1 block = 20 feet
Cyan: Original
Red: Likely final contours (60 foot max)
Magenta: Possible maximum contours (110 foot max)

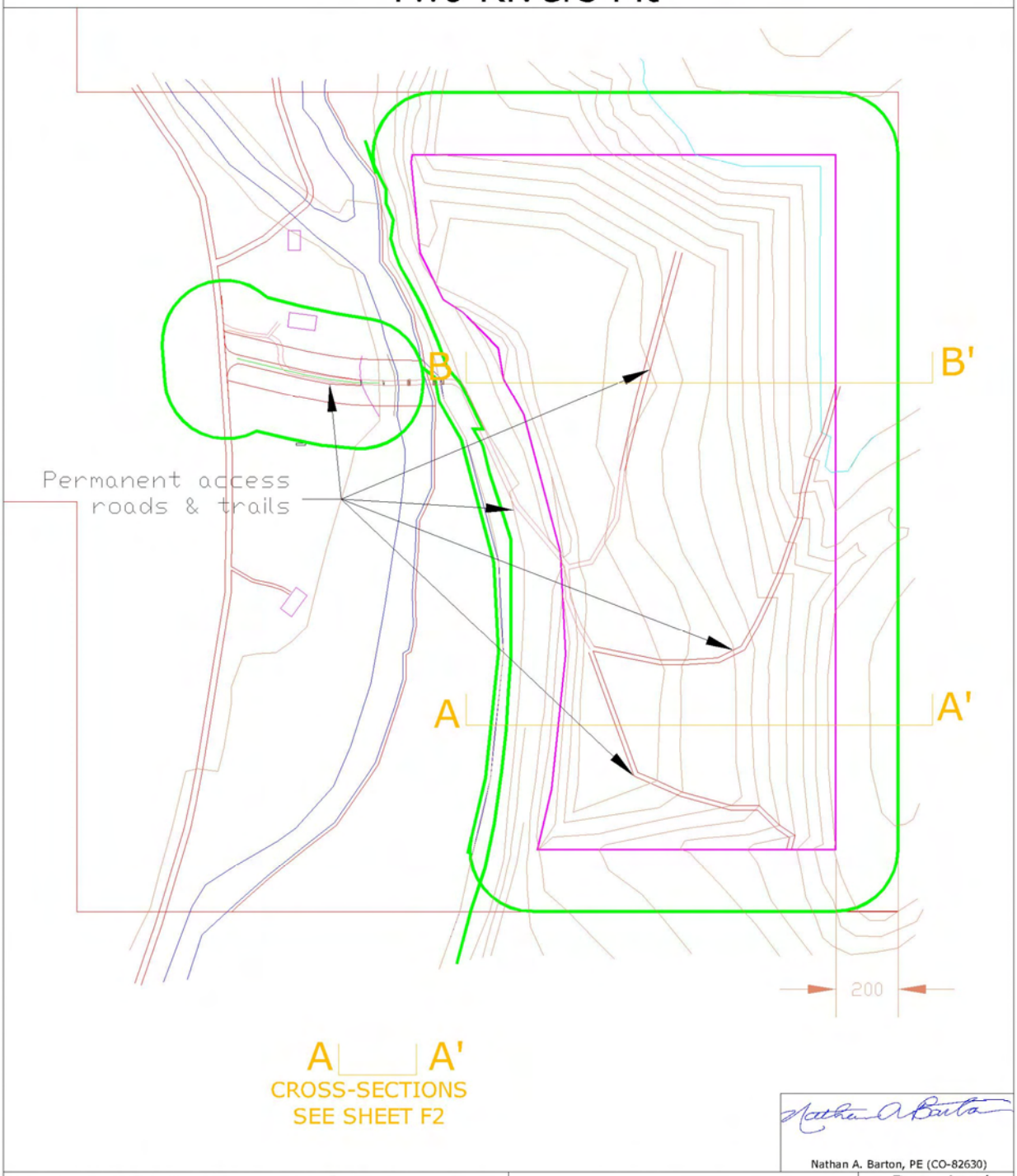
Nathan A. Barton, PE (CO-82630)

Prepared for C&J Gravel by and (c) WASTELINE, INC.
Date: 21 DEC 2014 By: N. Barton Rv: P. Neil
Scale: 1"=500' 40-ft contours Source: USGS Map/Photo.
Portions SW 1/4 Sec 11, T33N, R2W, 10th PM, Archuleta Co., CO, Pertaining to Application: Two Rivers Pit M-2015-_____ Legend: standard USGS

TYPICAL CROSS-SECTIONS FOR MINING, RECLAMATION

Drawing/ Sheet No.
F2

C&J Gravel Products, Inc.
Two Rivers Pit



Nathan A. Barton, PE (CO-82630)

Prepared for C&J Gravel by and (c) WASTELINE, INC.
Date: 21DEC 2014 By: N. Barton Rv: P. Neil
Scale: 1"=500' 20/40-ft contours Source: USGS Map/Photo. Portions SW 1/4 Sec 11, T33N, R2W, 10th PM, Archuleta Co., CO, Pertaining to Application: Constant Pit M-2015-____ Legend: standard USGS

FINAL COUNTOURS, RECLAMATION

Drawing/ Sheet No.
F3

EXHIBIT G – Water Information

SUMMARY: This operation is expected to neither directly nor indirectly affect surface and ground water systems. No irrigated land will be taken out of production; separate request will be made to use some irrigation water for dust control, washing of aggregate, and related uses during mining, primarily by using water purchased from water rights holders under a temporary water supply plan. The mining and reclamation as planned has no reasonable potential to significantly and adversely impact on surface or groundwater quality or quantity. Reclamation may leave small basins for infiltration and evaporation of runoff; if water is available and excavation to water table is done in mining, some small ponds may be left as features of final reclamation.

G-1. SURFACE WATER MANAGEMENT:

WATER AND DRAINAGE: Since mining will be executed as sidehill cuts and will slope down into the hillside, including the ridge of 200 feet width between the mining and the Harris Ditch, runoff which has come in contact with exposed bare soil or raw materials will be contained as much as possible to infiltrate, rather than discharge overland or in outfalls. Infiltration areas to allow water to soak into the ground will be maintained at the toe of the face of the pit, and will allow dewatering if necessary, to prevent illicit retention of water, and with permitted discharge to the river if required (as permitted by storm water permit). The plant site will have detention/sediment basins. Drainage through reclaimed areas will be a permanent part of final reclamation.

Temporary structures (swales and berms) will be constructed on the floor of the pit and in stripped areas to (1) prevent erosion, (2) divert water from active mining areas and (3) convey water to reclamation and long-term stockpile areas, or to a discharge point or sediment/infiltration basin. The goal is to prevent any surface discharge of water from disturbed areas which have not been reclaimed. The drainage from the active areas will be controlled and treated as required by water quality regulations[3] and permits to ensure that no sediment from the pit is discharged into the San Juan River.

The pit floor and plant site floors are intended to be below the surrounding land and there will be no discharge under normal conditions from these areas during mining and plant operations/materials storage. A berm will be left on the river side of those areas to be mined on the west edge of the mining area, both for storm water control and for safety. Since discharge is to be avoided as much as possible, and only after water has accumulated for a length of time, it is not expected that discharge temperature regulation may be required. The San Juan River is a rated cold-water fishery above Navajo Lake.

No dewatering is anticipated, as ground flow through undisturbed mineable material on the west side of the pit will continue. Prevention or significant limits on surface discharge will minimize erosion, sedimentation, and traffic problems. As necessary, stockpiles may have perimeter ditches/swales and berms with silt fence, straw bales, or rock check dams, to reduce/prevent sediment in any runoff, and reduce soil loss. Water used for washing of material and dust control will not be discharged, but will be recirculated/recycled as much as possible, and otherwise allowed to infiltrate into the ground.

[3] This is described in the surface water management plan, prepared for the CDPS (CDPHE-WQCD) permit, which provides detailed information.

G-2. GROUND AND SURFACE WATER INFORMATION:

1. Sources of Ground Water on site or potentially affected by operations on site: None. There are no wells on the site. Table G-1 lists recorded wells located within ½ mile of this site.[4] Mining at this site will be limited to depths of approximately 60 feet below existing ground level. This places mining well above the known water table,[5] including any alluvial aquifer of the San Juan River. Construction of bridge and access road in valley bottom will not impact sources of ground water, based on standard engineering design and activities.

Table G-1. Surface and Ground Water

Permit No	Owner	Date	Aqfr	Yield	Depth	Lev	Coord	Qtrs	Sec	Priority	Use type
162495	Constant Jac	22.11.91	Unnamed	10 gpm	12	5	1400N350W	NWSW	11	NA	Domestic
567	Constant Sprk Pump Sta	28.07.59	River	2.5 cfs	NA	NA	NA	SESWNW	11	68-162	18
567	Constant Sprk Pump Sta	28.07.59	River	1.5 cfs	NA	NA	NA	SESWNW	11	68-162	18
567	Constant Sprk Pump Sta	28.07.59	River	1.0 cfs	NA	NA	NA	SESWNW	11	68-162	18
618	Harris Ditch	01.06.07	River	0.5 cfs	NA	NA	NA	SESWNW	11	#198	1
618	Harris Ditch	25.04.67	River	5.5 cfs	NA	NA	NA	SESWNW	11	68-282	19
209546	Constant James A	20.04.98	Unnamed	12 gpm	8	4	2100S 850W	SWNW	11	NA	Domestic
59177F	Constant James A Jr	10.02.03	Unnamed	Pit	NA	NA	NA	SWNE	11	NA	Gravel
515	Baker Sprk Pump Sta	28.07.59	River	1.0 cfs	NA	NA	NA	NWSWSW	11	68-162	1
515	Baker Sprk Pump Sta	28.07.59	River	1.0 cfs	NA	NA	NA	NWSWSW	11	68-162	1
99006	Waterman FO	11.05.78	Unnamed	Expired	NA	NA	NA	SWSW	11	NA	Domestic
193577	Sharp Cynthia L	15.03.96	Unnamed	13 gpm	8	5	0N400W	NWNW	14	NA	Domestic
179469	Sharp Cynthia L	19.05.94	Unnamed	15 gpm	100	NA	100N420W	NWNW	14	NA	Domestic
189389	Sharp Cynthia L	01.09.95	Unnamed	6 gpm	80	NA	100S1300W	SWSW	11	NA	Domestic
211889	Berlanti Richard (Sharp Cynthia)	28.08.98	Unnamed	5 gpm	100	7	200S3380E	SWSE	11	NA	Domestic
211889A	Berlanti Richard	21.12.06	Unnamed	Unav	Unav	NA	100S3380E	SWSE	11	NA	Domestic
79715	Myers Victor V	13.06.75	Unnamed	4	52	38	001S1320E	SESW	2	NA	Domestic
630	Joe Irrigation Ditch	31.10.48	Rio Blanco	1.0 cfs	NA	NA	NA	SESWSE	2	#339	1
978	Joe Irrigation Ditch pump	31.10.48	Rio Blanco	1.0 cfs	NA	NA	NA	SESENW	2	#339	1
632	Joe Maez Ditch	14.05.1895	Rio Blanco	1.0 cfs	NA	NA	NA	SESESE	2	#187	1
632	Joe Maez Ditch	01.05.59	Rio Blanco	2.0 cfs	NA	NA	NA	SESESE	2	68-149	18
632	Joe Maez Ditch	01.05.59	Rio Blanco	2.0 cfs	NA	NA	NA	SESESE	2	68-149	18

Aqfr: Aquifer (GW: Ground Water). Yield in Acre-Feet. D=Depth, Lev (water level), distance in feet (for selected wells). Aqfr: aquifer (creek or basin). Yield in cfs. Size of irrigated area indicated if known.

2. Sources of Surface Water on site or potentially affected by operations on site:

- Sources within ½ mile of the site are shown on Table G-1.
- The only source of surface water on the site are the Rio Blanco and San Juan River. The small ravine entering the property from the east permit boundary carries water only immediately after storm events. No springs or potential for springs have been identified.
- The San Juan River is a major tributary of the Colorado River; the Rio Blanco is a minor tributary of the San Juan. From this point the San Juan flows into Navajo Lake in New Mexico.
- A single irrigation ditch diverts water from the San Juan River during irrigation season, and has a small amount of water for year-round domestic and animal watering use; the semi-improved headgate for the ditch is located immediately north of the bridge abutment for the access road. The access road is designed, including an open-floor (no-bottom) box culvert, to allow the ditch owner to have access to operate and maintain the ditch and the intake from the river, in accordance with a court-ordered, recorded agreement between the two owners. The access road and bridge is designed to comply with this agreement.
- Water rights are owned and used by the landowner to water stock and irrigate the field west of the San Juan River in the valley floor, and this will continue except for the area used by the access road, which is a permanent feature to remain after mining and reclamation. The landowner intended to obtain water rights for

[4] Review of Colorado State Engineer records, 23 July 2008 and 20 November 2014.

[5] Based on test holes dug at the site in 2007 and engineer assessment of the topography and hydrology.

water from the San Juan River to provide stock and irrigation water for use in the area to be mined and reclaimed, via the pipeline (also a permanent feature). The landowner will also provide water, via a suitable agreement, to the mining operator, for dust control, road maintenance, and washing of material (if needed). Irrigation is not required for reclamation.

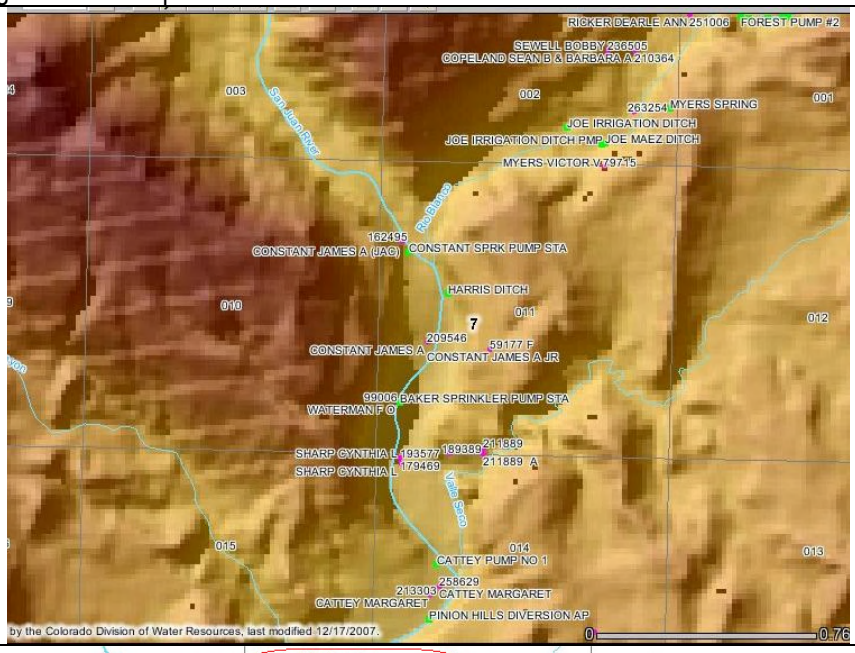


FIGURE G-1.

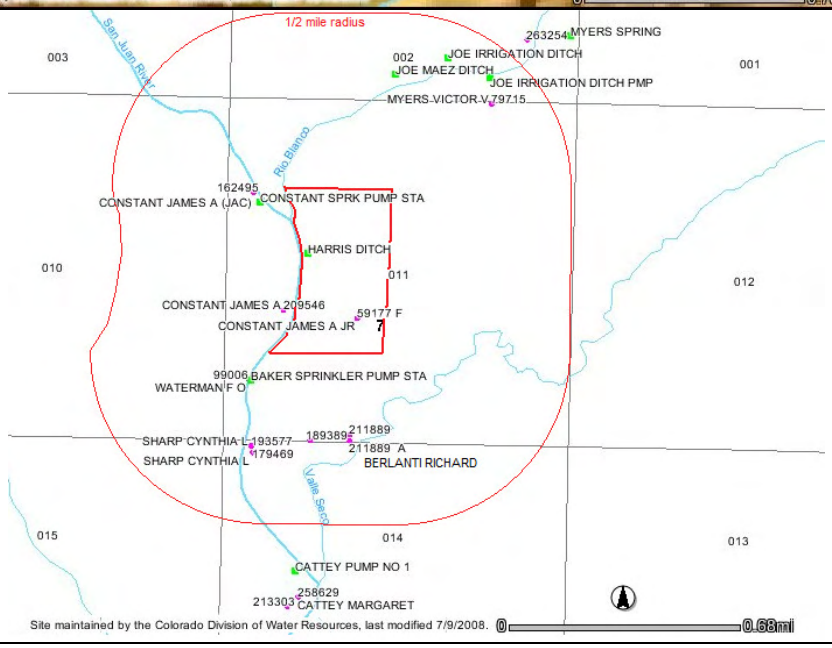


FIGURE G-2.

- References:
  http://cfpub.epa.gov/surf/huc.cfm?huc_code=14080107
  http://biology.unm.edu/stacey/Functional%20Assessment%20of%20the%20Mancos%20River%20Watershed.pdf
  http://www.usbr.gov/uc/library/envdocs/ea/mancos_valley/
  State databases: http://165.127.23.41/website/lttools/index.asp?iw=800&ih=600
  http://165.127.23.41-StateIMS (Colorado's Decision Support Systems)

3. Other available: No other information for recorded water rights was available from published data.

4. Changes to drainage basins caused by operations on site:
There will be no significant and permanent changes in watershed boundaries caused by operations on site. As discussed in the reclamation plan, mining will modify the existing drainages across the property and into the San Juan River and Rio Blanco, but will not significantly impact flows or points of entry.

Other than disturbances in vegetation, area exposed to erosion, and evaporation, the only significant change in drainage basin characteristics is the blocking of potential surface flows from pit and working areas during the life of the pit and after reclamation, resulting in increased infiltration into the surficial alluvial deposits and bedrock beneath the material being mined. The impact will be minimal, as less than 0.001% of the total basin will be blocked from discharging at any one time during mining and reclamation operations.

5. Aquifers and watersheds in this area:
The only recognized aquifer in the area is the Morrison Formation, approximately 500 feet below surface; the alluvial aquifer associated with the Rio Blanco and San Juan River is potentially a significant source of water, but is not expected to be impacted by operations, which are limited to 6640 feet, or more than 40 feet above the high water mark of the San Juan River at this point. Construction and maintenance of the road, bridge, and pipeline, and use of stockpiles, will not impact on the river or aquifer. However, river water may be useable for water for plant and pit operations. Based on depths of existing wells in the area, there are no bedrock formations used as aquifers in the area which will be mined which would be affected by the mining of the sand and gravel. The overburden (soil) and the sand and gravel are not significant aquifers in this area[6]. Based on the location and depth of other known wells in the area, the mining activities proposed will have no reasonable potential for any adverse impact. There will be no blasting at this site.

6. Prevention and mitigation actions:
As discussed above, the area to be mined is at least 200 feet away horizontally, and 40 feet or more vertically, from all bodies of water (rivers and Harris Ditch). There will be no planned surface discharge of storm water which has come in contact with exposed stripped areas, mining areas, or stockpiles of extracted materials, waste materials, or topsoil. As necessary, storm water pollution prevention and management actions, including erosion and sedimentation control, will be implemented as required by the National Pollution Discharge Elimination System and/or Colorado Discharge Permit System storm water general permit for which coverage has been obtained for this site (prior to beginning mining), in case discharge is necessary. This meets the requirement for an NPDES permit and covers dewatering and process (wash) water as well as storm water, and application has been made for coverage. Since surface water flow will instead infiltrate into the bench's alluvial deposits at the west edge of pit and reclaimed areas (along the top of the cliff) and is presumed to flow into the San Juan River as subsurface flows, no net impact on river flow is anticipated. Overall design of the pit was done to plan for a minimum impact on surface and ground water. Pit area is not being currently irrigated, nor is irrigation necessary for reclamation.

7. Prohibited actions necessary to protect water systems:
None known at this time, other than compliance with best management practices and specific items to protect the irrigation ditch as listed above. Best management practices (BMP) forbid the discharge of heavily sediment-laden waters and implementation of spill control and countermeasures actions to prevent discharge of a spilled substance. The buffer zones are established for a variety of reasons, including protection of drainage, preservation of river bottomlands, wildlife, neighbors, and prevention of downstream water degradation due to sedimentation. No discharge of surface water is planned. The mining is planned to prevent negative impacts on ground and surface water and to make maximum use of existing water resources in accordance with state water law.

[6] Per conversations with Soil Conservation District personnel.

G-3. PROJECT WATER REQUIREMENTS:

Water use for extracting and processing aggregates from the pit will be low, amounting to less than 6 acre-feet per year under worst case conditions. This water will come from the temporary industrial use of agricultural water from existing water rights for the property, from the San Juan River. Based on data available on historic irrigation of the property, of irrigated land, it may be necessary for the landowner to dry up approximately 3 acres of land in order to provide augmentation, if such is necessary, and the landowner is willing to do so. However, to the best of our knowledge, the San Juan River is not overappropriated and no augmentation or substitution is required.

The primary use of water on the site is for dust control and other pollution control, with secondary use for washing (if washing is done on site) and compaction of backfill. Use of dust control chemicals will reduce water use on site. If materials are washed, water will be recycled, reducing use and discharge, as well as protect water quality. For evaluation purposes, based on the assumptions listed below Table G-4, the estimated operating losses of water for the Constant Pit are shown in this table.[7]

Table G-4. Maximum Project Water Requirements

Activity	Acre-Feet per year	Period	Flow (gal/day)	Remarks
Dust control of roads	2.0	0.1 in/day, 120 days	5,430	2.0 acres max
Dust control of plant sites	1.0	0.1 in/day, 30 days	11,132	4.1 acres max
Dust control of pit area	1.0	0.1 in/day, 60 days	5,702	2.1 acres max
Water removed with materials mined	0.03	Variable	11,191	4% of weight of product
Washing of materials	1.2	30 days	6,667	Evaporative loss
Total water required	5.23	acre-feet	40,122	Worst-case
Water available	9.00	As needed		Not including direct precipitation

This is based on the following assumptions:

- 70,000 tons per year produced.
- Maximum (all roads in operation): total affected area for roads is 2.0 acres.
- Plant areas include long-term stockpiles, storm water structures, and other areas with no traffic and no need for dust control. Total plant areas are 4.1 acres, but only 1/2 (2 acres) will require regular dust control. Plant sites are also seasonal: the asphalt plant would usually only operate approximately 8 months per year, the concrete plant approximately 9 months per year.
- Maximum pit area with exposed surface including temporary topsoil stockpiles is 2.1 acres for any given year, which are assumed to be completely open and require application of water for the entire period of their use, but actual mining and processing (crushing/screening) is expected to take approximately 60 days per year.
- No precipitation during any operations on site. (In actuality, as many as 30 days per year we can expect at least 0.1 in/day and so require no watering.) (Annual precipitation in the area is 17 inches per year.)
- No dust control chemicals be used. (In actuality, air permit requirements will have to be met and magnesium chloride brine, sodium lignite, or other dust control chemicals will be applied to areas with high traffic.
- No water from any source other than the San Juan River to be used for dust control.
- No open water except wash pits (included in wash water use).

As no ground water is exposed (by mining below the water table) and no water is retained in surface impoundments (actually incised basins), no requirement for a substitute water supply plan to be prepared and submitted to the State Engineer, pursuant to SB 89-120 and SB 93-260 has been identified. A temporary water use agreement will probably be necessary to allow landowners' irrigation water to be used on a temporary basis each year for the above purposes, with such water to be provided together with irrigation water delivered for the normal irrigation season. Any water needed would be taken from the River DOWNSTREAM from the neighbor's irrigation ditch intake to prevent disturbance of that water system.

[7] Based on assumptions as discussed in Exhibit M.

Based on preliminary calculations, the unappropriated water from the San Juan River appears to be adequate for water used for mining purposes.

Colorado soil management and conservation rules will be implemented to protect surface and ground water quality and improve watershed management.

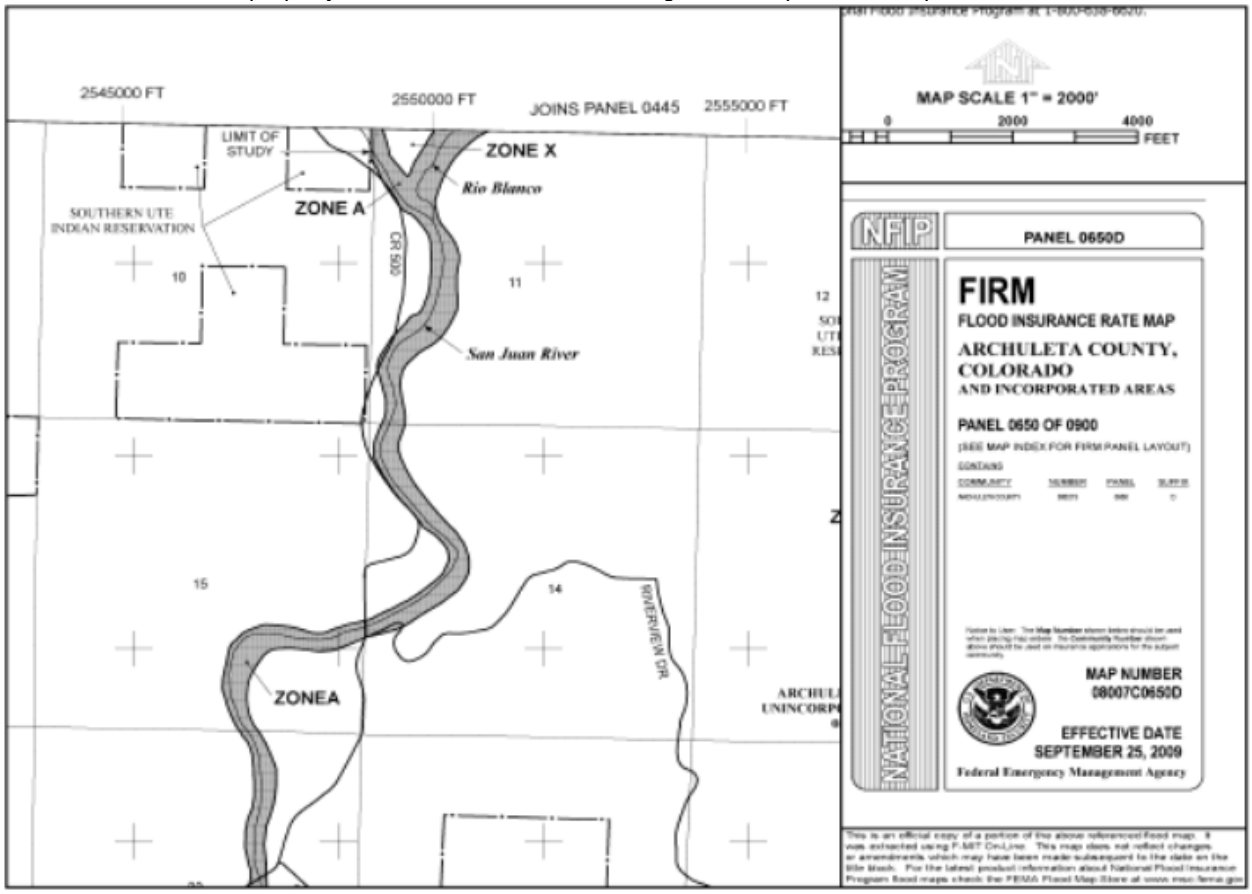
Colorado water law is based on the prior appropriation doctrine, which states that the first appropriator in time has the first priority to take and apply water to beneficial use without waste. The right to divert the unappropriated waters of any natural stream to beneficial uses is never to be denied under Colorado's constitution; the Colorado water courts grant decrees to use water and set priorities. The Colorado State Engineer and the Division of Water Resources administer the water rights according to the priorities, measure flows, and record the use of water. Colorado's compact apportionment can be derived from many river sources, including the San Juan River. Numerous water rights exist in Colorado on the San Juan River mainstem upstream of Navajo Dam and on tributaries to the San Juan River.

The original Ute Indian reservations were carved out of the historical Ute homelands in 1868. The present lands of the Ute Mountain Ute and Southern Ute Indian Tribes are in southwestern Colorado and northwestern New Mexico. The Ute Mountain Ute lands include 890 square miles in Colorado and New Mexico. Southern Ute Indian trust lands include 470 square miles within the Tribe's 1,250 square miles of checkerboard reservation. Seven rivers in southwestern Colorado flow through the Southern Ute Indian and Ute Mountain Ute reservations. The Colorado Ute Indian Water Rights Final Settlement Agreement was signed on December 10, 1986, and quantified the Colorado Ute Tribes' water rights.

G-4. WATER REGULATORY INFORMATION:

1. Storm water management/discharge: The Applicant will obtain coverage under a NPDES or CDPS permit for any discharge of storm water, dewatering flows, and process water, before initiating mining activities. Coverage will be requested under a general storm water discharge permit issued by CDPHE-WQCD or EPA, as required for mining and land disturbance of this size. The CDPS permit is the equivalent of an NPDES permit for the state of Colorado. It is not planned to discharge such waters, but rather, to allow that water to infiltrate into undisturbed permeable bedrock.
2. Water rights/use: The landowner will provide water for mining operations from existing water rights or by obtaining additional water rights as necessary from the State Engineer, and filing appropriate plans and agreements for temporary use of agricultural water for municipal and industrial uses, as needed.
3. Waste water disposal and treatment: No sanitary waste water is expected to be generated by mining activities; chemical latrines and holding tanks for sanitary facilities will be used as necessary. No non-sanitary waste water is expected to be discharged from the site; if waste water is generated by mining or related activities (such as wash water), it will be retained on-site, and recycled or allowed to evaporate/infiltrate.
4. Wetlands information (USACE, NRCS, or FWS jurisdiction): Review of NRCS maps for the area show no wetlands delineated and inventoried in the area. Requests for information from SUIT were not answered. A review of the US Department of Interior, National Wetlands Inventory Maps on the website (http://www.fws.gov/wetlands/Data/Mapper.html) shows that the only inventoried wetlands are the river and immediately adjacent to it. The upland area was inspected on the ground and via aerial reconnaissance photography for the presence of wetlands, and none were observed. The presence of several areas with seasonal water and some wetland plants along the Harris Ditch were noted; soils are not hydric in nature in these areas, which potentially may be created wetlands. These potential areas are in the buffer zone, where no mining is proposed. There are no features above the HWM which are subject to regulation by USACE or other agencies as "waters of the United States" under sections 10 or 404 of the Clean Water Act. Map below accessed 24 Dec 2014.

5. Floodplain information: There is a basic Flood Insurance Rate Map (FIRM)[8] for this portion of the SUIT Reservation available from FEMA at this time; although the site is within the external boundaries of the reservation. Based on the FIRM, local information and inspection of the site, as well as previous county approvals of construction, no area to be mined is located within the 100-year floodplain of the San Juan River or Rio Blanco. The bridge itself is above the estimated base flood elevation (BFE) of the 100-year floodplain and the abutments are outside the floodway of the river. Portions of the access road west of the river are in the floodplain but are not raised significantly to cause flood outside the Constant property. Therefore, there will be no significant impact on floodplain boundaries.



6. There is no mining proposed in the floodplain (Zone A in the above FIRM).

[8] Prepared by Federal Emergency Management Agency, Flood Insurance Administration

EXHIBIT H – Wildlife Information

1. Agricultural land, coniferous forests, drainages, wetlands, and brush land combine to provide a high diversity of wildlife habitat in the area in which the pit is located. Much of this diversity has been induced by irrigated agriculture, which began in the 1890s. There is no critical habitat in Archuleta County as identified for threatened and endangered species.[9] All wildlife and wetland resource information is being reviewed with both the US Fish and Wildlife Service and Colorado Division of Wildlife. The project will not affect any Federally-listed or state-listed threatened or endangered species or their critical habitat that are protected by the Endangered Species Act or similar legislation.

2. Wildlife species common in area:

LOWER SAN JUAN RIVER VALLEY, ARCHULETA COUNTY

The area's wildlife habitat corresponds to the ecosystems and plant communities present, which are part of the Sedimentary Mid-Elevation Forests ecoregion. The two communities which make up most of the site are the Southern Rockies River Bottom and the Pine-Juniper community. (See Exhibit J for more information.) Each plant community provides various wildlife needs (e.g., thermal and escape cover, forage, travel routes, etc.).

Game species found in the area include: mule deer, elk, Merriam's turkey, cottontail rabbit, black bear, and mountain lion.

Non-game species are widely represented in the area with a variety of birds, small mammals, reptiles, and amphibians adding diversity to the wildlife in the area.

The site is on the western edge of a Colorado DOW-designated elk migration route, and on the northwestern fringe of a DOW-designated elk winter concentration area (range for elk for severe winters). It is also on the north-northwestern edge of a DOW-designated mule deer winter concentration area. The river bottom is a summer and fall concentration area for black bear.

Other Fish and Wildlife Resources-Other Fish Species

Fish species inhabiting streams near the project area include such game fish as rainbow trout, brook trout, largemouth bass, and catfish. Native fish include cutthroat trout, round tail chub, flannel mouth sucker, bluehead sucker, speckled dace, fathead minnow, and mottled sculpin.

Other Wildlife Species

Various waterfowl and shorebirds inhabit or frequent the area, including: several species of ducks, Canada geese, great blue heron, sora rail, red-winged blackbird, yellow-headed blackbird, and marsh wren. The various raptors found in association with the area include: Bald eagle, Red-tailed hawk, Cooper's hawk, sharp-shinned hawk, northern harrier (marsh hawk), peregrine (prairie) falcon, rough-legged hawk, ferruginous hawk, and great horned owl, and others. Amphibians and reptiles inhabiting the valley include: chorus frog, leopard frog, woodhouse toad, spadefoot toad, tiger salamander, wandering garter snake, black (garter) snake, Western green snake, Western bull snake, (Western kingsnake), Western prairie rattlesnake, (fence lizard), sagebrush lizard, and mountain short-horned lizard. While more common lower down the San Juan River valley, these may be found in this vicinity.

2. Threatened and endangered species impacted:

Suitable habitat for the following threatened or endangered species may found in or near the project site: Southwestern willow flycatcher (*Empidonax traillii extimus*), Colorado pikeminnow (*Ptychocheilus lucius*), razorback sucker (*Xyrauchen texanus*), and Pagosa skyrocket (Ipomopsis polyantha). None of these species have been observed on-site in areas to be impacted by mining.

[9] http://crithab.fws.gov/ visited 21OCT08 and 24DEC14.

Bald eagles nest, roost, and perch in large cottonwood trees adjacent and rivers. These types of suitable habitat are found within the San Juan watershed and on-site, but most cottonwood trees will not be removed or impacted by proposed operations. (An area of approximately 100 feet by 50 feet may be cleared of cottonwoods for the construction of the access road.) The nearest known nest sites are located well to the west of this site in Archuleta County, but this is considered within the winter range of the bird. Mining will not have an effect on these habitat types.

Southwestern willow flycatchers utilize dense willow, cottonwood, and buffaloberry thickets (preferably a layered system of all three) with surface water or saturated soil adjacent to or nearby the stand. Flycatcher habitat is interspersed throughout the area along ditches and the perennial drainages such as the Rio Blanco and San Juan River. No effect on possible flycatcher habitat is expected: the sole area which might be suitable is in the riparian buffer zones, where the access road crosses the river and the Harris Ditch (see above).

Colorado pikeminnow and Razorback sucker habitat is associated with the downstream riverine system entering into and including the San Juan River. Such habitat exists but is within the buffer zones established to protect the river, floodplain, and wetlands, and will not be affected by proposed mining.

Pagosa skyrocket is a flowering plant known to exist in a very limited area within Archuleta County with Pagosa-Winifred soils derived from Mancos shale; these conditions are not present in the site.

Northern and Botta's pocket gophers use a variety of habitats including pasture land and agricultural fields. Either species could occur in this part of Colorado. The mining could have an effect on pocket gopher habitat if gopher burrows are intersected by earthmoving equipment, but such impact on habitat is unlikely to have an impact on the species due to the limited area being disturbed.

Ferruginous hawks may use the watershed area for foraging and to meet other habitat needs. Agricultural areas may be more important to these hawks in the winter. They may use cottonwoods and other tall trees for perches. The value of these habitats for hawks should not be affected by the activities proposed.

American peregrine falcons use cliffs and forested areas for breeding habitat. They also use riparian forested areas, grasslands, and agricultural fields in the area for foraging. This site has cliffs, but these cliffs will be mostly left intact by proposed activities. Although much of the forested area on the site will be disturbed by mining, forested areas will be protected in buffer zones and progressive mining will be slow enough to permit relocation by the birds. Mining progressively in small areas, and post-mining reclamation to irrigated agricultural fields should not change the availability of prey species taken by falcons. The end result is that falcon habitat will be maintained with the project.

Northern river otters use riparian habitats where fish and crustaceans are found. These habitats located on site are within buffer zones and will not be disturbed by mining.

Gunnison's prairie dog is discussed above. No prairie dogs are known on-site.

3. Assessment of mining impact on wildlife:

Although past use of the land has been primarily grazing, the planned sequence of mining on the site will have some potential impact on wildlife because of the removal of woody vegetation. Although a relatively small area will disturbed at any one time, the mixed tree-shrub-grass ecological site on the upper area will be replaced by mostly-open grassland, thus changing suitability for some species. However, overall, short-term impact on wildlife will be beneficial, since the site will be available for other species, and the reduction in mixed-vegetation habitat will not be significant given the abundance of such habitat in the vicinity, and livestock will be restricted from much of the site for safety reasons during mining operation. In the long term, reclamation should improve the capability of the area to sustain wildlife, although this is not the

intent of reclamation. The siting and operation of the project will allow for continued migration of wildlife both up and down the rivers and across the valley (indeed, slightly improving cross-valley routes with improvements to the access road), and therefore should have no significant potential for adverse impact on migration patterns. While claims are often made regarding the negative effect on wildlife from increased human activities, and from side effects such as noise, we have found that wildlife, particularly deer, elk, and various predators, tend to be very common around operations such as quarries and sand and gravel pits, and even around operations which have a greater impact, such as landfills. Based on the location and area impacted, there should be no significant water depletion which would impact wildlife or their habitat and therefore require consultation. See Exhibit G.

4. Proposed mitigation measures, including reclamation, for wildlife habitat:
Since there is no reasonable potential of significant impact, no mitigation measures are planned for the sake of wildlife habitat mitigation.

5. Name, Title, Address and Phone of Person preparing wildlife statement:
Nathan A. Barton, P.E., D.E.E., Environmental Engineer
P.O. Box 88, Cortez, CO 81321-0088 Phone: (970)218-4133
Prepared for C & J Gravel Products, Inc.

Table H-1. Summary of listed species and their status

Scientific Name	Common Name	State Status	Federal Status	Occurrence
Empidonaz traillii extimus	Southwestern Willow Flycatcher	**E**	**E**	Migrate through the area. No known nesting but possible in the area.
Coccyzus americanus	Yellow-billed Cuckoo	**SC**	**C**	Possible, but none observed. Suitable habitat exists in area.
Ptychocheilus lucius	Colorado Pikeminnow	**T**	**E**	No suitable habitat in area. No impact on habitat downstream.
Xyrauchen texanus	Razorback Sucker	**E**	**E**	No suitable habitat in area. No impact on Habitat downstream.
Rana pipiens	Northern leopard frog	**SC**	**#**	May occur in aquatic habitats. Project should not impact habitat.
Thomomys spp.	Pocket gopher	**SC**	**#**	May occur in agricultural land, but not in cultivated land. Potential but unlikely minor impact.
Buteo regalis	Ferruginous hawk	**SC**	**#**	May use the area for hunting, especially in winter.
Falco peregrinus anatum	American peregrine falcon	**SC**	**#**	May be in the area. No effects expected.
Lontra Canadensis	River otter	**ST**	**#**	May occur in the area. No impact on downstream habitats.
Ipomopsis polyantha	Pagosa skyrocket	**C**	**SC**	Habitat does not occur on site; no impact on habitat in region.

Abbreviations for species status include E = Endangered, T = Threatened, P = Proposed, C = Candidate, SC = Species of concern, # = No Status.

Prepared OCT 2008, Updated DEC 2014.

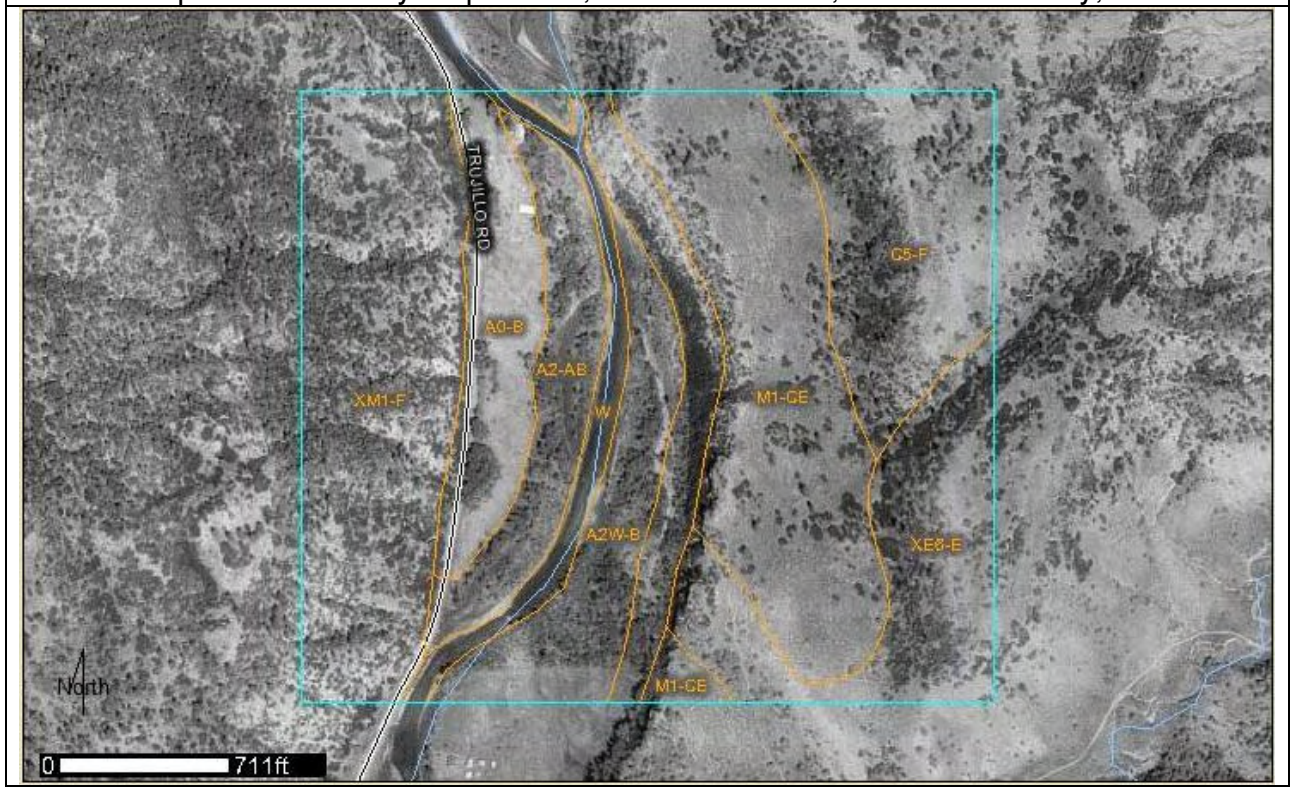
EXHIBIT I – Soils Information

1. Source(s) of Information: USDA Soil Survey of Southern Ute Indian Reservation, Colorado, (Parts of La Plata and Archuleta Counties), issued 2006.[10]

2. Significant concerns in soils management: Prevention of water and wind erosion, and downstream siltation.

3. Reclamation seed mix as proposed is based on NRCS and/or Extension Service recommendations. Seed mix for temporary stabilization and non-crop areas discussed in Exhibit J. Method of application: Standard agricultural seeding technique.

Map I-1 Soil Survey Map of Soil, Constant Ranch, Archuleta County, CO



4. The soils map is drawn from the soil survey and on-line data available from NRCS on Web Soil Survey.

5. The soils descriptions provided in Table B-2-1 are taken from the Survey. Field surveys have confirmed the general accuracy of the mapping. This is typical for the

6. Soil stripping, storage, and replacement: For planning purposes and based on test pits, it is assumed that an average of 1 foot of material will be removed. In all areas where soil is removed, the following will be done as much as possible:

- As much as possible, to include the upper 24 inches of soil, will be removed and stockpiled.
- If necessary, the larger cobbles will be removed from the soil prior to placement in the final location.
- Soil will placed to a depth of 12 inches or more for reclamation.

The objective is to provide as high a quality cropland as feasible at the end of mining activities.

[10] Available on-line:

FIGURE I-1 Soils Map Legend

Archuleta County Area, Colorado (CO668)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
A0-B	Steimer loam, 1 to 3 percent slopes	12.9	7.7%
A2-AB	Vigil very gravelly loamy fine sand, 0 to 3 percent slopes	12.1	7.2%
A2W-B	Fluvaquents, 0 to 3 percent slopes	14.6	8.7%
C5-F	Camado-Ishkoten-Nutrita complex, 5 to 45 percent slopes	21.2	12.7%
M1-CE	Valto very stony fine sandy loam, 3 to 25 percent slopes	34.2	20.4%
W	Water	6.6	3.9%
XE6-E	Payan-Rock outcrop complex, 12 to 65 percent slopes	20.3	12.1%
XM1-F	Valto-Rock outcrop complex, 30 to 65 percent slopes	45.7	27.3%

Soils, Constant Ranch East Area, Archuleta Co, Colorado

Map Unit: A0-B—Steimer loam, 1 to 3 percent slopes

This map unit is found only in the access road area west of the river and the bosque.

Component: Steimer (85%)

The Steimer component makes up 85 percent of the map unit. Slopes are 1 to 3 percent. This component is on flood-plain steps. The parent material consists of alluvium derived from mixed sources. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during April, May, June, July. Organic matter content in the surface horizon is about 2 percent. This component is in the R036XY327CO River Bottom ecological site. Nonirrigated land capability classification is 3w. Irrigated land capability classification is 3w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 2 percent.

Map Unit: A2-AB—Vigil very gravelly loamy fine sand, 0 to 3 percent slopes

This map unit is found in the bosque, which is crossed by the access road west of the river.

Component: Vigil (80%)

The Vigil component makes up 80 percent of the map unit. Slopes are 0 to 3 percent. This component is on flood-plain steps. The parent material consists of alluvium derived from mixed sources. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 48 inches during May, June. Organic matter content in the surface horizon is about 1 percent. This component is in the R036XY327CO River Bottom ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: A2W-B—Fluvaquents, 0 to 3 percent slopes
This map unit is found east of the river in the buffer zone, and will not be mined.
Component: Fluvaquents (85%)
The Fluvaquents component makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on flood plains. The parent material consists of alluvium derived from mixed sources. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 16 inches during April, May, June. Organic matter content in the surface horizon is about 2 percent. This component is in the R036XY327CO River Bottom ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria.
Map Unit: C5-F—Camado-Ishkoten-Nutrita complex, 5 to 45 percent slopes
This map unit is found on the ridge in the northeastern portion of the site and will be mined (except for north and east buffer zones).
Component: Camado (35%)
The Camado component makes up 35 percent of the map unit. Slopes are 5 to 45 percent. This component is on hills. The parent material consists of slope alluvium derived from shale and sandstone. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F036XY925CO Pinus Ponderosa-Juniperus Scopulorum/quercus Gambelii-Cercocarpus Montanus/poa Fendleriana-Festuca Arizonica ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.
Component: Ishkoten (30%)
The Ishkoten component makes up 30 percent of the map unit. Slopes are 5 to 45 percent. This component is on hills. The parent material consists of slope alluvium derived from sandstone and shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 85 percent. This component is in the F036XY925CO Pinus Ponderosa-Juniperus Scopulorum/quercus Gambelii-Cercocarpus Montanus/poa Fendleriana-Festuca Arizonica ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.
Component: Nutrita (25%)
The Nutrita component makes up 25 percent of the map unit. Slopes are 5 to 45 percent. This component is on hills. The parent material consists of slope alluvium derived from shale and sandstone. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F036XY925CO Pinus Ponderosa-Juniperus Scopulorum/quercus Gambelii-Cercocarpus Montanus/poa Fendleriana-Festuca Arizonica ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.
Map Unit: M1-CE—Valto very stony fine sandy loam, 3 to 25 percent slopes
This map unit makes up the major portion of the area to be mined, on the upland bench between the cliff and the eastern ridges.
Component: Valto (75%)
The Valto component makes up 75 percent of the map unit. Slopes are 3 to 25 percent. This component is on hills. The parent material consists of slope alluvium derived from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 85 percent. This component is in the R048AY255CO Pine Grasslands ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map Unit: W—Water
Component: Water (100%) [River]
Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.
Map Unit: XE6-E—Payan-Rock outcrop complex, 12 to 65 percent slopes
Component: Payan (55%)
The Payan component makes up 55 percent of the map unit. Slopes are 12 to 65 percent. This component is on ridges, hills, mountain slopes. The parent material consists of slope alluvium derived from shale and sandstone. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F036XY926CO Pinus Edulis-Juniperus Scopulorum/quercus Gambelii-Artemisia Tridentata Ssp. Vaseyana/poa Fendleriana-Hesperostipa Comata ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.
Component: Rock outcrop (30%)
Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.
Map Unit: XE6-E—Payan-Rock outcrop complex, 12 to 65 percent slopes
This map unit is found in the southeast corner of the permit area, and will be mined (except for the south and east buffers).
Component: Payan (55%)
The Payan component makes up 55 percent of the map unit. Slopes are 12 to 65 percent. This component is on ridges, hills, mountain slopes. The parent material consists of slope alluvium derived from shale and sandstone. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F036XY926CO Pinus Edulis-Juniperus Scopulorum/quercus Gambelii-Artemisia Tridentata Ssp. Vaseyana/poa Fendleriana-Hesperostipa Comata ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.
Component: Rock outcrop (30%)
Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.
Map Unit: XM1-F—Valto-Rock outcrop complex, 30 to 65 percent slopes
This map unit is the cliffs just east of the river in the permit area, and will not be mined.
Component: Valto (60%)
The Valto component makes up 60 percent of the map unit. Slopes are 30 to 65 percent. This component is on hills, mountain slopes. The parent material consists of slope alluvium derived from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 85 percent. This component is in the F036XY925CO Pinus Ponderosa-Juniperus Scopulorum/quercus Gambelii-Cercocarpus Montanus/poa Fendleriana-Festuca Arizonica ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.
Component: Rock outcrop (30%)
Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

EXHIBIT J – Vegetation Information

1. Source(s) of information: USDA Soil Conservation Service, Soil Conservation District, USDA National Forest Service

2. Vegetative communities and conditions: As shown in tables J-1 and -2.

This site is located within the Sedimentary Mid-Elevation Forests ecoregion, which is characterized by forests, savannahs, and limited grass-, and shrublands.

Table J-1. Vegetative communities:

Community (Ecological site)	*Vegetation layer and dominant species*
Riparian Woodland and River Bottom (Bosque)	Most of the riparian woodland and river bottom on the site is located within the buffer zones and will not be disturbed. The Rocky Mountain Lower Montane Riparian Woodland and Ponderosa-Juniper types often occur as a mosaic of multiple tree-dominated communities with a diverse shrub component, but on this site the Riparian Woodland is distinct from the upland ecological sites because of the rimrock cliffs. Most of the Riparian Woodland has been restricted to the bosque along the river (both the west bank in the access corridor and the triangle of land in the southwest corner of the permit area), in order to maximize irrigated pasture on the rest of the valley floor; which is kept in grasses with minimal tree or shrub presence. Type occurrences are found within the flood zone of rivers (as found here), on islands, sand or cobble bars, and immediate streambanks. They can form large, wide occurrences on mid-channel islands in larger rivers or narrow bands on small, rocky canyon tributaries and well drained benches. It is also typically found in backwater channels and other perennially wet but less scoured sites, such as floodplains swales (the bosque) and irrigation ditches. Dominant trees may include Box elder, narrowleaf cottonwood, balsam cottonwood, plains cottonwood, Fremont cottonwood, Douglas-fir, blue spruce, peachleaf willow, or Rocky Mountain juniper. Dominant shrubs include Rocky Mountain maple, speckled alder, water birch, red-osier dogwood, river hawthorne, desert olive, chokecherry, skunkbush sumac, park willow, Drummond's willow, coyote willow, bluestem willow, shining willow, silver buffaloberry, or snowberry. Russian olive and tamarisk (both noxious weeds) are common in some stands.
Ponderosa-Pinyon-Juniper Woodlands	This community includes the eastern portions of the site to be mined, as well as the buffer zones on the east, north, and south, as may be noted on aerial photography of the site and the NRCS soils survey. Characteristic vegetation includes Twoneedle pinyon (15%), Utah juniper (15%), Big sagebrush (20%), Ponderosa pine (10%) Muttongrass (10%), Western wheatgrass (10%), and Indian ricegrass (5%). Production varies from 500 to 700 pounds per acre. Most of these areas will be mined, but the buffer areas will be not mined and will remain as reservoirs and habitat for wildlife, while the mined area is reclaimed as pine-grassland (possibly irrigated) for grazing. Pinyon-Juniper Woodland type occurs on warm, dry sites on mountain slopes, mesa, plateaus, and ridges at elevations from 5000 to 8000 feet, while Ponderosa-Juniper Woodland type occurs on wetter, cooler sites on mountain slopes and ridges at elevations of 6000 to 9000 feet. Soils vary in texture from stony, cobbly, gravelly sandy loams to clay loam or clay. Pinyon and/or Utah juniper dominate the tree canopy. Rocky Mountain juniper may codominate or replace Utah juniper at higher elevations, as appears to be the case here. Understory layers are variable and may be absent or may be dominated by shrubs, or grasses. Associated species include greenleaf manzanita, big sagebrush, mountain mahogany, blackbrush, cliffrose, antelope bitterbrush, Gambel oak, blue grama, galleta, or muttongrass. Specimen Ponderosa may be found throughout the community, but the highest part of the site (the west-facing slopes in the eastern buffer zone) has significant numbers of Ponderosa pine in thick stands mixed with the Pinyon-Juniper; these areas may have once been (prior to grazing and fire suppression) purely Ponderosa, until invasion of pinyon and juniper took place. (USBR 1999)
Pine-Grassland (shown	More properly an ecotone, this interface between the semi-arid grasslands and shrublands

as Savannah and Forest at scale of maps)	(of which a large isolated pocket is found to the west of the San Juan River in this area) and the Pinyon-Juniper woodlands is characterized by an open, savannah setting, especially on flatter slopes, where grass predominates over trees and shrubs which are, nonetheless, still present in significant numbers. It is typical for this community to have been greatly reduced in area through a decline in herbaceous vegetation (grasses and non-woody flowering plants) while forests thicken and brush invades. This is caused by a combination of fire suppression and grazing, particularly overgrazing by cattle and horses; however, this site shows fewer signs of that progression than most similar sites in Archuleta County. This community is also a mix of two different grasslands types: Plains grasslands are commonly dominated by Blue Grama or other gramas that extend across southern Colorado into northwestern New Mexico, while Great Basin grasslands are dominated by Galleta Grass and Indian Rice Grass and reach down to the Colorado Plateau from the northwest. Other species are common with the Pinyon-Juniper community. Most of the area to be mined (the bench above the rimrock cliffs) is this community: grassland with scattered trees and shrubs. Production varies from 600 to 800 pounds per acre. This community will be effectively restored and expanded by reclamation after mining, as areas that are now Pinyon-Juniper are reclaimed as grassland, but some invasion of woody species continues.

3. Comments and remarks:
   a. Seed mixes for soil protection and reclamation.

Species	Variety (table 6: PMTN 59)	PLS Rates Irr/Non-Irr	PLS/Ac to use (100%)	% in mix	Rate (PLS lb/ac)
Thickspike wheatgrass	0.0	10.0 / 5.0	70.0	14	5.0
Slender wheatgrass	0.0	11.0 / 5.5	11.0	24	5.5
Western wheatgrass	0.0	16.0 / 8.0	16.0	9	8.0
Sandberg bluegrass	0.0	2.0 / 1.5	2.0	18	1.5
Meadow bromegrass	0.0	17.0 / 11.0	17.0	20	11.0
Sideoats grama	0.0	9.0 / 4.5	9.0	15	4.5
Totals			125.0	100.0	35.5

From NRCS, Shaan Bliss, Rangeland Management Specialist, PO Box 419, 505A County Road 600, Pagosa Springs, Colorado 81147-0419: 30 JULY 2008

For temporary seeding for stabilization and protection of stockpiles:

Species, Variety	Rate in lbs/acre, PLS, Broadcast	Rate in lbs/acre, PLS, Drilled
Slender Wheatgrass, Pryor	8.25	4.13
Sideoats Grama	8.25	4.13
TOTAL	16.50	8.25

Seeding will be done immediately after application of erosion control polymers, usually within seven days of completion of a stockpile or length of stockpile, and followed by watering to establish the stand of grass.

   b. General instructions regarding seeding and care: Not applicable.
   c. Weed control will be standard for the crop selected, and coordinated with the land owner and County weed and pest control agency.

Guidance from NRCS: Revegetation:

1.) Seedbed Preparation: Seedbed should be firm and free of weeds and other non-desirable vegetation. Areas were there is excessive compaction will be tilled, such as chiseling and disking, to break up the compaction and then harrowed down. If seedbed is soft after tillage operations allow 2 to 4 weeks following the last operation for the soil to settle and firm up.

2.) Planting period: Dormant planting is possible anytime after November 1st or when temperatures are cold enough to prevent seed germination and therefore frost damage to young seedlings. Planting may also be done between July 1st and August 15th or during the spring if irrigation water is available.

3.) Planting Method: Planting should be done with a grass drill or modified grain drill preferable with depth bands and packer wheels. Depth of seed placement shall between 1/2 to 3/4 inch and row spacing shall be 7 to 12 inches. In areas where the use of a drill is not feasible, broadcasting seed is acceptable at double the seeding rate. Raking will be required to cover the seed to a depth of 1/2 to 3/4 inch.

4.) Seeding Mixture: See attached CO-ECS-5 Grass Seeding Planned for recommended upland (dryland) native seed mix and for irrigated pasture and hayland seed mix using a drill application method. For wetland species follow Army Corp of Eng. recommendations.

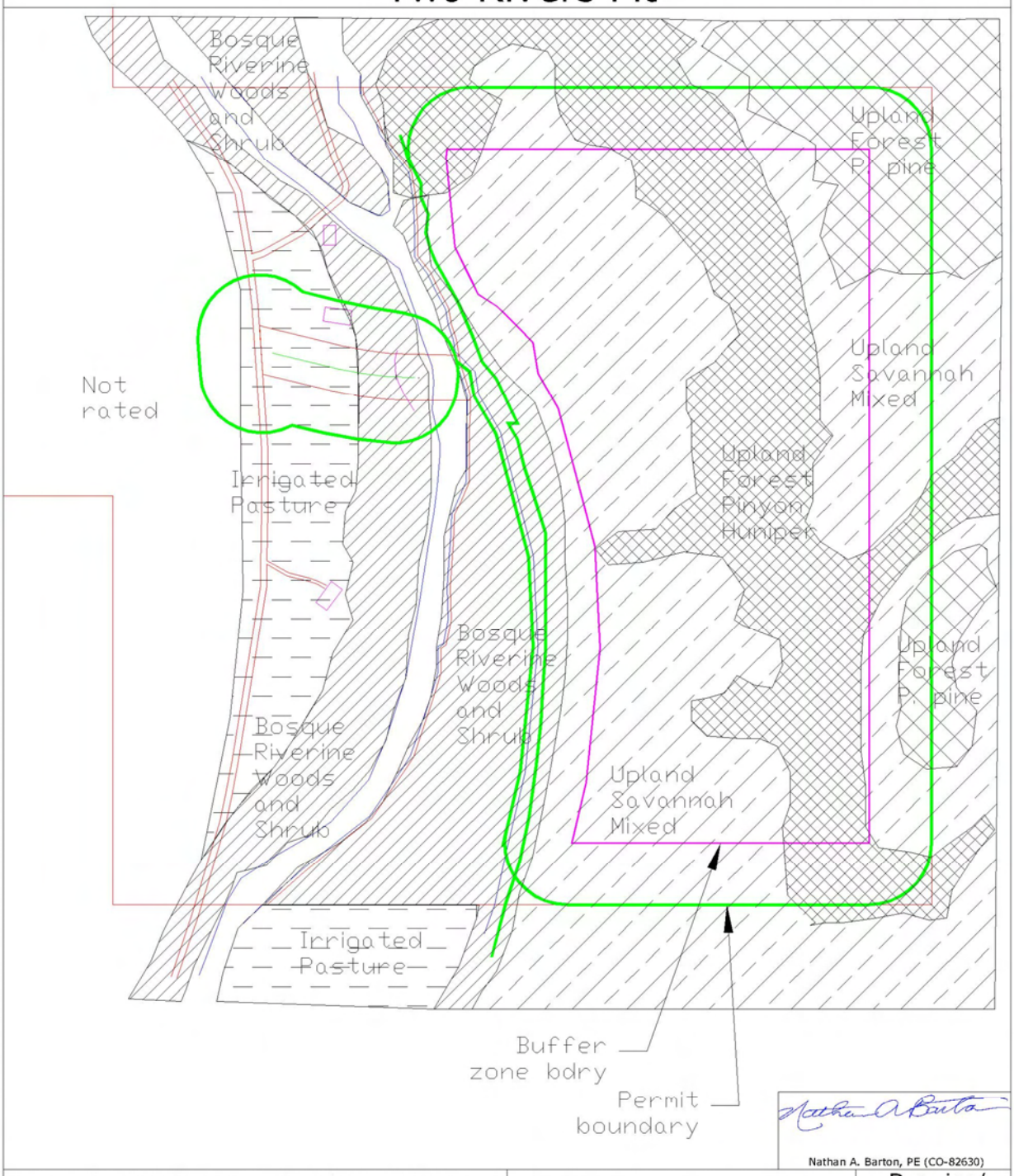
5.) Fertilization: Fertilization should be based on soil tests. In the absence of a soil test, apply a starter fertilizer at a rate of 40 pounds of available nitrogen and phosphorus per acre (harrow into the soil) during the last operation of seedbed preparation.

6.) Mulching: Clean, weed free mulch such as grass or straw hay averaging at least 8 inches in length should be applied at a rate of 3000 lbs./ac, with a goal of obtaining 50-60% cover. Anchoring by crimping should be done to a depth of approximately 4 inches.

7.) Post Emergent Weed Control: Mowing to control competitive weeds shall be done to improve the establishment of the seeding. Once grass reaches the 3 to 4 leaf stage, herbicides can be used to control weeds, especially noxious weeds. Follow all instruction on herbicide labels. If you seed in the fall and notice weed emergence the next year, wait till the grasses are at least in the third or fourth leaf stage of growth before applying any herbicide. These early emerging grasses can be setback by herbicide if applied too early in their development.

8.) General Additional Comments from NRCS: I looked over your plan and it looks like that seeding recommendation and revegatation will work fine for your new project. This mulch will allow the soils to hold moisture, but not excessively thick which would slow soil temperatures from warming in the spring. If you find noxious weeds in the area please let me know and we can do a site visit to see what the best eradication methods are. I would not determine success or failure of a seeding until after 2 growing seasons are complete following the seeding. The brome should come on relatively quickly and the western wheatgrass may take a little longer. Keeping the weed competition in check will greatly speed establishment. Once these grasses get a foothold they will spread by underground rhizomes filling the voids over time. The seed mix contains both drought tolerant and very durable grasses, and they should persist indefinitely with proper management. (5 NOV 2008 communication)

C&J Gravel Products, Inc.
Two Rivers Pit



Prepared for C&J Gravel by and (c) WASTELINE, INC.
Date: 21 DEC 2014 By: N. Barton Rv: P. Neil
Scale: 1"=500' Source: USGS Map/Photo.
Portions SW 1/4 Sec 11, T33N, R2W, 10th PM, Archuleta Co., CO, Pertaining to Application: Two Rivers Pit M-2015- _____ Legend: as noted

VEGETATION (ECOSITES)

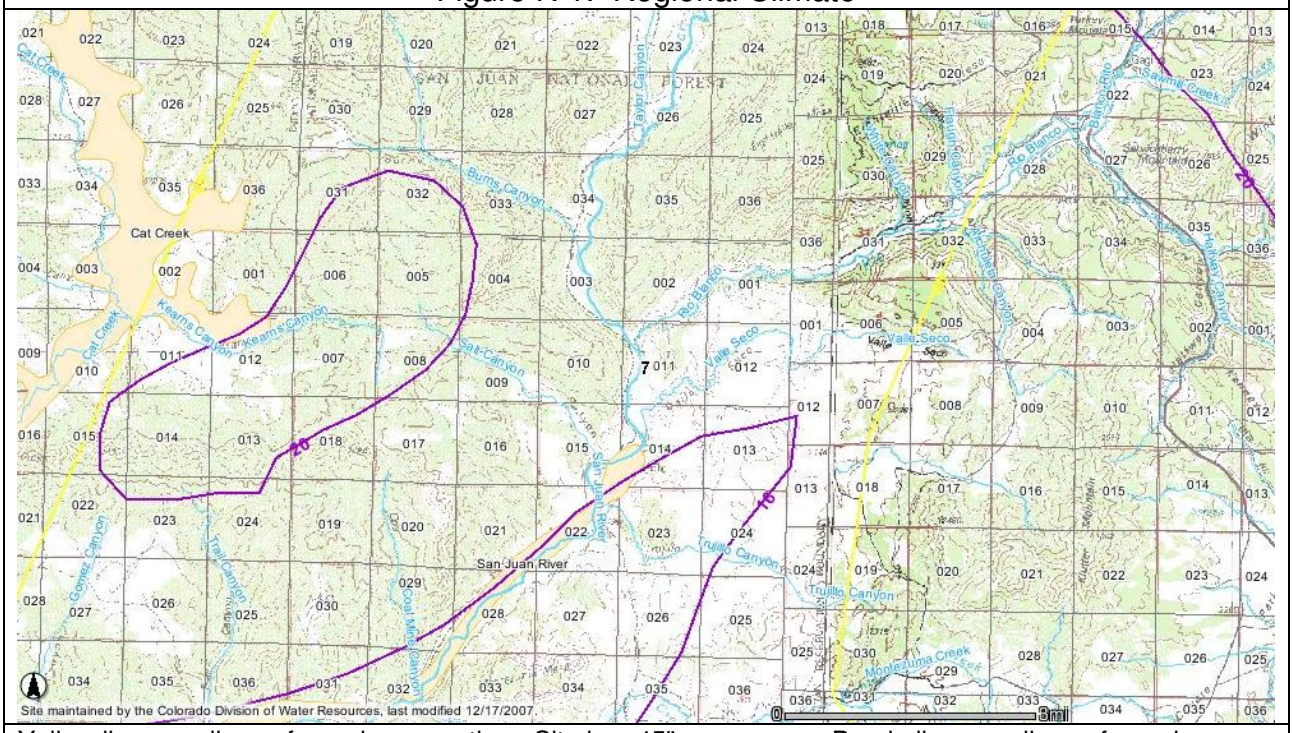
Drawing/ Sheet No.
J1

EXHIBIT K – Climate

SAN JUAN RIVER VALLEY AREA, ARCHULETA COUNTY, COLORADO:

SUMMARY: Average annual precipitation is 18 inches of which approximately 50% falls during the growing season. Optimum growing season for native plants is from April to September. The frost-free period varies from 100 to 140 days. Temperature ranges from -20's to +90's F. Much of the precipitation falls as snow but winters are generally open. Summers are warm or hot, winters cold. Site has little or no water table above the rimrock cliffs, but ponding may occur immediately after precipitation events where terrain permits.

Figure K-1. Regional Climate



Yellow lines are lines of equal evaporation. Site has 45" per annum. Purple lines are lines of equal precipitation. Site has 18" per annum.

1. Source(s) of Information:
   a. Archuleta County Economic Development (personal conversations);
   b. The Weather Channel (website);
   c. USDA Natural Resources Conservation Service (various publications, website),
   d. Colorado Division of Water Resources (website),
   e. Chapman, S.S., Griffith, G.E., Omernik, J.M., Price, A.B., Freeouf, J., and Schrupp, D.L., 2006, Ecoregions of Colorado (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,200,000).
   f. Data based on Pagosa Springs and modified by state climate maps

Table K-1. Two RIvers Pit General and Regional Climate Data

Data Item	*Quantity*	*Units*	*Remarks*
2-yr, 24-hour storm	0.06	inches of precipitation/hr	County/NOAA
100-yr, 24-hour storm	0.12	inches of precipitation/hr	County/NOAA
Depth of freezing	42	Inches	County
Annual average lake evaporation, site	45	inches/year	Schwab et al.
Precipitation, Pagosa Springs, average	20.21	inches/year	WRCC
Snowfall, Pagosa Springs, average	101.4	inches/year	WRCC
Snow depth, Pagosa Springs, average	3	Inches (high Feb: 10)	WRCC
Precipitation days, Pagosa Springs	65	Days/year	Weather.com
Sunny days, Pagosa Springs	300	Days/year	Weather.com
Avg. July High	83	Degrees, F	Weather.com
Avg. January Low	4	Degrees, F	Weather.com
Mean Annual Temperature	42.3	Degrees, F	1929-1996
Daily Maximum Temp	99	Degrees, F	1989
Daily Minimum Temp	-46	Degrees, F	1951
Growing Season, Site	90-95	Days	USDA
Elevation of site	6800	Feet above sea level	USGS

Table K-2. Two Rivers Pit Precipitation Table[11]

In Inches	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Precipitation	1.75	1.26	1.43	1.21	1.07	0.85	1.67	2.24	1.65	2.04	1.24	1.59	18
Snowfall	17.5	12.6	10.0	3.7	0.6	0	0	0	0	2.1	6.6	14.1	67.4

Table K-3. Two Rivers Pit Temperature Table (Pagosa Springs)

Deg F	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Maximum	37.9	42.6	49.2	59.2	68.3	78.3	83.1	80.7	74.3	63.7	49.7	39.6	50.5
Minimum	1.4	7.0	15.9	23.9	30.2	36.3	45.2	44.6	36.6	26.3	15.4	5.0	24.0
Average	19.65	24.8	32.55	41.55	49.25	57.3	64.15	62.65	55.45	45	32.55	22.3	37.25

[11] Calculated by taking ratio of 16.4 inches for MancosPagosa Springs and 1518.0 inches for Constant PitRanch and applying to both total and snowfall.

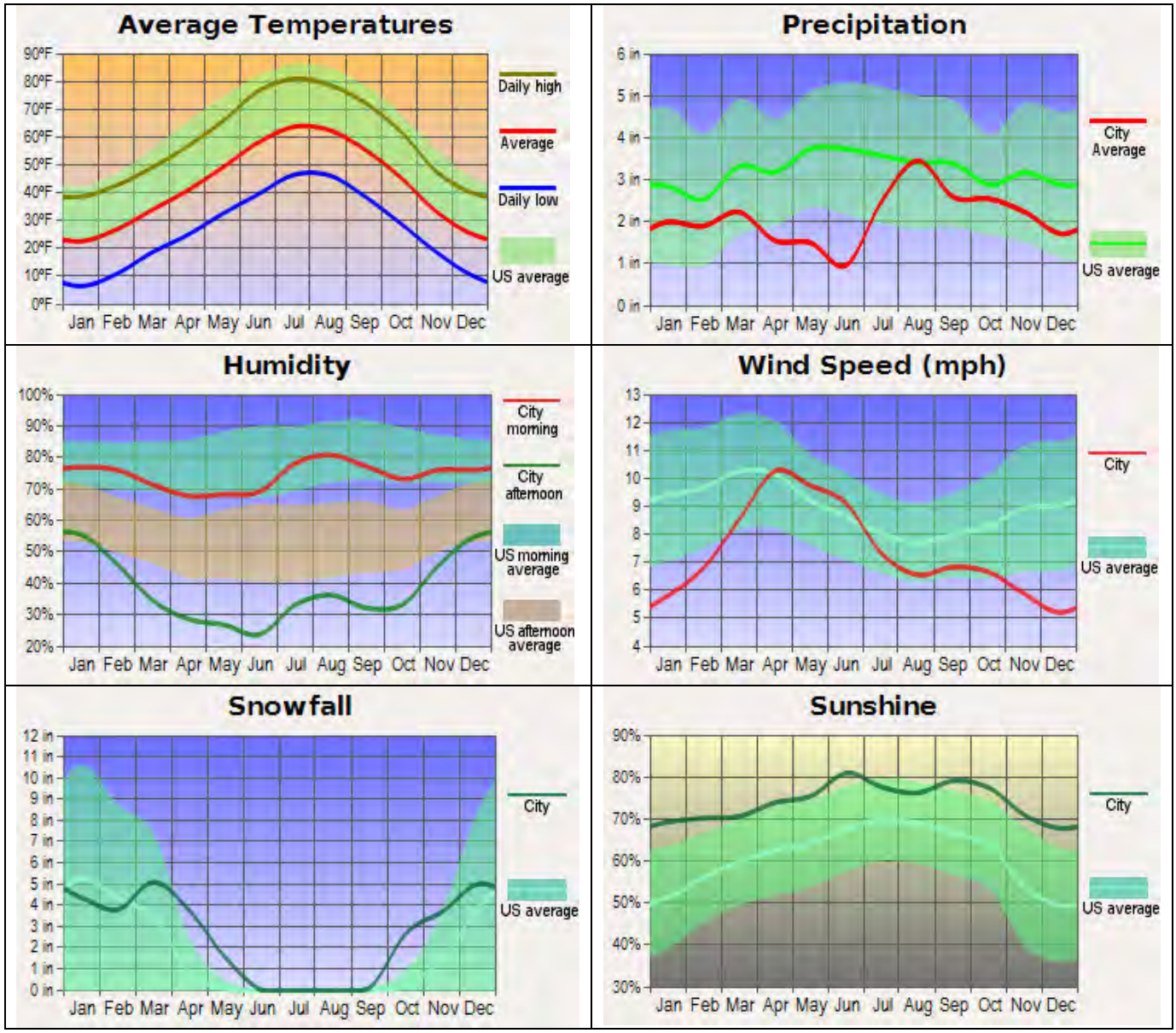

Average Temperatures
90ºF
80ºF
70ºF
60ºF
50ºF
40ºF
30ºF
20ºF
10ºF
0ºF
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Daily high
Average
Daily low
US average
Precipitation
6 in
5 in
4 in
3 in
2 in
1 in
0 in
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
City Average
US average
Humidity
100%
90%
80%
70%
60%
50%
40%
30%
20%
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
City morning
City afternoon
US morning average
US afternoon average
Wind Speed (mph)
13
12
11
10
9
8
7
6
5
4
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
City
US average
Snowfall
12 in
11 in
10 in
9 in
8 in
7 in
6 in
5 in
4 in
3 in
2 in
1 in
0 in
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
City
US average
Sunshine
90%
80%
70%
60%
50%
40%
30%
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
City
US average

EXHIBIT L – Reclamation Costs

Based on worse-case in first ten years of operations, which occurs at year 5 (2019).

MAXIMUM SITUATION YR 1-5	Backfill to final grade	Finish grading	Place topsoil	Seed	Reseed, maintain	TOTAL	
Years 2008-2009	Done	Done	Done	Done	Released	4.14	
Year 2010	Done	Done	Done	Done	2.07	2.07	
Year 2011	Done	Done	2.07	2.07	2.07	2.07	
Year 2012	800 ft highwall	2.75	2.75	2.75	2.75	2.75	
Years 2017,2018, 1/2 2015	Done	5.18	5.18	5.18	5.18	5.18	
West of river (access/stockpile)	Done	Done	0.41	0.41	0.41	0.41	
Total	800	7.93	10.41	10.41	12.48		
ESTIMATED COST PER ACRE	$8,276	$1,145	$9,915	$6,763	$2,027	$28,125	Total unit costs
BACKFILL						$2,813	Mobilization (10%)
Length of highwalls, ft max	800					$863	Overhead (3.07%)
Height of highwalls, ft avg	20					$4,000	Supervision (80 hrs)
Volume of h/w, CY in place	5926					$35,801	Contract price
Swell factor	1.33					$500	Warranty process
Total loose backfill	7881					$1,522	Engineering
Push distance	40					$1,790	Administration
Gradient	-30%					$39,613	TOTAL BOND
Unit prod (D9R) (CY/Hr)	200						
Unit hourly cost	$210						
Unit hours	39.4						
Unit cost	$8,276						
FINISH GRADING							
Hourly prod (grader) A/hr		0.9					
Unit hourly cost		$130					
Unit hours		8.8					
Unit cost		$1,145					
PLACE TOPSOIL							
Topsoil depth			12"				
Placed topsoil vol (CY/acre)			1,613				
Total placed topsoil			16787				
Swell factor			1.125				
Total loose topsoil			18,885				
Unit prod (D9R) (CY/Hr)			400				
Unit hourly cost			$210				
Unit hours			47.2				
Unit cost			$9,915				
FERT, TILL, SEED MULCH							
Cost per acre (incl. equipt)				$650			
Unit cost				$6,763			
RESEED							
Cost per acre (25% failure)					$650		
Unit cost					$2,027		

2015 estimated cost data; no inflation factor added.

EXHIBIT M – Other Permits and Licenses

The following other permits are required for this project:

Type of Permit Required	Permit number/date	Status and remarks
Colorado Air Quality	Not required: inside exterior boundary of Southern Ute Indian Reservation	Consulting with SUIT Environmental Office, EPA requires submission of a "notification" for non-Title V sources.
County Air Quality	None required: uses state	
Colorado Mining	M-2015-	This application now in review.
County Mining	Not applicable	See also County Land Use
Colorado Storm Water	Not required: inside exterior boundary of Southern Ute Indian Reservation	Current MSGP (permit) being republished (anticipated January 2015); NOI will be submitted when new permit is issued.
Colorado Process Water	Not required.	No use of process water is anticipated. If washing is done, other permits will be amended as necessary.
Bio-solids Application	Not required	No use planned
County Land Use (Planning and Zoning)	#_____	Conditional Use: by Commissioners
Water Rights for Pit	58177F, issued 10FEB03	No ground water expected to be exposed
Water Appropriation for dust control	To come from water rights	To be included in substitute water supply plan, to allow ag water to be used
Above-ground storage tanks (AST)	To be assigned if required.	Equipment to be used on site will be portable and will have own notifications and/or permits
CDOT Access Permit	NONE REQUIRED	Access to County Road
County Access Permit County Bridge Permit	Issued. 2013-16BP	Copy available on request
Federal	Other than those listed above, none required.	Site is not (a) on or adjacent to federal lands, (b) effecting inventoried wetlands, (c) potentially taking of wildlife, including T&E species, or (c) in Waters of the United States.
Tribal	NONE REQUIRED	Site is not on Indian-owned (trust) land, although it is within the external boundaries of the Southern Ute Indian Reservation.

OPERATIONS

See Exhibit C. Operations will be conducted during daylight hours, generally Monday through Friday, with some extended hours and weekend work as needed for specific projects.

TRAFFIC AND TRANSPORTATION

Materials mined and processed at the Two Rivers Pit will be processed on site and then transported by truck to plants or construction sites for further processing and use. Material transported will use county highways, and is not expected to increase traffic from county highway onto state highways by more than 15% at any location.

ROUTES

Based on anticipated markets during the life of the pit, traffic on public highways is assumed to be 90 percent northbound and 10 percent southbound on CR-500. CR-500 connects to various county roads and city streets before connecting to either SH-160 west of or in Pagosa Springs or SH-84 southeast of Pagosa Springs.

TRUCKS
A variety of trucks will be used to haul materials from the Pit, including single dump trucks, semi-dump trucks, and trucks with pups. Most commonly used will be dump trucks with pups. Average haul for all vehicles will be 25 tons per vehicle. All trucks are properly permitted for highway use and meet weight requirements for county and state highways. All drivers have CDL (Commercial Drivers License) if required for the vehicle being operated.

TRAFFIC COUNTS AND SCHEDULES
Assuming an average hauled of 70,000 tons per year, 25 tons/vehicle, and 120 hauling days per year, average truck traffic will be 23.33 trucks per day: 21 north and 2 south, with peak traffic counts of less than 4 per hour. Of 21 north, an estimated 6 will go to SH-160 in Pagosa West, 8 to Pagosa Springs itself, with various routes through the town, 5 east through Pagosa Springs to SH-84 for delivery to County or State shops, and 2 to delivery locations in the vicinity not requiring travel on state highways. County zoning and conditional use permits are expected to dictate exact routes and traffic limits.

DUST CONTROL DURING HAULS
Dust control practices to be used in the pit, including the access road, will be based on pit traffic, and will include traffic control, water spraying (see Exhibit G), and use of dust control agents such as magnesium chloride brine (magwater) or ligneous sulfide, as needed. When hauling material less than ¼-inch, haul trucks will be controlled to prevent dust, including tarping (chemically or physically) or wetting of material in accordance with state and local requirements. If necessary, hauling will be curtailed during extreme high wind conditions.

BLASTING AND NOISE CONTROL

Actions will reduce the impact of noise caused by the mine and associated activities.
BLASTING There will be no blasting done on site for the Pit.

NOISE POTENTIAL

Due to the location of the site, east of the San Juan River and well above the valley floor, little if any problem with noise is expected, as discussed above, and noise reduction is taken into account in the overall design and selection of stockpile and plant locations, direction of working, and other noise control measures integrated into the operation.

Typical sources of noise associated with sand and gravel extraction include operation of mobile and stationary equipment (engine, conveyor and like noises), back-up alarms, movements of vehicles inside and to and from the site (brakes, acceleration, etc.), and noises associated with heavy machinery and construction. During periods when traffic is not present on CR-500, other sounds carry well, but trees and the terrain help contain noise.

The nearest dwellings are the “hunting cabin” approximately 200 feet south of the south permit boundary (and 400 feet from the proposed affected area) and the two Constant family houses to the west. The ridge along the north and east side of the permit area will serve to attenuate noise which might be carried to the Rio Blanco Cabin Sites subdivision to the northeast, and the buffer and an off-site ridge will have a similar benefit for the Pinon Hills Ranch sites to the south. For the most part, the various buffers (along the river and north and south boundaries) ensure that operations are separated from all potential receptors, and noise levels will remain under the state-mandated 55 dBA at those receptors.

NOISE CONTROL

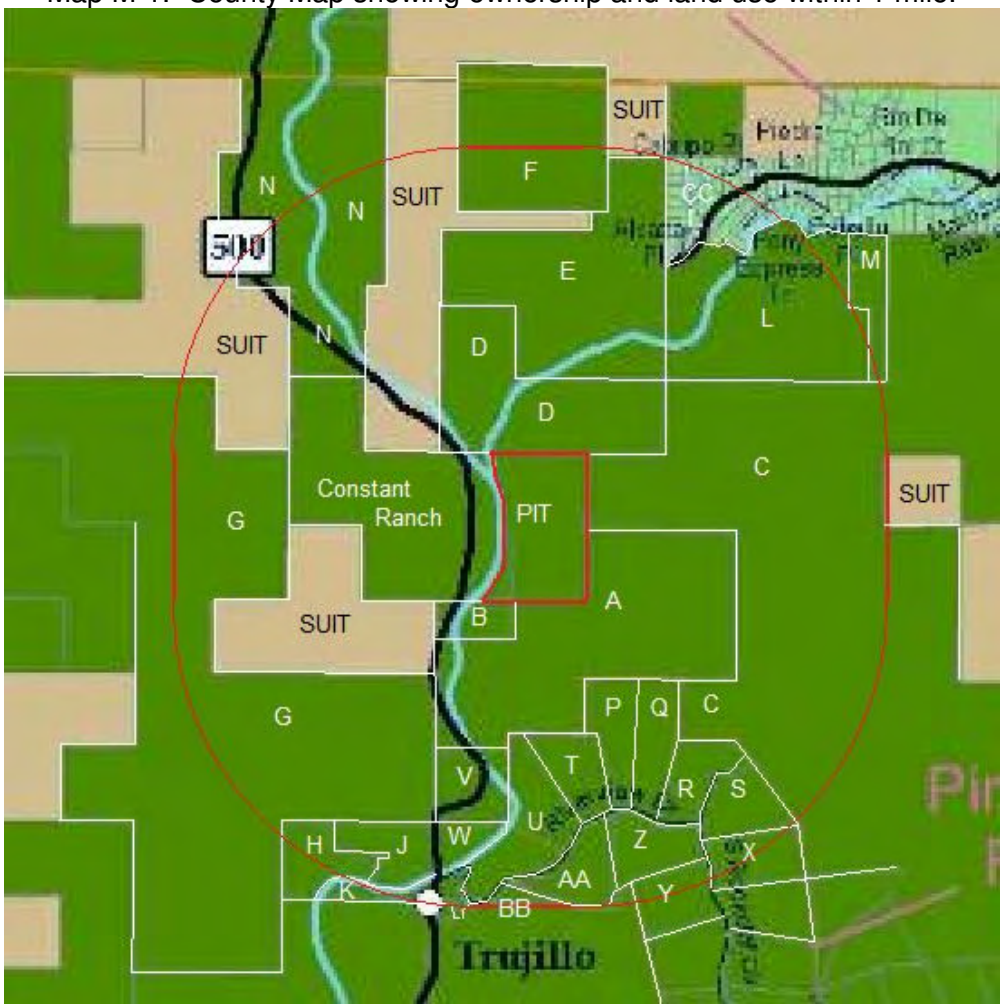
The proposed layout of the pit takes noise control and reduction into account. Most noise from excavation, loading, screening, washing, crushing, and other operations at the

quarry will be done in areas below grade, so that the walls of the pit will reflect sound up and away from adjacent properties and roads and other areas where people are often present. Only stripping will be conducted above grade. This will allow the terrain features on site and off-site to act as sound barriers.

Operating procedures for all C&J Gravel Products work sites are designed and implemented to reduce the impact of noise in the area and for neighbors. There will be no blasting. Operating hours, maintenance of noise controls on equipment, and training of personnel will be conducted in accordance with local requirements. Operations will move constantly away from the house located to the south (and the nearest house not occupied by the landowner), and wooded areas, as well as the terrain, will buffer this locations. Other neighbors are not located where general pit operations will be heard, but may be affected by traffic noises.

All complaints received by C&J Gravel Products will be recorded and investigated immediately. New methods of noise control will be regularly considered and adopted when feasible.

Map M-1. County Map showing ownership and land use within 1 mile.



HISTORIC AND CULTURAL RESOURCE EVALUATION

SUMMARY:

There are no identified or known significant historic or cultural resources which will be impacted by mining on the site. There are no structures of historic significance on the site which will be affected by mining. There are no known prehistoric or paleontological sites on the property. There are no known sites of religious or cultural significance on the site.

DISCUSSION:

No prehistoric sites, historic sites, cultural resources, or burial sites have been identified in the permit area, at this time. While there are likely artifacts present on site, due to intermittent occupation and travel through the area, there are no evidences of significant prehistoric use of the site.

Personnel have received and will continue to receive training on procedures in case of discovery of archeological or paleontological resources to protect such finds, even though they are not expected.

BRIEF HISTORY OF THE AREA:

Southern Ute Indian Tribe.—The Southern Ute Indian Reservation encompasses an area of more than 450 square miles (750,000 acres) in La Plata and Archuleta Counties, Colorado. Tribal headquarters are located adjacent to the town of Ignacio. The Tribal enrollment in 1997 was 1,330, with the majority of members living on the reservation in La Plata County. The Tribal census shows that 38 percent of the membership is under 20 years of age and 76 percent is under 40 years of age. Natural resources on the reservation include extensive gas reserves, coal, timber, and water for agriculture. These resources provide the basis for the establishment of a diversified Tribal economic base. Tribal energy resources in the form of natural gas have played the largest role in the reservation economy over the past decade (93 percent of Tribal revenues in 1994 came from energy resource development) (Reclamation, 2000a).
The reservation's proximity to Durango and other tourist destinations in southwestern Colorado allows for tourism development. The reservation land includes part of the Navajo State Park, Lake Capote, and the Sky Ute Casino and Motel. The Tribe sponsors casino gaming, cultural tours, fishing, hunting, and the Tribal Cultural Center and Museum. These enterprises play a role in diversifying the overall economy. The Southern Ute Indian Tribe employs more than 1,000 people and is a significant contributor to the regional economy. (Reclamation, 2000a).

The Anasazi (Ancestral Puebloan) people were the earliest known inhabitants of Archuleta County and the surrounding area. Archaeological evidence at the Chimney Rock ruins indicates a thriving community in and around the site until about 1125 AD. Following the Anasazi were the Ute, Apache, and Navajo peoples who have lived and hunted in the area for centuries. Revered by the Indians, the Pagosa (a Ute word meaning boiling water) Hot Springs were frequented by many of the tribes. Accounts from the early Anglo explorers describe well-worn trails from all directions converging on the springs, and "Red-men's bathing houses", depressions and sweat lodges, were located around the seeps and cavities near the big spring.

Spanish explorers and missionaries, as well as the French, visited the area seeking gold and converts prior to 1848 when Mexico ceded the area to the United States. The U.S. Government then established relations with the Indians and through a series of Treaties (1848, 1868, 1873, 1880), "bought" most of their land. In the Brunot Treaty of 1873, the Southern Ute Reservation was established in its present location, which included the southwestern part of what later became Archuleta County, formed from part of Conejos County in 1885. Fort Lewis was established in 1878 near the Pagosa hot springs to protect settlers and travelers from the Indians. The town grew around the fort and remained after the fort moved west. The Town of Pagosa Springs was platted and surveyed in 1883 and incorporated in 1891. It remains the only incorporated town in the county. Ranchers moved into the area to supply the mines in the San Juans and the military, then the lumber industry.

Hispanic settlers reached the area about the same time as Anglo settlers. They settled the southern part of the county along the rivers. Hispanic communities such as Trujillo, Juanita, Pagosa Junction, and Carracas were established with the arrival of the Denver & Rio Grande Railroad in 1881. According to the 1990 Census, the Hispanic population comprised about 23% of the total population.

With the advent of the railroad running between Silverton, Durango, Chama and points east along the southern boundary of the county, the lumber industry flourished and became the dominant sector of the economy. The railroad also boosted ranching by providing a practical way to ship cattle and sheep to

market. The growth of cattle and sheep ranching, as well as the development of the lumber industry, led to a booming economy in the 1890s and early 1900s. With the opening of Wolf Creek Pass on August 21, 1916 the entire San Juan Basin was opened to greater economic development and commerce.

The establishment of two large lumber mills, and many smaller ones, helped to bring the railroad to Pagosa Springs in 1900, facilitating travel and movement of trade and commerce. The lumber boom lasted almost into the 1920's, by which time the easily accessible timber had all been logged. The exploitation of natural resources (such as ranching, mineral production, lumber and recreational attractions), supported Archuleta County up to the mid-to-late 1970s. In 1970, manufacturing (primarily wood products) provided 30% of the county's total work income and generated $7.4 million in earnings. Over the next 20 years, manufacturing wages declined to $1.5 million in 1992. The decline of the timber industry in the late 1970s played a large role in this decrease. The 1980s were a time of relative stability in terms of population and economy, reflecting the "flat" state and national economies.

Since that time Archuleta County has been in transition from a traditional rural community to a more urban environment in which tourism is the number one industry. Primarily, people moving in for quality of life issues or "amenity migration" drove population growth in the 1990s. The natural environment, and the amenities it provides, are behind much of the growth and have become the larger region's chief economic asset. In the first decade of the 21st Century, tourism and the expansion of the Internet economy have encouraged growth of the County, and the expansion of gas fields in the region has added a new dimension to the economy.

Archuleta County is comprised of 872,960 acres (1,364 sq. miles). Only 34% of lands in Archuleta County are in private ownership. In 2006, Archuleta County adopted a Land Use Code and a zoning map. Tribal lands comprise 14.4% of the county and any decisions regarding their development (i.e. mineral and timber resources) could be crucial to impacts on county resources and economic development. Most of the northern and eastern portions of the county (51.6%) are within the San Juan National Forest and are under the management of the U.S. Forest Service. Federal lands continue to be managed under a policy of multiple use.

From 1990 to 2000, the population of Archuleta County grew by 8.5% annually, and was ranked 5th of 63 Colorado counties (14th nationwide) for rate of growth. Since 2000, the estimated rate of growth has slowed down to about 3.7% annually, with most of the growth in the unincorporated areas of the county. The estimated population in 2005 was 11,716.

This rate of growth is expected to continue through 2030, presenting challenges for the provision of adequate facilities and infrastructure.

Archuleta	2005	2010	2015	2020	2025	2030
Population	11,716	14,108	16,632	19,546	22,880	30,538
Avg. Annual % Change		3.8%	3.3%	3.3%	3.2%	3.2%

Source: Colorado Demography Section estimates 8-06

These population figures, however, do not reflect the large number of seasonal residents in the area. A local study on 2nd homes indicates that 60% of properties are owned by people that live outside of the county.

EXHIBIT N – SOURCE OF LEGAL RIGHT-TO-ENTER

*and Damage and **Indemnification Agreement***

This Agreement is made and entered into, effective as of the 2nd day of July, 2008 ("Effective Date") by and between James A. Constant, Jr. Revocable Trust and Leila B. Constant Revocable Trust, whose address is 12500 Road 500, Pagosa Springs, CO 81147, and owners of parcel # 5965-10-100015, ("Landowners") and C & J Gravel Products, Inc. ("Operator").

RECITALS

A. Colorado Revised Statutes 34-32.5-115 (4) states, in part: "The [Mined Land Reclamation] board or office shall not deny a permit except on one or more of the following grounds: ...

> (e) The mining operation will adversely affect the stability of any significant, valuable, and permanent manmade structures located within two hundred feet of the affected land; except that the permit shall not be denied on this basis where there is an agreement between the operator and the persons having an interest in the structure that damage to the structure is to be compensated for by the operator or, where such an agreement cannot be reached, the applicant provides an appropriate engineering evaluation that demonstrates that such structures shall not be damaged by proposed construction materials excavation operations.

B. Landowner owns the construction materials leases and rights and surface estate or otherwise controls the surface rights in and to the parcels of property described above ("Property").

C. Operator intends to obtain a county conditional use permit and state reclamation permit and conduct mineral extraction and related activities ("Operations") in a portion of the Property described in Exhibit A ("Two Rivers Pit")

D. Landowner owns or operates potentially significant, valuable, and permanent manmade structures ("Structures") located in or adjacent to Property which have some potential for the stability adversely affected by the Operator's Operations.

E. Operator and Landowner desire to stipulate and agree on the Operator's right to conduct Operations within the Property, including access to CR-500, to be included within the permit boundaries of the Two Rivers Pit as required by applicable Colorado Revised Statute and Archuleta County Ordinances and Land Use Plans, in accordance with their agreement of 13 NOV 2007.

F. Operator and Landowner desire to stipulate and agree on the compensation and damages to be paid for such potential adverse affect on stability of the Structures, should it occur during the period of said Operations.

AGREEMENT

In consideration of the foregoing recitals and the terms, covenants and conditions contained herein, Landowner and Operator agree as follows:

1. Right-of-Way. Landowner grants to Operator, and all of its parent, subsidiary, or other affiliated companies, their agents, employees, and others authorized by them, a private right of way upon and across the Property and lands adjacent to Property as Operator may reasonably require for roads and associated facilities, related to its Operations ("Right-of-Way"). Landowner warrants that it is the owner of the Property and has the legal right to grant the Right-of-Way described herein and that Operator shall have the quiet use and enjoyment of the Right-of-Way in accordance with the terms and conditions of this Agreement.

2. Right to Mine. Landowner grants to Operator, the legal right to conduct Operations on the property; to mine the property for sand, gravel, and borrow materials and to conduct other activities related to that mining.

3. Operator agrees to indemnify and hold harmless Landowner from any and all claims, demands, causes of action and damages ("Claims") related to Operator's Operations.

4. Services. Landowner grants to Operator, the right to use up to 10 acre-feet of water per year, from water rights owned by the Landowner, in accordance with Colorado water law.

EXECUTED as of the date of acknowledgement, but this Agreement is effective as of the first date mentioned above.

James A. Constant, Jr. and Leila B.Constant, Trustees

John Gilleland, President, C&J Gravel Products Inc.

State of Colorado)
County of Archuleta)ss

The foregoing instrument was acknowledged before me this 15th day of August 2008, by the above individuals as known to me.

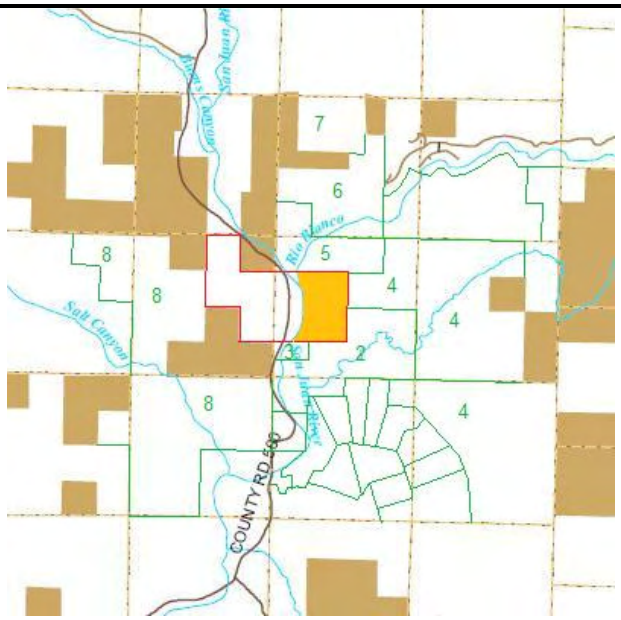
[SEAL]

My commission expires: 02 DEC 2010

NATHAN A. BARTON
NOTARY PUBLIC
State of South Dakota

Nathan A. Barton, Notary Public

EXHIBIT O – Owners of Record



C&J Gravel Products, Inc.	Map Title	Constant Pit Index Map	Scale	1:63,360 (1in=1mi)	Date: 02DEC07
	Source of Map	CDOT Archuleta County Highway Map 2007	Permit No. & Name	M-2008-_____ Constant Pit	Drawn by NAB Checked by NAB
	Legend	Brown is SUIT trust land. Site is orange.	Ref	See Section O-1 for Owner Information	File No. O-3

SECTION O-1. ADJACENT SURFACE OWNERS OF RECORD

The following is the list of all adjacent and nearby properties:

Map	County Parcel No.	Brief Description	Owner	Land Address
1	5965-10-100015	Constant Ranch: Site of permit area 320ac	Constant 12500 CR-500, Pagosa Springs	12500 CR 500
2	5965-11-400018	Berlanti Property to S and SE 290.31ac	Richard A Berlanti 777 S Wadsworth Blvd Suite 4-280, Lakewood, CO 80226	12800 CR 500
3	5965-13-100017	Waterman House to S 20.00 ac	James O Waterman 12664 Road 400, Pagosa Springs	12664 CR 400
4	5765-01-400005	Diamond T Ranch to E, 1462.36 ac	Diamond T Ranch 13790 Road 500, Pagosa Springs	13790 CR 500 13830 CR 500
5	5765-11-200016	Runyan Property to N 160.00 ac	Charles E & Dennis E Runyan 6130A Road 335, Pagosa Springs	6130A Road 335
6	5965-02-300004	N of Runyan Prop. 235.18 ac	Northern Trust Bank of CA 355 S. Grand Ave Suite 2600 Los Angeles, CA 90071	6130 CR 335
7	5965-02-200003	N of Runyan Prop. 158.07 ac	Northern Trust Bank of CA 355 S. Grand Ave Suite 2600 Los Angeles, CA 90071	6130 CR 335
8	5965-09-100013	Grindstaff Ranch SW 1194.31 ac	D Alan Grindstaff POB 4027, Crossville, TN 39557	CR 500

Information from Archuleta County Assessors Office,

EXHIBIT P – Municipalities Within Two Miles

NONE.

Trujillo, the nearest town, is located approximately one mile to the south. The hamlet is not incorporated and has no governing board or organization. There are no organized or unorganized communities within two miles.

EXHIBIT Q – Proof of Mailing Notices to Board of County Commissioners and Conservation District

Section Q-1. Archuleta County Commissioners

A copy of the "Notice to the Board of County Commissioners", including an attached copy of the application to the Colorado Division of Reclamation, Mining, and Safety (DRMS) for the "Two Rivers Pit" to be located in Archuleta County, Colorado, has been ☐mailed to ☐hand-delivered by (check one)
_____ (insert name) on the _____ day of December 2014, to

_____ (insert name) of the Archuleta County Management Office, County Courthouse, Pagosa Springs, CO 81147, for presentation to the Board of County Commissioners at their next convenience.

SIGNATURE: _____
TITLE: _____
(SEAL IF USED)

NOTICE TO THE BOARD OF COUNTY COMMISSIONERS

ARCHULETA COUNTY

C&J Gravel Products, Inc. (the "Applicant/Operator") has applied for a Regular (112) reclamation permit from the Colorado Mined Land Reclamation Board (the "Board") to conduct the extraction of construction materials operations in Archuleta County. The attached information is being provided to notify you of the location and nature of the proposed operation. The entire application is on file with the Division of Reclamation, Mining, and Safety (the "Division") and the local county clerk and recorder.

The applicant/operator proposes to reclaim the affected land to RANGE use. Pursuant to Section 34-32.5-116(4)(m), C.R.S., the Board may confer with the local Board of County Commissioners before approving of the post-mining land use. Accordingly, the Board would appreciate your comments on the proposed operation. Please not that, in order to preserve your right to a hearing before the Board on this application, you must submit written comments on the application within twenty (20) days of the date of last publication of notice pursuant to Section 34-32.5-112(10), C.R.S.

If you would like to discuss the proposed post-mining land use, or any other issue regarding this application, please contact the Division of Reclamation, Mining, and Safety, 1313 Sherman Street, Room 215, Denver, Colorado 80203, (303) 866-3567.

Section Q-2. Archuleta County Conservation District

A copy of the "Notice to the Board of Supervisors of the Local Soil Conservation District", including an attached copy of the application to the Colorado Division of Reclamation, Mining and Safety (DRMS) for the "Two Rivers Pit" to be located in Archuleta County, Colorado, ☐mailed to ☐hand-delivered by (check one)

_____ (insert name) on the _____ day of December, 2014,

to _____ (insert name) at San Juan Conservation District, 505A County Road 600, Pagosa Springs, CO; for presentation to the Board of Supervisors of the Conservation District, at their next convenience.

SIGNATURE: _____
TITLE: _____

NOTICE OF FILING APPLICATION
FOR COLORADO MINED LAND RECLAMATION PERMIT

FOR **REGULAR (112) CONSTRUCTION MATERIALS EXTRACTION OPERATION**

NOTICE TO THE BOARD OF SUPERVISORS
OF THE LOCAL CONSERVATION DISTRICT
SAN JUAN CONSERVATION DISTRICT

C&J Gravel Products, Inc. (the "Applicant/Operator") has applied for a Regular (112) reclamation permit from the Colorado Mined Land Reclamation Board (the "Board") to conduct the extraction of construction materials operations in Archuleta County. The attached information is being provided to notify you of the location and nature of the proposed operation. The entire application is on file with the Division of Reclamation, Mining, and Safety (the "Division") and the local county clerk and recorder.

The applicant/operator proposes to reclaim the affected land to RANGE use. Pursuant to Section 34-32.5-116(4)(m), C.R.S., the Board may confer with the local Conservation Districts before approving of the post-mining land use. Accordingly, the Board would appreciate your comments on the proposed operation. Please not that, in order to preserve your right to a hearing before the Board on this application, you must submit written comments on the application within twenty (20) days of the date of last publication of notice pursuant to Section 34-32.5-112(10), C.R.S.

If you would like to discuss the proposed post-mining land use, or any other issue regarding this application, please contact the Division of Reclamation, Mining, and Safety, 1313 Sherman Street, Room 215, Denver, Colorado 80203, (303) 866-3567.

EXHIBIT R – Proof of Filing with County Clerk and Recorder

A copy of the "CONSTRUCTION MATERIALS REGULAR (112) OPERATION RECLAMATION PERMIT APPLICATION FORM, and All Exhibits thereto, for the "Two Rivers Pit" to be located in Archuleta County, Colorado, ☐mailed to ☐hand-delivered by (check one)

_____ (insert name) on the _____ day of December, 2014,

to _____ (insert name) of the Archuleta County Clerk's Office, Archuleta County Courthouse, Pagosa Springs, Colorado 81147.

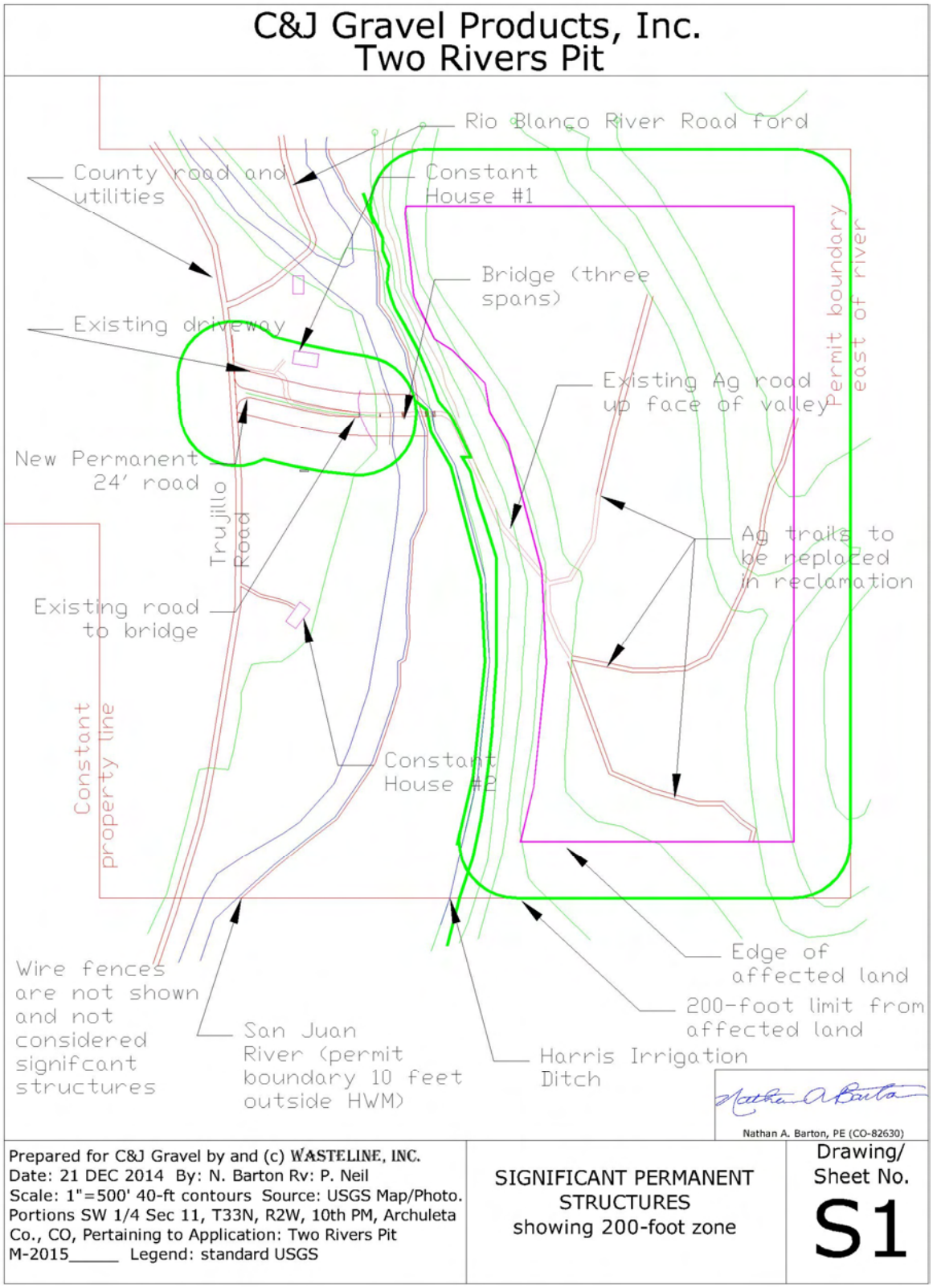
This copy will be available for public review during normal business hours to all interested persons, until requested to be returned by the applicant, C&J Gravel Products, Inc., expected to be 60 days after a decision by the Colorado Division of Minerals and Geology.

SIGNATURE: _____
TITLE: _____
DATE-TIME STAMP/SEAL

This page will be replaced with a page with copies of proof of mailing when that is complete.

EXHIBIT S – Permanent Manmade Structures

MAP S-1: Vicinity of pit showing manmade permanent structures.



1. General (Refer to Sheet S-1):
   a. Except for dwellings owned by the landowner (see Exhibit N), there are no dwellings within 200 feet of any land to be affected by mining.
   b. There are no significant manmade structures except the bridge within 200 feet of any affected land.
   c. All occupied dwellings are more than 500 feet from the edge of the affected area except as noted.
   d. Mining activities are limited by the County Conditional Use Permit.
   e. No impact on utilities or fencing is expected.

2. This Exhibit is the engineering evaluation as required by the Colorado Division of Reclamation, Mining, and Safety, prepared by Nathan A. Barton, CE, PE, DEE, a licensed Professional Engineer in the State of Colorado.
   a. Based on my (the engineer's) inspection of the site, the proposed mining operational activities and reclamation activities proposed, and inspection of similar operations in the vicinity with similar soil, topography, and other features, I (the engineer) hereby certify that the significant, valuable or permanent man-made structures are not expected to be damaged or negatively affected by activities occurring at the mining operation.
   b. There are a number of permanent manmade structures within 200 feet of the affected area, some of which extend beyond that 200-foot limit. All significant, valuable or permanent man-made structures inside the permit boundary have been analyzed for their significance, value, and permanence, and are included in this evalution.
   c. All fencing inside the property is considered temporary and expendable by the landowner.
   d. Soils: The soils on which the various permanent structures and the mining area itself are located range in texture from cobbly loam to silty loam, are variable in depth but average about two feet thick, and underlain by similar subsoils and Mancos shale. The soils do have some shrink-swell potential, but very low potential for mass movement at proposed slopes of 3H:1V.
   e. This evaluation was prepared based on site inspections and investigations conducted April through November 2007.

3. Detailed analysis of all permanent manmade structures within 500 feet (refer to Figure S-1 for letter designations, which may refer to several related or adjacent structures):

Structure	Description/notes	Owner
A. Constant Houses	The Constant family owns and occupies two houses on the valley floor west of the San Juan River, and within 200 feet of the access road corridor.	Landowner (Constant, Jac and Lee)
Evaluation	Construction, maintenance and use of the haul road, and possible scalehouse, scale, and stockpile areas will not require significant changes to topography, in the area,and the road is designed to minimize impact to the floodplain in the valley floor. No impact on the geological stability of the structures, yards, and outbuildings is anticipated. Noise and vibration impacts from truck traffic can be mitigated by controlling speed and proper maintenance of the roadway.	
Conclusion and recommendations	Landowners have signed a damage and compensation agreement (Exhibit N) which covers these structures. Care should be given to proper design, construction, and maintenance of the roadway, bridge, bridge approach, and drainage systems to minimize potential negative impacts on the structures and use thereof.	

Structure	Description/notes	Owner
B. Bridge and Access Road	The double-span bridge over the San Juan River was constructed in 2013, with an additional span over Harris Ditch.	Landowner (Constant, Jac and Lee)

Evaluation	Bridge is designed and constructed for use by heavy equipment and haul trucks using the sand and gravel pit. Bridge also meets USACE and FEMA requirements for floodplain and waters of the US. Assuming proper maintenance, bridge will not be significantly impacted by use in mining and will be available for landowner use after mining is completed.
Conclusion and recommendations	Landowners have signed a damage and compensation agreement which covers these structures. Care should be given to proper inspection and maintenance of the roadway, bridge, bridge approach, and drainage systems to minimize potential negative impacts on the structures and use thereof.

Structure	Description/notes	Owner
C. County Road 500	Trujillo Road South is a fairly standard county gravel road averaging 22 feet wide, connecting Pagosa Springs with Trujillo and the lower San Juan River Valley.	Archuleta County
Evaluation	The only activities within 200 feet of the Trujillo Road are the construction and maintenance of the access road and stockpile areas. No excavations of more than 2-3 feet (for ditching and drainage) will be done. No reasonable expectation of impacts.	
Conclusion and recommendations	No negative impact on County Road 500 is expected. No action necessary, except to keep sight triangles clear of obstructions, and to set fence back minimum 70 feet from edge of travelled way to prevent traffic problems with road. NOTE: Public Works Department was requested to review and enter into an indemnity agreement on 29 DEC 2014 via E-mail. As of 01 JAN 2015, no response has been received.	

Structure	Description/notes	Owner
D. Utilities	Various utilities are located along the right-of-way of CR 500, including telephone cable and electric overhead power line.	CenturyTel (phone cable) LaPlata Electric Association (power line)
Evaluation	The only activities within 200 feet of the Trujillo Road are the construction and maintenance of the access road and stockpile areas. No excavations of more than 2-3 feet (for ditching and drainage) will be done. No reasonable expectation of impacts.	
Conclusion and recommendations	No negative impact on utilities along County Road 500 is expected. No action necessary, except to notify and obtain markings by One-Call for buried utilities, and to verify safe clearance distance (overhead) for power line. NOTE: La Plata Electric Association and CenturyTel were requested to review and enter into an indemnity agreement on 29 DEC 2014 via E-mail. As of 01 JAN 15, no response has been received.	

Structure	Description/notes	Owner
F. Irrigation ditch	An unimproved (earth/gravel lined) irrigation ditch and headgate with weir is located on the east bank of the San Juan River near the point at which the bridge will cross the river. The ditch follows an old river channel at the base of the cliffs, and is located 200 feet horizontally from the affected area and 40-60 feet vertically from the planned floor of the pit.	Berlanti
Evaluation	Actions necessary to protect the ditch, including inlet, and associated features from road construction have been evaluated by engineers and approved by a court of competent jurisdiction. No impacts expected provided work is done as required.	
Conclusion and recommendations	No negative impact on the ditch and associated structures is expected. Ensure that all design and notification requirements for ditch owner and land owner are followed. Coordinate work with irrigation season and requirements. The existing court-mandated agreement serves as an indemnity agreement.	

Structure	Description/notes	Owner
M. Fencing	Property line fencing partially on all sides, and internal pasturage fencing. The fence varies, but in most places is a standard 4-strand barbed wire in various states of repair, with wood and steel posts of various sizes and condition. Various 3-strand barbed-wire fences divide pasture areas. Fences in very poor to good condition.	Landowners (Constant, Jac and Lee)
Evaluation	Fencing ranges from fair to good condition. Buffer zones along property/permit lines will keep excavations back 200 feet from property line fence lines.	
Conclusion and recommendations	The fencing is not expected to be damaged by proposed operations, based on slopes, soil conditions, and fence condition. Some fencing will require replacement during the period of mining due to existing conditions and expected use and normal deterioration. See Exhibit N.	

4. Based on my review, there is no need for slope analysis or evaluation at this time.
5. This report is submitted in lieu of Attachment S-1 to Exhibit S.

CERTIFICATION (ENGINEERING EVALUATION) FOR EXHIBIT S: 4 pages.

(SEAL)

SIGNATURE NATHAN A. BARTON, PE, DEE Colorado Registered P E 27342, DATE: *24 DEC 2014*

Exhibit S-2. EXAMPLE INDEMNIFICATION AND DAMAGE AGREEMENT

This Agreement is made and entered into, effective as of the _____ day of ____, 2008 ("Effective Date") by and between STRUCTURES owner**,** whose address is __, ("**OWNER**"), and, C&J Gravel Products, Inc., whose address is 27661 Hwy 160-E, Durango, CO 81303 ("**OPERATOR**").

Colorado Revised Statutes **34-32.5-115** (4) states, in part: "The [Mined Land Reclamation} board or office shall not deny a permit except on one or more of the following grounds: …
(e) The mining operation will adversely affect the stability of any significant, valuable, and permanent manmade structures located within two hundred feet of the affected land; except that the permit shall not be denied on this basis where there is an agreement between the operator and the persons having an interest in the structure that damage to the structure is to be compensated for by the operator or, where such an agreement cannot be reached, the applicant provides an appropriate engineering evaluation that demonstrates that such structures shall not be damaged by proposed construction materials excavation operations."

OPERATOR agrees to indemnify and hold harmless OWNER from any and all claims, demands, causes of action and damages ("Claims") related to OPERATOR's operations on the Pit or Operation Name, as such pit may be expanded. This Indemnification and Damage Agreement includes, but is not limited to, Claims relating to specific items or structures within two hundred (200) feet of areas to be mined with locations generally shown on the map attached to this Agreement as Exhibit A, and detailed in Exhibit B. This Agreement is signed by authorized representatives of OPERATOR and OWNER.
EXECUTED as of the date of acknowledgement, but this Agreement is effective as of the first date mentioned above.

OWNER:	**OPERATOR:**
By: Signer for Owner:	By: Perry Neil
Title: Landowner or structure company	Title: Pit Manager

Exhibit A is Sheet S-1. Exhibit B is an extract from Exhibit S of the information specifically pertaining to the property. Notary statements are added to the end of this agreement. Executed agreements will be added to this Exhibit as they are available.

GENERAL REFERENCES

1. http://websoilsurvey.nrcs.usda.gov/app/ US Department of Agriculture, Access 22 July 2008.
2. Colorado Mammal Distribution Latilong Study, Colorado Division of Wildlife and Denver Museum of Natural History, OCT 1990
3. Colorado Bird Distribution Latilong Study, Colorado Division of Wildlife and Colorado Field Ornithologists, DEC 1987
4. Colorado Reptile & Amphibian Distribution Latilong Study, Colorado Division of Wildlife, MAY 1981
5. Caterpillar Performance Handbook, 30th Edition
6. http://cpw.state.co.us/learn/Pages/SOC-ThreatenedEndangeredList.aspx Access 20 DEC 2014, http://www.fws.gov/endangered/map/state/CO.html Access 20 DEC 2014, and http://ndis.nrel.colostate.edu/aspresponse/spxbycnty_res.asp (for Archuleta County) Access 20 DEC 2014.
7. T&E Species: http://ecos.fws.gov/tess_public/SpeciesReport.do?lead=6&listingType=L Access 11 FEB 2008 and 20 DEC 2014.

Existing bridge to be used for Two Rivers Pit.

Approach ramp west of bridge to CR-500.

C&J GRAVEL PRODUCTS, INC

TWO RIVERS PIT

County Road 500

Archuleta County, Colorado

TRAFFIC IMPACT ASSESSMENT

May 09, 2016

COLORADO REGISTERED
MICHAEL A.H. OLSON
37145
5/09/16
PROFESSIONAL ENGINEER

1315 Main Avenue, Suite 221
Durango, CO 81301

C&J GRAVEL PRODUCTS, INC.
TWO RIVERS PIT OPERATIONS
County Road 500
ARCHULETA COUNTY, COLORADO

Traffic Impact Analysis
May 9, 2016

Client:
C&J Gravel Products, Inc.
27661 US Hwy 160
Durango, CO 81301

Prepared by:
Roadrunner Engineering, LLC
1315 Main Avenue
Suite 221
Durango, CO 81301

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12.0 Horizontal Sight Line Offset Analysis – Existing Road Conditions	Appendix 3
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1. EXECUTIVE SUMMARY

The proposed Two Rivers Pit is approximately 12-miles south of Pagosa Springs, CO, located at Section 11, Township 33 North, Range 2 West, NM (10th) P.M., Archuleta County. Address for the site is 12500 County Road 500, Pagosa Springs, Co 81147.

The proposed pit is situated atop ridge serviced by a private bridge spanning the San Juan River. The area is rural in character and sparsely populated.

Aggregate deposits at the Two Rivers site have hardness characteristics that are generally absent from this region. Comparable operational pits are located a distance of over 50-miles from Pagosa Springs.

Gravel demand will be market driven with primary market area centered on existing developed regions; i.e. Pagosa Lakes and Pagosa Springs. Gravel truck distribution has been analyzed at 90% northbound from the pit and 10% southbound. Of the northbound trips, it is projected that majority of traffic will be towards the Pagosa Lakes region, utilizing Cascade Avenue to South Pagosa Boulevard. For this assessment, the trip distribution is as follows:

Northbound	90%	80% - South Pagosa Boulevard
		20% - Apache Street
Southbound	10%	

Roadway analysis is based on 100,000 tons of aggregate material to market per year. Assuming aggregate hauling at 15-tons per trip, the number of truck trips equals: 37 Average Daily Trips (ADT). ADT values are calculated based on 365-days. It is expected that haul days will be 5 or 6 days a week, based on demand, weather, and pit closure days.

Although aggregate will be available through-out the year, crushing operations are expected to be performed over a shorter period of time, approximately 70 to 75-days. A mobile crushing plant will be used to perform crushing operations, producing aggregate materials to match market demands. There will be increase in number of daily personnel from two individuals to 6 or 7 during crushing periods.

Primary gravel haul routes have been identified northbound; a) CR 500 to Cascade Avenue to South Pagosa Boulevard, and b) CR 500 to Apache Street. Upon reaching South Pagosa Blvd. / Apache St., gravel trucks are expected to disperse along the network roadway system.

Five sets of traffic counters were placed to conduct mid-week counts over a 48-hour period. Background traffic values were gathered using an 'Automatic Traffic Data Recorder – produced by Jamar Technologies Inc'. Traffic data was gathered from March 29 through March 30, 2016. The five data locations are:

1) South Pagosa Boulevard – MP 0.1 (south of US 160)
2) CR 500 – MP 0.1 (south of Town of Pagosa limits)
3) CR 500 – MP 4.2 (just north of intersection with Cascade Avenue)
4) Cascade Avenue – MP 0.9 (just west of intersect with CR 500)
5) CR 500 – MP 11.6 (just north of Project site)

Existing traffic count data for each location is as follows (count date 3/30/16):

1) 1,307 trips
2) 452 trips
3) 168 trips
4) 189 trips
5) 161 trips

Referencing Archuleta County Road and Bride Design Standards 27.1.2.6: Low Volume Roads; low volume roads *'have a design average daily traffic volume that does not exceed 400*.' Locations 3, 4, & 5 have less than 400 trips and thereby would meet a classification of Low Volume Road.

Accident Records

Accident records for Archuleta County were obtained from Colorado State Patrol. The accident data spanned the years 2011 – 2015. Data was aggregated for the northern haul routes; CR 500 to Pagosa Springs, and CR 500 to Cascade Avenue to South Pagosa Boulevard. Over the five-year duration, thirty-six accidents were recorded (Appendix 2). Assessing locations of multiple accidents or groupings, CR 119, also known as Light Plant Road, was noted as having 10-accidents in approximately 2-miles of roadway.

Sight Distance

An assessment was conducted focusing on roadway curves and possible locations of limited sight distance. Sight distance parameters are based on a vehicle having sufficient distance to recognize a hazard and perform action to stop the vehicle to avoid the hazard. Utilizing 'horizontal sight line offset – HSO', the assessment identified three locations where available sight distance is less than the recommended value.

Location	Recommended HSO	Actual HSO
a) CR 500 - MP 5.8	28-ft	20-ft
b) CR 500 – MP 6.0	24-ft	18-ft
c) CR 500 – MP 6.4	49-ft	20-ft

ESAL

The analysis period is twenty-years. Roadway impacts are evaluated utilizing 18K equivalent single axle loading (ESAL) procedures. Two Rivers gravel pit are estimated in order to identify proportionate share impacts to the roadway.

Facility trip volumes by vehicle loading type (average 20-yr peak operations – 100,000 tons/yr)

Vehicle Type	# of trips / day (ADT)
Car / Truck	9 trips
Single Unit Truck	1 trips
Dump Truck / Transport	37 trips

Two Rivers ESAL over a 20-year period.

Vehicle Type	ESAL Factor	20-yr Trips	ESAL	
Car / Truck	0.003	70,000 trips	210	
Single Unit Truck	0.249	10,000 trips	2,495	
Dump Truck / Transport	1.087	266,667 trips	289,867	
ESAL Subtotal			292,567	
Lane Factor			0.6	
Two Rivers Pit ESAL Design Total (ESAL x Lane Factor)			**175,540**	**ESAL**

Traffic data was used to develop non-pit background traffic volumes and their associated roadway impacts. Weekday non-pit daily traffic S. Pagosa Blvd. value was 1,307 trips. Weekend traffic value was assumed to be 60% of weekday values. Daily trips adjusted to Average Daily Trips (ADT) = 1,142 trips. Example, restating counts at South Pagosa Boulevard, the background ESAL loading is as follows:

Vehicle Type (March 30, 2016)	ESAL Factor	20-yr Trips	ESAL
Pass Car / Truck	0.003	8,105,178 trips	24,316
Single Unit	0.249	25,016 trips	6,229
Combination Unit	1.087	208,467 trips	226,603
ESAL Subtotal			257,148
X Lane Factor – 0.6 =		ESAL Design Total	**154,289**

The Design ESAL value is used to develop surface structure to support impact loading. By applying the Background ESAL loading to the projected Two Rivers Pip ESAL loading, a proportionate share value of roadway impacts can be established to evaluate assignable mitigation costs.

Total Roadway ESAL (20-yr), Two Rivers Pit + Background @ CR 500	**92,177**
Total Roadway ESAL (20-yr), Two Rivers Pit + Background @ S. Pagosa Blvd	**280,677**
Background Baseline ESAL (year 2016) @ CR 500 (at Pagosa Springs)	**60,580**
Background Baseline ESAL (year 2016) @ S. Pagosa Blvd	**154,289**
Percent Two Rivers gravel pit traffic impact @ CR 500	**34%**
Percent Two Rivers gravel pit traffic impact @ S. Pagosa Blvd	**45%**

Aggregate

Procedures for low volume road design[1] were used in assessing necessary roadway structure to support projected ESAL loading. Approximate structure depth = 12inches with application of ½ in of aggregate every 5-yrs to address gravel loss due to roadway use and maintenance.

Projected Cost of Impact Mitigation

An Opinion of Probable Cost (OPC) scenario was developed to mitigate for roadway impacts for assumed haul routes associated with Two Rivers Pit. Option costs are based on a 20-year operational duration. The costs were developed utilizing Colorado Department of Transportation Cost Data. Mitigation costs are identified by roadway section, i.e. asphalt or gravel, or minor improvements.

Exhibit B reflects identified mitigation measures over a 20-year duration, based on year conducted. General scope is as follows:

- Flashing warning signs at limited sight distance corners – year 2016
- Aggregate application – ½ in application every 5-years (6-yr status on N. CR 500)
- Chip seal of existing Asphalt – every 10-years

Based on a production of 100,000 tons of aggregate per year, the total cost per ton of transported aggregate would be:

20-Yr Roadway Impact Mitigation Cost		$738,557
20-Yr Truck Totals		133,333 trucks
Aggregate Tons per Truck		15 Tons/truck
	Total	**$0.37/ton**

[1] AASHTO Guide for Design of Pavement Structures, Chapter 4, Low-Volume Road Design

2. INTRODUCTION

The proposed Two Rivers Pit is located on County Road 500, approximately 11.5 miles south of Pagosa Springs. Aggregate material is planned to be mined and transported via 10-wheel or combination-unit trucks to Pagosa Springs and Pagosa Lakes regions of Archuleta County.

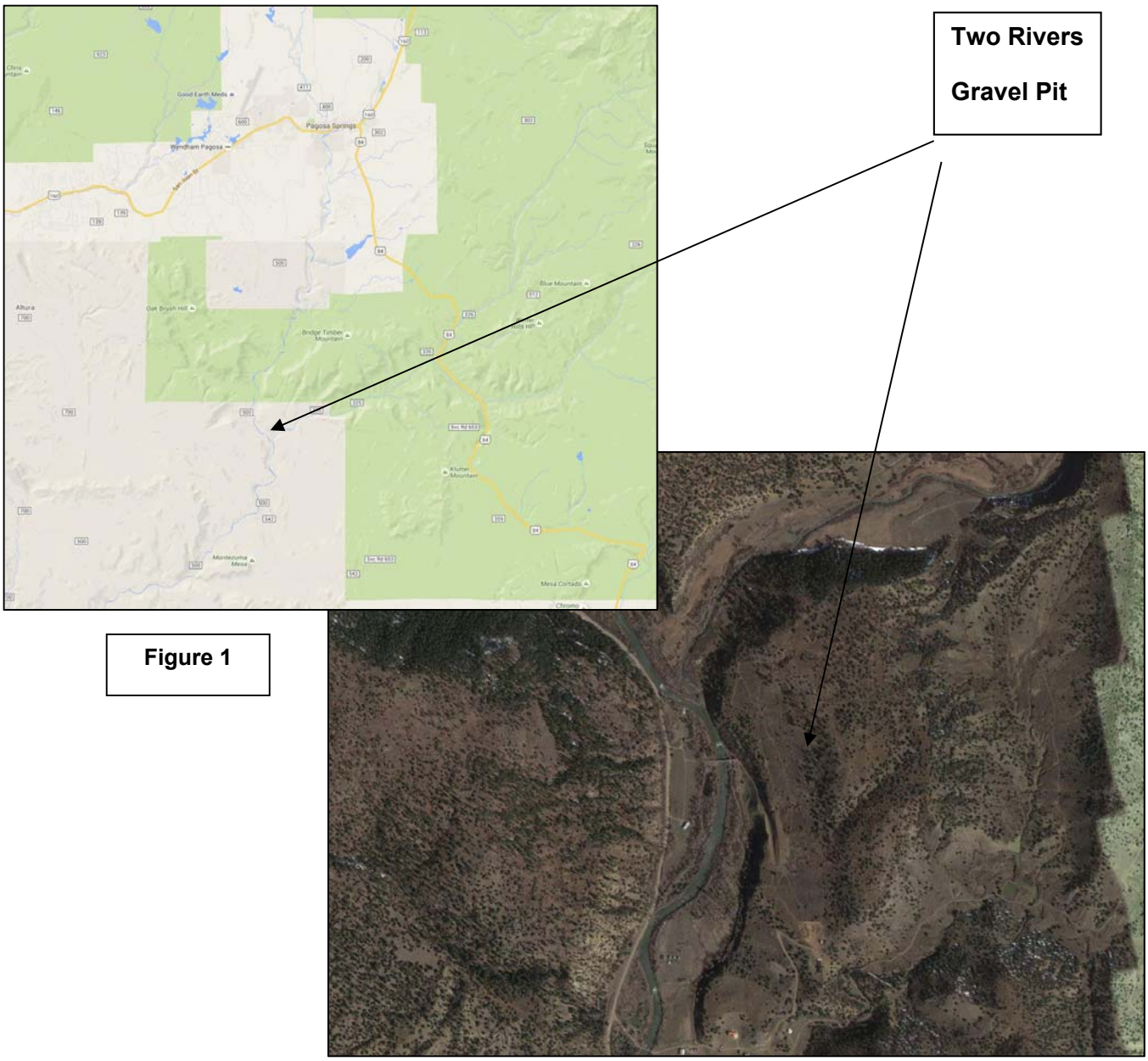


Figure 1

Figure 1 is a general map showing site location.

The intent of this study is to analyze existing traffic volumes on proposed haul routes, along with Two Rivers site generated trips in order to define site nexus roadway impacts. Options for mitigating these impacts are provided as a basis point for discussion between representatives of Archuleta County and C &J Gravel Products, which plans to operate the Two Rivers Pit.

3. EXISTING CONDITIONS

The proposed Two Rivers Pit is approximately 12-miles south of Pagosa Springs, CO, located at Section 11, Township 33 North, Range 2 West, NM (10th) P.M., Archuleta County. Address for the site is 12500 County Road 500, Pagosa Springs, Co 81147. Primary land-use in the region is ranching and National Forest.

Main highway arteries in Archuleta County are US Highway 160 that runs east / west and State Highway 84 which is align from the Town of Pagosa Springs southeast to the state line. Access from the highways to the Pit site is via principle roads South Pagosa Boulevard and Light Plant Road (CR 119) south to County Road 500. CR 500 is aligned north/south.

Town of Pagosa Springs / Pagosa Lakes are the economic centers for the region.

County Road 500 is primarily an aggregate roadway with the first mile leaving Town of Pagosa Springs being asphalt.

Photo 1 is a view of CR 500, adjacent to the intersection with Cascade Avenue:

Photo 1 – CR 500 looking south

Figure 2 provides a limited summary of roadways serving the Two Rivers Pit.

C&J Gravel - Archuleta County Facility								3/21/2106
Road	Description	Location	Range BP	Range EP	Surface	Width (ft)	Shoulders - ea (ft)	Comment(s)
S. Pagosa								
	Data Pt 1	MP 0.1			Asphalt	32	3	Paved shoulders
			MP 0.0	MP 3.4	Asphalt	24	2	Gravel shoulders
			MP 3.4	MP 4.9	Gravel	28		
Cascade								
	Data Pt 4	MP 0.9			Gravel	26		
			MP 0.0	MP 0.9	Gravel	21 - 26		Rework Buttress & Cascade int, Rework Cascade & Truillo int
Truillo / CR 500								
	Data Pt 2	MP 0.1			Asphalt	23	1	Gravel shoulders
	Data Pt 3	MP 4.2			Gravel	26		
	Data Pt 5	MP 11.6			Gravel	21		Project
Truillo / CR 500								Bridge is 1.5 mile south of project
	FS 629				Gravel	26		
	Landfill	MP 8.6						
			MP 6.3	MP 6.4				Limited Sight Distance - House on knoll adjacent to road at MP 6.3
		MP 5.8						Limited Sight Distance
		MP 1.5						Limited Sight Distance - Transfer Station. Installing Water Line

Figure 2

Traffic Counts

Traffic counts were utilized for developing baseline characteristics of roadways serving the Pit site. Traffic data was gathered using an 'Automatic Traffic Data Recorder – produced by Jamar Technologies Inc'

Five sets of traffic counters were placed to conduct mid-week counts over a 48-hour period. Traffic data was gathered from March 29 through March 30, 2016. The five data locations are:

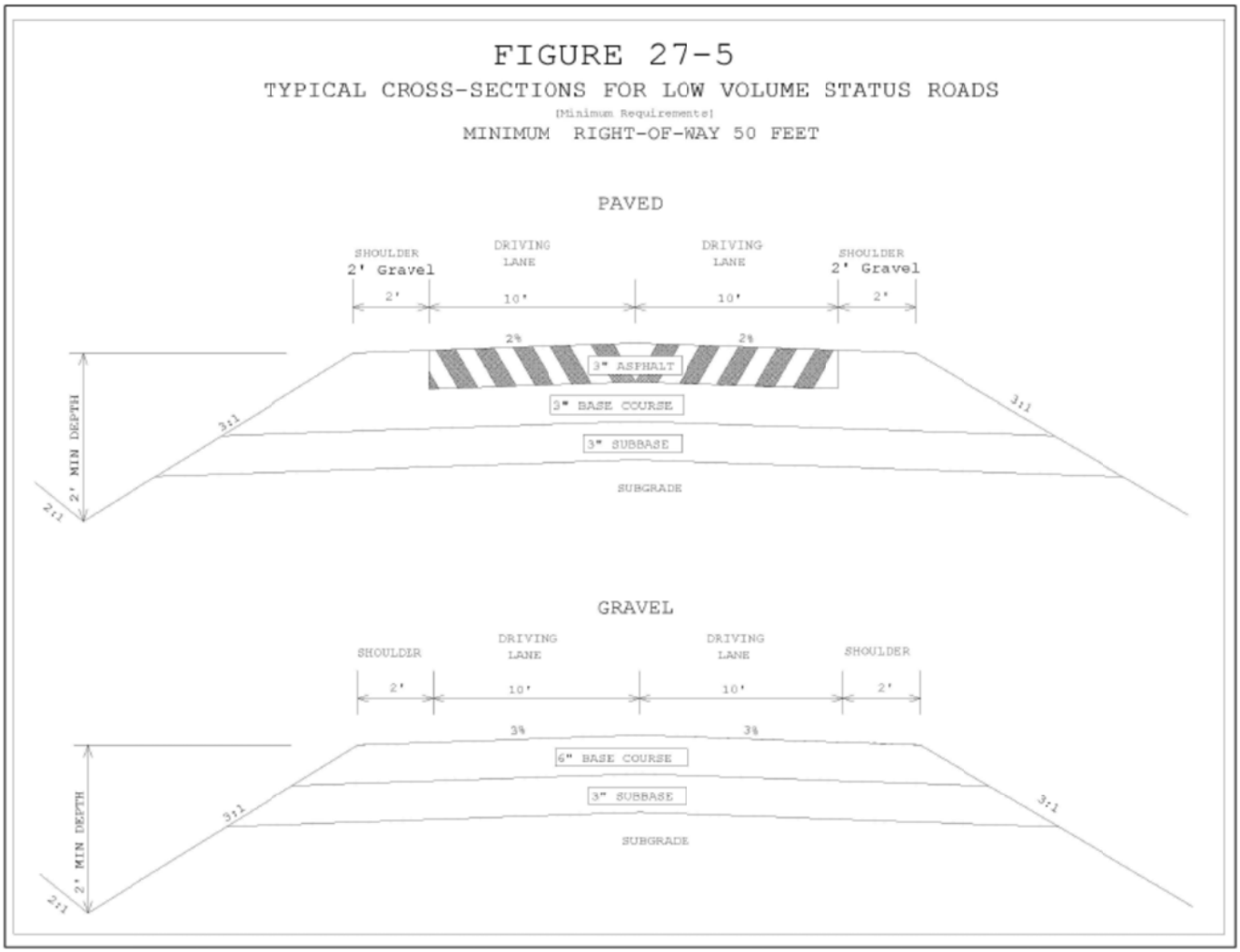
1) Data Pt 1: South Pagosa Boulevard – MP 0.1 (south of US 160)
2) Data Pt 2: CR 500 – MP 0.1 (south of Town of Pagosa limits)
3) Data Pt 3: CR 500 – MP 4.2 (just north of intersection with Cascade Avenue)
4) Data Pt 4: Cascade Avenue – MP 0.9 (just west of intersect with CR 500)
5) Data Pt 5: CR 500 – MP 11.6 (just north of Project site)

Existing traffic count data for each location is as follows (count date 3/30/16):

1) 1,307 trips
2) 452 trips
3) 168 trips
4) 189 trips
5) 161 trips

Referencing Archuleta County Road and Bride Design Standards 27.1.2.6: Low Volume Roads; low volume roads *'have a design average daily traffic volume that does not exceed 400*.' Locations 3, 4, & 5 have less than 400 trips and thereby would meet a classification of Low Volume Road.

Figure 27-5[2] reflects a typical cross-section for a Low Volume status road. Typical section calls for a 10ft driving lane and 2ft shoulder = 24ft wide travel surface. Most sections of roadway surveyed are approximately 26ft wide, exceeding the minimums for a Local Road. CR 500 at approximate MP 11.5, near the Project site, has a reduced width of approximately 21ft. This condition also exists on Cascade Avenue, near the intersection with Buttress Avenue; roadway width is approximately 21ft.



Accident Records

Accident records for Archuleta County obtained from Colorado State Patrol. The accident data spanned the years 2011 – 2015. Data was aggregated for the northern haul routes; CR 500 to Pagosa Springs, and CR 500 to Cascade Avenue to South Pagosa Boulevard. Over the five-year duration, thirty-six accidents were recorded (Appendix 2).

Summary of accident records:

- 25 accidents were Property Damage Only (69%)
- 11 accidents sustained Injuries (31%)
- No fatalities

[2] Archuleta County Road and Bridge Design Standards and Construction Specifications

Assessing locations of multiple accidents or groupings, CR 119, also known as Light Plant Road, was noted as having 10-accidents in approximately 2-miles of roadway.

4. SPEED LIMIT AND STOPPING SIGHT DISTANCE

County Road 500 provides roadway connectivity to agricultural, residential, and National Forest land-uses. The northern one mile of CR 500 is paved, with the 10.5-miles of road between the Pit site and pavement start being a gravel driving surface. The gravel driving surface is typically posted at 35mph, with caution speed reductions signs posted to serve sharp roadway curves.

The majority of roadway users appear to be very familiar with CR 500. This statement is based on noting zero accidents in areas in which sight distance is obstructed or curves radiuses are too tight to easily navigate bi-directional traffic.

Sight distance parameters are based on a vehicle having sufficient distance to recognize a hazard and perform action to stop the vehicle to avoid the hazard. At three locations along the CR500, sight distance is obstructed by rock outcropping and/or steep slopes directly adjacent to the travel-way. It is assumed that drivers are familiar with these areas of limited sight distance and travelled at slower speeds than those posted to account for reduced maneuvering and or stopping distances.

Referencing AASHTO's *A Policy on Geometric Design of Highways and Streets*, stopping sight distance requirement for a 35mph design speed is 250ft (note exhibit 3-1). With two vehicles traveling in opposite directions, the total sight distance requirement at 35mph is 500ft. At CR 500 mile-points 5.8, 6.3, & 6.4, it appears that the available sight distance is less than 35mph minimums.

Metric					US Customary				
Design speed (km/h)	Brake reaction distance (m)	Braking distance on level (m)	Stopping sight distance		Design speed (mph)	Brake reaction distance (ft)	Braking distance on level (ft)	Stopping sight distance	
			Calculated (m)	Design (m)				Calculated (ft)	Design (ft)
20	13.9	4.6	18.5	20	15	55.1	21.6	76.7	80
30	20.9	10.3	31.2	35	20	73.5	38.4	111.9	115
40	27.8	18.4	46.2	50	25	91.9	60.0	151.9	155
50	34.8	28.7	63.5	65	30	110.3	86.4	196.7	200
60	41.7	41.3	83.0	85	35	128.6	117.6	246.2	250
70	48.7	56.2	104.9	105	40	147.0	153.6	300.6	305
80	55.6	73.4	129.0	130	45	165.4	194.4	359.8	360
90	62.6	92.9	155.5	160	50	183.8	240.0	423.8	425
100	69.5	114.7	184.2	185	55	202.1	290.3	492.4	495
110	76.5	138.8	215.3	220	60	220.5	345.5	566.0	570
120	83.4	165.2	248.6	250	65	238.9	405.5	644.4	645
130	90.4	193.8	284.2	285	70	257.3	470.3	727.6	730
					75	275.6	539.9	815.5	820
					80	294.0	614.3	908.3	910

Note: Brake reaction distance predicated on a time of 2.5 s; deceleration rate of 3.4 m/s^2 [11.2 ft/s^2] used to determine calculated sight distance.

Exhibit 3-1. Stopping Sight Distance

This condition was also evaluated based on AASHTO's *A Policy on Geometric Design of Highways and Streets* - 'horizontal sight line offset – HSO'. Figure 3 provides a graphic pertaining how HSO corresponds to sight distance.

tionships between R, HSO, and V in this chart can be quickly checked. For example, with an 80-km/h [50-mph] design speed and a curve with a 350-m [1,150-ft] radius, a clear sight area with a horizontal sight line offset of approximately 6.0 m [20 ft] is needed for stopping sight distance. As another example, for a sight obstruction at a distance HSO equal to 6.0 m [20 ft] from the centerline of the inside lane on a curve with a 175-m [575-ft] radius, the sight distance needed is approximately at the upper end of the range for a speed of approximately 60 km/h [40 mph].

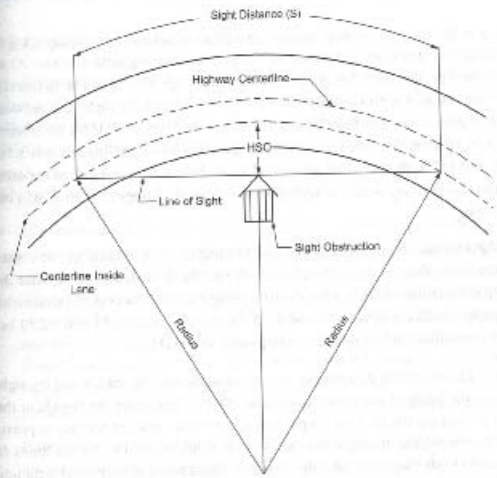


Figure 3-23. Diagram Illustrating Components for Determining Horizontal Sight Distance

Metric	U.S. Customary
$HSO = R\left[1 - \cos\left(\frac{28.65S}{R}\right)\right]$	$HSO = R\left[1 - \cos\left(\frac{28.65S}{R}\right)\right]$ (3-36)
where:	where:
HSO = Horizontal sight line offset, m	HSO = Horizontal sight line offset, ft
S = Stopping sight distance, m	S = Stopping sight distance, ft
R = Radius of curve, m	R = Radius of curve, ft

Horizontal sight restrictions may occur where there is a cut slope on the inside of the curve. For the 1.08-m [3.50-ft] eye height and the 0.60-m [2.00-ft] object height used for stopping sight distance, a height of 0.84 m [2.75 ft] may be used as the midpoint of the sight line where the cut slope usually obstructs sight. This assumes that there is little or no vertical curvature. For a highway with a 6.6-m [22-ft] traveled way, 1.2-m [4-ft] shoulders, an allowance of 1.2 m [4 ft] for a ditch section, and 1V:2H (1 m or 1 ft vertically

Figure 3

Utilizing HSO, the available sight-distance at three locations is less than the recommended value.

Location	Recommended HSO	Actual HSO
a) CR 500 - MP 5.8	28-ft	20-ft
b) CR 500 – MP 6.0	24-ft	18-ft
c) CR 500 – MP 6.4	49-ft	20-ft

Appendix 3 includes two exhibits noting the limited sight locations and corresponding HSO.

5. PROPOSED SITE USES AND TRIP VOLUMES

The Two Rivers Pit is situated atop ridge serviced by a private bridge spanning the San Juan River. The area is rural in character and sparsely populated.

Aggregate deposits at the Two Rivers site have hardness characteristics that are generally absent from this region. Comparable operational pits are located a distance of over 50-miles from Pagosa Springs.

Primary gravel haul routes have been identified northbound; a) CR 500 to Cascade Avenue to South Pagosa Boulevard, and b) CR 500 to Apache Street. Upon reaching South Pagosa Blvd. / Apache St., gravel trucks are expected to disperse along the network roadway system.

Gravel demand will be market driven with primary market area centered on existing developed regions; i.e. Pagosa Lakes and Pagosa Springs. Gravel truck distribution has been analyzed at 90% northbound from the pit and 10% southbound. Of the northbound trips, it is projected that majority of traffic will be towards the Pagosa Lakes region, utilizing Cascade Avenue to South Pagosa Boulevard. For this assessment, the trip distribution is as follows:

Northbound	90%	80% - South Pagosa Boulevard
		20% - Apache Street
Southbound	10%	

Roadway analysis is based on 100,000 tons of aggregate material to market per year. Assuming aggregate hauling at 15-tons per trip, the number of truck trips equals: 37 Average Daily Trips (ADT). ADT values are calculated based on 365-days. It is expected that haul days will be 5 or 6 days a week, based on demand, weather, and pit closure days.

Although aggregate will be available through-out the year, crushing operations are expected to be performed over a shorter period of time, approximately 70 to 75-days. A mobile crushing plant will be used to perform crushing operations, producing aggregate materials to match market demands. There will be increase in number of daily personnel from two individuals to 6 or 7 during crushing periods.

Projected total of Pit generated trips = haul trucks + service trucks + personnel = 37+1+9 = 47 ADT

6. ESAL LOADING

<u>Load Equivalency Factors</u>

Load equivalency factors, such as equivalent single-axle loads (ESAL), measure the relative effects of different types of loadings on pavement. By convention, an 18,000-pound single axle equals 1.0 ESAL. The ESAL values for other axles express their effect on pavement wear relative to the 18,000-pound single axle. Calculating the number of ESALs for each axle and adding the ESALs to obtain the total ESAL for the vehicle can estimate the effect of a given vehicle on pavements. For example, if the equivalent single axle load on a given vehicle is 3.0 ESALs, then one pass by the vehicle has the same effect on that pavement as three passes by an 18,000-pound single axle. The rough approximate ESAL relationship between passenger cars and semi-trucks:

1 semi-truck = 360 passenger cars

Axle Loadings

Generally, highway pavements are stressed by axle and axle group loads directly in contact with the pavement rather than by the gross vehicle weight (GVW). The axle loads are determined utilizing the GVW, number and types of axles, and the spacing between the axles. Pavement wear increases sharply with increased axle loadings. The relationship is not linear. Data indicates that 100 trips across a paved surface by a 20,000-pound axle would have the same effect on pavement life as 150 passes by an 18,000-pound axle.

The following are flexible pavement factors utilized in this study to evaluate the loading impacts due to the product hauling and operation of the Two Rivers Pit:

Roadway impacts associated with the Two Rivers Pit operations have been calculated based on number of haul loads, and the number of days the Pit is in operation. The number of days per year the Pit transports aggregate product is based on market factors and assumed to be equal to 250 (50 weeks x 5 days per week). Haul loads totals are based on information provided by C&J Gravel Products, Inc. Equivalent Single Axle Loading (ESAL) values are based a twenty-year operating period. Site generated trips volumes are as follows:

Vehicle Type	# of trips per day
Car / Truck	9 ADT
Water / Single Unit Truck	1 ADT
Aggregate Transports	37 ADT

Vehicle Type	ESAL Factor
Passenger Car / Pickup Truck	0.0003
Single Unit Truck	0.249
Combination Unit Truck	1.087

In order to define proportional share of Two Rivers Pit operations as it relates to trip volumes on CR 500, roadway loading of background traffic was first identified. The baseline trips are the background traffic independent of the Pit generated trips. Total roadway loading is the sum of background loading plus year Pit operations. The proportional share has been calculated by taking the Two Rivers 20-Year ESAL and dividing this value by the sum of 20-Year background and Pit loading. Note that Pit traffic reflects directional distribution.

Example:

Table 1 reflects year 20-Yr Pit loading by lane (S. Pagosa Blvd) – 126,389 18-Kip ESAL

Table 2 reflects year Baseline loading by lane (S. Pagosa Blvd) – 154,289 18-Kip ESAL

Percent of roadway impacts allocated to Two Rivers Pit (S. Pagosa Blvd) 45%

ESAL CALCULATIONS

C & J SAND AND GRAVEL -TWO RIVERS PIT, ARCHULETA COUNTY

County Road 500

Base Values									
Plant Operation Study Duration			20	Years					
Yearly Number of Operational Days			250	Days	(50 weeks a year / 5 days a week)				
Yearly Crushing Operational Days			75	Days					
Yearly Tons of Aggregate			100,000	tons					
AverageTons per Truck			15	cyds					
Total Trips			Vehicle Type (surface loading)	Product Load per day (average)	Trips per Year (2 trips per load)	Trips per Year (250 days of operation per year)	Trips per Study duration (20-years)	ADT	
	Support Trucking		(c)	0	0	-	-		
	Gravel Transports		(d)	27	53	13,333	266,667	37	
	Fuel Truck, Water Truck		(b)	1	2	500	10,000	1	
				# of workers	# of trips per worker (avg 4 trips per day)				
	Pass Car / Truck (Typ Ops)		(a)	2	8	2000	40,000	5	
	Pass Car / Truck (Crushing)		(a')	5	20	1500	30,000	4	
(Pass Car / Truck volumes account for the following employee summary)							Total ADT	**47**	**trips**
Salesman/Operator	1		Typ Ops						
General Labor	1		Typ Ops						
Forman	1		Crushing						
Operator	2		Crushing						
General Labor	2		Crushing						
(Flexible Pavement) 18 Kip equivalency Factors	Vehicle Type (surface loading)	Factor		# of trips over evaluation duration		ESAL			
Pass Car / Truck	(a)	0.003	x	70,000	=	210			
Single Unit (6 Wheel)	(b)	0.249	x	10,000	=	2,490			
Combination Unit / Dump Truck	(d)	1.087	x	266,667	=	289,867			
Lane Factor									
2 lane (CDOT Pavement Design Manual - Table C-2)						0.6			
				18 Kip ESAL Design Loading		**175,540**			
	S Pagosa - Percent of Loading			72%	18K ESAL Load	126,389			
	CR 500 N - Percent of Loading			18%	18K ESAL Load	31,597			
	CR 500 N of Project - Percent of Loading			90%	18K ESAL Load	157,986			
	CR 500 S of Project - Percent of Loading			10%	18K ESAL Load	17,554			
	% of Total Impact (a/(a+b)) @ S. Pagosa Blvd					45%			
	% of Total Impact (a/(a+b)) @ CR 500 near Pagosa Springs					34%			
	% of Total Impact (a/(a+b)) @ Cascade Avenue					63%			
	% of Total Impact (a/(a+b)) @ CR 500 S of Cascade Avenue					62%			
	Total Impacts (Pit + Background) @ S. Pagosa Blvd					**280,677**	20-yr ESAL		
	Total Impacts (Pit + Background) @ CR 500					**92,177**	20-yr ESAL		

Table 1

Background ESAL calculation (S. Pagosa Blvd)

ESAL CALCULATIONS									
BACKGROUND TRAFFIC									
South Pagosa Boulevard									
Base Values					# of days per year	# of trips per year			
Study Duration			20	Years					
Weekday Count (data from counters)			1307	trips	250	326750			
Weekend and Holiday Count (assume 60% of Weekday)			784	trips	115	90183			
			Vehicle Type (by vehicle length)				Net Background Trips per Study Duration (20-yrs)		
Identify Background Trips				% of trips	Gross Trips per Year	Net Background Trips per year		ADT	
	Pass Car / Truck		(i)	97.2%	405259	405259	8105177.52	1,110	
	Single Unit (includes mixers)		(ii)	0.3%	1251	1251	25015.98	3	
	Combination Unit		(iii)	2.5%	10423	10423	208466.5	29	
(Flexible Pavement)	Vehicle Type (surface loading)			# of trips over evaluation duration			Total ADT	**1,142**	**trips**
18 Kip equivalency Factors		Factor				Background ESAL			
Pass Car / Truck	(a)	0.003	x	8,105,178	=	24,316			
Single Unit	(b)	0.249	x	25,016	=	6,229			
Combination Unit	(d)	1.087	x	208,467	=	226,603			
Lane Factor									
2 lane (CDOT Pavement Design Manual - Table C-2)						0.6			
				18 Kip ESAL Design Loading		**154,289**			

Table 2

Appendix 4 provides ESAL Calculation Design worksheets for the Site and following road sections:

1) Two Rivers Pit
2) South Pagosa Boulevard
3) CR 500 @ Pagosa Springs
4) Cascade Avenue
5) CR 500 – south of Cascade Avenue

Low-Volume Road Pavement Design Analysis to support Two Rivers Operations

Roadway loading by Two Rivers Pit operations was evaluated based on aggregate-surface design parameters. Appendix 4 provides back-up to the analysis findings of an approximate 12-inch aggregate depth would support the Pit ESAL loading. Gravel loss projected value is ½-inch every 5-years.

For section of roadway that has pavement, it is assumed that a chip-seal application would be applied every 10-years.

7. MITIGATING IMPACTS – BUDGET COSTS

Budget costs for mitigating the roadway impacts associated with the Two Rivers Pit operations are as follows:

Aggregate replacement (on aggregate road segments)	$15 / ton, every 5-years
Chip seal (on paved road segments)	$100,000 / mile, every 10-years

Addressing the CR 500 limited sight distance between mile-points 5.8-6.4, safety could be improved with the installation of flashing 'Limited Sight Distance' signs. This option would be to install the signs just prior to the roadway location of limited sight, such that the signs would flash if opposing traffic was beyond the approaching sight line.

Cost for flashing signs is estimated at: $25,000

8. PROJECTED PROPORTIONATE COSTS

Appendix 5 of the reports outlines a 20-year assumed roadway improvement plan to mitigate impacts associated with the Two Rivers Pit. Mitigation costs reflect a proportionate share based on percent loading; i.e., background vs. Pit. The summary of roadways and proportionate share is as follows:

1) Pit @ S. Pagosa Blvd 45%
2) Pit @ CR 500 near Pagosa Springs 34%
3) Pit @ Cascade Avenue 63%
4) Pit @ CR 500 south of Cascade Avenue 62%

In evaluating impacts and assigning mitigation costs, it is helpful to evaluate based on per unit costs. For this assessment the mitigation cost per ton of material is provide as follows:

Average marketed tons per year	100,000 tons
Assessment duration of Study	20-years
OPC – reflects proportionate share cost	$738,557

Cost per ton = $738,557 / (100,000 tons x 20-yrs) = **$0.37 / ton**

9. CONCLUSIONS AND SUMMARY OF FINDINGS

Specific findings of the report are as follows:

- Install flashing 'Limited Sight Distance' signs to advise of roadway curves with limit sight distance.
- Study is based on the Two Rivers Pit operations of 100,000 tons/year. Operations 5-days per week, 50-weeks per year over 20-year period.
- The Two Rivers Pit operation is projected to generate 47 ADT (breakout – 9 passenger/truck, 1 single axle loading, & 37 transport dump-trucks).
- The single lane 20-year ESALs total associated with operating the Two Rivers Pit operations = 175,540 18Kip loads.
- Mitigation of roadway impacts:
    - ½ inch of aggregate every 5-years (aggregate road segments)
    - Chip seal roadway every 10-years (paved road segments)
- Opinion of Probable Cost (OPC) for mitigating impacts associated with Two Rivers Pit operations are:
    - Mitigation cost per ton of transported aggregate = $0.37 / ton of aggregate

TECHNICAL MANUALS AND PUBLIC DATA UTILIZED IN TRAFFIC STUDY

- AASHTO's A Policy on Geometric Design of Highways and Streets (6th – Edition, 2011)
- AASHTO's Guide for Design of Pavement Structures (1993)
- Archuleta County – Road and Bridge Design Standards (November 2005)
- Colorado Highway Patrol Accident Traffic Data – Archuleta County (2011 - 2015)

C & J GRAVEL PRODUCTS, INC

TWO RIVERS PIT

TRAFFIC AND ROADWAY ANALYSIS

Archuleta County, Colorado

Traffic Counts plus Exhibit A

APPENDIX 1

All Traffic Data Services, Inc
9660 W 44th Ave
Wheat Ridge,CO 80033
www.alltrafficdata.net

Site Code: 1
Station ID: 1
S. PAGOSA BLVD S/O US 160
S. PAGOSA BLVD S/O US 160

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/29/16	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
06:00	1	8	0	0	0	0	0	0	0	0	0	0	0	9
07:00	0	31	2	0	0	1	0	0	0	0	0	0	0	34
08:00	1	35	6	0	0	0	0	0	0	0	0	0	0	42
09:00	0	46	4	0	0	0	0	0	1	0	0	0	0	51
10:00	1	44	12	0	0	2	0	0	0	0	0	0	0	59
11:00	0	42	9	0	2	1	0	0	0	0	0	0	0	54
12 PM	1	49	12	0	1	2	0	0	0	0	0	0	0	65
13:00	0	58	9	0	2	1	0	0	0	0	0	0	0	70
14:00	0	32	1	0	0	1	0	0	0	0	0	0	0	34
15:00	3	33	6	0	1	1	0	0	0	0	0	0	0	44
16:00	0	33	8	0	1	0	0	0	0	0	0	0	0	42
17:00	0	26	3	0	1	0	0	0	0	0	0	0	0	30
18:00	0	21	4	0	0	0	0	0	0	0	0	0	0	25
19:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	7	489	77	0	8	9	0	0	1	0	0	0	0	591
Percent	1.2%	82.7%	13.0%	0.0%	1.4%	1.5%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	09:00	10:00		11:00	10:00			09:00					10:00
Vol.	1	46	12		2	2			1					59
PM Peak	15:00	13:00	12:00		13:00	12:00								13:00
Vol.	3	58	12		2	2								70

All Traffic Data Services, Inc
9660 W 44th Ave
Wheat Ridge,CO 80033
www.alltrafficdata.net

Site Code: 1
Station ID: 1
S. PAGOSA BLVD S/O US 160
S. PAGOSA BLVD S/O US 160

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/30/16	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	1	2	0	0	0	0	0	0	0	0	0	0	0	3
06:00	1	11	0	0	0	0	0	0	0	0	0	0	0	12
07:00	0	35	2	0	0	0	0	0	0	0	0	0	0	37
08:00	0	52	8	0	0	0	0	0	0	0	0	0	0	60
09:00	1	38	9	0	0	0	0	0	0	0	0	0	0	48
10:00	0	43	6	0	0	0	0	0	0	0	0	0	0	49
11:00	0	52	8	0	0	1	0	0	1	0	0	0	0	62
12 PM	0	55	12	0	0	0	0	0	0	0	0	0	0	67
13:00	0	49	5	0	2	0	0	0	0	0	0	0	0	56
14:00	0	38	6	0	1	0	0	0	0	0	0	0	0	45
15:00	1	43	13	0	0	0	0	0	1	0	0	0	0	58
16:00	0	39	13	0	1	0	0	0	1	0	0	0	0	54
17:00	0	24	3	0	2	0	0	0	0	0	0	0	0	29
18:00	0	19	6	0	0	0	0	0	0	0	0	0	0	25
19:00	0	14	2	0	0	0	0	0	0	0	0	0	0	16
20:00	1	7	0	0	0	0	0	0	1	0	0	0	0	9
21:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	5	532	93	0	6	1	0	0	4	0	0	0	0	641
Percent	0.8%	83.0%	14.5%	0.0%	0.9%	0.2%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	08:00	09:00			11:00			11:00					11:00
Vol.	1	52	9			1			1					62
PM Peak	15:00	12:00	15:00		13:00				15:00					12:00
Vol.	1	55	13		2				1					67
Grand Total	12	1021	170	0	14	10	0	0	5	0	0	0	0	1232
Percent	1.0%	82.9%	13.8%	0.0%	1.1%	0.8%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	

All Traffic Data Services, Inc
9660 W 44th Ave
Wheat Ridge,CO 80033
www.alltrafficdata.net

Site Code: 1
Station ID: 1
S. PAGOSA BLVD S/O US 160
S. PAGOSA BLVD S/O US 160

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/29/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	2	0	0	0	1	0	0	0	0	0	0	0	3
07:00	0	25	5	0	0	0	0	0	0	0	0	0	0	30
08:00	0	34	16	0	0	1	0	1	0	0	0	0	0	52
09:00	0	45	14	0	0	1	0	1	0	0	0	0	0	61
10:00	0	30	13	0	0	2	0	0	0	0	0	0	0	45
11:00	0	41	9	0	1	1	0	0	0	0	0	0	0	52
12 PM	1	48	14	0	1	1	0	0	0	0	0	0	0	65
13:00	0	46	11	0	0	1	0	0	0	0	0	0	0	58
14:00	0	23	12	0	0	2	0	0	0	0	0	0	0	37
15:00	1	29	14	0	1	0	0	0	0	0	0	0	0	45
16:00	0	37	6	0	0	0	0	0	0	0	0	0	0	43
17:00	0	48	10	0	0	0	0	0	0	0	0	0	0	58
18:00	0	31	6	0	0	0	0	0	1	0	0	0	0	38
19:00	0	13	5	0	0	0	0	0	0	0	0	0	0	18
20:00	0	6	3	0	0	0	0	0	0	0	0	0	0	9
21:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
22:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	474	141	0	3	10	0	2	1	0	0	0	0	633
Percent	0.3%	74.9%	22.3%	0.0%	0.5%	1.6%	0.0%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak		09:00	08:00		11:00	10:00		08:00						09:00
Vol.		45	16		1	2		1						61
PM Peak	12:00	12:00	12:00		12:00	14:00			18:00					12:00
Vol.	1	48	14		1	2			1					65

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Site Code: 1
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S. PAGOSA BLVD S/O US 160
S. PAGOSA BLVD S/O US 160

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/30/16	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
07:00	0	21	7	0	2	1	0	0	0	0	0	0	0	31
08:00	0	32	17	0	1	0	0	0	0	0	0	0	0	50
09:00	0	27	18	0	2	0	0	0	1	0	0	0	0	48
10:00	0	35	13	0	0	1	0	0	0	0	0	0	0	49
11:00	0	51	18	0	1	0	0	0	0	0	0	0	0	70
12 PM	0	54	14	0	1	0	0	0	0	0	0	0	0	69
13:00	0	47	17	0	2	0	0	0	0	0	0	0	0	66
14:00	0	34	8	0	0	0	0	0	1	0	0	0	0	43
15:00	1	37	15	0	3	0	0	0	0	0	0	0	0	56
16:00	0	44	12	0	0	0	0	0	0	0	0	0	0	56
17:00	1	35	13	0	0	0	0	0	1	0	0	0	0	50
18:00	0	25	2	0	0	0	0	0	0	0	0	0	0	27
19:00	0	18	3	0	0	0	0	0	0	0	0	0	0	21
20:00	0	10	3	0	0	0	0	0	0	0	0	0	0	13
21:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
22:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	2	493	162	0	12	2	0	0	3	0	0	0	0	674
Percent	0.3%	73.1%	24.0%	0.0%	1.8%	0.3%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	09:00		07:00	07:00			09:00					11:00
Vol.		51	18		2	1			1					70
PM Peak	15:00	12:00	13:00		15:00				14:00					12:00
Vol.	1	54	17		3				1					69
Grand Total	4	967	303	0	15	12	0	2	4	0	0	0	0	1307
Percent	0.3%	74.0%	23.2%	0.0%	1.1%	0.9%	0.0%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	

All Traffic Data Services, Inc
9660 W 44th Ave
Wheat Ridge,CO 80033
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Site Code: 2
Station ID: 2
CR 500 S/O S. 10TH ST.
CR 500 S/O S. 10TH ST.

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/29/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	1	0	0	1	0	0	0	0	0	0	0	3
06:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
07:00	0	21	2	0	1	0	0	0	0	0	0	0	0	24
08:00	0	10	4	0	0	0	0	0	0	0	0	0	0	14
09:00	0	16	2	0	0	2	0	0	0	0	0	0	0	20
10:00	0	25	3	0	0	0	0	0	0	0	0	0	0	28
11:00	0	20	7	0	0	2	0	0	0	0	0	0	0	29
12 PM	1	15	3	0	0	0	0	0	0	0	0	0	0	19
13:00	0	19	10	0	0	1	0	0	0	0	0	0	0	30
14:00	0	15	4	0	0	0	0	0	0	0	0	0	0	19
15:00	0	15	4	0	0	0	0	0	0	0	0	0	0	19
16:00	0	14	3	0	0	0	0	0	0	0	0	0	0	17
17:00	1	8	1	0	2	0	0	0	0	0	0	0	0	12
18:00	0	14	0	0	0	0	0	0	0	0	0	0	0	14
19:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	210	45	0	3	6	0	0	0	0	0	0	0	266
Percent	0.8%	78.9%	16.9%	0.0%	1.1%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		10:00	11:00		07:00	09:00								11:00
Vol.		25	7		1	2								29
PM Peak	12:00	13:00	13:00		17:00	13:00								13:00
Vol.	1	19	10		2	1								30

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Site Code: 2
Station ID: 2
CR 500 S/O S. 10TH ST.
CR 500 S/O S. 10TH ST.

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/30/16	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
07:00	0	18	5	0	1	0	0	0	0	0	0	0	0	24
08:00	0	16	2	0	0	1	0	0	0	0	0	0	0	19
09:00	0	13	3	0	0	0	0	0	0	0	0	0	0	16
10:00	0	20	2	0	0	0	0	0	0	0	0	0	0	22
11:00	0	12	5	0	1	0	0	0	0	0	0	0	0	18
12 PM	0	16	2	0	1	0	0	0	0	0	0	0	0	19
13:00	0	15	3	0	0	0	0	0	0	0	0	0	0	18
14:00	0	10	3	0	0	0	0	0	0	0	0	0	0	13
15:00	0	17	5	0	0	0	0	0	0	0	0	0	0	22
16:00	0	17	3	0	0	0	0	0	0	0	0	0	0	20
17:00	0	12	7	0	2	0	0	0	1	0	0	0	0	22
18:00	1	7	1	0	0	0	0	0	0	0	0	0	0	9
19:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
20:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
21:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	190	43	0	6	1	0	0	1	0	0	0	0	242
Percent	0.4%	78.5%	17.8%	0.0%	2.5%	0.4%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	
AM Peak		10:00	07:00		04:00	08:00								07:00
Vol.		20	5		1	1								24
PM Peak	18:00	15:00	17:00		17:00				17:00					15:00
Vol.	1	17	7		2				1					22
Grand Total	3	400	88	0	9	7	0	0	1	0	0	0	0	508
Percent	0.6%	78.7%	17.3%	0.0%	1.8%	1.4%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	

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SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/29/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
06:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	8	4	0	0	1	0	0	0	0	0	0	0	13
08:00	0	9	4	0	0	1	0	0	0	0	0	0	0	14
09:00	0	15	3	1	0	0	0	0	0	0	0	0	0	19
10:00	0	13	7	0	0	2	0	0	0	0	0	0	0	22
11:00	0	13	10	0	1	1	0	0	0	0	0	0	0	25
12 PM	0	10	6	0	4	1	0	0	0	0	0	0	0	21
13:00	0	15	7	0	1	0	0	0	0	0	0	0	0	23
14:00	0	9	5	0	1	0	0	0	0	0	0	0	0	15
15:00	0	19	5	0	1	0	0	0	0	0	0	0	0	25
16:00	0	15	3	0	0	0	0	0	0	0	0	0	0	18
17:00	0	10	2	0	1	0	0	0	0	0	0	0	0	13
18:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
19:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
20:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
21:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	163	59	1	10	6	0	0	0	0	0	0	0	239
Percent	0.0%	68.2%	24.7%	0.4%	4.2%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		09:00	11:00	09:00	05:00	10:00								11:00
Vol.		15	10	1	1	2								25
PM Peak		15:00	13:00		12:00	12:00								15:00
Vol.		19	7		4	1								25

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Site Code: 2
Station ID: 2
CR 500 S/O S. 10TH ST.
CR 500 S/O S. 10TH ST.

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/30/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	2	1	0	1	0	0	0	0	0	0	0	0	4
07:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
08:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
09:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
10:00	0	17	3	0	1	0	0	0	0	0	0	0	0	21
11:00	0	11	2	0	0	0	0	0	0	0	0	0	0	13
12 PM	0	10	4	0	3	0	0	0	0	0	0	0	0	17
13:00	0	14	3	0	0	0	0	0	0	0	0	0	0	17
14:00	0	9	6	0	1	0	0	0	0	0	0	0	0	16
15:00	0	14	6	0	0	0	0	0	0	0	0	0	0	20
16:00	0	12	6	0	1	0	0	0	0	0	0	0	0	19
17:00	1	17	5	0	0	1	0	0	0	0	0	0	0	24
18:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8
19:00	0	5	2	0	0	0	0	0	1	0	0	0	0	8
20:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
21:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
22:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	1	154	48	0	8	1	0	0	1	0	0	0	0	213
Percent	0.5%	72.3%	22.5%	0.0%	3.8%	0.5%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	
AM Peak		10:00	10:00		06:00									10:00
Vol.		17	3		1									21
PM Peak	17:00	17:00	14:00		12:00	17:00			19:00					17:00
Vol.	1	17	6		3	1			1					24
Grand Total	1	317	107	1	18	7	0	0	1	0	0	0	0	452
Percent	0.2%	70.1%	23.7%	0.2%	4.0%	1.5%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	

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9660 W 44th Ave
Wheat Ridge,CO 80033
www.alltrafficdata.net

Site Code: 3
Station ID: 3
CR 500 N/O CASCADE AVE.
CR 500 N/O CASCADE AVE.

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/29/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	12	1	0	1	0	0	0	0	0	0	0	0	14
08:00	0	6	3	0	0	0	0	0	0	0	0	0	0	9
09:00	0	4	2	0	0	1	0	0	0	0	0	0	0	7
10:00	0	10	1	0	2	1	0	0	0	0	0	0	0	14
11:00	0	5	4	0	0	2	0	0	0	0	0	0	0	11
12 PM	0	7	1	0	0	1	0	0	0	0	0	0	0	9
13:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
14:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
15:00	0	7	4	0	0	0	0	0	0	0	0	0	0	11
16:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
17:00	0	7	1	0	1	0	0	0	0	0	0	0	0	9
18:00	0	2	3	0	0	0	0	0	0	0	0	0	0	5
19:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	82	27	0	4	5	0	0	0	0	0	0	0	118
Percent	0.0%	69.5%	22.9%	0.0%	3.4%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	11:00		10:00	11:00								07:00
Vol.		12	4		2	2								14
PM Peak		12:00	15:00		17:00	12:00								15:00
Vol.		7	4		1	1								11

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NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/30/16	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:00	0	7	4	0	1	0	0	0	0	0	0	0	0	12
08:00	0	8	2	0	0	1	0	1	0	0	0	0	0	12
09:00	0	11	2	0	0	0	0	0	0	0	0	0	0	13
10:00	0	4	5	0	0	0	0	0	0	0	0	0	0	9
11:00	0	3	4	0	3	0	0	0	1	0	0	0	0	11
12 PM	0	6	2	0	1	0	0	0	0	0	0	0	0	9
13:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
14:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
15:00	0	3	4	0	0	0	0	0	0	0	0	0	0	7
16:00	0	4	5	0	0	0	0	0	0	0	0	0	0	9
17:00	0	4	3	0	2	0	0	0	0	0	0	0	0	9
18:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
19:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	68	36	0	7	1	0	1	1	0	0	0	0	114
Percent	0.0%	59.6%	31.6%	0.0%	6.1%	0.9%	0.0%	0.9%	0.9%	0.0%	0.0%	0.0%	0.0%	
AM Peak		09:00	10:00		11:00	08:00		08:00	11:00					09:00
Vol.		11	5		3	1		1	1					13
PM Peak		13:00	16:00		17:00									13:00
Vol.		8	5		2									10
Grand Total	0	150	63	0	11	6	0	1	1	0	0	0	0	232
Percent	0.0%	64.7%	27.2%	0.0%	4.7%	2.6%	0.0%	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%	

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SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/29/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	4	2	0	1	0	0	0	0	0	0	0	0	7
08:00	0	4	4	0	2	1	0	0	0	0	0	0	0	11
09:00	0	3	1	0	0	0	0	2	0	0	0	0	0	6
10:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
11:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
12 PM	0	4	3	0	1	0	0	0	0	0	0	0	0	8
13:00	0	6	1	0	1	0	0	0	0	0	0	0	0	8
14:00	0	2	1	0	1	0	0	0	0	0	0	0	0	4
15:00	0	4	4	0	0	0	0	0	0	0	0	0	0	8
16:00	0	6	4	0	1	0	0	0	0	0	0	0	0	11
17:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
18:00	0	4	4	0	0	0	0	0	0	0	0	0	0	8
19:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	54	28	0	7	1	0	2	0	0	0	0	0	92
Percent	0.0%	58.7%	30.4%	0.0%	7.6%	1.1%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		10:00	08:00		08:00	08:00		09:00						08:00
Vol.		7	4		2	1		2						11
PM Peak		13:00	15:00		12:00									16:00
Vol.		6	4		1									11

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SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/30/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	2	1	0	1	0	0	0	0	0	0	0	0	4
08:00	0	2	3	0	0	0	0	0	0	0	0	0	0	5
09:00	0	5	0	0	0	0	0	0	1	0	0	0	0	6
10:00	0	4	3	0	1	0	0	0	0	0	0	0	0	8
11:00	0	2	1	0	0	1	0	0	0	0	0	0	0	4
12 PM	0	4	3	0	2	0	0	0	0	0	0	0	0	9
13:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
14:00	0	4	0	0	1	0	0	0	0	0	0	0	0	5
15:00	0	4	3	0	2	1	0	0	0	0	0	0	0	10
16:00	0	5	0	0	1	0	0	0	0	0	0	0	0	6
17:00	0	2	8	0	0	0	0	0	0	0	0	0	0	10
18:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
19:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	39	26	0	8	2	0	0	1	0	0	0	0	76
Percent	0.0%	51.3%	34.2%	0.0%	10.5%	2.6%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	
AM Peak		09:00	08:00		07:00	11:00			09:00					10:00
Vol.		5	3		1	1			1					8
PM Peak		16:00	17:00		12:00	15:00								15:00
Vol.		5	8		2	1								10
Grand Total	0	93	54	0	15	3	0	2	1	0	0	0	0	168
Percent	0.0%	55.4%	32.1%	0.0%	8.9%	1.8%	0.0%	1.2%	0.6%	0.0%	0.0%	0.0%	0.0%	

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Site Code: 4
Station ID: 4
CASCADE AVE W/O CR 500
CASCADE AVE W/O CR 500

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/29/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	2	0	0	0	1	0	0	0	0	0	0	0	3
07:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
08:00	0	11	2	0	0	1	0	0	0	0	0	0	0	14
09:00	0	5	1	0	0	1	0	0	0	0	0	0	0	7
10:00	0	10	3	0	0	1	0	0	0	0	0	0	0	14
11:00	0	7	0	0	0	1	0	0	0	0	0	0	0	8
12 PM	0	9	1	0	1	1	0	0	0	0	0	0	0	12
13:00	0	9	0	0	0	1	0	0	0	0	0	0	0	10
14:00	0	11	1	0	0	1	0	0	0	0	0	0	0	13
15:00	0	7	2	0	0	1	0	0	0	0	0	0	0	10
16:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
17:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
18:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
19:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
20:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	121	13	0	1	9	0	0	0	0	0	0	0	144
Percent	0.0%	84.0%	9.0%	0.0%	0.7%	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	10:00			06:00								07:00
Vol.		13	3			1								14
PM Peak		14:00	15:00		12:00	12:00								14:00
Vol.		11	2		1	1								13

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Site Code: 4
Station ID: 4
CASCADE AVE W/O CR 500
CASCADE AVE W/O CR 500

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/30/16	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:00	0	6	2	0	0	1	0	0	0	0	0	0	0	9
08:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
09:00	0	12	1	0	0	0	0	0	0	0	0	0	0	13
10:00	0	5	2	0	0	1	0	0	0	0	0	0	0	8
11:00	0	7	4	0	0	0	0	0	0	0	0	0	0	11
12 PM	0	5	0	0	0	0	0	0	0	0	0	0	0	5
13:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
14:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
15:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
16:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
17:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
18:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
19:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	96	16	0	0	2	0	0	0	0	0	0	0	114
Percent	0.0%	84.2%	14.0%	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		09:00	11:00			07:00								09:00
Vol.		12	4			1								13
PM Peak		16:00	15:00											16:00
Vol.		12	2											12
Grand Total	0	217	29	0	1	11	0	0	0	0	0	0	0	258
Percent	0.0%	84.1%	11.2%	0.0%	0.4%	4.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

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Site Code: 4
Station ID: 4
CASCADE AVE W/O CR 500
CASCADE AVE W/O CR 500

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/29/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	9	0	0	0	1	0	0	0	0	0	0	0	10
08:00	0	11	0	0	0	1	0	0	0	0	0	0	0	12
09:00	0	4	0	0	0	1	0	0	0	0	0	0	0	5
10:00	0	10	0	0	0	1	0	0	0	0	0	0	0	11
11:00	0	8	1	0	1	0	0	0	0	0	0	0	0	10
12 PM	0	7	0	0	0	1	0	0	0	0	0	0	0	8
13:00	0	16	0	0	2	1	0	0	0	0	0	0	0	19
14:00	0	10	1	0	0	1	0	0	0	0	0	0	0	12
15:00	0	2	0	0	0	2	0	0	0	0	0	0	0	4
16:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
17:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
18:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
19:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	93	3	0	3	9	0	0	0	0	0	0	0	108
Percent	0.0%	86.1%	2.8%	0.0%	2.8%	8.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		08:00	11:00		11:00	07:00								08:00
Vol.		11	1		1	1								12
PM Peak		13:00	14:00		13:00	15:00								13:00
Vol.		16	1		2	2								19

All Traffic Data Services, Inc
9660 W 44th Ave
Wheat Ridge,CO 80033
www.alltrafficdata.net

Site Code: 4
Station ID: 4
CASCADE AVE W/O CR 500
CASCADE AVE W/O CR 500

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/30/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
08:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
09:00	0	12	1	0	0	0	0	0	0	0	0	0	0	13
10:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
11:00	0	2	0	0	0	1	0	0	0	0	0	0	0	3
12 PM	0	4	2	0	0	0	0	0	0	0	0	0	0	6
13:00	0	8	0	0	2	0	0	0	0	0	0	0	0	10
14:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
15:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
16:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
17:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
18:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	73	5	0	2	1	0	0	0	0	0	0	0	81
Percent	0.0%	90.1%	6.2%	0.0%	2.5%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		09:00	08:00			11:00								09:00
Vol.		12	1			1								13
PM Peak		16:00	12:00		13:00									13:00
Vol.		9	2		2									10
Grand Total	0	166	8	0	5	10	0	0	0	0	0	0	0	189
Percent	0.0%	87.8%	4.2%	0.0%	2.6%	5.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

All Traffic Data Services, Inc
9660 W 44th Ave
Wheat Ridge,CO 80033
www.alltrafficdata.net

Site Code: 5
Station ID: 5
CR 500 S/O CASCADE AVE
CR 500 S/O CASCADE AVE

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/29/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
07:00	0	10	2	0	1	0	0	0	0	0	0	0	0	13
08:00	0	2	3	0	0	0	0	0	0	0	0	0	0	5
09:00	0	4	2	0	0	1	0	0	0	0	0	0	0	7
10:00	0	9	2	0	0	0	0	0	0	0	0	0	0	11
11:00	0	4	1	0	0	1	0	0	0	0	0	0	0	6
12 PM	0	5	3	0	0	1	0	0	0	0	0	0	0	9
13:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
14:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
15:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
16:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
17:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	60	17	0	2	3	0	0	0	0	0	0	0	82
Percent	0.0%	73.2%	20.7%	0.0%	2.4%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	08:00		07:00	09:00								07:00
Vol.		10	3		1	1								13
PM Peak		13:00	12:00		17:00	12:00								12:00
Vol.		8	3		1	1								9

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Site Code: 5
Station ID: 5
CR 500 S/O CASCADE AVE
CR 500 S/O CASCADE AVE

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/30/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	6	2	0	1	0	0	0	0	0	0	0	0	9
08:00	0	4	5	0	0	0	0	0	0	0	0	0	0	9
09:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
10:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
11:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
12 PM	0	10	0	0	0	0	0	0	0	0	0	0	0	10
13:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
14:00	0	5	1	0	0	1	0	0	0	0	0	0	0	7
15:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
16:00	0	5	3	0	0	1	0	0	0	0	0	0	0	9
17:00	0	4	0	0	1	0	0	0	1	0	0	0	0	6
18:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
19:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	65	16	0	2	2	0	0	1	0	0	0	0	86
Percent	0.0%	75.6%	18.6%	0.0%	2.3%	2.3%	0.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	08:00		07:00									07:00
Vol.		6	5		1									9
PM Peak		12:00	16:00		17:00	14:00			17:00					13:00
Vol.		10	3		1	1			1					11
Grand Total	0	125	33	0	4	5	0	0	1	0	0	0	0	168
Percent	0.0%	74.4%	19.6%	0.0%	2.4%	3.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	

All Traffic Data Services, Inc
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Wheat Ridge,CO 80033
www.alltrafficdata.net

Site Code: 5
Station ID: 5
CR 500 S/O CASCADE AVE
CR 500 S/O CASCADE AVE

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/29/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
07:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
08:00	0	3	2	0	0	1	0	0	0	0	0	0	0	6
09:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
10:00	0	4	1	0	0	1	0	0	0	0	0	0	0	6
11:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
12 PM	0	4	1	0	0	1	0	0	0	0	0	0	0	6
13:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
14:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
15:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
16:00	0	12	0	0	1	0	0	0	0	0	0	0	0	13
17:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
18:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
19:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	70	11	0	2	3	0	0	0	0	0	0	0	86
Percent	0.0%	81.4%	12.8%	0.0%	2.3%	3.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	08:00		06:00	08:00								07:00
Vol.		6	2		1	1								7
PM Peak		16:00	12:00		16:00	12:00								16:00
Vol.		12	1		1	1								13

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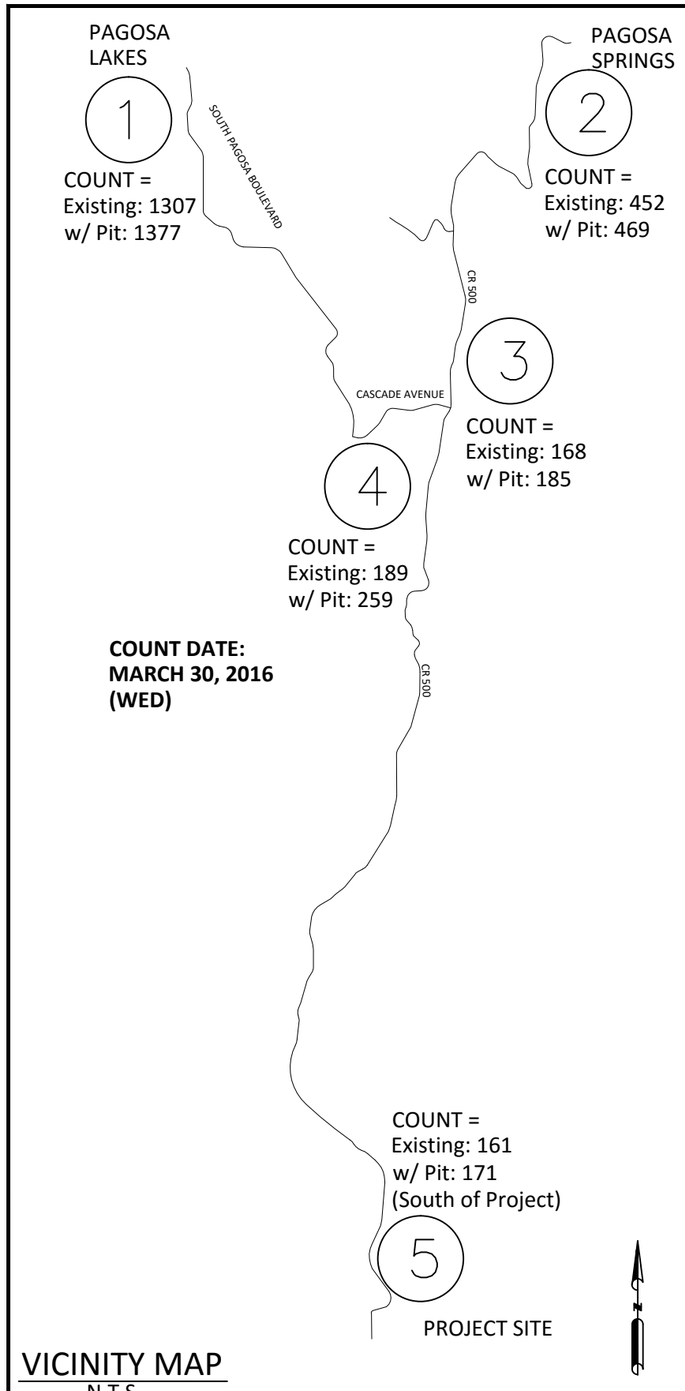
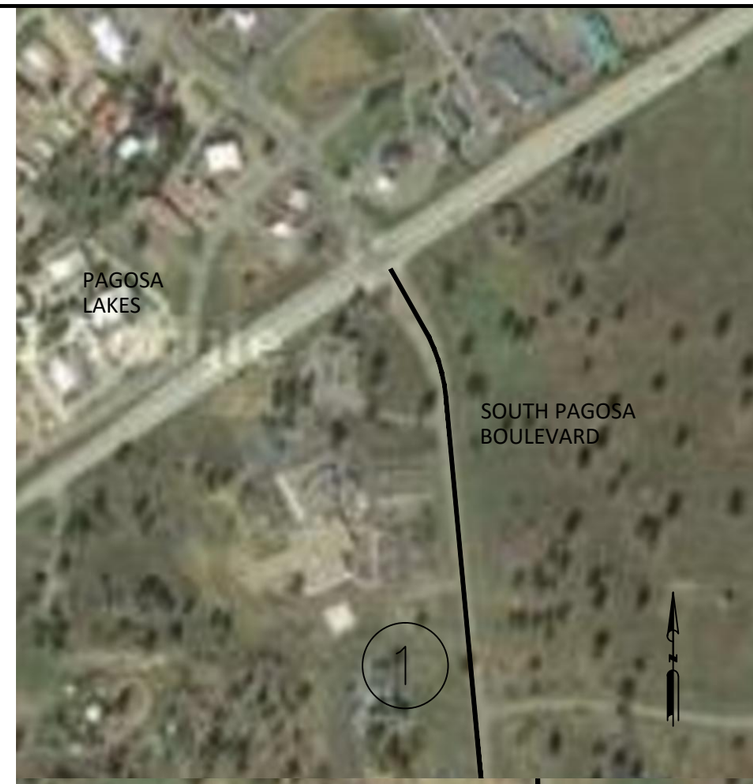
SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/30/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
07:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
08:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
09:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
10:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
11:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
12 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	3
13:00	0	12	1	0	0	0	0	0	0	0	0	0	0	13
14:00	0	5	2	0	0	1	0	0	0	0	0	0	0	8
15:00	0	4	1	0	0	1	0	0	0	0	0	0	0	6
16:00	0	5	1	0	1	0	0	0	0	0	0	0	0	7
17:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
18:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
19:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
20:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	63	8	0	2	2	0	0	0	0	0	0	0	75
Percent	0.0%	84.0%	10.7%	0.0%	2.7%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	08:00		06:00									07:00
Vol.		5	1		1									5
PM Peak		13:00	14:00		16:00	14:00								13:00
Vol.		12	2		1	1								13
Grand Total	0	133	19	0	4	5	0	0	0	0	0	0	0	161
Percent	0.0%	82.6%	11.8%	0.0%	2.5%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	



VICINITY MAP

N.T.S.



Computer File Information			
Creation Date: 04/26/2016	Initials: RDP		
Last Modification Date: 4/26/2016	Initials: RDP		
Full Path: c:\dropbox\roadrunner eng team team folder\16001 – c&j gravel, pagosa			
Drawing File Name: c & j gravel site			
Acad Ver. C3D 2013 Scale: As Shown	Units: Imperial		

Sheet Revisions		
R–		
R–		
R–		
R–		
R–		

ROADRUNNER DS LLC
1315 Main Ave. Suite 221
Durango, Colorado 81301 Phone:
970–247–1717

Exhibit
No Revisions:
Revised:
Void:

EXHIBIT A
TRAFFIC COUNT LOCATIONS

Designer:	MO	Structure Numbers	
Detailer:	RDP		
Sheet Subset:		Subset Sheets:	1 of 2

Project No./Code
16001

Sheet Number 02

C & J GRAVEL PRODUCTS, INC

TWO RIVERS PIT

TRAFFIC AND ROADWAY ANALYSIS

Archuleta County, Colorado

Accident Records (Years 2011-2015)

APPENDIX 2

Colorado State Patrol Accident Causal Factors

Accident Causal Factor	Description
A01	Animal Caused
D00	Alcohol Caused
D01	Drug Caused
M02	Exceeding Safe Speed
M03	Exceeding Legal Speed
M04	Failed to Yield Right of Way
M05	Improper Left Turn
M06	Other Improper Turn
M07	Lane Violation
M08	Improper Passing
M09	Wrong Side of Road
M10	Following too Closely
M11	Drove While Asleep
M12	Inattentive to Driving
M13	Signalling Violation
M14	Disregarding Stop Sign
M15	Disregarding Other Traffic Control Device
M16	Parking Violation
M17	Improper Vehicle Lighting
M18	Defective Vehicle
M19	Improper Load
M20	Spilling of Load
M21	Improper Backing
M22	Pedestrian Violation
M23	All Others (i.e. illness / medical condition)

A. LOCATION

01. On Roadway
02. Ran Off Left Side
03. Ran Off Right Side
04. Ran Off 'T' Intersection
05. Vehicle Crossed Center Median Into Opposing Lanes
06. On Private Property

B. HARMFUL EVENT SEQUENCE

1st

NON-COLLISION ACCIDENT
01. Overturning
02. Other Non-Collision

COLLISION WITH PEDESTRIAN
03. School Age To / From School
04. All Other Peds

COLLISION WITH MOTOR VEHICLE IN TRANSPORT
05. Front to Front
06. Front to Rear
07. Front to Side
08. Rear to Side
09. Rear to Rear
10. Side to Side-Same Direction
11. Side to Side-Opposite Direction

COLLISION WITH OTHER VEHICLE
12. Parked Motor Vehicle
13. Railway Vehicle/Streetcar
14. Bicycle
15. Motorized Toy Vehicle
16. Road Maintenance Equipment

COLLISION WITH ANIMAL
17. Domestic Animal
18. Wild Animal

COLLISION WITH OBJECT
19. Light Pole / Utility Pole
20. Traffic Signal Pole
21. Sign
22. Guard Rail
23. Cable Rail
24. Concrete Highway Barrier
25. Bridge Structure
26. Vehicle Debris or Cargo
27. Culvert or Headwall
28. Embankment
29. Curb
30. Delineator Post
31. Fence
32. Tree
33. Rocks or Large Boulder
34. Railroad Crossing Equipment
35. Barricade
36. Wall or Building
37. Crash Cushion / Traffic Barrel
38. Mailbox
39. Other Fixed Object (Specify in Narrative)
40. Other Object (Specify in Narrative)

2nd

MOST

C. APPROACH/OVERTAKING TURN

01. Approach Turn
02. Overtaking Turn
03. All Others that are not Approach or Overtaking Turn

D. ROAD DESCRIPTION

01. At Intersection
02. Driveway Access Related
03. Intersection Related
04. Non-Intersection
05. Alley Related
06. Roundabout
07. Highway Interchange
08. Parking Lot

E. ROAD CONTOUR

01. Straight On-Level
02. Straight On-Grade
03. Curve On-Level
04. Curve On-Grade
05. Hillcrest

F. ROAD SURFACE

01. Concrete
02. Blacktop (Bituminous)
03. Brick or Block
04. Gravel, Slag or Stone
05. Dirt
06. Other
07. Unknown

G. ROAD CONDITION

01. Dry
02. Wet
03. Muddy
04. Snowy
05. Icy
06. Slushy
07. Foreign Material
08. Dry W/Visible Icy Road Treatment
09. Wet W/Visible Icy Road Treatment
10. Snowy W/Visible Icy Road Treatment
11. Icy W/Visible Icy Road Treatment
12. Slushy W/Visible Icy Road Treatment

H. LIGHTING CONDITION

01. Daylight
02. Dawn or Dusk
03. Dark - Lighted
04. Dark - Unlighted

J. ADVERSE WEATHER CONDITION

00. None
01. Rain
02. Snow / Sleet / Hail
03. Fog
04. Dust
05. Wind

K. VEHICLE TYPE

FMC (Overlay C)
01. Truck / Vehicle Combination over 10,000 lbs.
02. School Bus (all school buses)
03. Non-school Bus (9 or more including driver)
04. Transit Bus

GVWR 10,000 or Less
05. Passenger Car / Passenger Van
06. Passenger Car / Passenger Van W/ Trailer
07. Pickup Truck / Utility Van
08. Pickup Truck / Utility Van W/Trailer under 10,000 lbs.
09. SUV
10. SUV W/Trailer
11. Motor Home
12. Motorcycle
13. Bicycle
14. Motorized Bicycle
15. Farm Equipment
16. Hit & Run Unknown
17. Light Rail
18. Other (Describe in Narrative)

L. DIRECTION OF TRAVEL – PRIOR TO IMPACT

01. North
02. Northeast
03. East
04. Southeast
05. South
06. Southwest
07. West
08. Northwest

M. VEHICLE MOVEMENT – PRIOR TO IMPACT

01. Going Straight
02. Slowing
03. Stopped in Traffic
04. Making Right Turn
05. Making Left Turn
06. Making U-Turn
07. Passing
08. Backing
09. Entering / Leaving Parked Position
10. Parked
11. Changing Lanes
12. Avoiding Object in Roadway
13. Weaving
14. Spun Out of Control
15. Drove Wrong Way
16. Other (Describe in Narrative)

N. ROADWAY SPEED LIMIT

Vehicle #1 or _____

Vehicle #2 or _____

P. ESTIMATED VEHICLE SPEED

Vehicle #1 or _____

Vehicle #2 or _____

Q. DRIVER - MOST APPARENT HUMAN CONTRIBUTING FACTOR (Officer Opinion Only)

00. No Apparent Contributing Factor
01. Asleep at the Wheel
02. Driver Fatigue
03. Illness / Medical
04. Driver Inexperience
05. Aggressive Driving
06. Driver Unfamiliar With Area
07. Driver Emotionally Upset
08. Evading Law Enforcement Officer
09. Physical Disability
10. DUI, DWAI, DUID
11. Distracted / Passenger
12. Distracted / Cell Phone
13. Distracted / Radio
14. Distracted / Other i.e. Food, Objects, Pet, etc.
15. Other Factor (Describe in Narrative)

R. DRIVER ACTIONS (Office Opinion Only)

00. No Action
01. Exceeded Safe Posted Speed
02. Impeded Traffic
03. Failed to Yield ROW
04. Disregard Stop Sign
05. Failed to Stop at Signal
06. Disregarded Other Device
07. Improper Turn
08. Turned from Wrong Lane or Position
09. Other Improper Turns
10. Lane Violation
11. Improper Passing on Left
12. Improper Passing on Right
13. Followed Too Closely
14. Improper Backing
15. Signaling Violation
16. Reckless Driving
17. Careless Driving (if used, block Q can not be coded "00")

S. BY PEDESTRIAN ACTION (Officer Opinion Only)

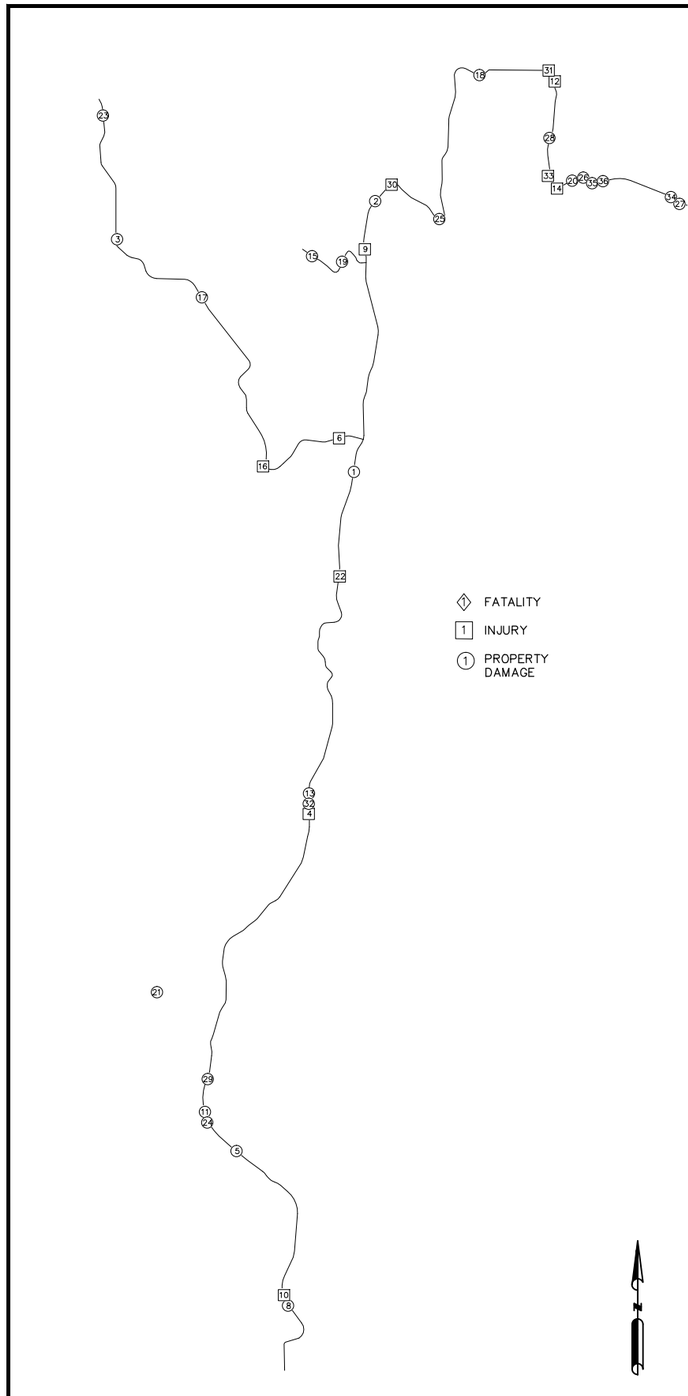
01. Cross Against Signal
02. Cross / Enter at Intersection
03. Cross / Enter NOT at Intersection
04. Standing in Roadway
05. Playing in Roadway
06. Soliciting Rides
07. Walking in Roadway in Direction of Traffic
08. Walking in Roadway Against Direction of Traffic
09. Entering / Exiting Vehicle
10. Pushing / Working on Vehicle
11. Lying in Roadway
12. Other (Describe in Narrative)

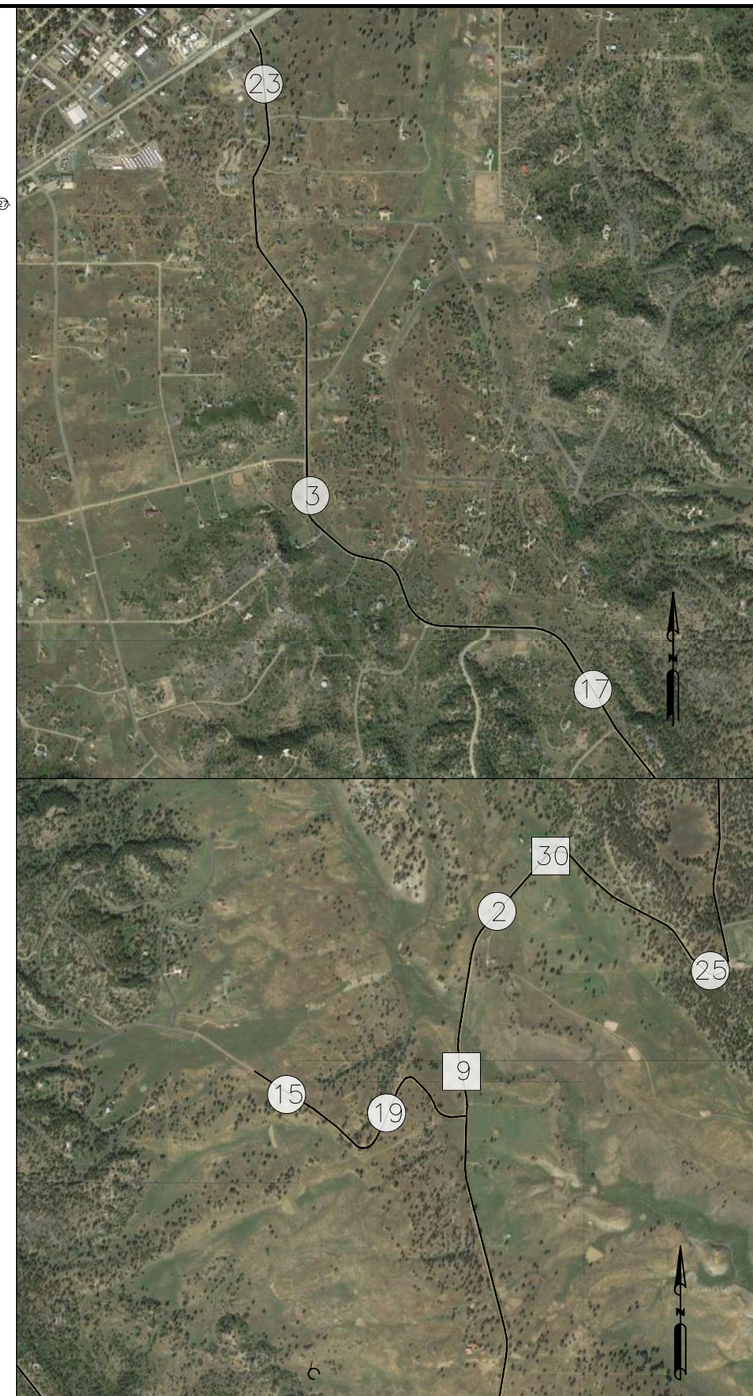
T. VEHICLE DEFECT / CONDITION (Officer Opinion Only)

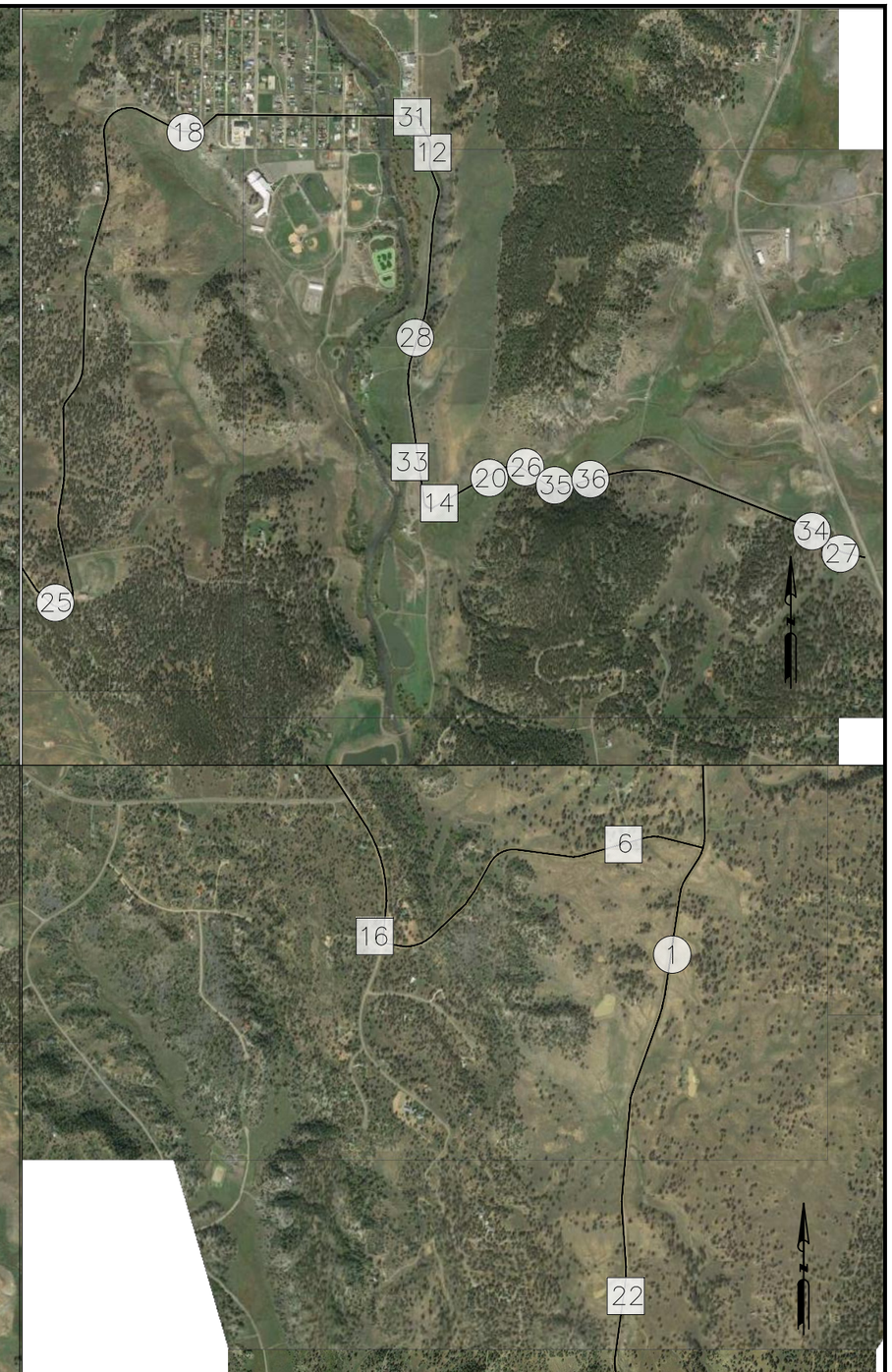
00. No Vehicle Defects
01. Defective Head Light(s)
02. Defective Brake/Tail Light(s)
03. Defective Signaling Device
04. Brakes Defective/Out of Adjustment
05. Defective Tires
06. Sudden Tire Failure
07. Improper Tires for Conditions
08. Mechanical Failure
09. Obstructed Window(s)
10. Improper Load
11. Spilled Load – Commercial Aggregate
12. Spilled Load – Commercial Non- Aggregate
13. Spilled Load – Other
14. Parking Violation
15. Other Defect(s) (Describe in Narrative)

	DateAccident	TimeAccident	NumVehicles	NumKilled	NumInjured	County	Cause	Milepoint	Location	LocMiles	LocFeet	LocOther	d_RoadDesc	f_RoadSurface	g_RoadCondition	h_LightingCondition	N_Limit	P_Speed	Q_DriverAction	
1	8/16/2011	5:00:00	1	0	0	Archuleta	M03	4.5	CR 500	0	2640	Milepost 4	4	4	2	4	50	40	1	Vehicle 1 was northbound on County Road 500. Vehicle 1 lost control for 200' and ran off left side of road. Vehicle 1 traveled 56' off road and struck an embankment. Vehicle 1 remained at POI facing southeast. Occupant(s) then fled th scene.
2	9/7/2011	20:15:00	2	0	0	Archuleta	M06	2.4	CR 500	0	2112	Mile point 2	2	2	1	4	35	35	7	Vehicle #2 was southbound on Archuleta County Road 500 in front of vehicle #1. Vehicle #2 made a left turn into a private driveway at 2820 County Road 500. Vehicle #1 also made a left turn into a private driveway at 2820 County Ro Vehicle #2 went into the driveway 8.5 feet Vehicle #1 went into the driveway 12.4 feet. Vehicle #1 struck vehicle #2 in the left fender with the front right bumper of vehicle #1. After impact vehicle #1 continued across the driveway on feet and struck a fence with the front right bumper where it came to final rest on wheels. Vehicle #2 was moved from final rest prior to my arrival. The area of impact was .4 miles south of mile point 2 on County Road 500 and 8.5 feet
3	3/22/2012	2:00:00	1	0	0	Archuleta	M07	1.2	South Pagosa Blvd.	0	1056	Milepost 1	4	2	1	4	40	30	10	Vehicle #1 was heading south on South Pagosa Blvd. Vehicle #1 lost control and drove off the right side of the roadway. Vehicle #1 continued for 167 feet and then began to roll and rotate counter clockwise 1/4 times. Vehicle #1 cont 30 more feet after rolling 1 1/4 times. Vehicle #1 came to a final rest on its right side 33 feet from the roadway facing east bound.
4	4/2/2012	14:15:00	1	0	1	Archuleta	M12	7.4	CR 500	0	2112	Mile Point 7	4	4	3	1	25	40	10	Vehicle #1 was traveling southbound on County Road 500. Vehicle #1 ran off the right side of the road for 110.5', and then rolled 3 full times for 120' down a steep embankment. Vehicle #1 came to rest on all four wheels facing sou of the road edge. There point of overturning was .4 miles south of milepost 7.
5	7/18/2012	8:30:00	1	0	0	Archuleta	A01	10.1	CR 500		400	MILEPOST 10	4	4	1	1	40	20	1	Vehicle 1 was northbound on CR 500. Vehicle 1 braked and swerved to avoid a deer in the road. Vehicle 1 lost control and skid for 146' and rotated clockwise. Vehicle 1 travel 55' and rolled 1/4 time. Vehicle 1 traveled another 20.9' and final rest in the roadway on the driver side facing southeast.
6	8/15/2012	6:45:00	1	0	1	Archuleta	M03	.	Cascade Avenue	0	1584	County Road 500	4	4	1	1	30	20	1	Vehicle 1 was eastbound on Cascade Avenue. Vehicle 1 lost control due to washboards on the road and ran off right side of road for 58.3'. Vehicle 1 came back onto road for 56.6' and ran off left side of road for 34.5' and rolled 1/2 time 1 slid on its top for 16.7' and came to rest in the westbound lane facing southeast.
7	9/19/2012	9:30:00	1	0	0	Archuleta	M12	12.1	CR 500	0	528	Milepost 12	4	5	1	1	30	20	1	Vehicle #1 was towing a trailer loaded with a forklift traveling southbound on County Road 500. The wheels of the trailer ran off the right side of the road as Vehicle #1 negotiated a right curve, causing the trailer to overturn 1/4 time a the forklift. Vehicle #1 continued 75' still towing the trailer and came to rest on the left side of the road on all four wheels facing south.
8	10/24/2012	12:45:00	1	0	0	Archuleta	M02	.	CR 500	0	2640	Bristlecone Road	4	2	1	1	55	55	1	Vehicle 1 was traveling northbound on County Road 500. The driver of vehicle 1 lost control on a section of roadway with severe washboard conditions. Vehicle 1 traveled off the right side of the roadway for 47.2' feet then traveled ba the roadway yawing for 158.3' feet. Vehicle 1 then traveled back off the right side of the roadway for 29.6' feet colliding with a tree stump. Following impact, vehicle 1 traveled 15.3' feet colliding with a fence rotating clockwise 1/4 tu Following impact with the fence, vehicle 1 then traveled an additional 47.2' feet rolling 1/4 time coming to rest on its left side facing east.
9	11/5/2012	18:00:00	1	0	2	Archuleta	D00	3.1	CR 500	0	528	Milepost 3	4	5	1	4	45	20	17	Vehicle #1 was traveling northbound on County Road 500. Vehicle #1 ran off the right side of the road. Vehicle #1 rotated clockwise one-quarter time, traveled 95', and then collided with a rock. Vehicle #1 then rotated clockwise one- time and rolled at least one and one-half times over 49.8' feet before coming to rest on its top facing south.
10	1/3/2013	18:30:00	1	0	1	Archuleta	M03	.	CR 500	0	3696	Milepost 12	4	4	5	4	45	20	1	Vehicle 1 was southbound on County Road 500. Vehicle 1 was attempting to negotiate right curve on icy road and skid for 168' while crossing the opposite side of road. Vehicle 1 ran off left side of road for 12' and struck a tree. Vehicle at POI on wheels facing south approximately 6 feet from the roadway edge.
11	1/12/2013	9:30:00	1	0	0	Archuleta	A01	.	CR 500	0	2640	MILEPOINT 9.5	4	4	4	1	25	30	0	VEHICLE 1 WAS TRAVELING NORTHBOUND ON COUNTY ROAD #500 WHEN IT SPUN OUT OF CONTROL COUNTER CLOCKWISE FOR 94 FEET WHILE AVOIDING A DEER THAT ENTERED THE ROADWAY FROM THE EAST SIDE. VEHICLE 1 RAN OFF THE RIGHT SIDE OF THE ROADWAY FACING SOUTHBOUND THEN COLLIDED ITS FRONT END WITH A STEEP EMBANKMENT. VEHICLE 1 THEN TRAVELED 26 FEET AND COLLIDED ITS LEFT FRONT INTO A GROUP OF SMALL TREES. VEHICLE THEN CONTINUED APPROXIMATELY 70 FEET DOWN THE STEEP EMBANKMENT THEN COLLIDED ITS RIGHT REAR WITH A FENCE. VEHICLE 1 CAME TO REST ON WHEELS FACING NORTH APPROXIMATELY 96 FEET FROM THE
12	8/7/2013	23:50:00	1	0	1	Archuleta	D00	.	CR 119		230	of Apache Street	4	2	2	3	50	25	17	VEHICLE #1 WAS TRAVELING SOUTH ON COUNTY ROAD 119. THE DRIVER SWERVED TO THE LEFT FOR AN UNKNOWN REASON CAUSING THE VEHICLE TO ROTATE COUNTER CLOCKWISE. THE VEHICLE BEGAN TRAVELING SIDEWAYS UP AN EMBANKMENT ON THE EAST SHOULDER OF COUNTY ROAD 119 CONTINUING TO ROTATE COUNTER CLOCKWISE STRIKING A STREET SIGN WITH ITS REAR AND TRAVELING 89.3' COMING TO REST FACING NORTH ON THE EAST SHOULDER. THE AREA OF IMPACT WAS APPROXIMATELY 15.6' EAST OF THE SHOULDER AND 130.7' SOUTH OF THE INTERSECTION WITH 3RD STREET.
13	8/23/2013	12:40:00	1	0	0	Archuleta	M02	.	CR 500			Milepost 7	4	4	1	1	32	20	1	Vehicle #1 was traveling southbound on County Road 500. Vehicle #1 lost control after exiting a left-hand curve and ran off the right side of the road, colliding with an embankment. Vehicle #1 then rotated 1/2 times clockwise and roll times onto its driver side. Vehicle #1 came to rest on its driver's side facing north on the west edge of the roadway, 3' south of the point of impact with the embankment.
14	9/20/2013	23:15:00	1	0	2	Archuleta	M02	.	CR 119	1	792	Co. Hwy. 84	4	2	1	4	45	35	1	VEHICLE 1 WAS SOUTHBOUND ON COUNTY ROAD 119. VEHICLE 1 ENTERED A SHARP CORNER AND RAN OFF RIGHT SIDE OF ROAD FOR 168.6'. DRIVER OVERCORRECTED AND VEHICLE 1 CAME BACK ONTO ROAD FOR 69.1'. VEHICLE 1 ROTATED CLOCKWISE AND RAN OFF RIGHT SIDE OF ROAD DOWN A VERY STEEP EMBANKMENT FOR 67'. VEHICLE 1 ROLLED 1-1/4 TIME. VEHICLE 1 CAME TO FINAL REST ON THE DRIVER'S SIDE FACING WEST IN A CREEK.
15	10/2/2013	5:20:00	1	0	0	Archuleta	M23	0	Bristlecone Dr.	0	2640	OF CR 500	4	5	1	1	25	35	0	VEHICLE #1 WAS TRAVELING EAST OB BRISTLECONE DR PULLING AN AIR COMPRESSOR GOING AROUND A LEFT HAND CURVE. THE AIR COMPRESSOR HIT SEVERAL POT HOLES IN THE ROAD CAUSING IT TO SWAY SIDE TO SIDE AND COME UN HITCHED FROM VEHICLE 1. THE AIR COMPRESSOR THEN BROKE THE SAFETY CHAINS AND STRUCK THE EMBANLMENT ON THE NORTH SHOULDER CAUSING IT TO ROLLED ONCE COMING TO REST ON ITS WHEELS FACING SOUTH IN THE DITCH ON THE NORTH SIDE OF THE ROADWAY. THE AREA OF IMPACT WAS APPROXIMATELY .5 MILES WEST OF CR 500 AND 2' OFF THE ROADWAY.THIS IS A COLD CRASH
16	10/16/2013	12:30:00	1	0	1	Archuleta	M14	.	BUTTRESS AVE.		40	CASCADE AVE.	3	4	1	1	45	35	4	VEHICLE #1 WAS WESTBOUND ON CASCADE AVENUE WHEN THE DRIVER FAILED TO STOP FOR A STOP SIGN AT A T-INTERSECTION WITH BUTTRESS AVENUE. THE DRIVER ATTEMPTED TO NEGOTIATE A RIGHT TURN ONTO BUTTRESS, SLID CLOCKWISE OFF THE END OF THE INTERSECTION, ROLLED 3/4 OVER A SMALL 12-INCH HIGH ROCK WALL, AND CAME TO REST ON ITS RIGHT SIDE.
17	10/17/2013	18:15:00	1	0	0	Archuleta	A01	0	South Pagosa Blvd.			Big Sky Pl.	1	2	1	2	30	30	0	Vehicle #1 was traveling southbound on South Pagosa Blvd. Vehicle #1 collided with a deer that was standing in the roadway. Vehicle #1 continued to residence at 280 Bross Pl, where this report was taken. No on-scene investigation b
18	3/10/2014	13:45:00	1	0	0	Archuleta	M12	.	CR 500	0	1056	10th Street	4	2	1	1	35	35	17	Vehicle 1 was traveling southbound on County Road #500 when it drifted off the right side of the roadway in a left curve. Vehicle 1 continued off right side of road for 140 feet then overturned to its right side for 18.5 feet coming to re right side facing south approximately 21 feet from the roadway edge.
19	3/28/2014	17:00:00	1	0	0	Archuleta	M02	.	Bristlecone Drive	0	1056	County Road #500	4	4	1	1	40	30	1	Vehicle 1 was traveling southbound on Bristlecone Drive. Vehicle 1 entered a downhill right curve with to much speed causing Vehicle 1 to yaw skid in a clockwise rotation. Driver 1 overcorrected causing Vehicle 1 to rotate counter clo as it ran off the left side of the roadway. Vehicle 1 went down an embankment then overturned one time while colliding with a fence. Vehicle 1 then came to rest on its wheels facing north approximately 56 feet from the roadway edg
20	5/14/2014	9:30:00	1	0	0	Archuleta	M03	.	CR 119	1		OF STATE HIGHWAY 84	4	2	1	1	50	30	1	VEHICLE #1 WAS TRAVELING WEST ON COUNTY ROAD 119 AROUND A LEFT HAND CURVE. THE VEHICLE DROVE OFF THE RIGHT SHOULDER THEN BACK ONTO THE ROADWAY. THE VEHICLE OVERCORRECTED TO THE RIGHT AND BEGAN TO ROTATE CLOCKWISE APPROXIMATELY 180 DEGREES AND DROVE BACK OFF THE RIGHT SHOULDER STRIKING A STORM CULVERT WITH ITS REAR AXLE AND BUMPER. THE VEHICLE THEN WENT AIRBORNE FOR APPROXIMATELY 26.9 COMING TO REST ON ITS WHEELS AGAINST A BARB WIRE FENCE FACING EAST. THE AREA OF IMPACT WAS APPROXIMATELY 6.4' NORTH OF THE SHOULDER AND 1 MILE WEST OF STATE HIGHWAY 84.
21	6/18/2014	15:00:00	1	0	0	Archuleta	M12	.	Forest Service Road 649	1		County Road 500	4	4	1	1	30	20	1	Vehicle #1 was traveling eastbound on US Forest Service Road 649. Vehicle #1 ran off the right side of the road for 80' and collided with a tree. Vehicle #1 continued travelled another 80' before coming to rest on all four wheels facing e
22	7/22/2014	0:58:00	1	0	3	Archuleta	M03	.	CR 500	0	2640	Mp 5	4	5	1	1	60	40	17	Vehicle #1 was southbound on CR 500. Vehicle #1 lost control and went off the right side of the road while spinning clockwise. Vehicle then rolled 1 time while ejecting the driver. Vehicle #1 came to rest on it wheels facing northwe came to rest behind vehicle #1 12 feet from the roadway edge.

23	7/26/2014	0:00:00	1	0	0	Archuleta	A01	1	South Pagosa Blvd.			353 South Pagosa Boulevard	2	2	1	1	30	30	0	Vehicle 1 was traveling southbound on South Pagosa Boulevard. Driver 1 swerved to miss a deer that entered the roadway from the east side. Vehicle 1 ran off the right side of the roadway for 41 feet at the entrance to 353 South Pag Boulevard and struck a concrete curb with the undercarriage. Vehicle 1 traveled approximately 33 feet across the paved entrance then ran off the south side of the entrance for 3 feet then struck a large delineator post (Secured in concrete) with the front end. Vehicle 1 continued 11 feet striking a tree stump with the front end. Vehicle 1 continued 41 feet then came to rest on wheels facing south approximately 26 feet from the roadway edge. Vehicle 1 then le
24	8/2/2014	20:20:00	1	0	0	Archuleta	M03	9.8	CR 500	0	4224	MILEPOST 9	4	4	1	1	45	20	1	Vehicle 1 was southbound on CR 500. Vehicle 1 lost control due to speed and started sliding for 130.8' off main portion of road. Vehicle 1 overcorrected and came back onto main portion of road for 22.5'. Vehicle 1 rotated clockwise an traveled 34'. Vehicle ran off right side of road for 8' and struck an embankment with the drivers side rear quarter panel and rear bumper. Vehicle 1 rolled 1 time and came to rest on the southbound shoulder facing east.
25	12/4/2014	16:00:00	1	0	0	Archuleta	M12	1.4	CR 500	0	2112	OF MILE MARKER 1	4	2	2	1	45	40	17	VEHICLE 1 WAS TRAVELING NORTH ON COUNTY ROAD 500 APPROXIMATELY MILE MARKER 1.4 WHEN IT DROVE OFF THE RIGHT SHOULDER WHILE TRAVELING AROUND A LEFT HAND CURVE. THE VEHICLE BEGAN TO ROTATE COUNTER CLOCKWISE AND ROLLED 1.5 TIMES STRIKING A BARB WIRE FENCE AND COMING TO REST ON ITS ROOF FACING WEST. THE AREA OF IMPACT WAS APPROXIMATELY 18.5' EAST OF THE ROADWAY AND .4 MILES SOUTH OF MILE MARKER 1.
26	12/15/2014	0:50:00	1	0	0	Archuleta	M02	0.9	CR 119	0	4752	COLORADO 84	4	2	5	4	40	25	1	VEHICLE #1 WAS WESTBOUND ON ARCHULETA COUNTY ROAD 119. VEHICLE #1 LOST CONTROL ON ICE AND SPUN 1/4 TIME FOR 53 FEET ACROSS THE EASTBOUND TRAFFIC LANE. VEHICLE #1 WENT OFF THE LEFT SIDE OF THE ROAD FOR 52 FEET AND STRUCK A PHONE BOX WITH THE DRIVERS SIDE FENDER OF VEHICLE #1. AFTER IMPACT VEHICLE #1 TRAVELED 38 FEET AND STUCK A FENCE WITH THE FRONT BUMPER AND GRILL OF VEHICLE #1. VEHICLE #1 IMPACTED 82 FEET OF FENCE BEFORE COMING TO REST FACING WEST. THE AREA OF IMPACT WAS 27 FEET SOUTH OF THE EASTBOUND ROAD EDGE AND 0. MILES WEST COLORADO HIGHWAY 84.
27	12/18/2014	13:00:00	1	0	0	Archuleta	M02	6	CR 119		34	Highway 84	3	2	5	4	20	25	1	Vehicle #1 was heading Eastbound on County Road 119. Vehicle #1 was attempting to slow down for the stop sign at the intersection. Vehicle #1 lost control and slid off the right side of the roadway. Vehicle #1 continued for 49 feet w struck a fence with its front and right side. Vehicle #1 came to a final rest on its wheels facing Eastbound 24 feet from County Road 119 and 34 feet from Highway 84. The driver left the scene to call for help and then came back.
28	2/5/2015	13:00:00	1	0	0	Archuleta	A01	0.85	CR 119	0	4488	APACHE RD.	4	2	1	4	30	35	0	Vehicle 1 was northbound on County Road 119. Vehicle 1 struck an Elk that was crossing the road from east to west. The Elk slid 6' after POI and was dead in the northbound travel lane. Vehicle 1 stopped and moved just behind the Elk northbound shoulder facing north.
29	4/10/2015	14:30:00	1	0	0	Archuleta	M12	9.4	CR 500	0	2112	OF MILE MARKER 9	4	4	1	4	40	40	17	Vehicle 1 was traveling north on County Road 500. The vehicle drove off the east shoulder and rolled twice coming to rest on its wheels facing north. The area of impact was approximately .4 miles south of mile marker 9 and 21.5' eas roadway.
30	4/18/2015	7:00:00	1	0	1	Archuleta	D00	2.3	CR 500	0	1584	MILE POINT 2	4	4	1	4	45	35	17	VEHICLE #1 WAS NORTHBOUND ON ARCHULETA COUNTY ROAD 500. VEHICLE #1 WENT OFF THE LEFT SIDE OF THE ROAD FOR 107 FEET. VEHICLE #1 STRUCK A FENCE WITH THE FRONT BUMPER. AFTER IMPACT VEHICLE #1 STUCK 33 FEET OF FENCE AND A DITCH EMBANKMENT. AFTER IMPACT WITH THE DITCH EMBANKMENT VEHICLE #1 TRAVELED 48 FEET AND CAME TO REST ON ITS WHEELS FACING NORTHWEST. THE AREA OF IMPACT WAS .3 MILES SOUTH OF MILE POINT 2 AND 28 FEET WEST OF THE SOUTHBOUND ROAD EDGE. THE DRIVER ADMITTED TO FALLING ALSEEP AT THE WHEEL.
31	7/31/2015	5:45:00	1	0	1	Archuleta	M07	.	CR 119	1		APACHE ST.	4	2	1	4	45	25	1	VEHICLE #1 WAS WESTBOUND ON ARCHULETA COUNTY ROAD 199. VEHICLE #1 WENT OFF THE LEFT SIDE OF THE ROAD FOR 87.0 FEET. VEHICLE #1 STRUCK A GUARDRAIL WITH THE FRONT LEFT CORNER OF VEHICLE #1. VEHICLE #1 CONTINUED TO CAUSE DAMAGE TO THE GUARDRAIL FOR 21.2 FEET UNTIL VEHICLE #1 CAME TO REST STILL IN CONTACT WITH THE GUARDRAIL. THE AREA OF IMPACT WAS 24.9 FEET SOUTHWEST OF THE EASTBOUND ROAD EDGE AND 1 MILE SOUTH OF APACHE ST.
32	9/15/2015	21:40:00	1	0	0	Archuleta	M12	7.1	CR 500		290	MILE POINT 7	4	4	1	1	40	35	17	VEHICLE #1 WAS SOUTHBOUND ON ARCHULETA COUNTY ROAD 500. VEHICLE #1 LOST CONTROL FOR 153 FEET AND WENT OFF THE RIGHT SIDE OF THE ROAD. VEHICLE #1 STRUCK AN EMBANKMENT WITH THE RIGHT FENDER WITH THE FRONT GRILL AND ROLLED 1 TIME FOR 42.6 FEET. AFTER IMPACT VEHICLE #1 ROLLED ACROSS THE ROADWAY FOR 63.8. VEHCILE #1 ROLLED DOWN AN EMBANKMENT FOR 71.8 FEET AND STUCK A FENCE WITH THE FRONT FENDERS, GRILL AND HOOD. AFTER IMPACT VEHICLE #1 ROLLED TO A STOP FOR 8.3 FEET.
33	10/25/2015	15:55:00	1	0	1	Archuleta	M02	.	CR 119	1		Pagosa Springs	4	2	1	4	40	35	1	Vehicle #1 was southbound on CR 119 when it went off right side of road and down a steep embankment where it rolled 2 times. Vehicle #1 came to rest on its wheels in a stream facing east
34	11/1/2015	6:00:00	1	0	0	Archuleta	M02	.	CR 119	1	528	OF HIGHWAY 84	4	2	1	4	45	35	1	Vehicle 1 was traveling east on county road 119 around a left hand curve. The vehicle drove off the south shoulder of the roadway and down an embankment striking the river bottom with its front end and coming to rest. The area of was approximately 1.1 miles west of county road 119 and 130' south of the roadway.
35	11/11/2015	19:10:00	1	0	0	Archuleta	M02	.	CR 119	0	4752	OF HIGHWAY 84	4	2	6	1	35	30	17	Vehicle 1 was traveling west on County Road 119 around a right hand curve when it slid across the eastbound lanes of traffic and off the south shoulder. The vehicle then swerved right back onto the roadway and traveled across all lan traffic and drove off the north shoulder striking a speed limit sign and coming to rest on a barb wire fence. The area of impact was approximately .9 miles west of highway 84 and 5.7' north of the shoulder.
36	11/12/2015	20:25:00	2	0	0	Archuleta	M02	.	CR 119	0	4752	OF HIGHWAY 84	4	2	5	1	35	30	1	Vehicle 1 was traveling westbound on county road 119 around a right hand curve. Vehicle 2 was traveling east bound on County road 119 around the same curve. Vehicle 1 slid across the eastbound lane and struck vehicle 2 with its dr front to vehicle 2 driver side rear fender. Vehicle 2 rotated counter clockwise 1/4 time and came to rest on the south shoulder facing north. Vehicle 1 continued west in the eastbound lane coming to rest facing west. The area of impa approximately .9 miles west of highway 84 and 6' north of the edge of road.







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Last Modification Date: 4/26/2016	Initials: RDP	R–			
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Drawing File Name: c & j gravel site		R–			
Acad Ver. C3D 2013 Scale: As Shown	Units: Imperial	R–			

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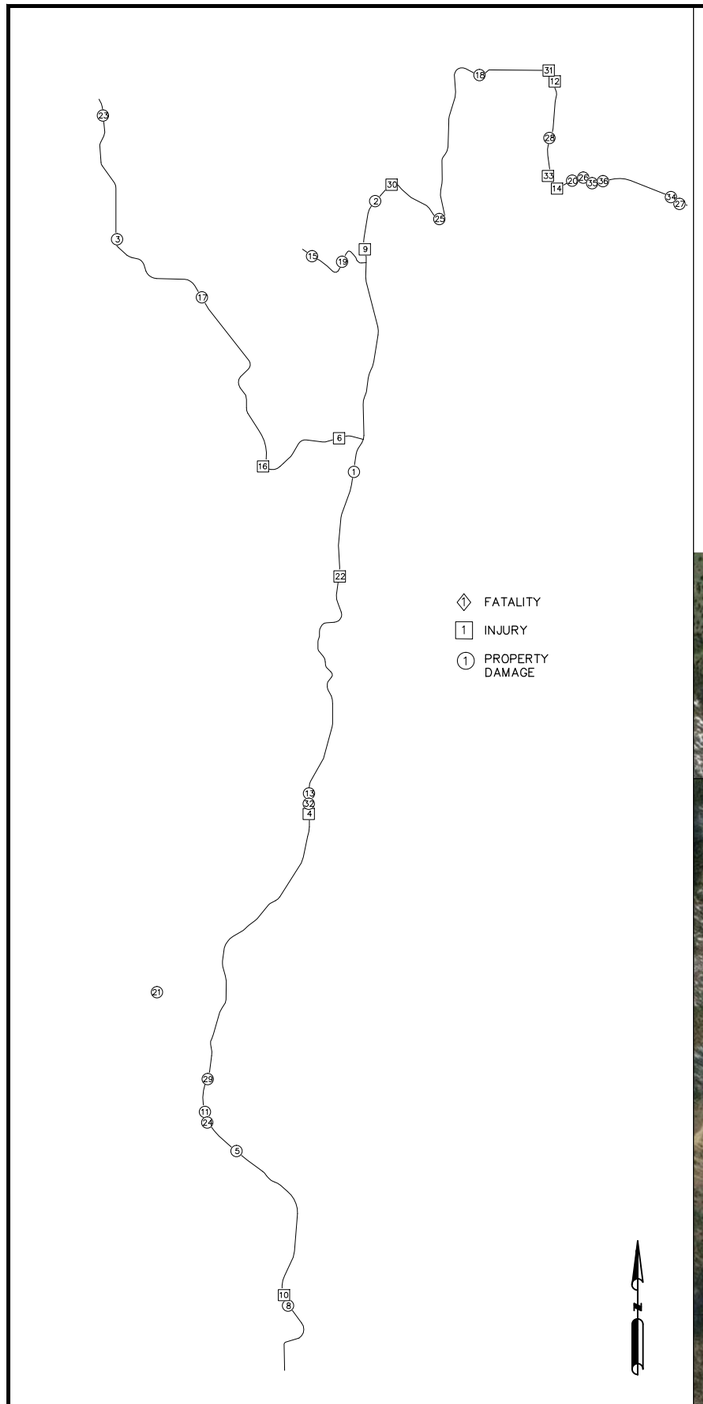
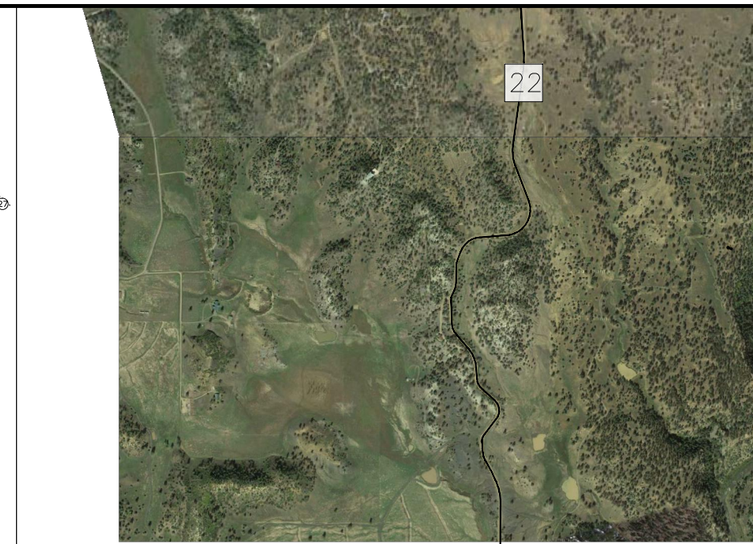
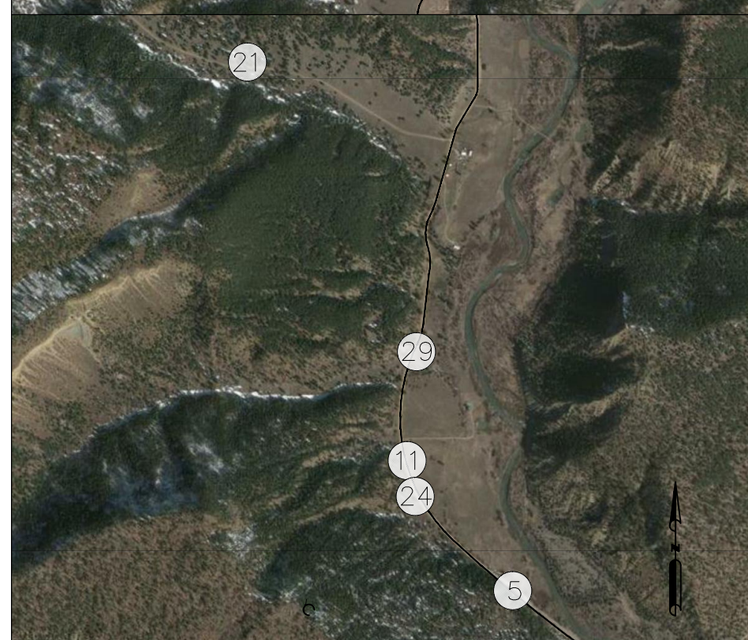
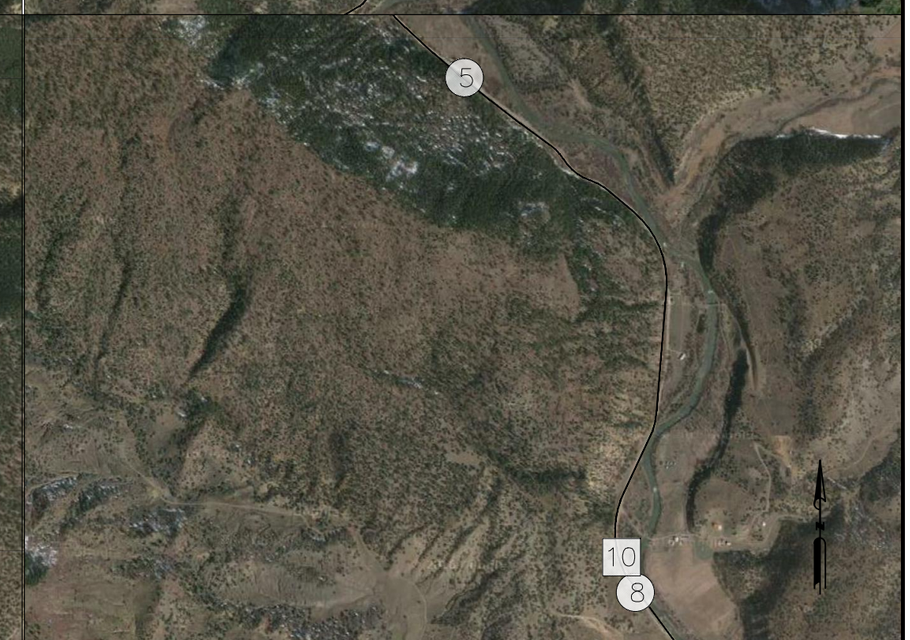
Exhibit	EXHIBIT B (1 OF 2) ACCIDENT LOCATION		Project No./Code
No Revisions:			16001
Revised:	Designer: MO	Structure Numbers	
	Detailer: RDP		
Void:	Sheet Subset:	Subset Sheets: 1 of 2	Sheet Number 02









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Acad Ver. C3D 2013 Scale: As Shown		Units:	Imperial

	Sheet Revisions	
R–		
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R–		

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Durango, Colorado 81301 Phone:
970-247-1717

Exhibit
No Revisions:
Revised:
Void:

EXHIBIT B (2 OF 2) ACCIDENT LOCATION

Designer: MO
Detailer: RDP
Sheet Subset:
Structure Numbers
Subset Sheets: 1 of 2

Project No./Code
16001

Sheet Number 02

C & J GRAVEL PRODUCTS, INC

TWO RIVERS PIT

TRAFFIC AND ROADWAY ANALYSIS

Archuleta County, Colorado

Horizontal Sight Line Offset Analysis

APPENDIX 3

HSO - Horizontal Sight Line Offset

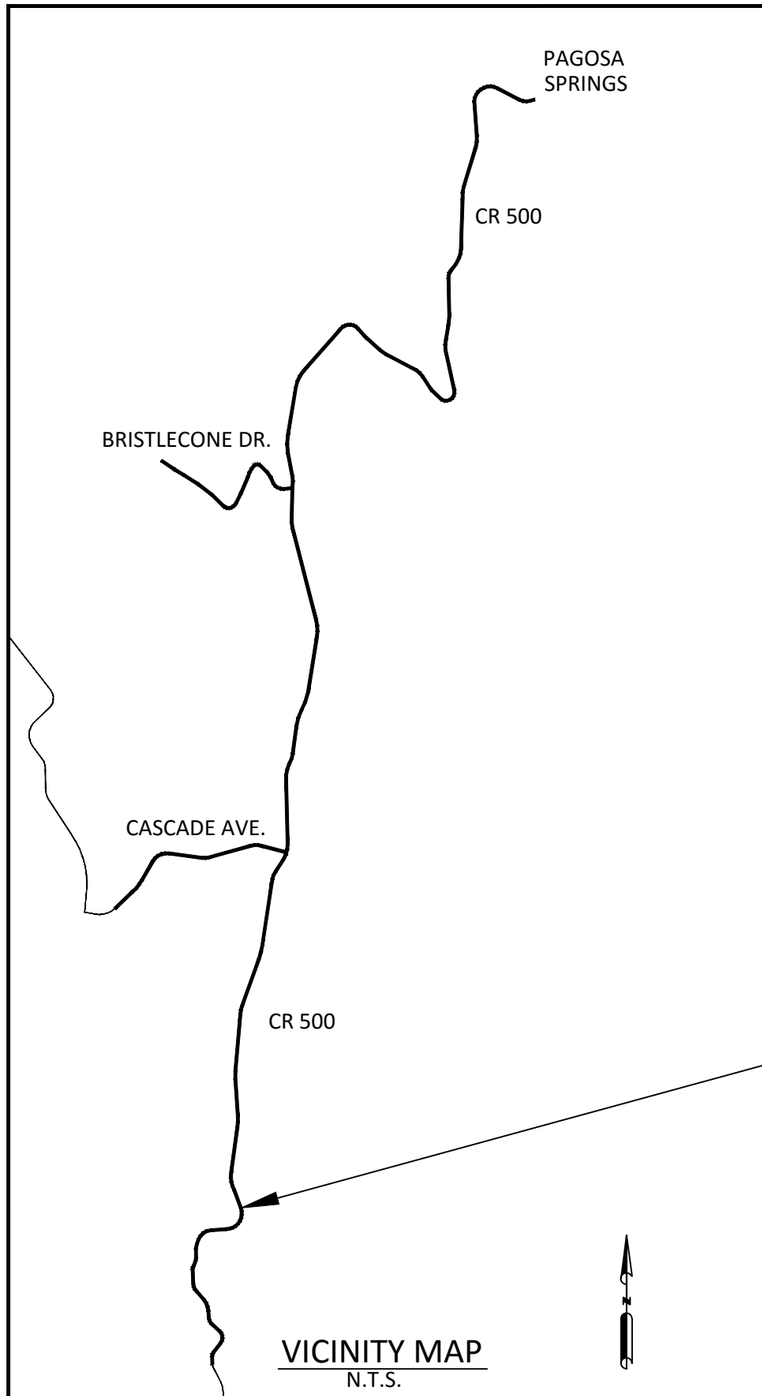
Stopping sight distance = d_B

	a =	11.2	ft/sec^2		
	V =	51.3	ft/sec	35	mile/hr
	G =	-3%	ft/ft		
[1]d_B =	$V^2/30((a/32.2)-G)$	276	ft		

Horizontal Sight Distance = HSO		Curve #1		Curve #2		Curve #3	
	d_B = S =	276	ft	276	ft	276	ft
	R =	335	ft	400	ft	185	ft
[2]HSO =	R(1-cos(28.65S/R))						
	Recommended	28	ft	24	ft	49	ft
	Actual (approx)	20	ft	18	ft	20	ft

Note

1. pg 3-5, AASHTO
2. pg 3-109, AASHTO



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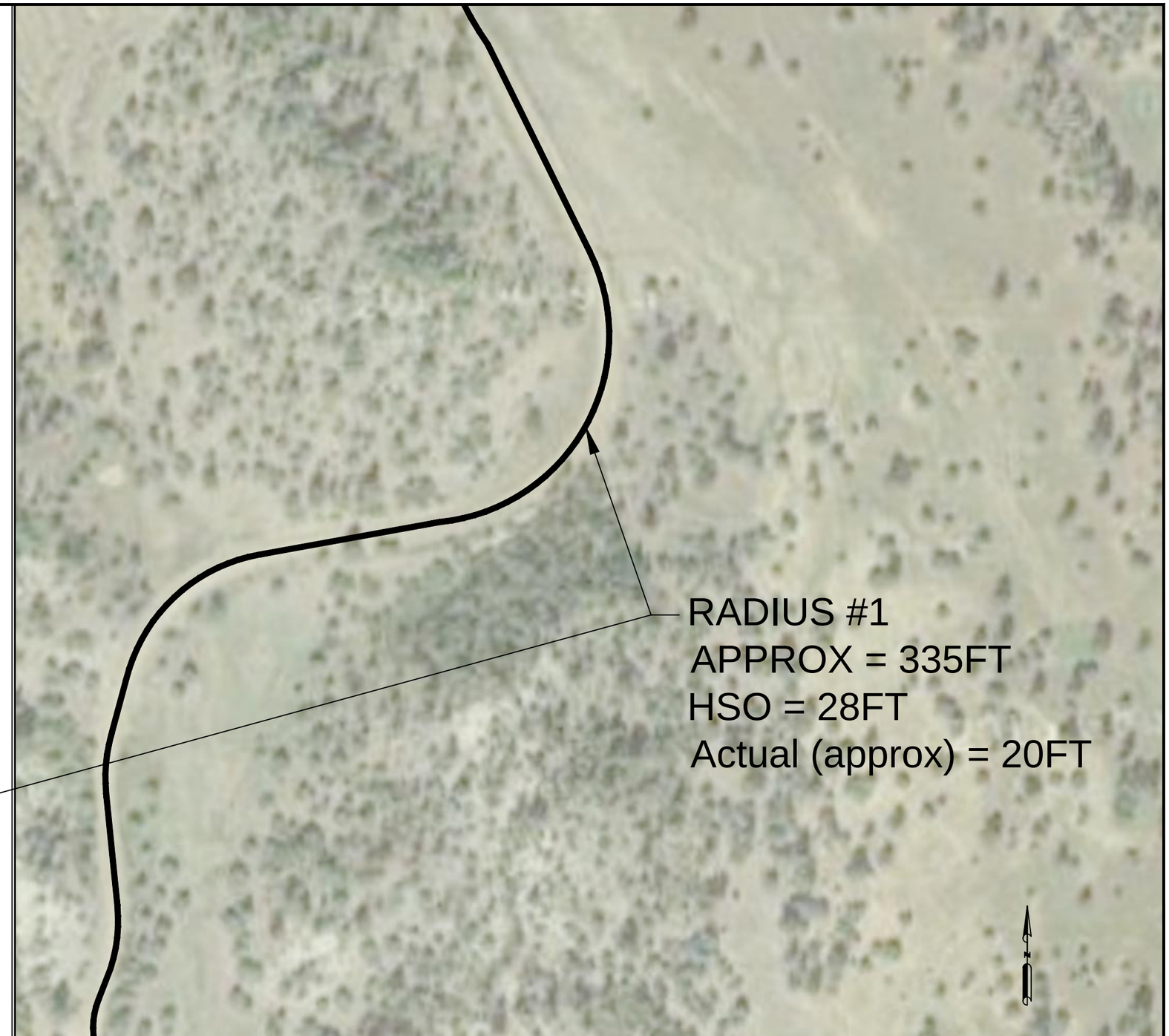
N.T.S.



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Durango, Colorado 81301 Phone:
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Exhibit	C & J GRAVEL CR 500, MP 5.8		Project No./Code
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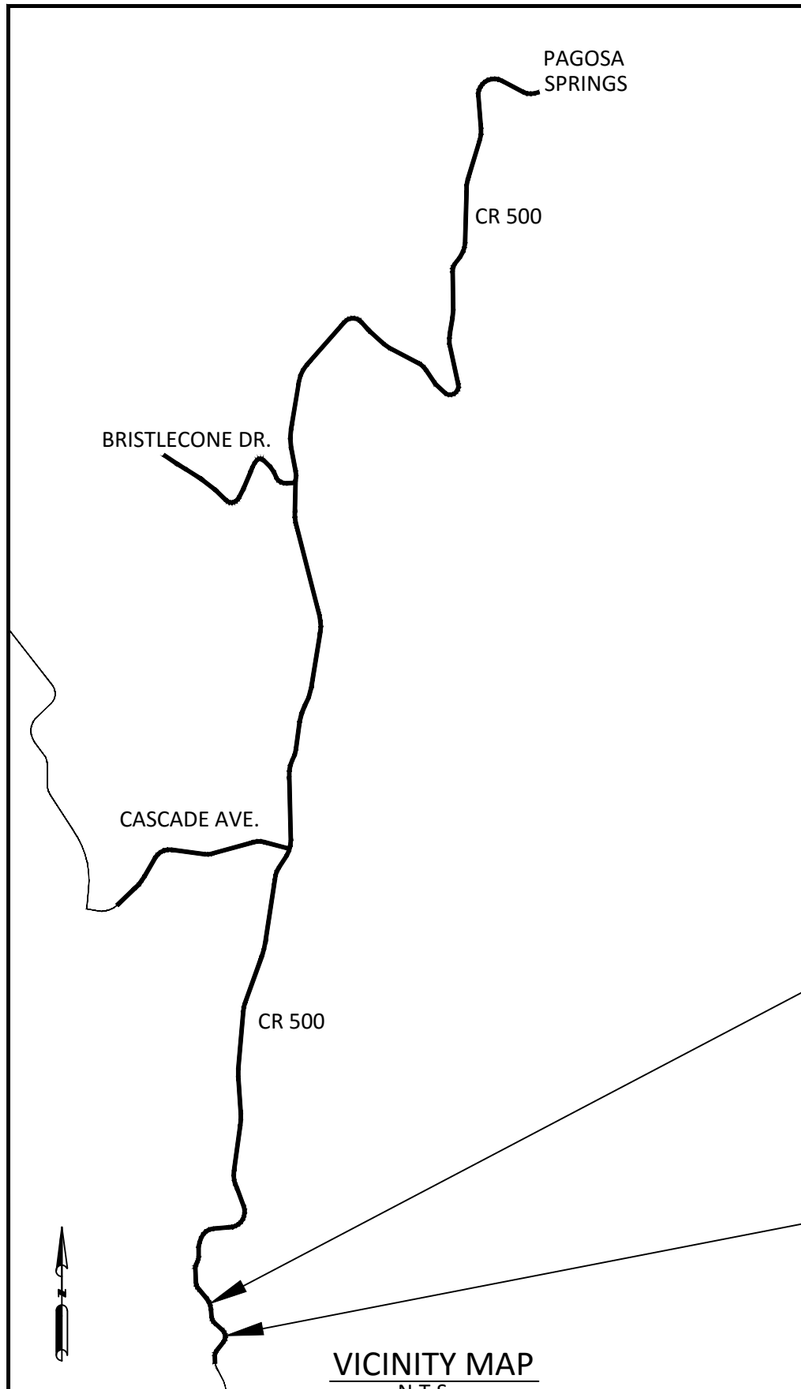

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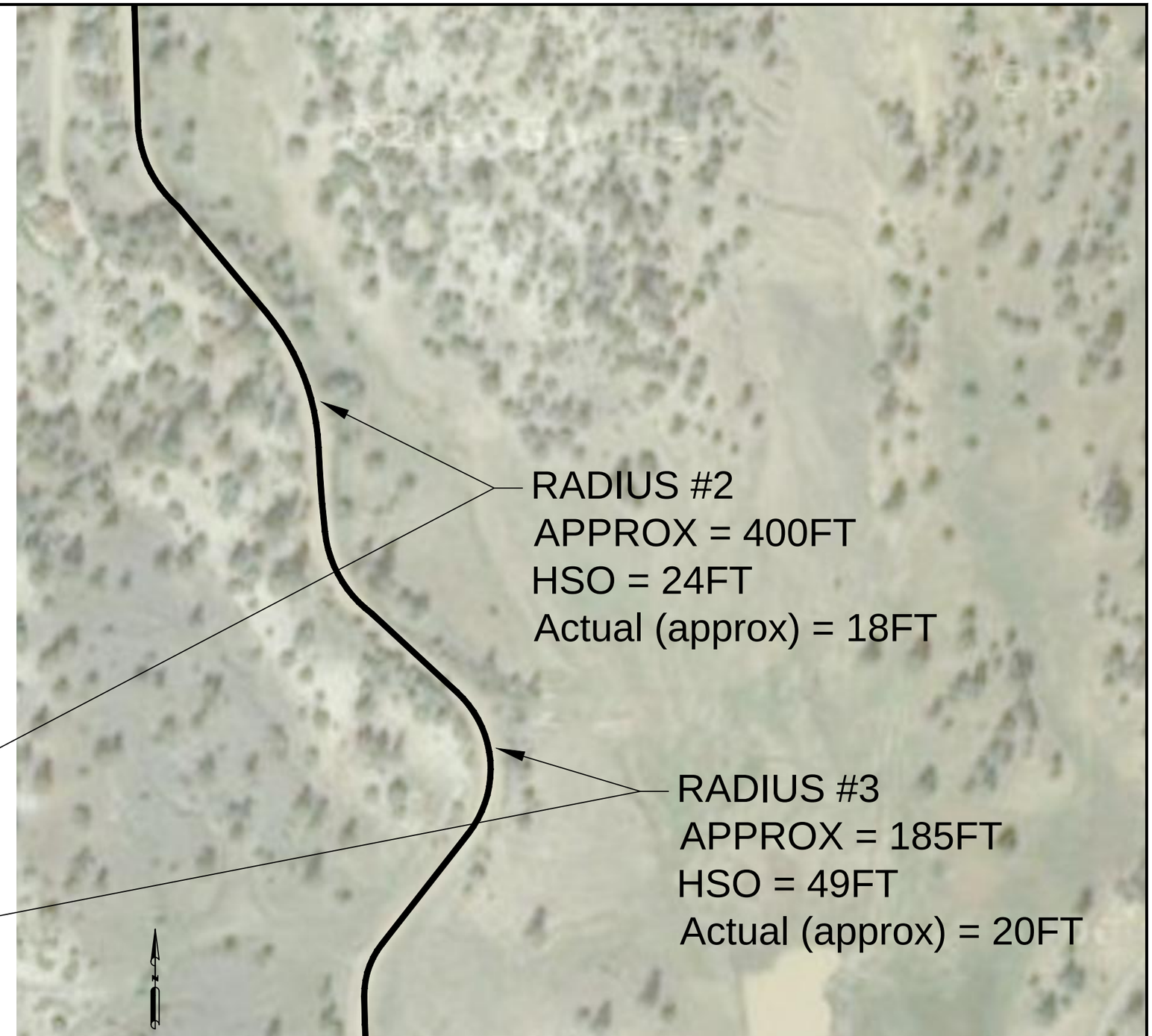

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Sheet Revisions

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Exhibit	C & J GRAVEL CR 500, MP 6.3 & 6.4		Project No./Code
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	Detailer: RDP		
Void:	Sheet Subset:	Subset Sheets: 1 of 2	Sheet Number 02

C & J GRAVEL PRODUCTS, INC

TWO RIVERS PIT

TRAFFIC AND ROADWAY ANALYSIS

Archuleta County, Colorado

ESAL Calculations Design Worksheets

APPENDIX 4

ESAL CALCULATIONS

C & J SAND AND GRAVEL -TWO RIVERS PIT, ARCHULETA COUNTY

County Road 500

Base Values

Plant Operation Study Duration	20	Years	
Yearly Number of Operational Days	250	Days	(50 weeks a year / 5 days a week)
Yearly Crushing Operational Days	75	Days	
Yearly Tons of Aggregate	100,000	tons	
AverageTons per Truck	15	cyds	

Total Trips	Vehicle Type (surface loading)	Product Load per day (average)	Trips per Year (2 trips per load)	Trips per Year (250 days of operation per year)	Trips per Study duration (20-years)	ADT
Support Trucking	(c)	0	0	-	-	
Gravel Transports	(d)	27	53	13,333	266,667	37
Fuel Truck, Water Truck	(b)	1	2	500	10,000	1
		# of workers	# of trips per worker (avg 4 trips per day)			
Pass Car / Truck (Typ Ops)	(a)	2	8	2000	40,000	5
Pass Car / Truck (Crushing)	(a')	5	20	1500	30,000	4

(Pass Car / Truck volumes account for the following employee summary)

Salesman/Operator	1	Typ Ops
General Labor	1	Typ Ops
Forman	1	Crushing
Operator	2	Crushing
General Labor	2	Crushing

Total ADT **47 trips**

(Flexible Pavement) 18 Kip equivalency Factors	Vehicle Type (surface loading)	Factor		# of trips over evaluation duration		ESAL
Pass Car / Truck	(a)	0.003	x	70,000	=	210
Single Unit (6 Wheel)	(b)	0.249	x	10,000	=	2,490
Combination Unit / Dump Truck	(d)	1.087	x	266,667	=	289,867

Lane Factor

2 lane (CDOT Pavement Design Manual - Table C-2) 0.6

18 Kip ESAL Design Loading **175,540**

S Pagosa - Percent of Loading	72%	18K ESAL Load	126,389
CR 500 N - Percent of Loading	18%	18K ESAL Load	31,597
CR 500 N of Project - Percent of Loading	90%	18K ESAL Load	157,986
CR 500 S of Project - Percent of Loading	10%	18K ESAL Load	17,554

% of Total Impact (a/(a+b)) @ S. Pagosa Blvd	45%
% of Total Impact (a/(a+b)) @ CR 500 near Pagosa Springs	34%
% of Total Impact (a/(a+b)) @ Cascade Avenue	63%
% of Total Impact (a/(a+b)) @ CR 500 S of Cascade Avenue	62%

Total Impacts (Pit + Background) @ S. Pagosa Blvd	**280,677**	20-yr ESAL
Total Impacts (Pit + Background) @ CR 500	**92,177**	20-yr ESAL

Table 4

ESAL CALCULATIONS

BACKGROUND TRAFFIC

South Pagosa Boulevard

Base Values			# of days per year	# of trips per year
Study Duration	20	Years		
Weekday Count (data from counters)	1307	trips	250	326750
Weekend and Holiday Count (assume 60% of Weekday)	784	trips	115	90183

Identify Background Trips	Vehicle Type (by vehicle length)	% of trips	Gross Trips per Year	Net Background Trips per year	Net Background Trips per Study Duration (20-yrs)	ADT
Pass Car / Truck	(i)	97.2%	405259	405259	8105177.52	1,110
Single Unit (includes mixers)	(ii)	0.3%	1251	1251	25015.98	3
Combination Unit	(iii)	2.5%	10423	10423	208466.5	29

Total ADT **1,142 trips**

(Flexible Pavement) 18 Kip equivalency Factors	Vehicle Type (surface loading)	Factor		# of trips over evaluation duration		Background ESAL
Pass Car / Truck	(a)	0.003	x	8,105,178	=	24,316
Single Unit	(b)	0.249	x	25,016	=	6,229
Combination Unit	(d)	1.087	x	208,467	=	226,603

Lane Factor

2 lane (CDOT Pavement Design Manual - Table C-2) 0.6

18 Kip ESAL Design Loading **154,289**

ESAL CALCULATIONS

BACKGROUND TRAFFIC

County Road 500 @ Pagosa Springs

Base Values			# of days per year	# of trips per year
Study Duration	20	Years		
Weekday Count (data from counters)	452	trips	250	113000
Weekend and Holiday Count (assume 60% of Weekday)	271.2	trips	115	31188

Identify Background Trips	Vehicle Type (by vehicle length)	% of trips	Gross Trips per Year	Net Background Trips per year	Net Background Trips per Study Duration (20-yrs)	ADT
Pass Car / Truck	(i)	93.8%	135248	135248	2704966.88	371
Single Unit (includes mixers)	(ii)	4.2%	6056	6056	121117.92	17
Combination Unit	(iii)	2.0%	2884	2884	57675.2	8

Total ADT **395 trips**

(Flexible Pavement) 18 Kip equivalency Factors	Vehicle Type (surface loading)	Factor		# of trips over evaluation duration		Background ESAL
Pass Car / Truck	(a)	0.003	x	2,704,967	=	8,115
Single Unit	(b)	0.249	x	121,118	=	30,158
Combination Unit	(d)	1.087	x	57,675	=	62,693

Lane Factor

2 lane (CDOT Pavement Design Manual - Table C-2) 0.6

18 Kip ESAL Design Loading **60,580**

Table 5

ESAL CALCULATIONS

BACKGROUND TRAFFIC

Cascade Avenue

Base Values		# of days per year	# of trips per year
Study Duration	20 Years		
Weekday Count (data from counters)	195 trips	250	48750
Weekend and Holiday Count (assume 60% of Weekday)	117 trips	115	13455

Identify Background Trips	Vehicle Type (by vehicle length)	% of trips	Gross Trips per Year	Net Background Trips per year	Net Background Trips per Study Duration (20-yrs)	ADT
Pass Car / Truck	(i)	87.9%	54678	54678	1093563.9	150
Single Unit (includes mixers)	(ii)	4.2%	2613	2613	52252.2	7
Combination Unit	(iii)	7.9%	4914	4914	98283.9	13

Total ADT **170 trips**

(Flexible Pavement) 18 Kip equivalency Factors	Vehicle Type (surface loading)	Factor		# of trips over evaluation duration		Background ESAL
Pass Car / Truck	(a)	0.003	x	1,093,564	=	3,281
Single Unit	(b)	0.249	x	52,252	=	13,011
Combination Unit	(d)	1.087	x	98,284	=	106,835

Lane Factor

2 lane (CDOT Pavement Design Manual - Table C-2) 0.6

18 Kip ESAL Design Loading **73,876**

ESAL CALCULATIONS

BACKGROUND TRAFFIC

County Road 500 - S of Cascade

Base Values			# of days per year	# of trips per year
Study Duration	20	Years		
Weekday Count (data from counters)	300	trips	250	75000
Weekend and Holiday Count (assume 60% of Weekday)	180	trips	115	20700

Identify Background Trips	Vehicle Type (by vehicle length)	% of trips	Gross Trips per Year	Net Background Trips per year	Net Background Trips per Study Duration (20-yrs)	ADT
Pass Car / Truck	(i)	92.0%	88044	88044	1760880	241
Single Unit (includes mixers)	(ii)	2.7%	2584	2584	51678	7
Combination Unit	(iii)	5.3%	5072	5072	101442	14

Total ADT **262 trips**

(Flexible Pavement) 18 Kip equivalency Factors	Vehicle Type (surface loading)	Factor		# of trips over evaluation duration		Background ESAL
Pass Car / Truck	(a)	0.003	x	1,760,880	=	5,283
Single Unit	(b)	0.249	x	51,678	=	12,868
Combination Unit	(d)	1.087	x	101,442	=	110,267

Lane Factor

2 lane (CDOT Pavement Design Manual - Table C-2) 0.6

18 Kip ESAL Design Loading **77,051**

C & J GRAVEL PRODUCTS, INC

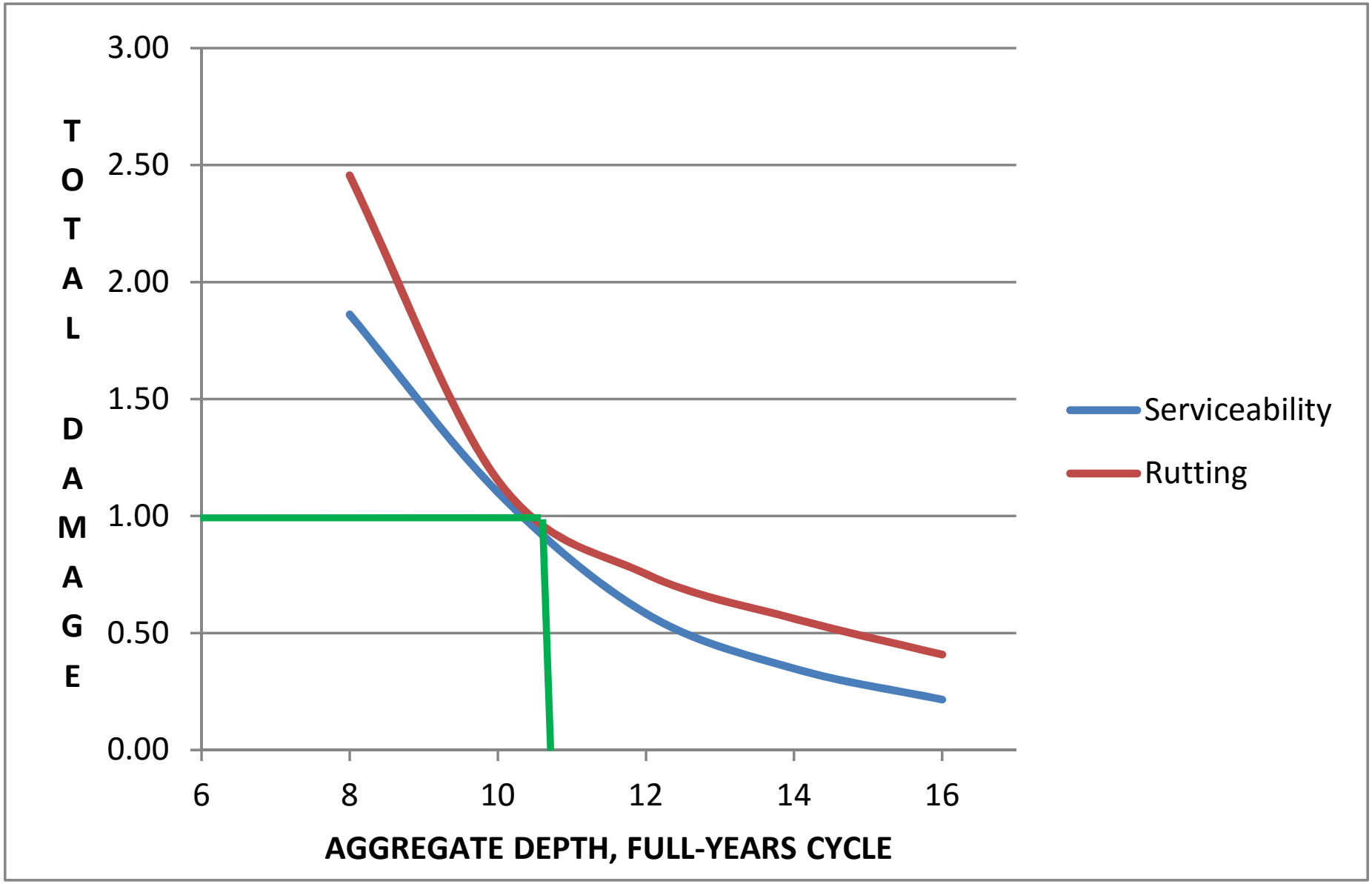
TWO RIVERS PIT

TRAFFIC AND ROADWAY ANALYSIS

Archuleta County, Colorado

Aggregate Surface Design Worksheets

APPENDIX 5


TOTAL DAMAGE
3.00
2.50
2.00
1.50
1.00
0.50
0.00
6
8
10
12
14
16
AGGREGATE DEPTH, FULL-YEARS CYCLE
Serviceability
Rutting

Project C&J TWO RIVERS PIT

Location CR 500 - ARCHULETA COUNTY

Analysis Date May 9, 2016

TRIAL BASE THICKNESS					Serviceability Criteria,		Rutting Criteria,	
		D_{BS} (inches)	8"		Change PSI =	3.0	RD (inches) =	2.0
ESAL (5-YR)	43,885				$P_o - P_t = 3.5 - 0.5 = 3.0$			Allowable 1.0 - 2.2 (Section 2.2.2, Pavement Design Manual)
(1) Season (Roadbed Moisture Condition)	Number of Months	(2) Roadbed Resilient Modulus, M_R (psi) Assumed Quality of Roadbed Soil = Good	(3) Base Elastic Modulus, E_{BS} (psi)	(4) Projected 18-kip ESAL Traffic, W_{18}	(5)Allowable 18-kip ESAL Traffic, $(W_{18})_{psi}$	(6) Seasonal Damage, $W_{18} / (W_{18})_{psi}$	(7) Allowable 18-kip ESAL Traffic, $(W_{18})_{RUT}$	(8) Seasonal Damage, $W_{18} / (W_{18})_{RUT}$
Winter (Frozen)	3	20,000	30,000	10,971	400,000	0.03	78,000	0.14
Spring / Thaw (Saturated)	1.5	2,000	30,000	5,486	5,500	1.00	6,200	0.88
Spring / Fall (Wet)	3	6,000	30,000	10,971	19,500	0.56	11,000	1.00
Summer (Dry)	4.5	10,000	30,000	16,457	60,000	0.27	38,000	0.43
			Total Traffic =	43885	Total Damage =	1.86	Total Damage =	2.46

Project C&J TWO RIVERS PIT

Location CR 500 - ARCHULETA COUNTY

Analysis Date May 9, 2016

TRIAL BASE THICKNESS					Serviceability Criteria,		Rutting Criteria,	
		D_{BS} (inches)	10"		Change PSI =	3.0	RD (inches) =	2.0
ESAL (5-YR)	43,885				$P_o - P_t = 3.5 - 0.5 = 3.0$			Allowable 1.0 - 2.2 (Section 2.2.2, Pavement Design Manual)
(1) Season (Roadbed Moisture Condition)	Number of Months	(2) Roadbed Resilient Modulus, M_R (psi) Assumed Quality of Roadbed Soil = Good	(3) Base Elastic Modulus, E_{BS} (psi)	(4) Projected 18-kip ESAL Traffic, W_{18}	(5)Allowable 18-kip ESAL Traffic, $(W_{18})_{psi}$	(6) Seasonal Damage, $W_{18} / (W_{18})_{psi}$	(7) Allowable 18-kip ESAL Traffic, $(W_{18})_{RUT}$	(8) Seasonal Damage, $W_{18} / (W_{18})_{RUT}$
Winter (Frozen)	3	20,000	30,000	10,971	400,000	0.03	120,000	0.09
Spring / Thaw (Saturated)	1.5	2,000	30,000	5,486	10,000	0.55	11,000	0.50
Spring / Fall (Wet)	3	6,000	30,000	10,971	32,000	0.34	38,000	0.29
Summer (Dry)	4.5	10,000	30,000	16,457	90,000	0.18	60,000	0.27
			Total Traffic =	43885	Total Damage =	1.10	Total Damage =	1.15

Project C&J TWO RIVERS PIT

Location CR 500 - ARCHULETA COUNTY

Analysis Date May 9, 2016

		TRIAL BASE THICKNESS			Serviceability Criteria,		Rutting Criteria,	
		D_{BS} (inches)	12"		Change PSI =	3.0	RD (inches) =	2.0
ESAL (5-YR)	43,885					$P_o - P_t = 3.5 - 0.5 = 3.0$		Allowable 1.0 - 2.2 (Section 2.2.2, Pavement Design Manual)
(1) Season (Roadbed Moisture Condition)	Number of Months	(2) Roadbed Resilient Modulus, M_R (psi) Assumed Quality of Roadbed Soil = Good	(3) Base Elastic Modulus, E_{BS} (psi)	(4) Projected 18-kip ESAL Traffic, W_{18}	(5)Allowable 18-kip ESAL Traffic, $(W_{18})_{psi}$	(6) Seasonal Damage, $W_{18} / (W_{18})_{psi}$	(7) Allowable 18-kip ESAL Traffic, $(W_{18})_{RUT}$	(8) Seasonal Damage, $W_{18} / (W_{18})_{RUT}$
Winter (Frozen)	3	20,000	30,000	10,971	620,000	0.02	200,000	0.05
Spring / Thaw (Saturated)	1.5	2,000	30,000	5,486	19,000	0.29	18,000	0.30
Spring / Fall (Wet)	3	6,000	30,000	10,971	63,000	0.17	50,000	0.22
Summer (Dry)	4.5	10,000	30,000	16,457	160,000	0.10	95,000	0.17
			Total Traffic =	43885	Total Damage =	0.58	Total Damage =	0.75

Project C&J TWO RIVERS PIT
Location CR 500 - ARCHULETA COUNTY

Analysis Date May 9, 2016

TRIAL BASE THICKNESS					Serviceability Criteria,		Rutting Criteria,	
		D_{BS} (inches)	14"		Change PSI =	3.0	RD (inches) =	2.0
ESAL (5-YR)	43,885				$P_o - P_t = 3.5 - 0.5 = 3.0$			Allowable 1.0 - 2.2 (Section 2.2.2, Pavement Design Manual)
(1) Season (Roadbed Moisture Condition)	Number of Months	(2) Roadbed Resilient Modulus, M_R (psi) Assumed Quality of Roadbed Soil = Good	(3) Base Elastic Modulus, E_{BS} (psi)	(4) Projected 18-kip ESAL Traffic, W_{18}	(5)Allowable 18-kip ESAL Traffic, $(W_{18})_{psi}$	(6) Seasonal Damage, $W_{18} / (W_{18})_{psi}$	(7) Allowable 18-kip ESAL Traffic, $(W_{18})_{RUT}$	(8) Seasonal Damage, $W_{18} / (W_{18})_{RUT}$
Winter (Frozen)	3	20,000	30,000	10,971	700,000	0.02	280,000	0.04
Spring / Thaw (Saturated)	1.5	2,000	30,000	5,486	38,000	0.14	22,000	0.25
Spring / Fall (Wet)	3	6,000	30,000	10,971	100,000	0.11	75,000	0.15
Summer (Dry)	4.5	10,000	30,000	16,457	210,000	0.08	130,000	0.13
			Total Traffic =	43885	Total Damage =	0.35	Total Damage =	0.56

Project C&J TWO RIVERS PIT
Location CR 500 - ARCHULETA COUNTY

Analysis Date May 9, 2016

TRIAL BASE THICKNESS					Serviceability Criteria,		Rutting Criteria,	
		D_{BS} (inches)	16"		Change PSI =	3.0	RD (inches) =	2.0
ESAL (5-YR)	43,885				$P_o - P_t = 3.5 - 0.5 = 3.0$			Allowable 1.0 - 2.2 (Section 2.2.2, Pavement Design Manual)
(1) Season (Roadbed Moisture Condition)	Number of Months	(2) Roadbed Resilient Modulus, M_R (psi) Assumed Quality of Roadbed Soil = Good	(3) Base Elastic Modulus, E_{BS} (psi)	(4) Projected 18-kip ESAL Traffic, W_{18}	(5)Allowable 18-kip ESAL Traffic, $(W_{18})_{psi}$	(6) Seasonal Damage, $W_{18} / (W_{18})_{psi}$	(7) Allowable 18-kip ESAL Traffic, $(W_{18})_{RUT}$	(8) Seasonal Damage, $W_{18} / (W_{18})_{RUT}$
Winter (Frozen)	3	20,000	30,000	10,971	800,000	0.01	400,000	0.03
Spring / Thaw (Saturated)	1.5	2,000	30,000	5,486	62,000	0.09	29,000	0.19
Spring / Fall (Wet)	3	6,000	30,000	10,971	160,000	0.07	110,000	0.10
Summer (Dry)	4.5	10,000	30,000	16,457	370,000	0.04	180,000	0.09
			Total Traffic =	43885	Total Damage =	0.22	Total Damage =	0.41

GRAVEL LOSS - calculations

AASHTO - Design of Pavement Structures
Section 2.2.3

GL = (B / 25.4 /0.0045LADT + 3380.6/R + 0.467G)
GL = Gravel Loss inches
B = Blading per Year 5 times / evaluation period
LADT = Daily Traffic Per Lane 252 trips/day
R = Average Radius of Curves 400 ft (assumed)
G = Absolute value of grade 4% assumed

GL = 0.021512341 inches
Assume placement of 1/2-inch of gravel every fifth year

D_{BS} (INCHES) 8"

WINTER 400,000

SPRING THAW 5500

SPRING WET 19500

SUMMER 60,000

Example:

D_{BS} = 8 inches

E_{BS} = 30,000 psi

M_R = 4,900 psi

ΔPSI = 3.0

Solution: $W_{18_{PSI}}$ = 16,000 (18-kip ESAL)

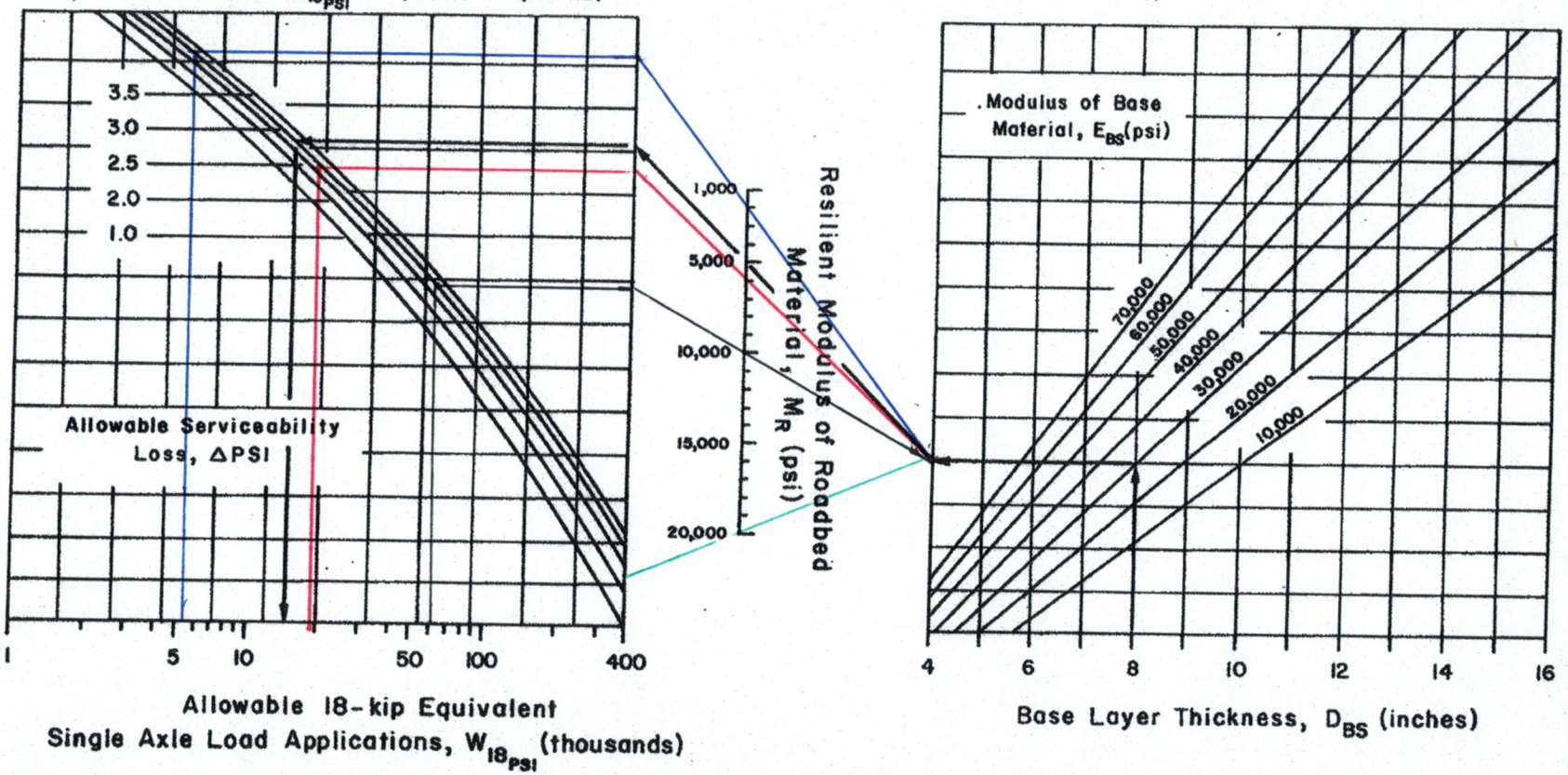


Figure 4.2. Design Chart for Aggregate-Surfaced Roads Considering Allowable Serviceability Loss

D_{BS} (inches) 8"
Winter 78,000
Spring Mean 6,200
Spring wet 1,000
Summer 38,000

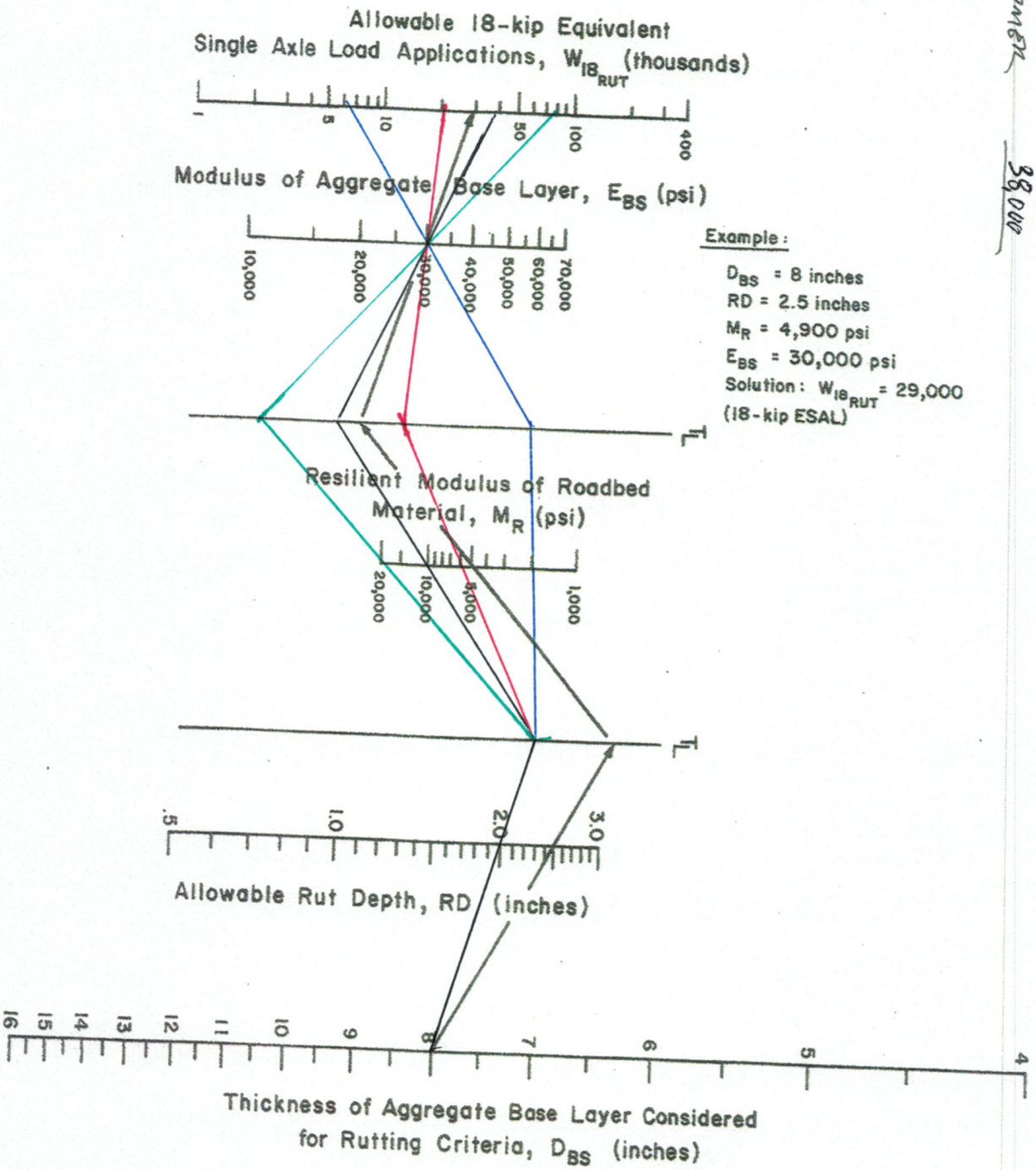


Figure 4.3. Design Chart for Aggregate-Surfaced Roads Considering Allowable Rutting

DBS (INCHES) 10"
WINTER 400,000
SPRING THAW 10,000
SPRING WET 32,000
SUMMER 90,000

Example:

D_{BS} = 8 inches
E_{BS} = 30,000 psi
M_R = 4,900 psi
ΔPSI = 3.0
Solution: $W_{18_{PSI}}$ = 16,000 (18-kip ESAL)

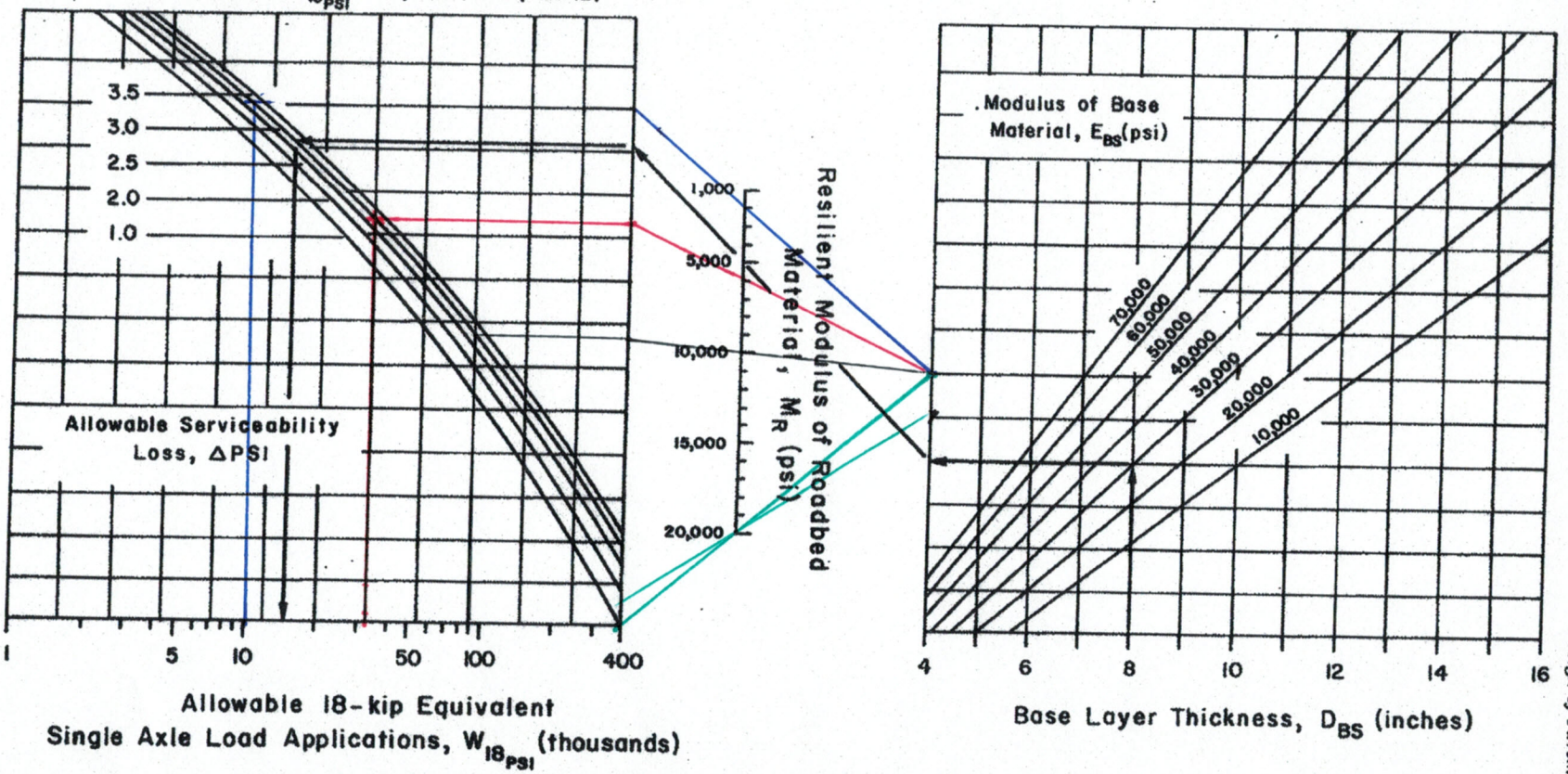


Figure 4.2. Design Chart for Aggregate-Surfaced Roads Considering Allowable Serviceability Loss

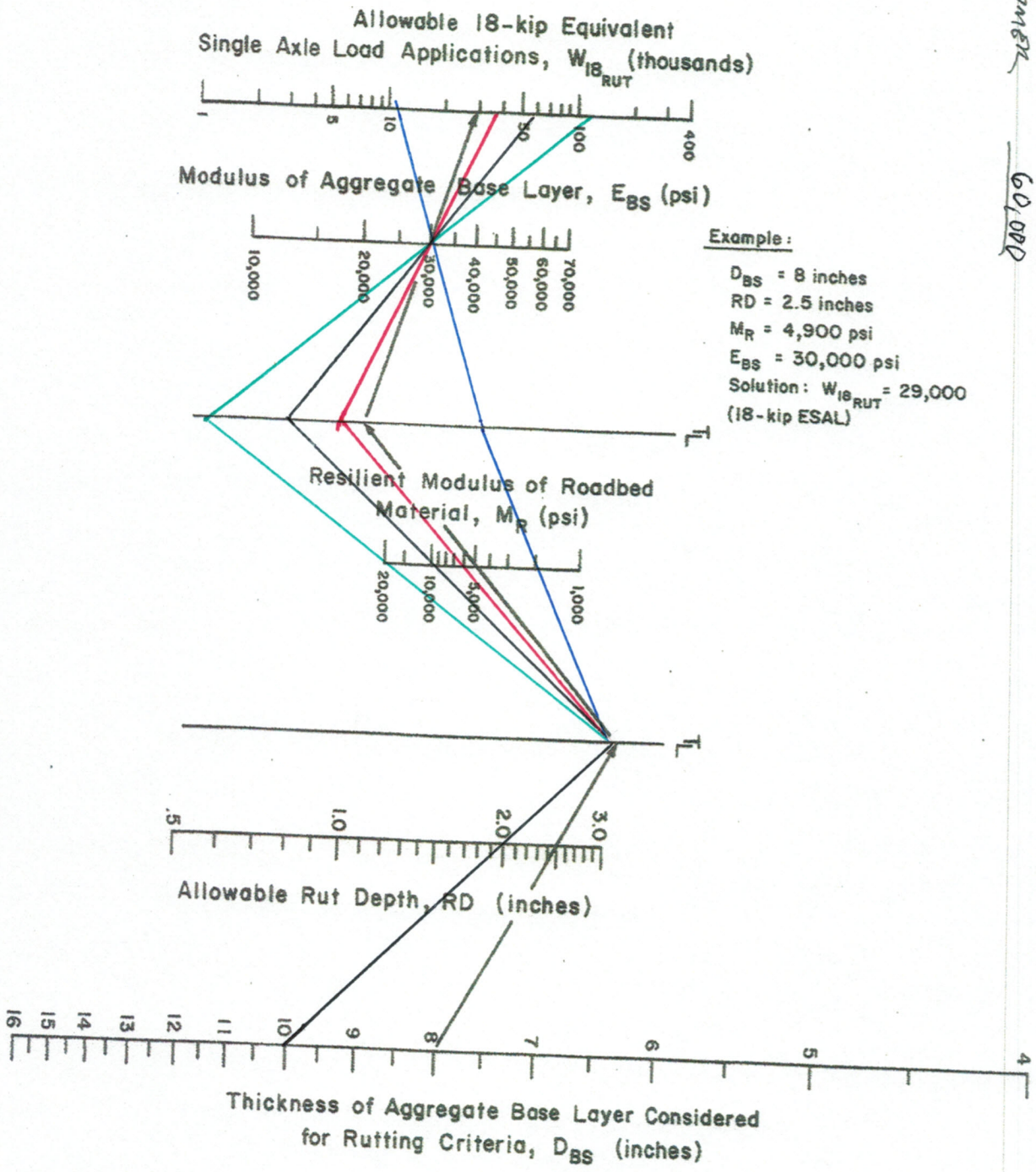


Figure 4.3. Design Chart for Aggregate-Surfaced Roads Considering Allowable Rutting

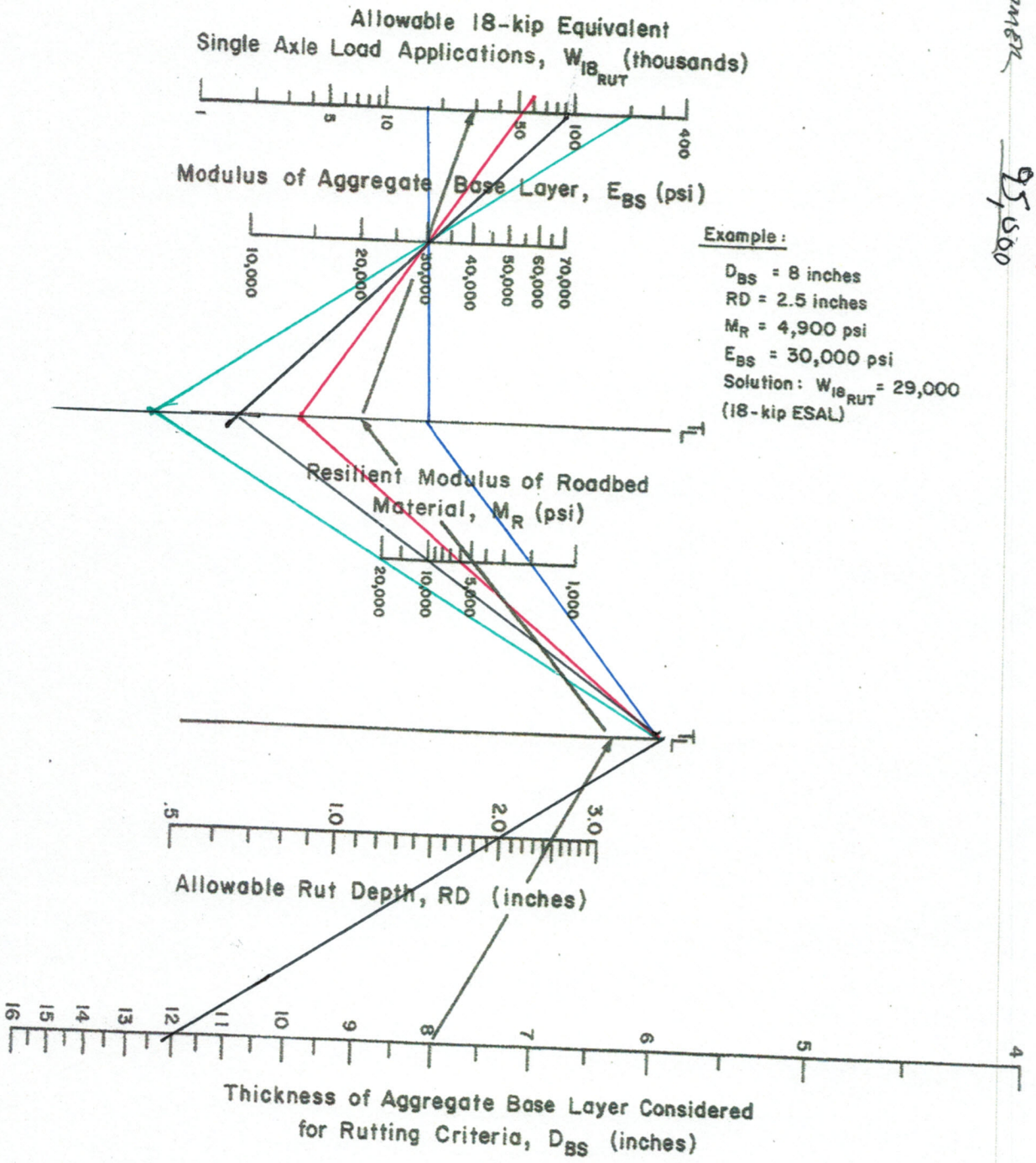


Figure 4.3. Design Chart for Aggregate-Surfaced Roads Considering Allowable Rutting

DBS (inches) 12"
WINTER 200,000
SPRING MAX 18,000
SPRING WET 50,000
SUMMER 95,000

D_{BS} (INCHES) 12"
WINTER 620,000
SPRING THAW 190,000
SPRING WET 63,000
SUMMER 160,000

Example:

D_{BS} = 8 inches
E_{BS} = 30,000 psi
M_R = 4,900 psi
ΔPSI = 3.0
Solution: $W_{18_{PSI}}$ = 16,000 (18-kip ESAL)

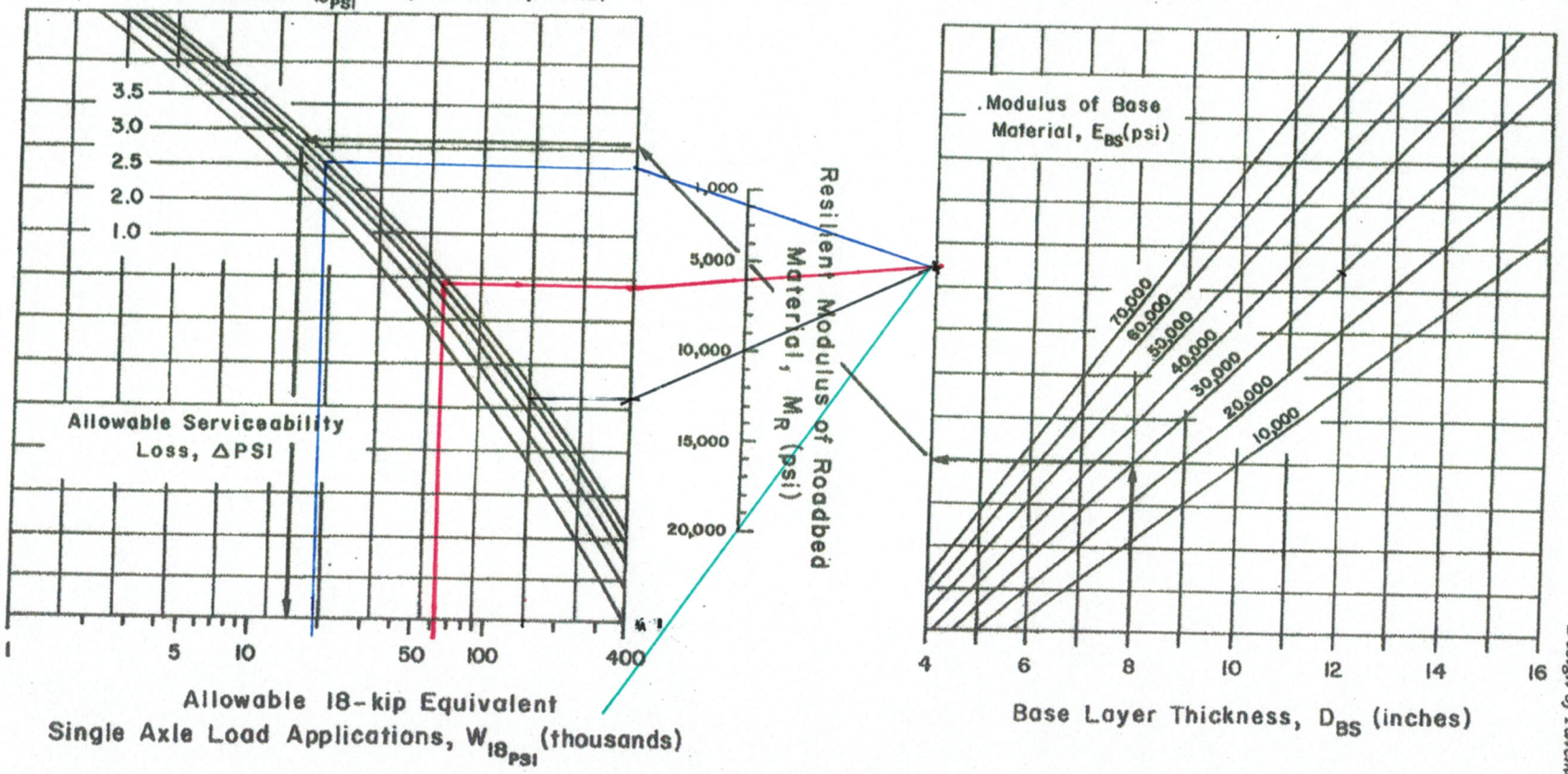


Figure 4.2. Design Chart for Aggregate-Surfaced Roads Considering Allowable Serviceability Loss

D_{BS} (INCHES) 14"
WINTER 700,000
SPRING THAW 38,000
SPRING WET 100,000
SUMMER 210,000

Example:

D_{BS} = 8 inches
E_{BS} = 30,000 psi
M_R = 4,900 psi
ΔPSI = 3.0
Solution: $W_{18_{PSI}}$ = 16,000 (18-kip ESAL)

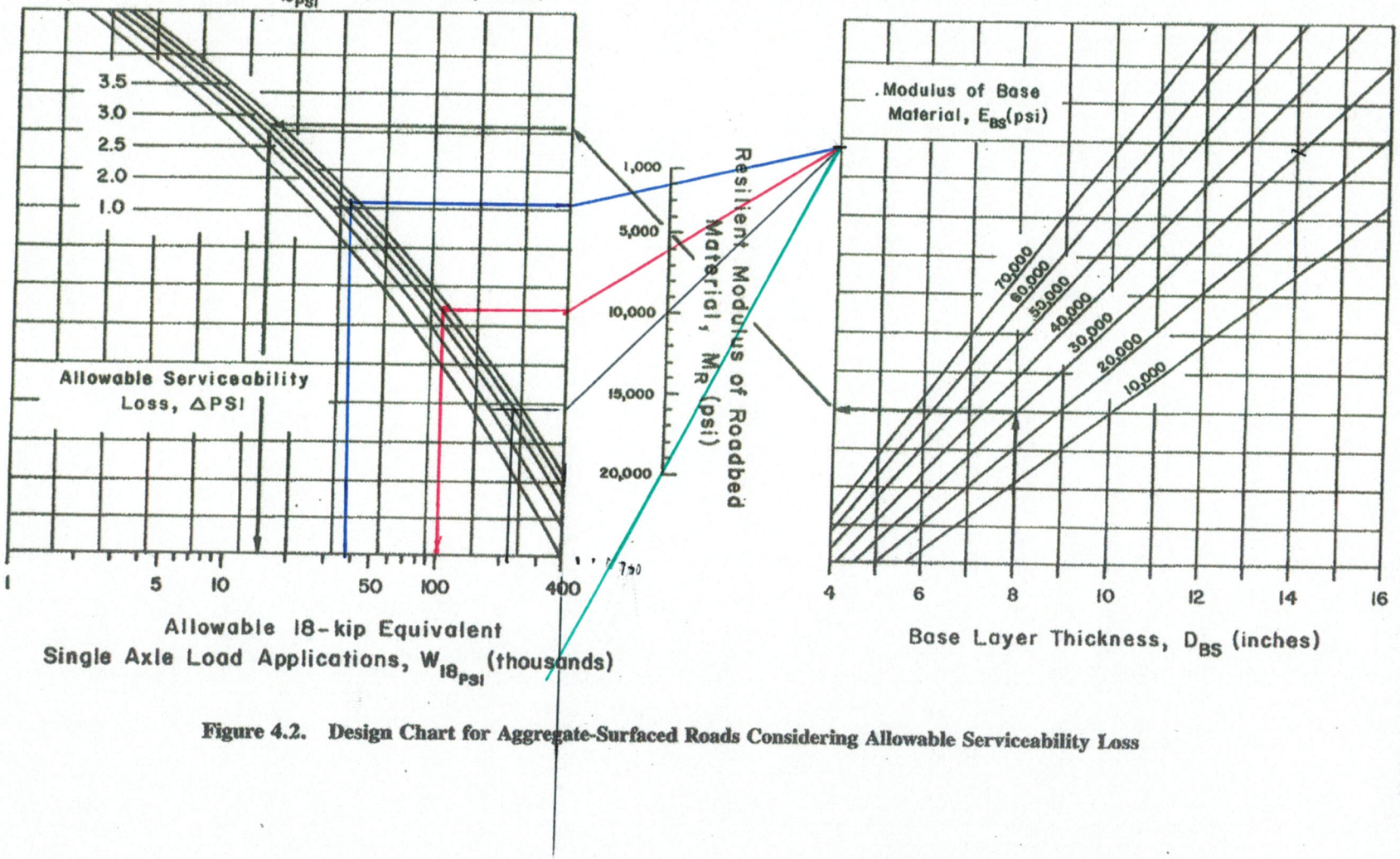


Figure 4.2. Design Chart for Aggregate-Surfaced Roads Considering Allowable Serviceability Loss

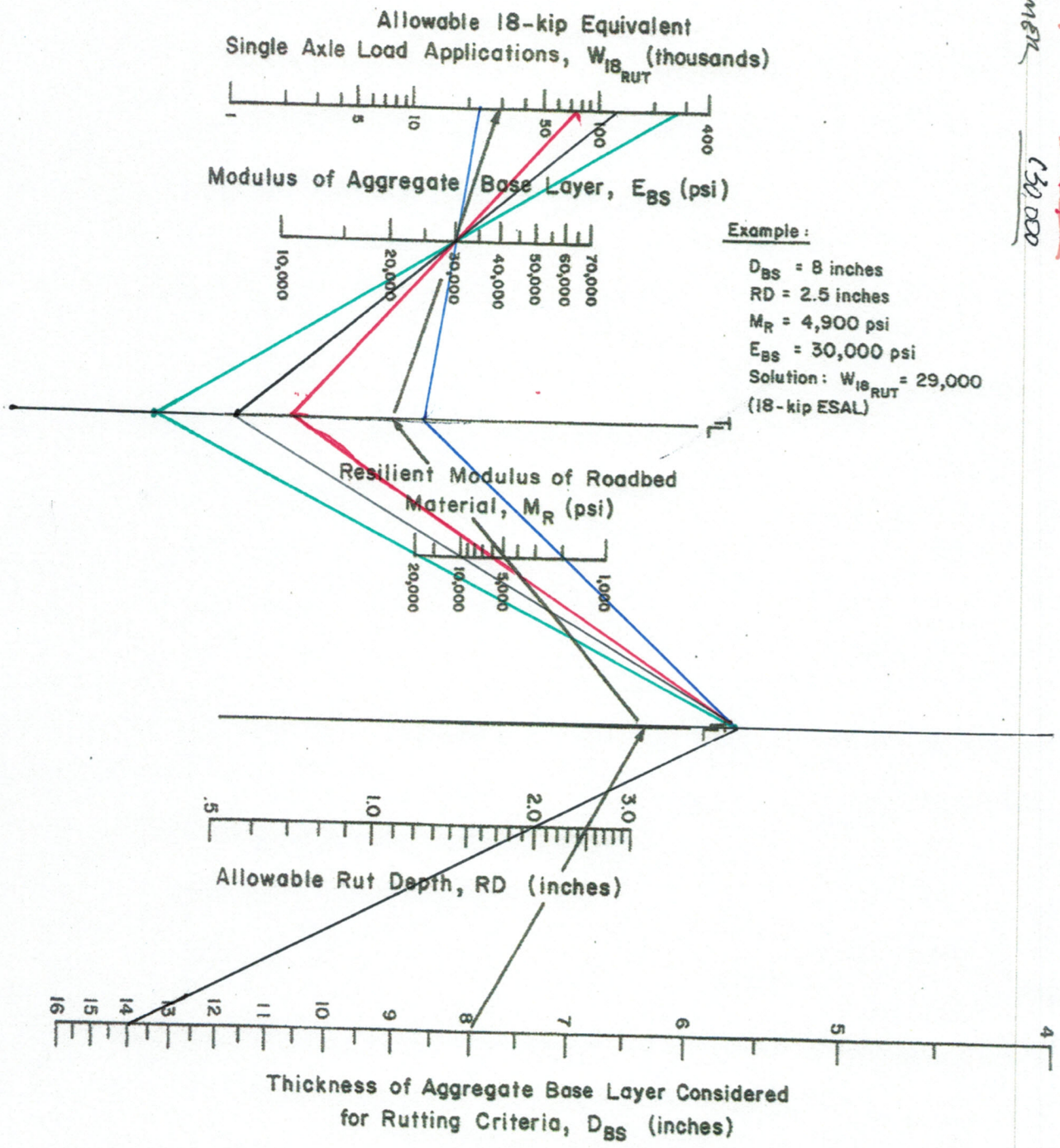


Figure 4.3. Design Chart for Aggregate-Surfaced Roads Considering Allowable Rutting

D_{BS} (INCHES) 16"
WINTER 800,000
SPRING THAW 62,500
SPRING WET 160,000
SUMMER 370,000

Example:

D_{BS} = 8 inches
E_{BS} = 30,000 psi
M_R = 4,900 psi
ΔPSI = 3.0
Solution: $W_{18_{PSI}}$ = 16,000 (18-kip ESAL)

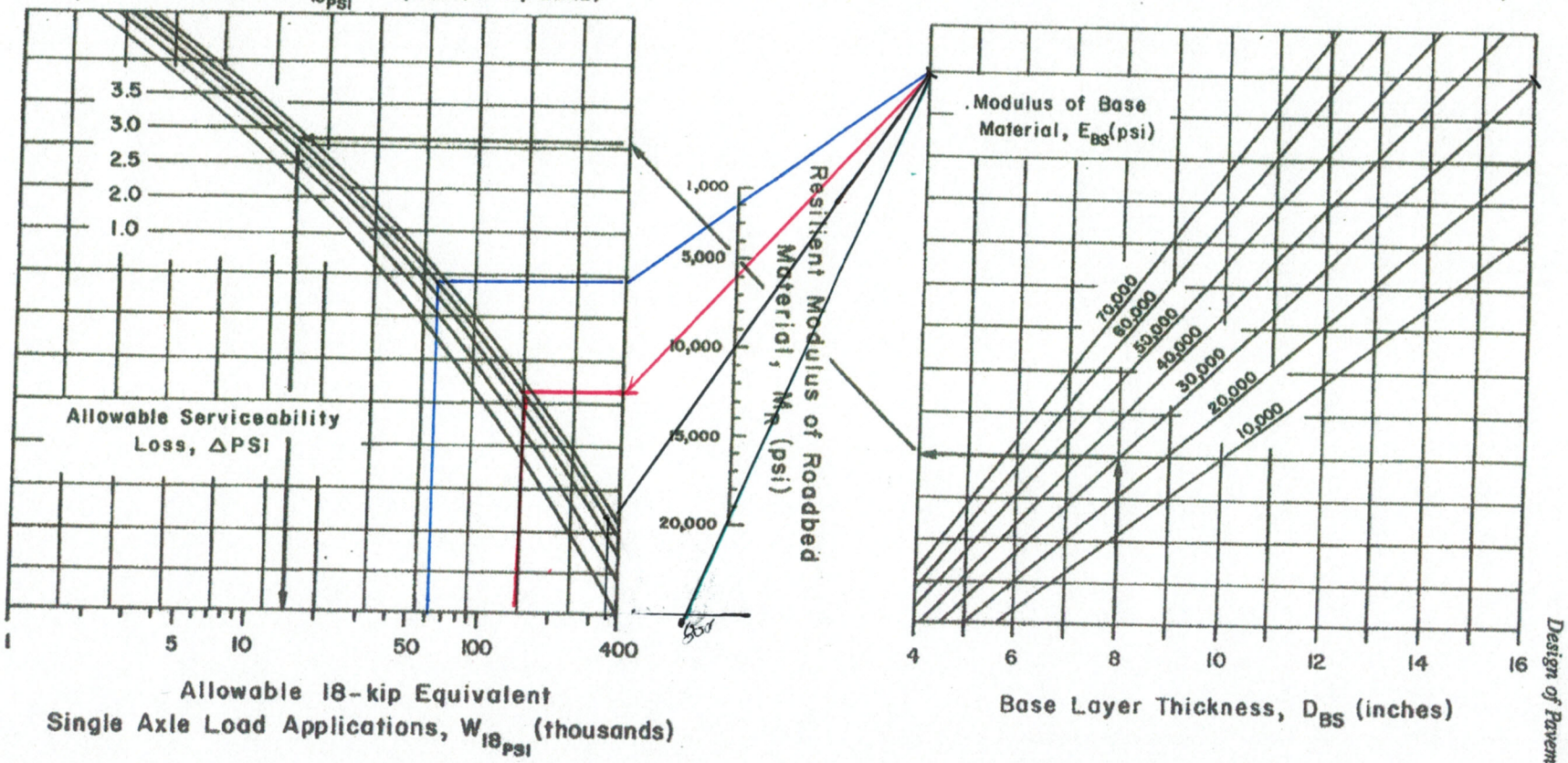


Figure 4.2. Design Chart for Aggregate-Surfaced Roads Considering Allowable Serviceability Loss

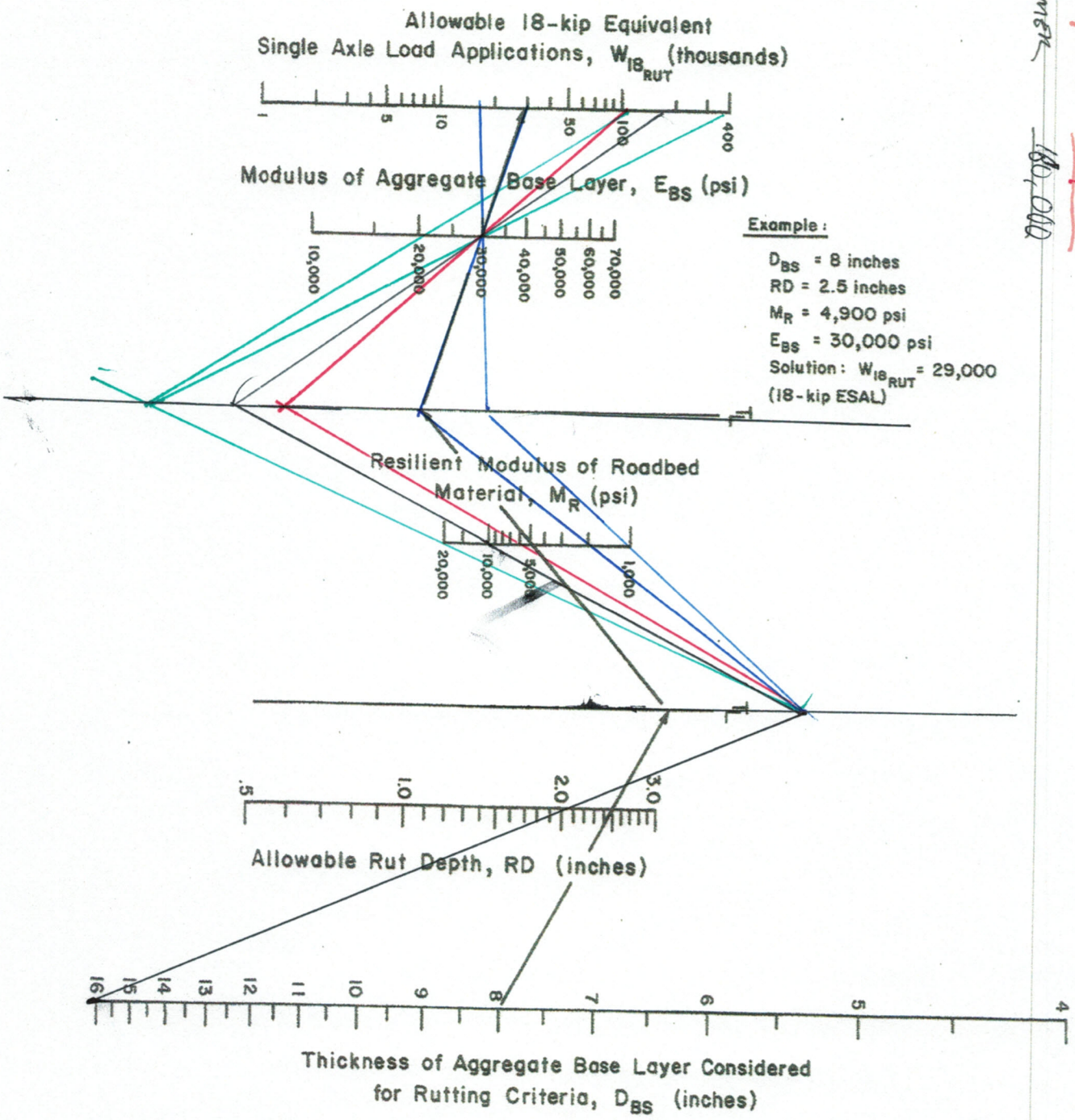


Figure 4.3. Design Chart for Aggregate-Surfaced Roads Considering Allowable Rutting

C & J GRAVEL PRODUCTS, INC

TWO RIVERS PIT

TRAFFIC AND ROADWAY ANALYSIS

Archuleta County, Colorado

Two Rivers Pit – Haul Road Assessment OPC

APPENDIX 6

C&J GRAVEL, TWO RIVERS PIT - HAUL ROAD ASSESSMENT BY YEAR

Project: CR 500, Cascade Avenue, S. Pagosa Blvd

CPI avg 2.5%

Item	Improvement		# of Units	Unit	Unit Cost	Current Year $	% Impact by TR	Current Year $
a	Install Limited Sight Distance Flashing Caution Signs: MP 5.8 - 6.4 (% impact by traffic volume)		1	LS	$25,000	$25,000	29%	$7,250
b	Aggregate Placement; S. Pagosa / Buttress	1.5 mi	440	TONS	$15	$6,600	45%	$2,970
c	Aggregate Placement; Cascade Ave	0.9 mi	264	TONS	$15	$3,960	63%	$2,495
d	Aggregate Placement; CR 500 (S. of Cascade)	7.4 mi	2171	TONS	$15	$32,560	62%	$20,187
e	Aggregate Placement: CR 500 (N. of Cascade)	2.0 mi	587	TONS	$15	$8,800	34%	$2,992
h	Chip seal S. Pagosa Blvd (Yr 2018 &Yr 2028)	3.4 mi	3.4	MILES	$100,000	$340,000	45%	$153,000
i	Chip seal CR 500 (Yr 2021 & Yr 2031)	2.2 mi	2.2	MILES	$100,000	$220,000	34%	$74,800
						subtotal=		$703,387
					Contingency: 5% of	5%		$35,169
						TOTAL OPC		**$738,557**

C&J TRUCK TOTALS - 20-YEARS 133,333 TRUCKS

$ PER TON (15 TONS/TR) **$0.37**

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
a	$7,250																			
b		$3,119					$3,490					$3,861					$4,232			
c		$2,620					$2,931					$3,243					$3,555			
d		$21,197					$23,720					$26,243					$28,767			
e				$3,291						$3,740						$4,189				
h			$164,475										$202,725							
i						$86,020										$104,720				
	$7,250	$26,935	$164,475	$3,291	$0	$86,020	$30,141	$0	$0	$3,740	$0	$33,348	$202,725	$0	$0	$108,909	$36,554	$0	$0	$0

Notes

Estimate utilizes unit value costs from CDOT Cost Data Book (Avg Years 2011 - 2013)

Roadway modifications to be completed within existing right-of-way/prescriptive easement. Unless as noted, no other right-of-way acquisition costs included in OPC

Aggregate placement: 24ft wide, 1/2-in depth, every 5-years (every 6-yrs on N. CR 500)

C & J GRAVEL PRODUCTS, INC

TWO RIVERS PIT

TRAFFIC AND ROADWAY ANALYSIS

Archuleta County, Colorado

Roadway Photos

APPENDIX 7

South Pagosa Boulevard
MP 0.1
View North

CR 500
MP 0.1
View Northeast

CR 500
MP 4.2
View South

Cascade Avenue
MP 0.9
View West

CR 500
MP 11.5
View North

CR 500
MP 11.5 (adj. to Project)
View Southeast

CR 500
MP 0.1 (posted speed)
View Northwest

Intersection of
Buttress & Cascade
(photo 1)
View Northwest

Intersection of
Buttress & Cascade
(photo 2)
View Southwest

C&J GRAVEL ROCKS DURANGO

C&J Gravel Products, Inc.

C&J Gravel Products
Mitigation Proposal
Two Rivers Application

Dear Mr. Shepard,

Here is what I am proposing for mitigation. I am not sure how this would work legally as I've never done this before. The idea of my proposal is that Archuleta County will have more budget money to use at their discretion and that C&J Gravel is not held to certain improvements that might not be to the best benefit of the county. With this plan the county can decide where and when the gravel is needed and make repairs as necessary. C&J Gravel is a small company and cannot afford any significant up front cost to help mitigate potential impacts so I feel this is the best plan to partner with the county to bring a much needed gravel source to the county.

Let me know if you have any question or need any clarification about this.

5.13.16

John Gilleland
President

27661 HWY 160-E Durango, CO 81301
Tel: (970) 385-4112 Fax: (970) 385-5014

C&J GRAVEL ROCKS DURANGO

C&J Gravel Products, Inc.

C&J Gravel proposes:

Archuleta county to receive 5000 ton credit, material of choice. This is considered an up front payment for 5 years of impact to roads?

3 year contract to provide road base @$5.00 per ton loaded or $4.00 per ton stockpiled (The county to provide loader)

First three years C&J to pay 0.50 per ton mitigation fee. After the 3rd year it goes to 0.37 per ton.

C&J to pay for and install safety lights described in TIA $25,000 Appx

Total value to Archuleta County

5000 ton credit	$ 25,000
3 yr contract @ $5 saves county $67k yr (x3) low bid to provide material to A.C.)	$201,000 (this number based on 2016
3 yr mitigation @.50 ton	$150,000
Safety lights	$ 25,000
17 years mitigation @$0.37 per ton year)	$629,000 (based on 100,000 tons per
Total	$1,030,000

27661 HWY 160-E Durango, CO 81301
Tel: (970) 385-4112 Fax: (970) 385-5014

TWO RIVERS GRAVEL PIT

ARCHULETA COUNTY, CO

C&J GRAVEL ROCKS DURANGO

JUNE 8, 2016

TWO RIVERS GRAVEL PIT

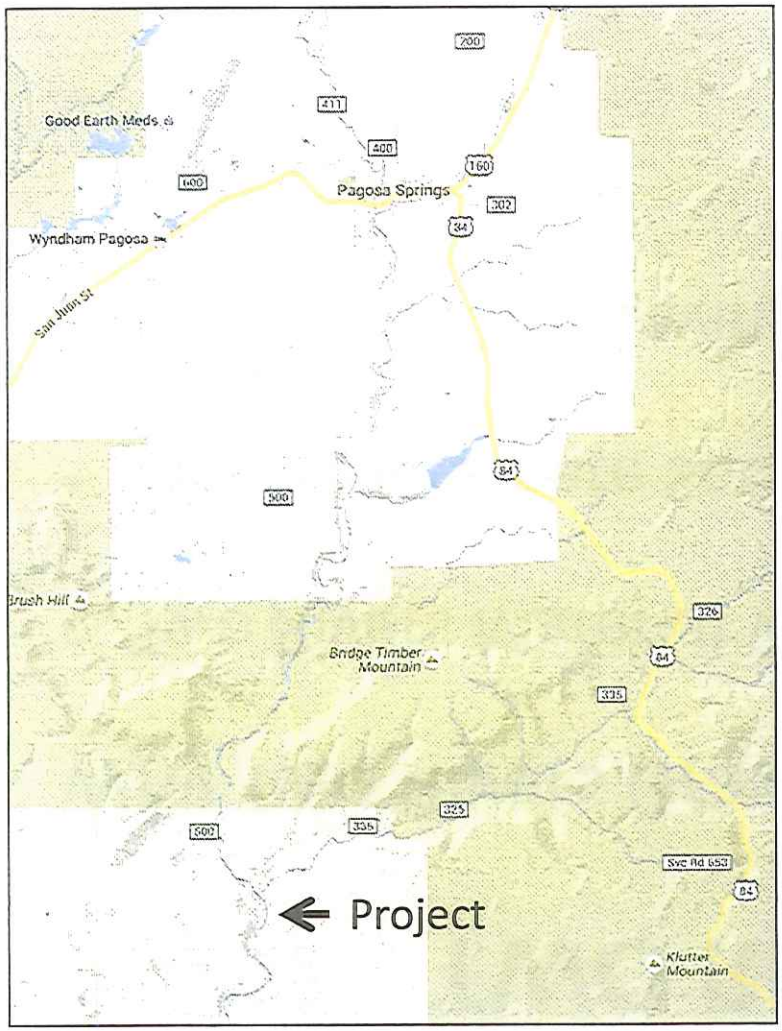
- C&J GRAVEL – Applicant
- Local Operator – 28 Years
- Material Meets Governmental Specifications
- Multiple Agency Permits – No Violations
- Supplies Material to Archuleta County

TWO RIVERS GRAVEL PIT

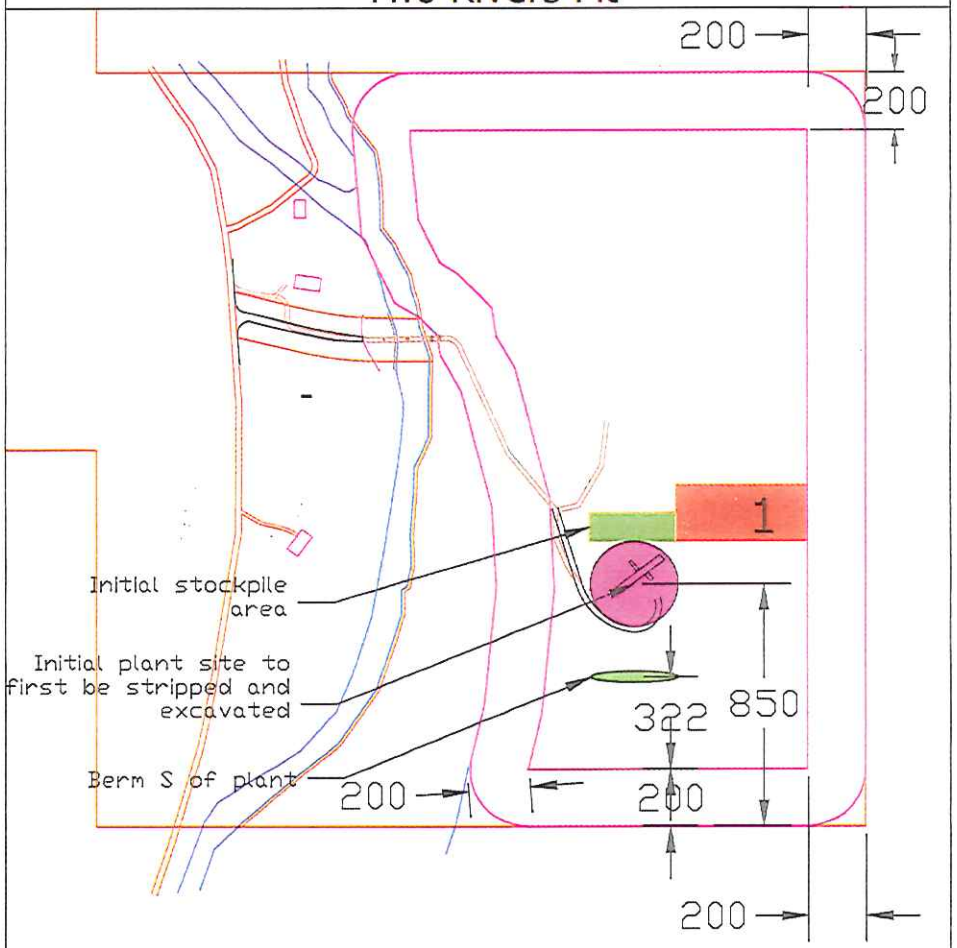
Why Two Rivers Gravel Pit

- Two Rivers Material Would Meet Specifications
- Closest Alternate Source – Durango or Arboles
- Significant Cost Savings to Region

TWO RIVERS GRAVEL PIT



C&J Gravel Products, Inc.
Two Rivers Pit

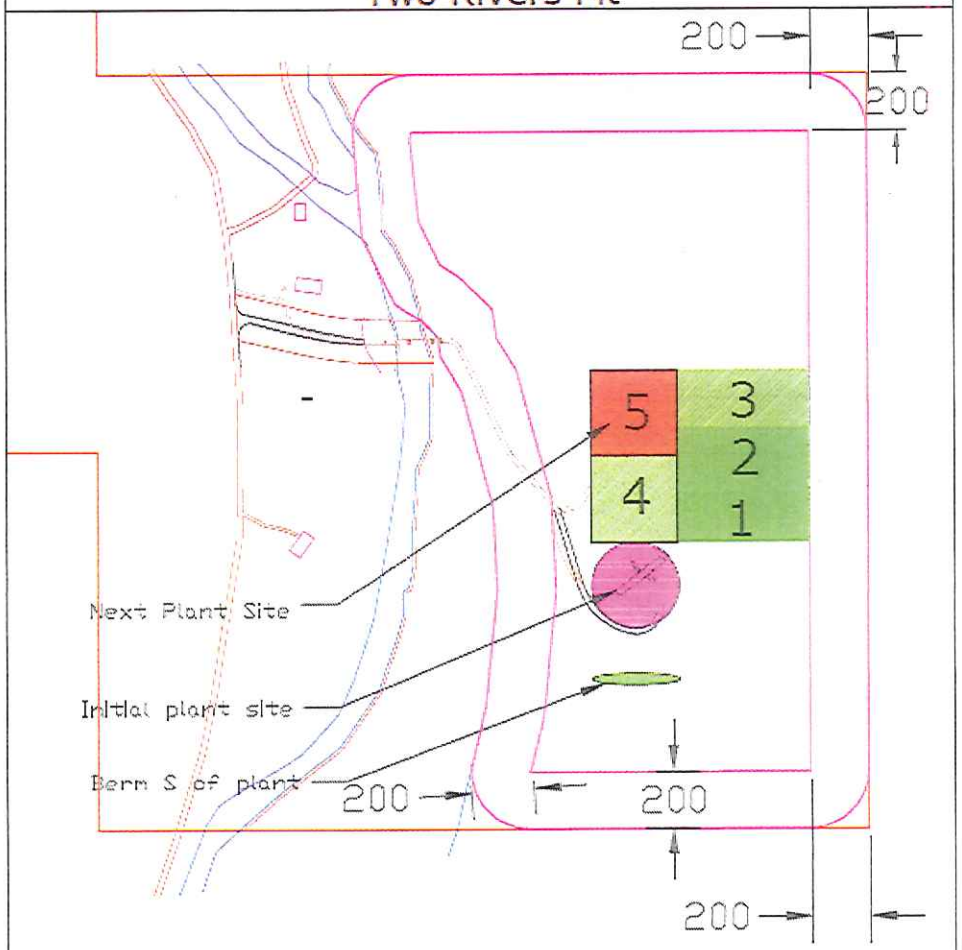


BERMS AND STOCKPILES (revegetated after building.

Plant site to be used for first 5-6 years

Initial Mining (First Year)

C&J Gravel Products, Inc.
Two Rivers Pit

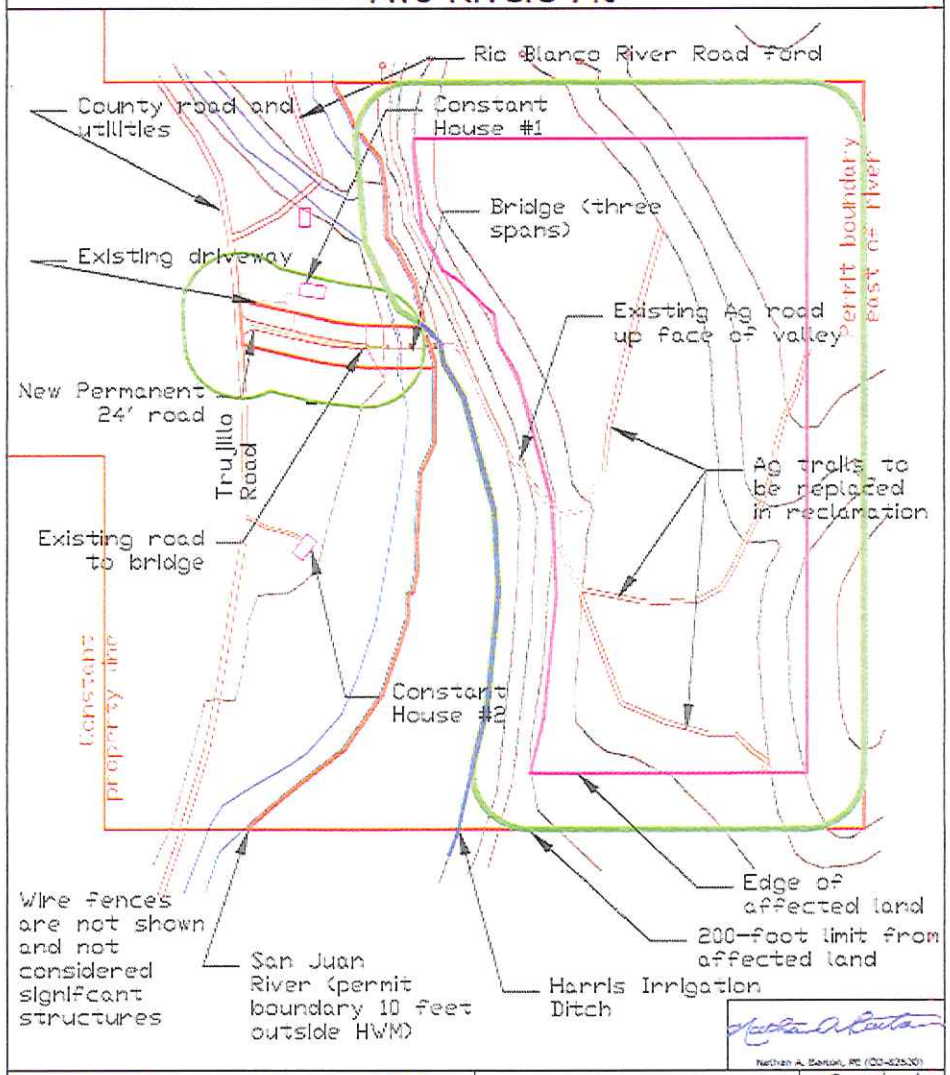


BERMS AND STOCKPILES (revegetated after building.

Plant site to be used for first 5-6 years, then relocate to the north (to area mined in Year 5).

Initial Mining (Fifth Year)

C&J Gravel Products, Inc.
Two Rivers Pit



Nathan A. Barton, PE (CO-#25320)

Prepared for C&J Gravel by and (c) **WASTELINE, INC.**
Date: 21 DEC 2014 By: N. Barton Rv: P. Neil
Scale: 1"=500' 40-ft contours Source: USGS Map/Photo.
Portions SW 1/4 Sec 11, T33N, R2W, 10th PM, Archuleta Co., CO, Pertaining to Application: Two Rivers Pit M-2015_____ Legend: standard USGS

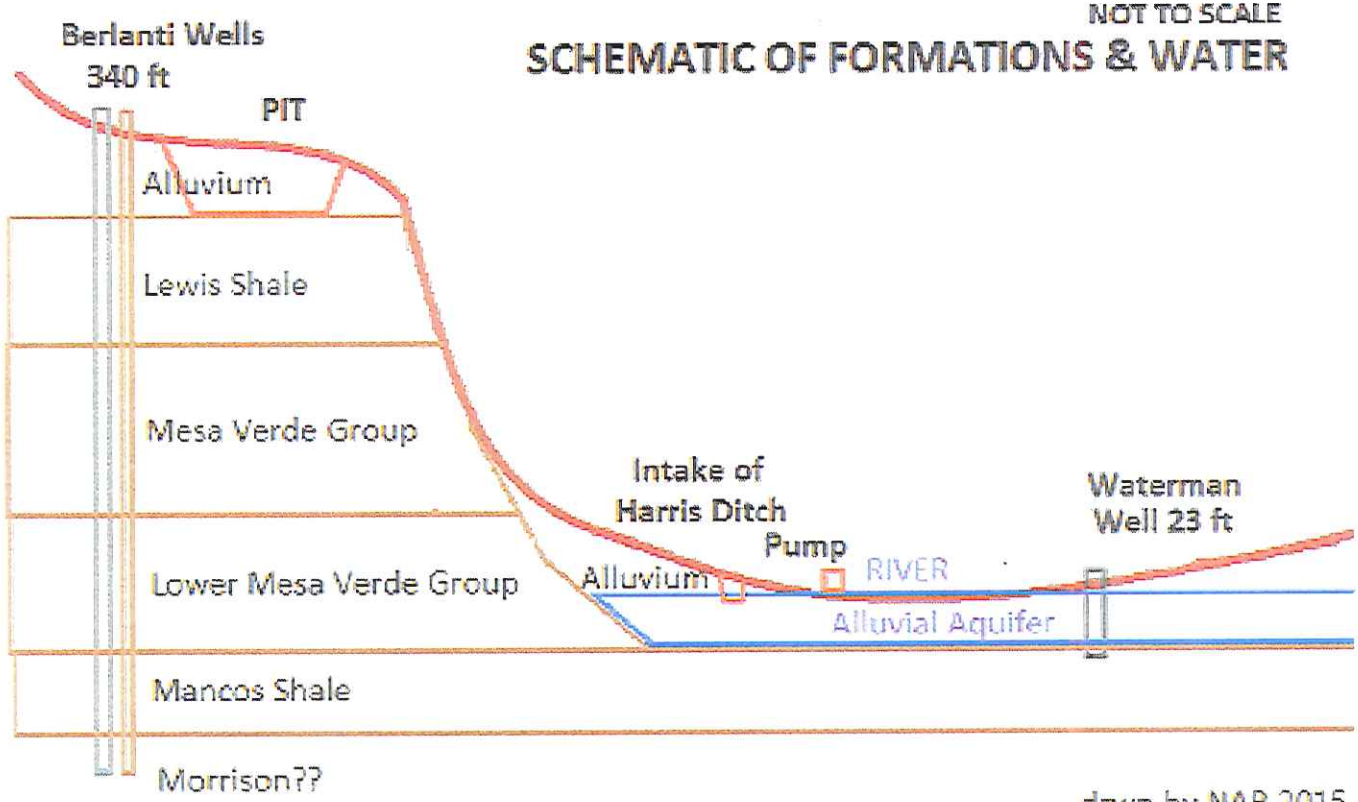
SIGNIFICANT PERMANENT STRUCTURES showing 200-foot zone

Drawing/ Sheet No. **S1**

C&J GRAVEL ROCKS DURANGO

NOT TO SCALE

SCHEMATIC OF FORMATIONS & WATER



drwn by NAB 2015

TRAFFIC COUNTS

Gravel Pit - 47 Trips

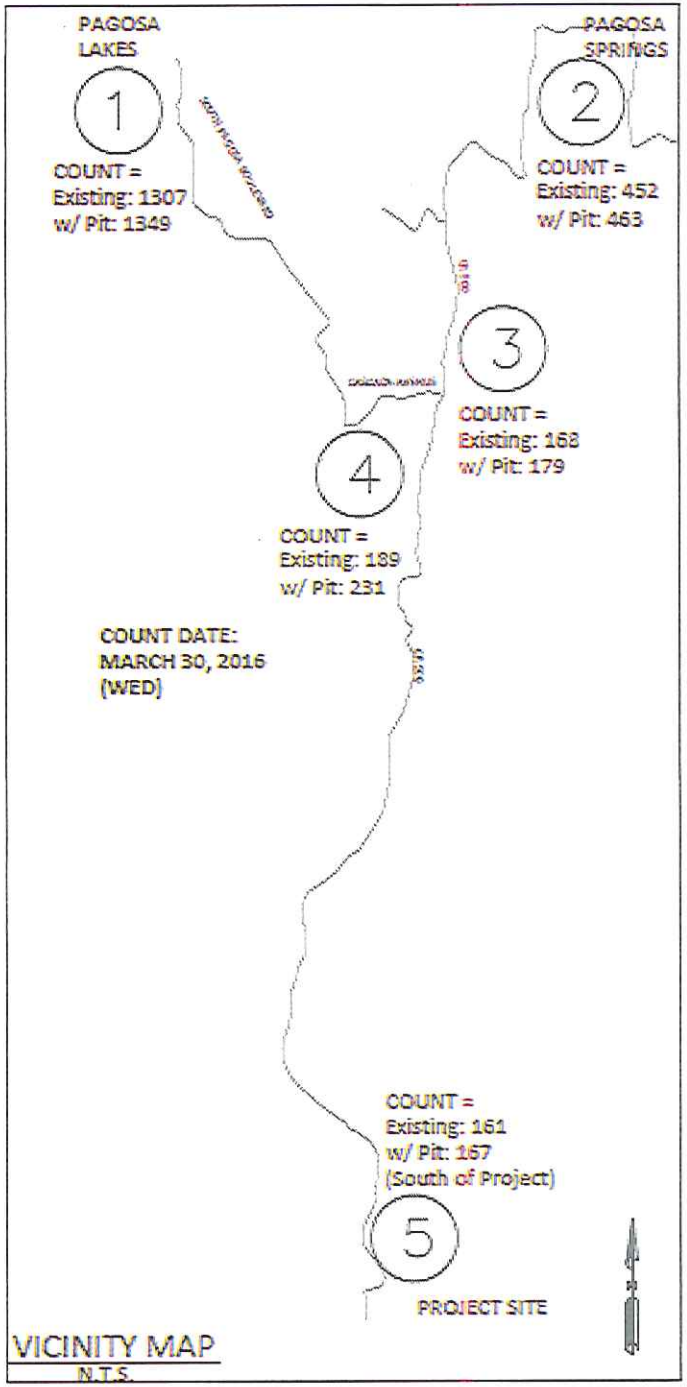
(37 Gravel Truck)

Northbound – 90%

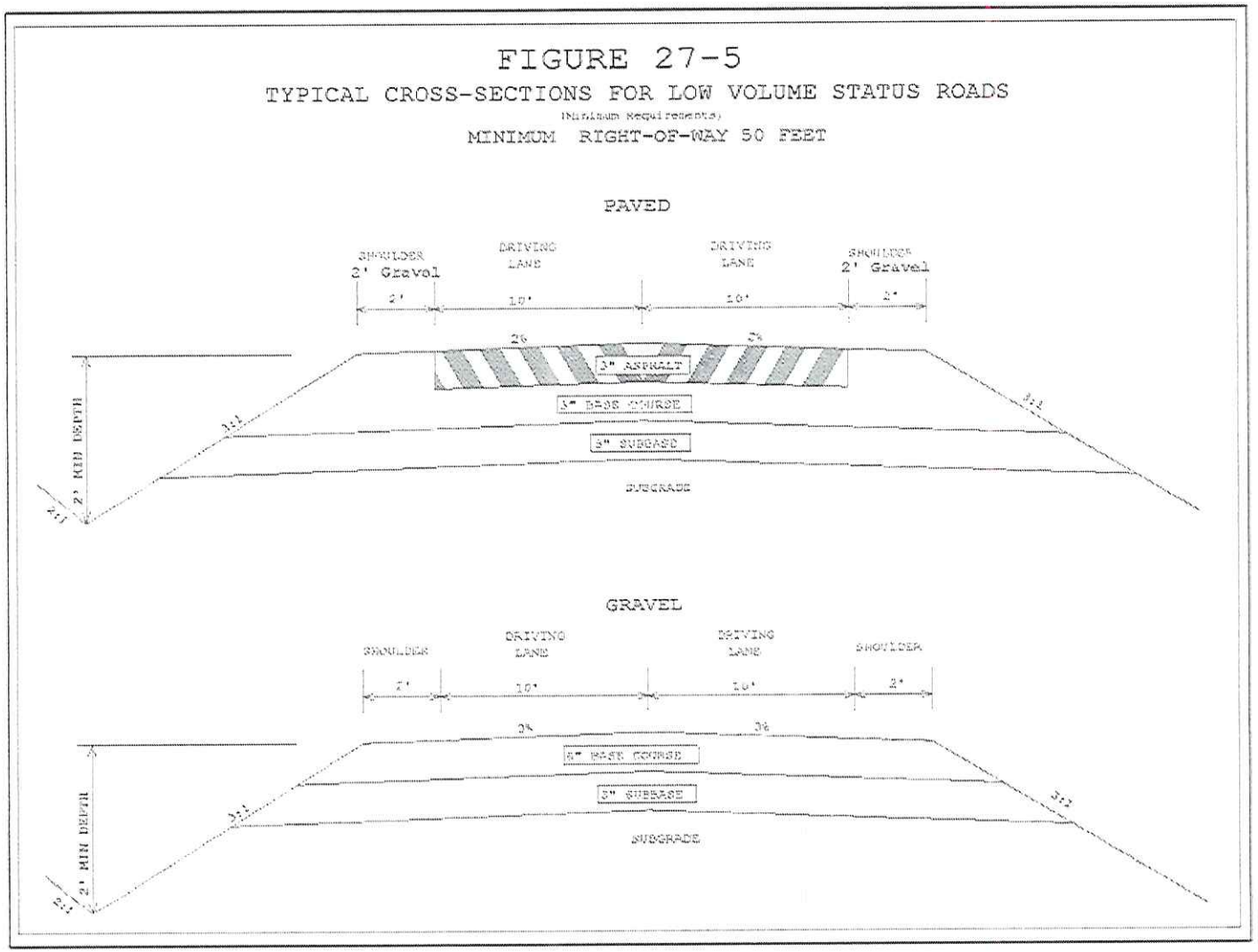
80% - S. Pagosa Blvd

20% - Apache St

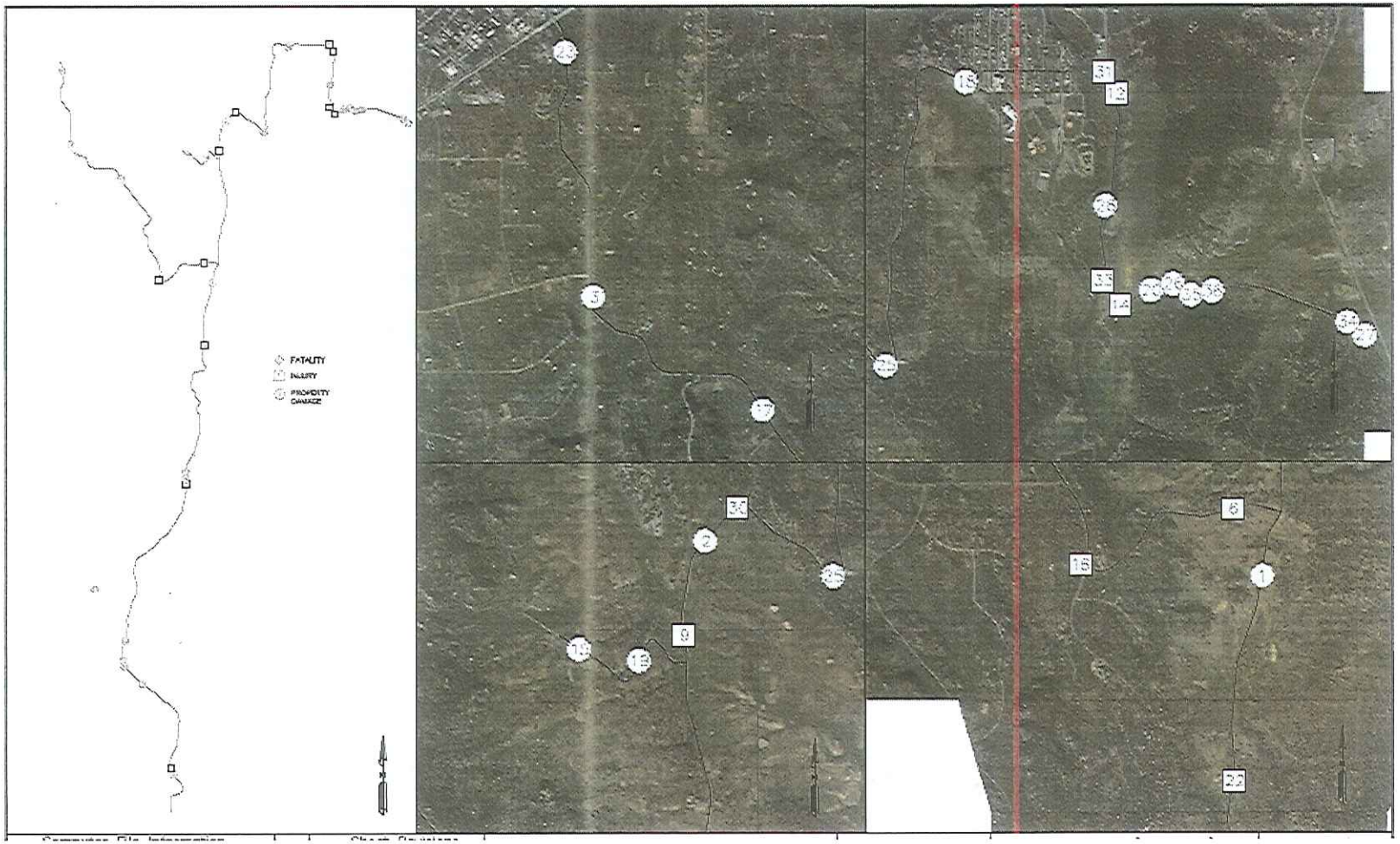
Southbound – 10%



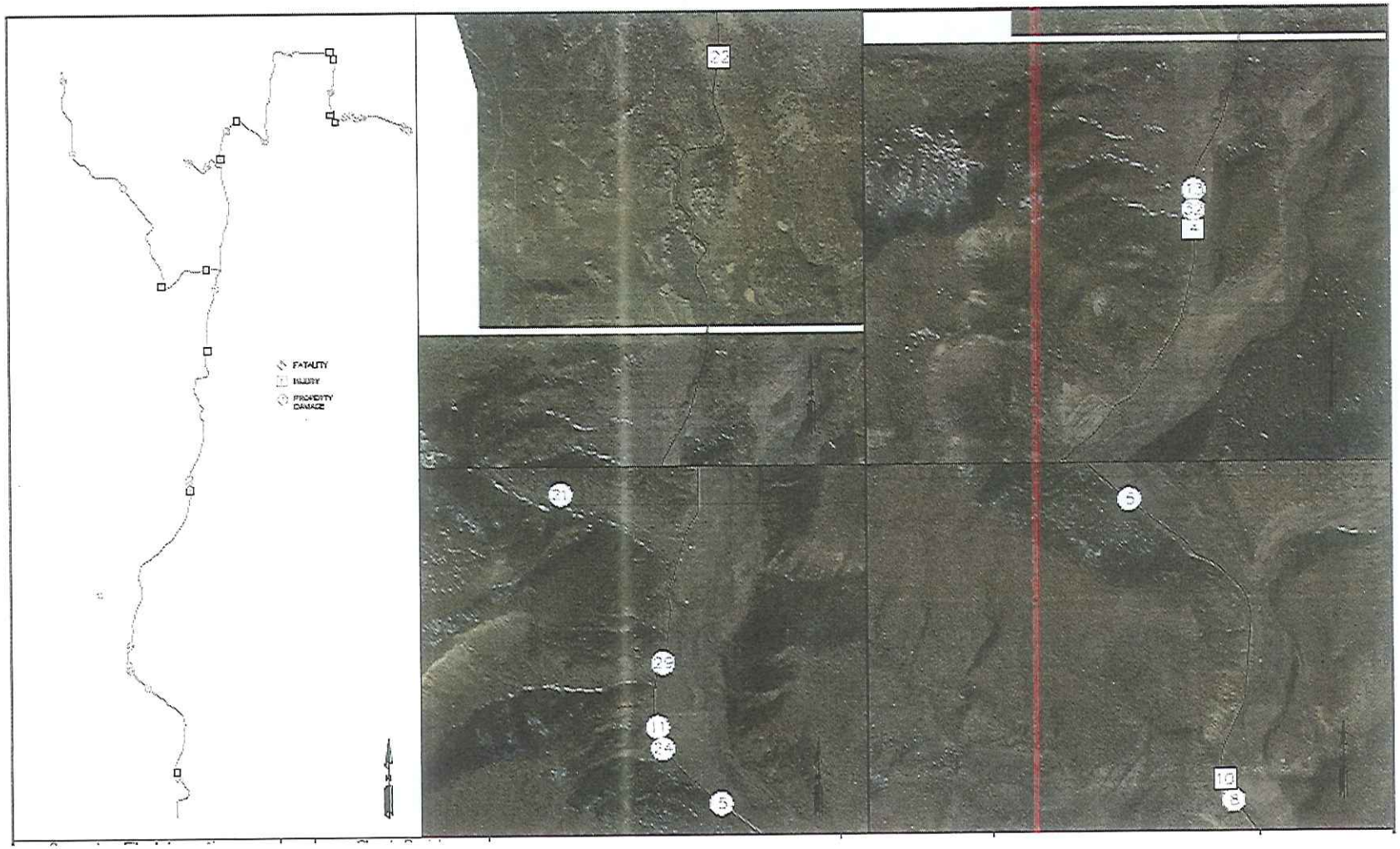
Low Volume Road: < 400ADT



Accident Records (5-yr) 1 of 2

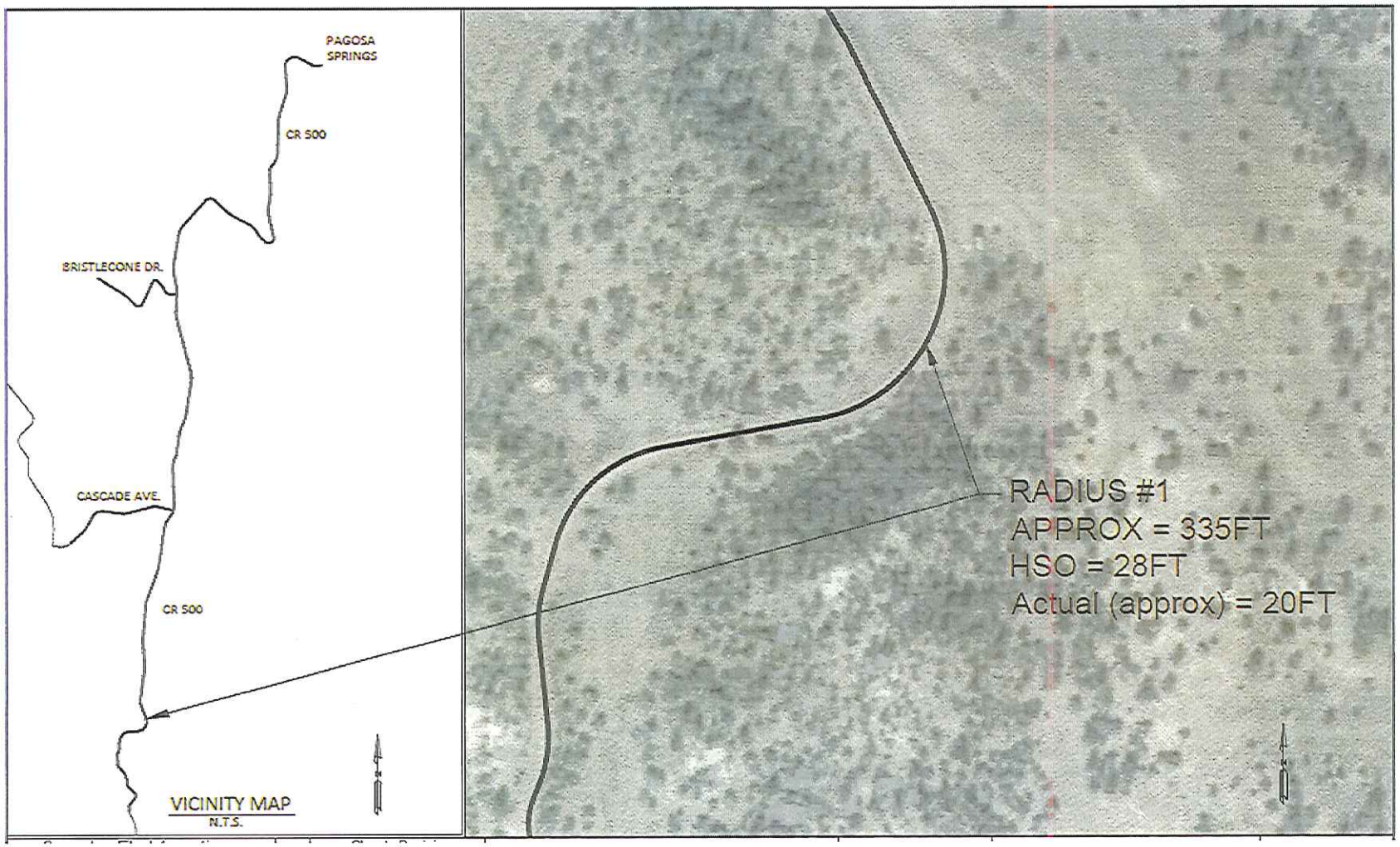


Accident Records (5-yr) 2 of 2



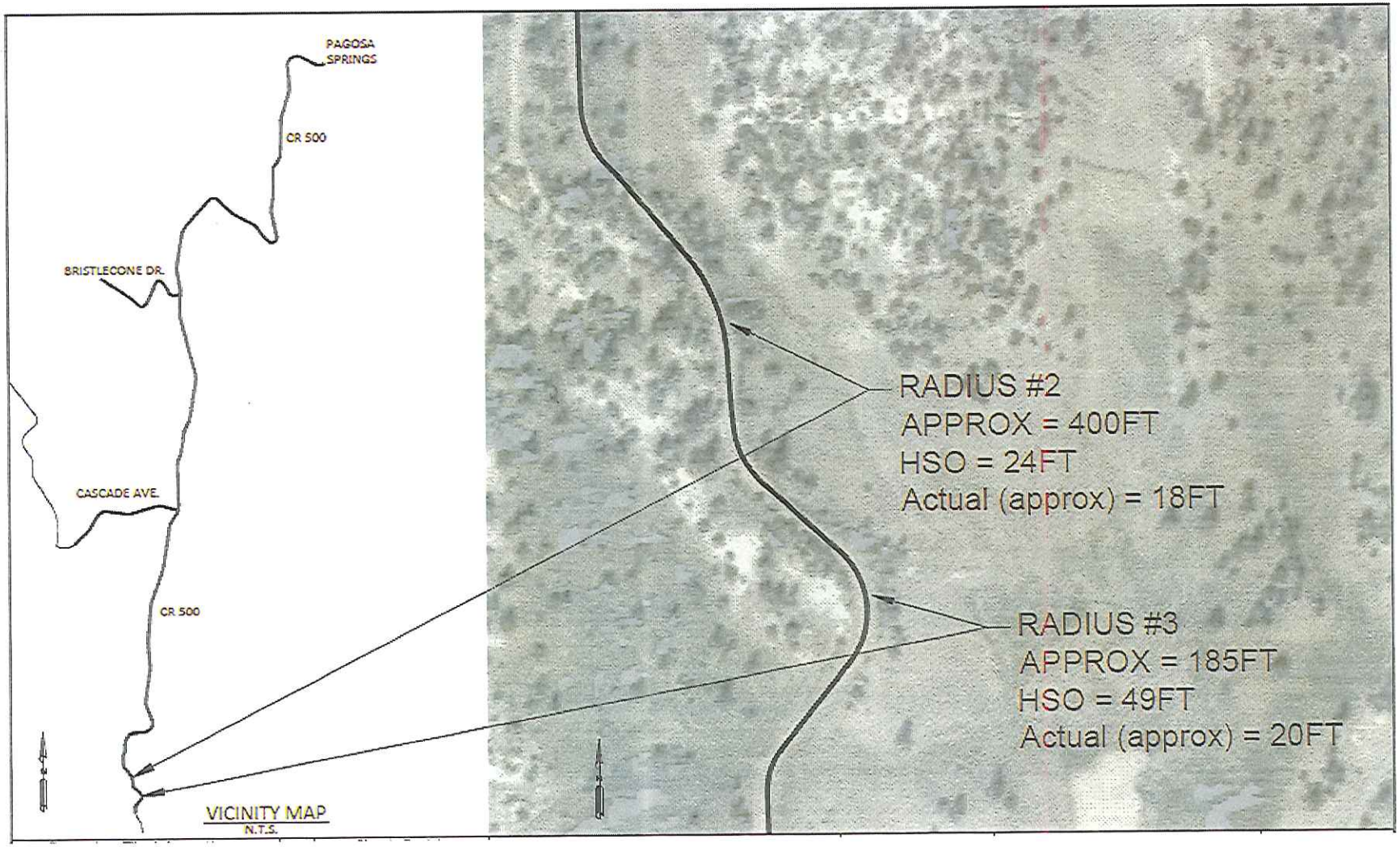
Sight Distance – CR 500 1 of 2

(HSO – Horizontal Sight-Line Offset)



Sight Distance – CR 500 2 of 2

(HSO – Horizontal Sight-Line Offset)



Traffic Impact Assessment (Baseline)

- Existing Roadway Structure Assumed Adequate
- Proportion Impacts Based on Current Year ADT
  - Pit @ S. Pagosa Blvd 45%
  - Pit @ CR 500 Near Pagosa Springs 34%
  - Pit @ Cascade Avenue 63%
  - Pit @ CR 500 North of Cascade Ave 62%

C&J GRAVEL ROCKS DURANGO

Traffic Impact Assessment (Loading Mitigation)

- ½ inch of Aggregate Every 5-Years (Aggregate Regions)
- Chip Seal Roadway Every 10-Years (Paved Regions)

Opinion Of Probable Cost (OPC)

- $738,557 (20-yr assessment)
- $0.37/Ton of Transported Aggregate

C&J – Two Rivers Pit Mitigation Proposal

- Approximately **$1,030,000** over 20 years, including:
  - Archuleta County to receive 5,000 ton credit, material of choice, as up-front payment for 5 years of impacts to roads.
  - Three (3) year contract to provide road base at $5.00 per ton loaded or $4.00 per ton stockpiled.
  - First three (3) years C&J Gravel to pay $0.50 per ton mitigation fee. After the 3rd year, $0.37 per ton.
  - C&J to pay for and install safety lights described in the *TIA*, approximately $25,000 cost.

SJM
GRM
ADU

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

DATE: October 29, 2015

TO: C& J Gravel Products, Inc
27661 Highway 160-E
Durango, Colorado 81301

RE: Findings of Fact, Conclusions of Law and Order
Two Rivers Pit
File No. M-2015-004

On October 28, 2015 the Mined Land Reclamation Board signed the enclosed Board Order for the above captioned operation. We strongly advise that you read this document carefully.

Sincerely,

Johnie Abad

Johnie Abad
Board Secretary

Enclosure(s)

Certified Mail
7014 2120 0001 7871 2445

Cc's

Stephanie Mitchell
Russ Means
Scott Schultz
John Roberts
Diamond T Ranch, LLC
c/o Robert Podoll, Esq.

BEFORE THE MINED LAND RECLAMATION BOARD
STATE OF COLORADO

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER

IN THE MATTER OF THE 112c PERMIT APPLICATION OF C&J GRAVEL PRODUCTS, INC., File No. M-2015-004

THIS MATTER came before the Mined Land Reclamation Board ("Board") on September 23, 2015 for a hearing to consider the application of C&J Gravel Products, Inc. ("Applicant") for a 112c reclamation permit, file number M-2015-004.

Stephanie Mitchell, G. Russell Means, and Assistant Attorney General Scott Schultz appeared on behalf of the Division of Reclamation, Mining and Safety ("Division"). Nathan A. Barton, PE and John Gilleland appeared on behalf of Applicant. Robert Podoll, Esq. and Brad Switzer, Esq. appeared on behalf of the objector, Diamond T Ranch, LLC ("Objector"). John Hill, Jr. and Steven Harris, PE testified as a witness on behalf of the Objector.

The Board, having considered the parties' presentations and testimony, and being otherwise fully informed of the facts in the matter, enters the following:

FINDINGS OF FACT

1. On February 17, 2015, Applicant filed an application with the Division for a 112c reclamation permit for a site known as the Two Rivers Pit in Archuleta County, Colorado ("Application"). Located in Section 11, Township 33 North, Range 2 West, 10th Principal Meridian, the proposed Two Rivers Pit is a sand and gravel mine and on-site processing operation.

2. The Application describes a construction materials mining operation and on-site processing of mined materials, including crushing, screening, and washing. The permit boundary described in the Application includes a 102.6-acre total permit area, of which 65.58 acres is to be affected lands (the affected lands boundary is distinct from, and within, the permit boundary). The Application proposes to reclaim the affected lands for rangeland post-mining use.

3. As described in the Application and as presented at the hearing, the operation will be located on top of a mesa, approximately two hundred feet (200') to three hundred feet (300') above the valley floor where the Harris Ditch and the San Juan River are located.

4. On March 4, 2015, the Division mailed notice of the Application to thirteen (13) interested parties, including several state and local government agencies.

5. Applicant initiated newspaper publication notice of the Application on the tenth day after the Application was filed. Newspaper publication notice of the Application concluded on March 20, 2015.

6. By letter dated April 22, 2015, the Division notified Applicant that the newspaper notice for the Application failed to comply with Rules 1.6.2(d) and 1.7.1(2) of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials ("Rules"). The Division required Applicant to republish the Application notice. Applicant initiated republication of the Application notice on May 14, 2015. Republication of the notice of the Application concluded on June 24, 2015.

7. During the public comment periods for the Application, the Division received a letter of objection from an attorney for the Objector and letters of comment from government agencies, including the Colorado Division of Water Resources, the Archuleta County Planning Department, and History Colorado.

8. On July 21, 2015, the Division inspected the site. John Gilleland attended the inspection on behalf of Applicant. A consultant for Applicant, Nathan Barton of Wasteline, Inc., attended the inspection on behalf of Applicant. Jack Constant, the landowner of the site, also attended the inspection. During the inspection, the Division observed a bridge crossing the San Juan River to access the site. The Division also observed a notification sign, measuring 12" wide and 14" inches high, at the entrance to the mine site that the Division determined to be compliant with Rule 1.6.2(1)(b).

9. The Division issued two (2) adequacy letters to Applicant, on August 2, 2015 and August 12, 2015. Applicant addressed all adequacy issues to the Division's satisfaction.

10. Based on the proposed mining and reclamation plans and the applicable requirements of the Colorado Land Reclamation Act for the Extraction of Construction Materials, Article 32.5 of Title 34, C.R.S. ("Act") and the Rules, the Division calculated the initial cost of the reclamation at $99,409.04 . Applicant agreed to provide the financial warranty in the amount required by the Division.

11. Objector holds an easement, not an ownership interest, on the Harris Ditch near the site. Objector's easement is located more than two hundred feet (200') from the affected land boundary.

12. Construction of the bridge over the San Juan River was completed in 2013, approximately two (2) years prior to the filing date of the Application. Further, the Division testified that the Archuleta County permit for the bridge indicates that the bridge has a forty (40) to forty-nine (49) ton limit and was originally constructed for agricultural use.

13. The Division of Water Resources enforces state water laws and regulations governing injury to existing water rights. The Division of Water Resources responded to the Division's March 4, 2015 notice of the Application on April 27, 2015. In its response, the Division of Water Resources did not indicate that the proposed operation at the site will conflict with any existing Colorado water laws. The Division of Water Resources' letter also clarified that: (a) Applicant may utilize irrigation water from existing water rights for purposes other than irrigation; (b) any diversion of water used in the proposed operation would be considered a new appropriation from the San Juan River (which the Division of Water Resources stated has water available for appropriation at this location); and (c) the proposed operation is not in conflict with the water laws and regulations it enforces.

14. Mr. Barton testified at the hearing that the operation at the site is not expected to expose groundwater, that the mine will be more than one hundred feet (100') above known aquifer bodies, and that Applicant will obtain water rights or apply for temporary use of agricultural water necessary for the operation.

15. In the Application, Applicant: (a) stated that there are no bedrock formations used as aquifers in the area of the proposed operation; (b) stated that there are no water wells on the site; (c) provided a list of the wells within 0.5 miles of the site (Table G-1 in Exhibit G to the Application); and (d) stated that it has no planned surface discharge of water. In Exhibit G to the Application, Applicant committed to obtaining a National Pollutant Discharge Elimination System ("NPDES") or state permit, if deemed necessary, for discharge of storm water, dewatering flows, and process water before initiating mining activities.

16. In the Table G-4 to Exhibit G of the Application, Applicant provided an estimate of the project water requirements, including flow rates and annual volumes. Applicant estimated that 5.23 acre feet of water will be necessary to operate the site.

17. The Archuleta County Planning Department responded to the Division's March 4, 2015 notice of the Application on June 9, 2015, stating that Archuleta County Land Use Regulations apply to projects involving sand, soil, or gravel mining and that "[m]ost mining operations in the County require a land use permit from [the Archuleta County Planning Department]." The Archuleta County Planning Department copied its June 9, 2015 letter to Applicant.

18. Applicant affirmed, in a letter the Division received on July 6, 2015 and elsewhere, that it will pursue appropriate permits from Archuleta County if the Board approves the Application.

19. On September 3, 2015, the Division issued its recommendation to approve the Application over objection.

CONCLUSIONS OF LAW

20. The Board has jurisdiction over Applicant and this matter pursuant to the Act.

21. An applicant for a 112c reclamation permit is required to mail a copy of the application notice to "owners of record of all land surface within two hundred feet of the affected lands." C.R.S. § 34-32.5-112(9)(c); Rule 1.6.2(1)(e)(i). Here, Applicant properly mailed a copy of the Application notice to all owners of land located within two hundred feet (200') of the affected land boundary. Objector's easement does not constitute an ownership interest in land. In addition, the Harris Ditch and Objector's easement are located more than two hundred feet (200') from the affected land boundary. Objector was not required to receive notice of the Application under section 34-32.5-112(9)(c), C.R.S. and Rule 1.6.2(1)(e)(i).

22. Prior to filing an application for a 112c reclamation permit, an applicant is required to "post notices (signs) at the location of the proposed mine site, as required by the [Division], of sufficient size and number to clearly identify the site as the location of a proposed mining operation giving name, address, and phone number of the Applicant, and stating that (name of Applicant) has applied for a mining permit with the [Board]." Rule 1.6.2(1)(b). Before filing the Application, Applicant posted a sign at the entrance to the proposed site. The sign is of sufficient size to clearly identify the site and Applicant, contains the information required by Rule 1.6.2(1)(b), and is visible from County Road 500. Applicant is in compliance with Rule 1.6.2(1)(b).

23. Under section 34-32.5-115(4)(d), C.R.S., the Board or Division may deny a reclamation permit application if the proposed operation is contrary to Colorado or U.S. laws or regulations, including federal, state, and local permits, licenses, and approvals, as applicable to the specific operation. The Act does not require applicants to obtain all applicable permits, licenses, or approvals before the Board or Division approves a reclamation permit application. Applicant is aware of the requirement to obtain required federal, state, and local permits before commencing mining operations at the site. There is no cause to deny the Application under section 34-32.5-115(4)(d), C.R.S.

24. Reclamation plans for mining sites must, among other things, provide that disturbances to the prevailing hydrologic balance of the affected land and

surrounding areas, and to the quality and quantity of water in surface water and groundwater systems, will be minimized by measures including compliance with applicable Colorado water laws and regulations governing injury to existing water rights. C.R.S. § 34-32.5-116(4)(h); Rule 3.1.6(1)(a). In consideration of the Application, the Division of Water Resources' evaluation of the proposed operation, information from Applicant, and other information presented at the hearing, the proposed reclamation plan will minimize disturbances to the prevailing hydrologic balance of the affected land and surrounding areas, and to the quality and quantity of water in surface water and groundwater systems. Further, the Application adequately identifies sources of adjudicated water for use during the site operation and addresses potential impacts of the proposed operation on area water wells and the Harris Ditch. Applicant is in compliance with section 34-32.5-116(4)(h), C.R.S. and Rule 3.1.6(1)(a).

25. If an operation is not expected to directly affect surface or groundwater systems, an applicant for a 112c reclamation permit is required to affirmatively so state. Rule 6.4.7(1). Exhibit G to the Application contains a statement from the Applicant that meets the requirement of Rule 6.4.7(1).

26. Rule 6.4.7(3) requires an applicant for a 112c reclamation permit to provide an estimate of the project water requirements. In Table G-4 in Exhibit G to the Application, Applicant provided an estimate of the water requirements for the operation, in compliance with Rule 6.4.7(3).

27. Rule 6.4.7(4) requires an applicant for a 112c reclamation permit to affirmatively state that the applicant has acquired or applied for a NPDES permit, or the equivalent from the Colorado Department of Public Health and Environment, if necessary. In the Application, Applicant committed to obtaining, if necessary, a NPDES permit for discharge of storm water, dewatering flows, and process water before initiating mining activities at the site, in compliance with Rule 6.4.7(4).

28. "Affected land" means "the surface of an area within the state where a mining operation is being or will be conducted, which surface is disturbed as a result of an operation." § 34-32.5-103(1), C.R.S.; Rule 1.1(3). "Affected land" specifically does not include "off-site roads that were constructed for purposes unrelated to the proposed operation, were in existence before a permit application was filed with the [Division], and will not be substantially upgraded to support the operation or off-site groundwater monitoring wells." The bridge over the San Juan River that provides access to the site was constructed prior to the Application filing date and was constructed for purposes (agricultural) unrelated to the proposed operation.

29. Under section 34-32.5-115(4)(e), C.R.S. and Rule 6.4.19, the Board or the Division may deny a reclamation application if:

> the mining operation will adversely affect the stability of any significant, valuable, and permanent manmade structures located within two hundred

feet of the affected land; except that the permit shall not be denied on this basis where there is an agreement for compensation between the operator and the person having an interest in the structure that damage to the structure is to be compensated for by the operator.

The Harris Ditch is more than two hundred feet (200') from the affected land boundary. Therefore, Applicant is not required to enter into an agreement for compensation for damage with the owner of the Harris Ditch. There is no cause to deny the Application under section 34-32.5-115(4)(e), C.R.S.

30. Under the Act, the Division and the Board shall grant a permit to an applicant who complies with section 34-32.5-115(4), C.R.S. The Application complies with section 34-32-115(4), C.R.S.

ORDER

Based on the foregoing findings of fact and conclusions of law, the Board hereby AFFIRMS the recommendation of the Division to approve the Application over objection.

DONE AND ORDERED this 28th day of October 2015.

FOR THE COLORADO MINED LAND RECLAMATION BOARD

Barbara Green

Barbara Green, Vice Chair

NOTICE OF JUDICIAL REVIEW RIGHTS

This order becomes effective and final upon mailing. Any party adversely affected or aggrieved by agency action may commence an action for judicial review by filing a complaint with the district court within thirty-five (35) days after the effective date of this order, pursuant to section 24-4-106, C.R.S. (2015) and the Colorado Rules of Civil Procedure. In the event that a complaint for judicial review is filed, designations of record made in accordance with section 24-4-106(6), C.R.S. should be served on the Board at: 1313 Sherman Street, Room 215, Denver, CO 80203, Attention: Johnie Abad.

CERTIFICATE OF SERVICE

This is to certify that I have duly served the within FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER upon all parties herein by depositing copies of same in the United States mail, first-class postage prepaid, at Denver, Colorado, this 29th day of October 2015 addressed as follows:

Sent Via Certified Mail:
7014 2120 0001 7871 2445

C&J Gravel Products, Inc.
27661 Highway 160-E
Durango, CO 81301

Sent Via U.S. Postal Mail:

Diamond T Ranch, LLC
% Robert Podoll, Esq.
Podoll & Podoll, P.C.
5619 DTC Parkway, Suite 1100
Greenwood Village, CO 80111

By inter-office or electronic mail to:

Stephanie Mitchell
Division of Reclamation, Mining & Safety
101 S. 3rd St., Suite 301
Grand Junction, CO 81501

By inter-office or electronic mail to:

Russ Means
Division of Reclamation, Mining & Safety
101 S. 3rd St., Suite 301
Grand Junction, CO 81501

By intra-office or electronic mail to:

John J. Roberts
First Assistant Attorney General
Department of Law
Business and Licensing Section
Ralph L. Carr Colorado Judicial Center
1300 Broadway, 8th floor
Denver, CO 80203

Scott Schultz
Assistant Attorney General
Department of Law
Natural Resources and Environment Section
Ralph L. Carr Colorado Judicial Center
1300 Broadway, 7th floor
Denver, CO 80203

Johnie Abad

Johnie Abad, Board Secretary

DISTRICT COURT, ARCHULETA COUNTY, COLORADO

Court Address: 449 San Juan St.
Pagosa Springs, CO
81147
(970) 264-8160

Plaintiff: THE DIAMOND T RANCH, LLC

Defendants: JAMES A. CONSTANT, LEILA B. CONSTANT, LEILA B. CONSTANT REVOCABLE TRUST, JAMES A. CONSTANT, JR. REVOCABLE TRUST, AND C&J GRAVEL PRODUCTS, INC., A COLORADO CORPORATION

COURT USE ONLY

Case No. 15CV30251

Attorney for Plaintiff:
Mr. Robert C. Podoll, #8776
(Appeared telephonically)

Attorney for Defendants:
Mr. Daniel Allen Gregory, #22949
(Appeared telephonically)

REPORTER'S TRANSCRIPT OF PROCEEDINGS

Hearing in this matter was commenced on April 26, 2016, before the HONORABLE GREGORY G. LYMAN, District Court Judge, in Pagosa Springs, Colorado.

(At 1:05 p.m., the following proceedings were conducted and entered of record:)

THE COURT: We're on the record then. The District Court for Archuleta County calls 15CV30251, Diamond Ranch, the Diamond T Ranch, LLC, Plaintiff; James and Leila Constant, individually, Leila B. Constant Revocable Trust, James A. Constant Revocable Trust, and C&J Gravel Products, Inc, Defendants.

I'll start with my findings of fact and I'll just read my ruling here.

First of all, the Plaintiff is a Colorado limited liability company which owns land known as the Diamond T Ranch located at 12800 County Road 500 in Archuleta County, Colorado. It consists of about 1,800 acres and is operated as a private hunting range. Defendants Leila B. Constant Revocable Trust and James A. Constant Revocable Trust own land adjacent to and contiguous with part of the Diamond T Ranch. The Constant properties are located at 12500 County Road 500, also in Archuleta County, Colorado. Defendants James A. Constant and Leila B. Constant are the trustees of the respective trusts, and the Defendant C&J Gravel Products, Inc. is a Colorado corporation located in La Plata County, Colorado.

Plaintiff owns decreed water rights in the Harris Ditch based upon a Court order for Ditch 137, Priority 198,

1 and the First Enlargement of the Harris Ditch, Priority
2 Number 1968-282, recorded on November 20, 2006, at
3 Reception Number 20611211 in the public records of
4 Archuleta County.
5 The Harris Ditch diverts water from the San Juan
6 River, which then traverses the Constant property and fills
7 a pond on the Diamond T Ranch which is used for irrigation
8 purposes.
9 Plaintiff brings five claims for relief. First,
10 a breach of contract against the Constant Trusts alleging
11 breaches of the Settlement Agreement and Addendum Agreement
12 from a prior lawsuit between the plaintiff and the Constant
13 Trusts, which will be discussed in more detail in a moment.
14 Claim number two is for promissory estoppel
15 alleging that James A. Constant, by his letter of
16 August 22nd, 2012, represented that a bridge would be built
17 in accordance with the Settlement Agreement, which letter
18 adduced, allegedly adduced forbearance by Plaintiff in
19 verifying and enforcing the Settlement Agreement and
20 Addendum relative to the construction of the bridge in
21 question.
22 The third cause of action is against C&J Gravel.
23 It alleges intentional interference with contractual
24 relations. It alleges basically that C&J Gravel knew of
25 and encouraged and assisted the other defendants in

1 breaking their contract with the Plaintiff.
2 The fourth cause of action is for a preliminary
3 injunction seeking to enjoin Defendants from conducting
4 gravel mining operations on the Constant property.
5 Number five, the last cause of action set forth
6 in the Complaint, alleges trespass to easement, in
7 particular alleging that the bridge as built interferes
8 with Plaintiff's exercise of his rights and trespass on the
9 easement of the Plaintiff along the ditch.
10 James Constant, James A. Constant, first applied
11 for a permit to mine gravel from the Constant property in
12 2003. The Colorado Division of Minerals and Geology
13 recommended denial of that permit. The application was
14 opposed by Plaintiff's predecessor in interest to a portion
15 of the Diamond T Ranch, Ms. Cynthia Sharpe. The Division
16 articulated in its letter set forth in Exhibit 26 that it
17 was not satisfied that Defendants had legal access to the
18 portion of the land to be mined and expressed concerns
19 about the hydrologic balance of the area.
20 The Constant Defendants withdrew the 2003
21 application and filed suit in 2004 against Ms. Sharpe to
22 gain access to a portion of the Constant property upon
23 which they hoped to conduct mining activities. The problem
24 with access was the Harris Ditch, crossing the Harris
25 Ditch, which ran between the portion of the Constant

1 property upon which James and Leila Constant live and that
2 portion of their property where they desire to conduct
3 mining operations.
4 During the lawsuit, the Plaintiff purchased
5 Ms. Sharpe's property and succeeded her interest in what
6 then became a portion of the Diamond T Ranch. The lawsuit
7 was settled by the execution of two documents known as the
8 Settlement Agreement, Exhibit 20, which was signed in late
9 2005 and early 2006, and the Addendum to Settlement
10 Agreement and Release, which will be referred to hereafter
11 by me as the Addendum, set forth in Exhibit 21, which was
12 self-executed in early 2006.
13 Both documents speak for themselves, but
14 generally, the Settlement Agreement formalized the
15 Plaintiff's ditch easement and clarified Plaintiff's rights
16 in the ditch to the water in the ditch and to maintain the
17 ditch. The Settlement Agreement allowed the construction
18 of a bridge over the river so long as it didn't interfere
19 with Plaintiff's right and ability to maintain the ditch.
20 Nothing in the Settlement Agreement prohibits the
21 Defendants from operating a gravel mine on their property.
22 The Addendum was the result of discussions
23 between Steve Harris, a water engineer employed by the
24 Plaintiff, and Mitch Constant, son of James and Leila
25 Constant, also trained as an engineer. The Addendum

1 described the physical and construction parameters of the
2 bridge to be built by the Constants over the Harris Ditch.
3 In particular, as set forth in the Addendum, I'm going to
4 read paragraph one of that into the record here:
5 "To cross the Harris Ditch north of the existing
6 head gate and culvert, a bridge shall be constructed. The
7 bridge shall consist of two abutments, one on either side
8 of the Harris Ditch. The abutments shall be a minimum of
9 30 feet apart, approximately 15 feet on either side of the
10 ditch centerline, providing a minimum bridge span of
11 30 feet. The bridge deck shall be no greater than 20 feet
12 wide. Clearances from the bottom of the lowest point of
13 the bridge girder to the bottom of the Harris Ditch, the
14 ditch invert, shall be 12 feet. These bridge dimensions
15 shall provide access for ditch cleaning equipment to travel
16 under the bridge for operation and maintenance purposes."
17 In 2008, the Constant Defendants collaborated
18 with Defendant C&J Gravel and again applied for a gravel
19 mining permit on the Constant property, knowing that a
20 bridge of sufficient strength to carry gravel trucks would
21 have to be built over the Harris Ditch if their application
22 was approved. The economic recession of 2008 caused a
23 steep drop in demand for construction materials such as
24 gravel, and in 2009 the Defendants withdrew their
25 application for the mining permit.

1 In 2012, the Constant Defendants decided to
2 construct a bridge over the Harris Ditch. Mitch Constant
3 helped design that bridge. On August 22nd, 2012,
4 James A. Constant sent a letter to Plaintiff, which is
5 Exhibit 22, notifying it of his intent to build a bridge.
6 The letter represented that the bridge would be built in
7 accordance with the specifications set forth in the
8 Addendum, that the Constants did not intend to mine gravel
9 and that the bridge would not be built to support the
10 weight of a truck filled with gravel.
11 Mr. Constant offered to meet with the Plaintiffs
12 to discuss the bridge and answer any questions they may
13 have. Plaintiff did not respond in any way to the
14 James Constant letter of August 22nd, 2012.
15 The bridge was built in 2013. Support structures
16 on either side of the ditch were constructed from highly
17 compacted soil on top of bedrock. Atop each of the
18 compacted soil support structures is a large concrete sill
19 which supports the bridge's super structure. The sills are
20 30 feet apart at their farthest point away and less than
21 30 feet apart at their closest point. The bridge itself is
22 less than 20 feet wide, and the clearance from the bottom
23 of the bridge girder to the Harris Ditch invert is greater
24 than 12 feet. The bridge is of sufficient strength to
25 support trucks filled with gravel.

1 Each of the compacted soil support structures is
2 protected -- did somebody just join? Are we all still
3 there?
4 MR. PODOLL: Yes, I'm here.
5 MR. GREGORY: Still here, Your Honor.
6 THE COURT: Okay. Sorry, I thought I heard an
7 electronic sound there that we were joined by someone else.
8 Okay. I'll go on. Each of the compacted soil
9 support structures is protected by exterior structures
10 known as gabion baskets. Generally these consist of
11 unbound river rocks attached to the interior sides of the
12 support structures, held in place by heavy-duty chain-link
13 material. The primary purpose of the gabion baskets is to
14 protect the compacted soil support structure from erosion
15 due to contact with water from the Harris Ditch.
16 Whether the bridge comports with the
17 specifications agreed to in the Addendum is a contested
18 matter. The Addendum calls for two abutments to be built,
19 one on either side, and the abutments constructed at least
20 be 30 feet apart. The compacted soil support structures
21 comply with this dimension. The gabion baskets, which are
22 constructed on the inside of the support structures, are
23 only 14 feet apart.
24 Whether the gabion baskets are part of the
25 support structures or abutments is a subject that the Court

1 heard credible testimony on both sides of. Plaintiffs
2 assert that it is obvious that the bridge impedes their
3 ability to maintain the ditch underneath it. However, the
4 ditch had been built for over two years without complaint
5 from the Plaintiff before filing this lawsuit. It was only
6 when the Defendant applied again for a gravel mine permit
7 in 2015 that Plaintiff brought this lawsuit asserting that
8 the bridge was nonconforming and violated their maintenance
9 right to the ditch.
10 The unrefuted testimony is to the contrary.
11 Dennis Deaderick, an experienced operator of heavy
12 equipment and an experienced ditch cleaner, testified at
13 the hearing that, if he was using his largest piece of
14 equipment, it would be relatively simple to access the
15 ditch and clean it from within the ditch itself, and that
16 sufficient lateral and vertical clearance exists to permit
17 ditch maintenance under and on both sides of the bridge.
18 Thus, without predicting how this issue would be
19 resolved after a trial on the merits, for purposes of
20 resolving Plaintiff's request for a preliminary injunction,
21 the Court finds that Defendants have not violated the
22 Settlement Agreement or the Addendum by constructing the
23 bridge in the manner they did.
24 I'm going to refer to him as John Gilleland. I'm
25 not sure I got his name exactly correct. He's the

1 gentleman that testified that he owns C&J Gravel and was
2 the decision-maker behind the company's various
3 applications for mining permits. The Court finds that
4 neither Mr. Gilleland nor any other representative of C&J
5 participated in any way with the Constant Defendant in the
6 decision to build the bridge or the design of the bridge.
7 Mr. Gilleland learned of the bridge only after it was
8 constructed. At his suggestion and with the support of the
9 Constants, C&J in 2015 submitted yet another application
10 for a gravel mining permit on the Constant property.
11 Now, to back up for just a moment, the Court can
12 understand Plaintiff's skepticism about the Defendants'
13 intentions for the use of the bridge. James Constant's
14 letter of August 2012 specifically represented that no
15 mining was planned and that the bridge would not be of
16 sufficient heft to support loaded gravel trucks. The
17 bridge was subsequently permitted for agricultural purposes
18 and built to support loaded gravel truck travel.
19 It was Mr. James Constant's testimony that he
20 intended only agricultural use when the bridge was built
21 and that it was only at Mr. Gilleland's suggestion in 2015
22 that he again came to support a renewed mining permit
23 application. He did apparently use the bridge only for
24 agricultural purposes for the approximately two years
25 between the construction of the bridge and the permit

application.

It's possible that a trial on the merits would further develop this issue, particularly with regard to Plaintiff's claim of promissory estoppel, but it would be pure conjecture at this time on the part of the Court to do anything other than take Mr. Constant at his word.

After a contested hearing before the Mined Land Reclamation Board, Defendant C&J was granted a permit over Plaintiff's objections. Issues of air quality, impact on wildlife, hydrological communication with groundwater, runoff, hours of operation, and many other issues were the subject of the State approval process before the MLRB and further proceedings before the Archuleta County Planning Board.

While the Plaintiff disagrees with the MLRB's order approving the permit, the Court is not being asked to review agency action and must defer to those findings.

Applying these findings to the factors set forth in *Rathke v. MacFarlane*, 648 P.2d 648, for considering whether or not a preliminary injunction should issue, the Court finds that Plaintiff has failed to show a danger of real, immediate, and irreparable injury that may be prevented by issuing a preliminary injunction. All potential injuries alleged by Plaintiff have been considered by the MLRB and found to have been addressed

1 satisfactorily.
2 Likewise, for the reasons stated above, the Court
3 finds that Plaintiff has established something less than a
4 reasonable probability of success on the merits.
5 Accordingly, the Motion for Preliminary
6 Injunction is denied.
7 That's my ruling.
8 MR. GREGORY: Your Honor, if we want a transcript
9 of this ruling that's being recorded in the courtroom, how
10 do we get a transcript?
11 THE COURT: Actually, Deb Moreash, the court
12 reporter, is present in the courtroom. I didn't realize --
13 I had forgotten she was going to be there, so you can
14 contact Deborah Moreash.
15 MR. GREGORY: Okay. That's great. Thank you.
16 THE COURT: All right. Anything else we need to
17 do today?
18 MR. PODOLL: Nothing from the Plaintiff,
19 Your Honor.
20 THE COURT: Okay.
21 MR. GREGORY: Nothing from the Defendant,
22 Your Honor.
23 THE COURT: Okay. I'll hear from you about
24 further proceedings and thank you all.
25 Court's in recess.

1 REPORTER'S CERTIFICATE

2 The above and foregoing is a true and complete
3 transcription of my stenotype notes taken in my capacity as
4 Official Reporter of District Court, Archuleta County,
5 Colorado, at the time and place above set forth.
6 Dated at Durango, Colorado, this 10th day of May,
7 2016.
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10
11 /s/ Deborah Moreash
12 Deborah Moreash, RPR, CRR, FCRR
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