STATE OF COLORADO

Ebert - DNR, Jared <jared.ebert@state.co.us>

Top Map

JAMIE MCGILL <jam2finance@yahoo.com> Tue, Jun 1, 2021 at 4:11 PM
To: "Ebert - DNR, Jared" <jared.ebert@state.co.us>

Hi Jared,

I just want to make sure you are aware the proposed reclamation land use on their application page 2. 8. A states Ponds, wildlife habitat and pasture. The 3:1(maximum allowed) is supposed to make it safe for animals and people currently the slope is greater than 3:1. We have proven the slope is greater than 3:1 in several areas with the map we provided you done by licensed surveyors. The slope is dangerous and with the erosion a cow, horse etc could fall in and not get out and people could be injured too. We are taking more pictures of the erosion as it continues to get worse. It is actually 12 to 36 inches and will hold a tape measure up so you will be able to see how bad it is up close. I don't know where you or Peter got 6 to 12 inches concerning erosion but it is much worse than that. The hole in the ground that either Peter or yourself stated was possibly made by a truck, not true it was from LRM removing pipes and other mining equipment just like the big hole on the river moving towards the lake. This was made when LRM put 2 large pumps in the river and filled the lake without an inspection or survey. I will have King Surveyors provide you with the information you need to understand the technology used in producing the map I provided, it is the most accurate way to measure a slope. I want to also to reiterate that at no time ever have Dustin or myself asked that the slope be graded anymore or less than what the state requires 3:1. I also showed you that on their application they stated they would mow, do you need a copy? Are you going to enforce the requirements in their mining application?

Sincerely
Jamie Christensen

> On Tuesday, June 1, 2021, 06:36:51 AM MDT, Ebert - DNR, Jared <jared.ebert@state.co.us> wrote:
>
> Good morning Jamie,
>
> There are two avenues I see, the first is an appeal of the DRMS decision per Rule 1.4.11. The second is a declaratory order in accordance with Rule 2.5.
>
> Jared
>
> On Fri, May 28, 2021 at 4:49 PM J <jam2finance@yahoo.com> wrote:
> > Hi Jared
> >
> > Please tell me the information on what our lawyer needs to do to file our complaint with the board. We are moving forward and requesting a hearing. You had said you would reference in your report and I did not see it.
> >
> > Thanks
> > Jamie
> >
> > Sent from my iPhone
> >
> > > On May 28, 2021, at 1:24 PM, Ebert - DNR, Jared <jared.ebert@state.co.us> wrote:
> > >
> > > Hi Jamie,
> > >
> > > Just to clarify, if LRM was to import waste not classified as inert material as defined by Rule 1.1(22) and discussed in Rule 3.1.5(9), then they would be subject to the requirements of the Solid Waste Disposal Sites and Facilities Act regulated by the Colorado Department of Public Health and the Environment which I believe requires rigorous testing and screening. However for this site, concrete is defined as inert material and non-toxic in accordance with Rule 1.1(22) and use of it at the mine site as fill is allowed in accordance with Rule 3.1.5(9). Further when the site was originally permitted in 2001/2002, LRM was approved to use concrete in the backfilling operations as part of their approved reclamation plan.
> > >
> > > I apologize, but I do not recall the hole you are referring to? Would you mind clarifying that for me?
> > >
> > > Thank you,
> > >
> > > Jared
> > >
> > > On Fri, May 28, 2021 at 7:40 AM J <jam2finance@yahoo.com> wrote:
> > > > Good morning Jared
> > > >
> > > > We understand that any materials imported in to the site must first be inspected for toxins and other chemicals we were wondering if you could provide us the proof that the concrete riprap that was brought in was first inspected before it was

used. We are concerned with all the failures to comply with reclamation plan. Do know if LRM is going to fix the hole by the river that was made when LRM filled the lake?

Sincerely
Jamie Christensen

Sent from my iPhone

> On May 27, 2021, at 3:43 PM, Ebert - DNR, Jared <jared.ebert@state.co.us> wrote:
>
> Hi Mrs. Christensen,
>
> LRM has not filed a partial release with us that I am aware of, I reached out to Peter and he was also not aware of it. But you are correct, DRMS' decision is not based on possible future events, we can only enforce what is currently required in the reclamation plan.
>
> Thank you,
>
> Jared
>
> On Thu, May 27, 2021 at 2:27 PM J <jam2finance@yahoo.com> wrote:
>> Hi Jared
>>
>> I also noticed LRM asked for a partial release that would be premature and our lawyer does not see it starting in September. We do not know if it will effect the lake or slope requirements of LRM. We will let you know when and how much land they purchase from us and if it affects that part of the lakeshore. There is more information as of the last few days that could affect several aspects of our decisions involving the reclamation property. We would hope that your decisions are not based on things that have not happened and that there is no way to possibly know the details of the ROW
>>
>> Sincerely
>> Jamie Christensen
>>
>> Sent from my iPhone
>>
>> > On May 27, 2021, at 2:03 PM, J <jam2finance@yahoo.com> wrote:
>> >
>> > 7008 county rd 54 Johnstown co 80534
>> >
>> > Sent from my iPhone
>> >
>> > > On May 27, 2021, at 12:22 PM, Ebert - DNR, Jared <jared.ebert@state.co.us> wrote:
>> > >
>> > > You are welcome, and yes the maps you provided me have been scanned into Laserfiche file for the site.
>> > >
>> > > I was looking at the file and I could not find a mailing address for you. Would you mind providing me with a good mailing address?
>> > >
>> > > Thank you,
>> > >
>> > > Jared
>> > >
>> > > On Thu, May 27, 2021 at 11:40 AM J <jam2finance@yahoo.com> wrote:
>> > >> Ok thank you. Did you put the slope map that we gave you in the system yet?
>> > >>
>> > >> Jamie
>> > >>
>> > >> Sent from my iPhone
>> > >>
>> > >> > On May 27, 2021, at 10:15 AM, Ebert - DNR, Jared <jared.ebert@state.co.us> wrote:

Looking at the file, no other documentation was provided by LRM that documents that backfilling and grading was completed. The annual reports submitted by LRM for 2018 and 2019 provide information that reclamation of the Cell No. 4 area was ongoing those years. Peter's June 6, 2019 inspection report shows the above water reclaimed slopes.

Jared

On Thu, May 27, 2021 at 9:57 AM J <jam2finance@yahoo.com> wrote:

> Ok well I guess that explains a lot. What backfilling of the slopes was done and any was proof it was actually done submitted? Can you please share with me any documentation that LRM submitted in regards to back filling the slopes? Or please direct me where to find it? If you recall our complaint on the slope started in 2018.
>
> Sincerely
> Jamie Christensen
>
> Sent from my iPhone
>
> > On May 27, 2021, at 9:26 AM, Ebert - DNR, Jared <jared.ebert@state.co.us> wrote:
> >
> > Yes, that appears to be accurate. My understanding is LRM completed the earthwork to backfill and grade the slopes in 2018 and then surveyed the slopes at the beginning of 2019.
> >
> > On Thu, May 27, 2021 at 9:06 AM J <jam2finance@yahoo.com> wrote:
> >
> > > So I guess what I am saying no one verified the slope before 1/2/2019. Not the state or LRM?
> > >
> > > Jamie
> > >
> > > Sent from my iPhone
> > >
> > > > On May 27, 2021, at 8:59 AM, Ebert - DNR, Jared <jared.ebert@state.co.us> wrote:
> > > >
> > > > Good morning Jamie,
> > > >
> > > > I am not sure I know what 2016 topographic maps you are referring to? The reclamation plan map submitted with AM01 - Map F-1, dated August 24/2016 does not have topographic lines depicted for the Cell No. 4 area. The F-1 map was a proposal that was submitted with the amendment application. If this is not the map you are referring to, can you please help me identify what map you are asking clarification on?
> > > >
> > > > Thank you,
> > > >
> > > > Jared

> On Thu, May 27, 2021 at 8:21 AM JAMIE MCGILL <jam2finance@yahoo.com> wrote:
>
> Hi Jared,
>
> I still have not got a answer to my question. The submitted surveys and Maps before then. How was that information collected please? How was the information on the Topo Map/Survey that was used and submitted in 2016 made? Was there actually measurements on site or what it a proposal of what it was going to look like?
>
> Sincerely
> Jamie Christensen
>
> > On Tuesday, May 25, 2021, 07:17:55 AM MDT, Ebert - DNR, Jared <jared.ebert@state.co.us> wrote:
> >
> > Good morning Mrs. Christensen,
> >
> > Loveland Ready-Mix claims the survey map was generated based on survey information on 1/2/2019 from elevation point measurements. According to Mrs. Fancher-English, these point measurements were taken onsite. Attached is additional correspondence provided by LRM regarding the survey.
> >
> > Jared
> >
> > On Mon, May 24, 2021 at 6:11 PM J <jam2finance@yahoo.com> wrote:
> >
> > > Hi Jared
> > >
> > > Did you find out if the Topographical Map that LRM used was a Map on how the slope was supposed to look like or was there actual people that made a site visit and measurements in person to create map? If so who created the Topographical map used?
> > >
> > > Sincerely
> > > Jamie Christensen
> > > Sent from my iPhone
>
> --
>
> **Jared Ebert**

Senior Environmental Protection Specialist

***I am working remotely, please feel free to call my cell at (720) 413-6466**

<image.png>

P 303.866.3567 ext. 8120 | F 303.832.8106 |

1313 Sherman St., Room 215, Denver, CO 80203

jared.ebert@state.co.us |https://drms.colorado.gov

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COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

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1313 Sherman St., Room 215, Denver, CO 80203

jared.ebert@state.co.us | https://drms.colorado.gov

2 attachments

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

image.png
47K

20011444.pdf
1198K

DEPARTMENT OF PLANNING SERVICES
1555 N. 17th Avenue, Greeley, Colorado 80631
Phone (970) 353-6100, Ext. 3540 Fax (970) 304-6498

USE BY SPECIAL REVIEW (MINING OPERATION) APPLICATION

FOR THE DEPARTMENT OF PLANNING SERVICES USE ONLY

Application Fee _____ Receipt Number _____ Case Number 1324
Recording Fee _____ Receipt Number _____ Zoning District _____
Application Checked By: _____ Planner Assigned to Case _____

To be completed by APPLICANT is accordance with procedural guide requirements:

1. I (we), the undersigned, hereby request a hearing before the Weld County Planning Commission concerning a proposed Sand and Gravel (gravel, coal, borrow pit, etc.) mining operation for the following described unincorporated area of Weld County:

LEGAL DESCRIPTION:
Parts of the NE 1/4 and NW 1/4 of Section 30, T 5 N, R 67 W of 6th P.M. (see attachment to application form)

PARCEL NUMBER: 095730000038 and 095730000020 (12 digit number - found on Tax I.D. Information or obtained at the Assessor's Office).

2. Surface owner(s) of area of land described

Name: Loveland Ready Mix, Inc. Address: See attachment Phone: _____
Name: Croissant Family Trust Address: See attachment Phone: _____

3. Owner(s) of mineral rights or substance to be mined

Name: same as above Address: _____ Phone: _____
Name: same as above Address: _____ Phone: _____

4. Source of applicant's legal right to enter and to mine on the land described:
See attachment
(Include certified copy of any document(s) noted

5. Applicant's address: Loveland Ready Mix, Inc. Phone: 970/667.2680
Address: P.O. Box 299, Loveland, CO 80539 Phone: _____

6. Identify any prior permits for mining held by applicant or affiliated person:
None.

7. Description of Operation

A. Types and number of operating and processing equipment to be used See attachment

B. Maximum number of employees: 15-20, and number of shifts: 1

C. Number of stages to be worked: 4, and periods of time each is to be worked 5 years.

2001-1444

EXHIBIT 7

D. Thickness of mineral deposit: 25 feet, and thickness of the overburden: 4 feet

E. This will be a dry pit operation.

F. Site entrance/exit points and County roads and bridges to be utilized between site and delivery point(s)(must be coordinated with County Engineer) Access point on WCR 13, approximately at intersection with WCR 54. Main delivery route is WCR 54.

8. Description of reclamation

A. Proposed reclamation land use(s): Ponds, wildlife habitat, and pasture.

B. Source of technical advise for reclamation: Soil Conservation Service

C. Explanation of Reclamation Process: See text.

I hereby depose and state under the penalties of perjury that all statements, proposals and/or plans submitted with or contained within this application are true and correct to the best of my knowledge.

George Stenar Vice President
Signature: Owner/Authorized Agent
Loveland Ready Mix, Inc.

Croissant family trust
Viola C. Croissant trustee
Signature: Croissant Family Trust

Rev: 1-27-97

Attachment to Application Form
Loveland Ready Mix, Inc., Green/Croissant Property Sand and Gravel Mine and Ready Mix Concrete Plant, Weld County Use by Special Review Application.

Item 1: Legal Description
A – Loveland Ready Mix property:
Lot A of Recorded Exemption No. 0957-30-2-RE134, recorded May 8, 1974 in Book 714 as Reception No. 1636088, being a part of the NW ¼ of Section 30, Township 5 North, Range 67 West of the 6th P.M., County of Weld, State of Colorado.
EXCEPTING THEREFROM a parcel of land conveyed to Western Slope Gas Company by deed recorded September 26, 1979 in Book 882 as Reception No. 1804393.
ALSO EXCEPTING THEREFROM parcels of land conveyed to Weld County by deeds recorded January 9, 1893 in Book 76 at Page 559 and recorded June 18, 1895 in Book 114 at Page 343, also known by street and number as 25808 Weld County Road 13, Johnstown, Colorado 80534

B – Croissant property
A tract of land in the NE ¼ of Section 30, described as follows: Beginning at a point 2640 feet East of the Northwest corner of said Section 30; thence East 2023 feet; thence South 30 degrees, 36', 30" West 3067.4 feet to the South Line of said Northeast Quarter; thence West 485 feet; thence North 2640 feet to the place of beginning. All in Township 5 North, Range 67 West of the 6th P.M. EXCEPTING rights of way conveyed to Weld County by deed recorded in Book 114, Page 343, Weld County Records, and to the Great Western Railway Company by deed recorded in Book 190, Page 85, Weld County Record, and to rights of way existing or of record for roads, ditches, and utility lines, if any.

Item 2: Surface Owners
Loveland Ready Mix, Inc.
P.O. Box 299
Loveland, CO 80539
Tel. (970)667-2680 (Steve Francher)

Viola C. Croissant
Leon H. Croissant Family Trust
27775 Blackfoot Road
Loveland, CO 80537

Item 4: Source of Legal Right to Enter
Loveland Ready Mix, Inc. and Croissant Family Trust own the subject lands in fee. Attached are deeds that demonstrate this fact. Also attached is a Memorandum of Lease Agreement between Croissant Family Trust and Loveland Ready Mix, Inc.

Division of Minerals & Geology
Department of Natural Resources
1313 Sherman Street, Room 215
Denver CO 80203

RE: Legal Right to Enter

To Whom It May Concern:

I, Viola C. Croissant acting individually and as trustee for the Leon H. Croissant Family Trust hereby grant Loveland Ready Mix Concrete, Inc. the legal right to enter our property (Weld county Parcel 095730000020) as further described in Exhibit N of the DMG Permit Application for the Green/Croissant Property pursuant to the Lease dated December 31, 2000.

Very truly yours,

Viola C. Croissant owner
By: Viola C. Croissant, Owner

Viola C. Croissant Trustee
By: Viola C. Croissant, Trustee

1-31-2001
Date

Attachment to Application Form (continued)

Item 7.A: Type and Number of Equipment

1 Aggregate Plant

- Crusher –1
- Screens – 1
- Washing – 1
- Loaders – 2
- Conveyors – 7
- Hydraulic Excavator – 1
- Motor Grader – 1
- Fuel Truck –1
- Water Truck – 1
- Dozer – 1
- Scraper – 2
- Fuel Tanks – 2
- Generators – 2
- Haul Trucks – 3
- Portable Toilets – 2

1 Concrete Plant

- Loaders – 2
- Mixer Trucks – 10
- Water Truck – 1
- Batch Plant – 1
- Conveyors – 2

4.0 Supporting Documents

4.1 Colorado Mined Land Reclamation Board Submittal

(A copy of this separate document can be found in Appendix E of this Application package.)

4.2 Plans for Water and Sewer

Domestic water will be supplied to the operation by the Little Thompson Water District. Water demand for operations (i.e., concrete batching, dust control, etc.) will be met by using groundwater exposed by mining. Augmentation water (required by the Colorado Division of Water Resources as part of the Temporary Substitute Supply Plan) will be supplied through a lease that the Applicant has with the Town of Loveland, Colorado (makes 200-acre feet of water available annually, in perpetuity). Proof of this water supply can be found in Appendix F.

Sewer service for office and crew personnel will be supplied by an engineered septic system. Portable toilets may also be used for field personnel. Prior to commencement of mining activities, a Septic Permit application will be submitted to the County Department of Public Health and Environment.

4.3 Noise Report

Noise sources at the site are the concrete plant, the sand and gravel plant, mining equipment, mixer trucks, and other vehicles/equipment related to the operation of the facility. The operator proposes to meet Colorado noise standards for an industrial property of this nature (i.e., 75 dBA daytime and 70 dBA nighttime). Most of the noise sources are setback from the property line by a significant distance. Residential receptors are few, with the closest being approximately 1000 feet from the nearest noise source.

4.4 Soils Report

The Soils, Wetlands, and Floodplain Map contained in this application presents the SCS soils data for the property.

5.0 Operating Policies

In addition to the commitments contained in the Application to the Colorado Division of Minerals and Geology, the Applicant commits to the following operating policies:

5.1 Setbacks

The mining limit will be setback a minimum of 25 ft. from all property lines and 35 feet from WCR 13 and WCR 54 right-of-way lines, pending agreements with owners of permanent man-made structures, as outlined in the requirements of the Colorado Division of Minerals and Geology.

Several structures exist on the property, consisting of gas and oil pipelines, pumps, and storage tanks. Agreements are approved or are being developed between the owners of these facilities and the applicant to allow for their continued use and performance while allowing for the mining to occur. A more detailed description is contained within Exhibit D of the Colorado Mined Land Reclamation Board (CMLRB) Application, found in Appendix E of this Application. There are also various permanent man-made structures within 200 ft. of the property lines along the north and west. These structures are shown on Exhibit C and listed in Exhibit S of the Colorado Mined Land Reclamation Board (CMLRB) Application. The State requires setbacks from these man-made structures of 200 feet unless the applicant obtains an agreement with the owner to mine within this distance. The applicant also has the option of supplying an engineer's report stating that mining closer than 200 feet will not affect the stability of the structure.

5.2 Hours of Operation

The following hours are proposed for 6 days per week, Monday through Saturday:

7:00 a.m. to 7:00 p.m. for sand and gravel mining and processing

6:00 a.m. to 5:00 p.m. for concrete batching

7:00 a.m. to 7:00 p.m. for truck hauling to and from the site

6:00 a.m. to 12:00 midnight for maintenance and repairs

The operations office may operate 12 hours per day, 7 days per week.

An exception to the above hours will be allowed when government contracts are obtained that require extended hours. In this case, 24 hour per day operations will be allowed to meet such contract requirements.

5.3 Weed Control Plan

The applicant shall cut or trim unsightly and noxious weeds as necessary to preserve a reasonably neat appearance and to prevent seeding on adjoining properties.

5.4 Existing Trees and Ground Cover

There are some existing trees on the project site and the ground cover consists entirely of hay fields and pasture. Some non-cropland ground cover that is within the setbacks may remain undisturbed during the life of the project. Existing hay and grass cover not within the setbacks shall be removed due to mining and will be replaced with a native grass seed-mix around the reclaimed reservoirs as per the reclamation plan.

5.5 Access

Access to and from the operation onto Weld County Road 13 will use an entrance at the northwest corner of the property, near the intersection of WCR 13 and WCR 54.

5.6 Paving of Access Road

The entrance approach to the property will be paved with a typical asphalt apron from Weld County Road 13. The on-site access road from the apron to the processing plant will be chemically treated to control dust when needed. The designated haul route to the site is Weld County Road 54 with 66% of the traffic routed towards the west and 33% hauling towards the east. Upon county approval of this project, the applicant will initiate an agreement to be made with the Weld County Public Works Dept. for improvements and/or maintenance of this section of County Road 13, based upon impacts to the roadway from truck traffic.

5.7 Fencing

There is an existing three-strand barbed-wire fence along the perimeter of the property. This fence will be maintained around the entire perimeter of the property throughout the life of the mine. Entrance to the operation from County Road 13 will be gated and locked during non-operational periods.

5.8 Topsoil Salvage

As per the reclamation plan in the CMLRB application, there is more than adequate topsoil on site to reclaim the site upon completion of mining activities. The topsoil that will be salvaged for reclamation will be placed along the property boundaries and at convenient locations at the edges of the mine phases. Adequate seeding will be performed to prevent wind and water erosion of the stockpiles. Two topsoil berms will be created and maintained for the life of the mine to act as a visual and noise barrier for neighboring properties. One berm will be located along the western boundary of the plant site to screen the site from Weld County Road 13. A second berm will be placed within the plant site in order to screen the plant facilities from Weld County Road 54.

5.9 Processing Equipment

The final plant site area, where the processing equipment and concrete batching is to be located, will be located at existing grade in the northwest corner of the site for the life of the operation. This location is nearest the access point to the site and will thus minimize fugitive dust emission impacts.

5.10 Proof of Insurance

Prior to beginning mining operations, and as required by Section 44.4.10, the Applicant will supply the County with proof of insurance against liability for any negligent act or omission by the Operator resulting from the operation or maintenance of the sand and gravel pit.

5.11 Additional Operating Policies

1. All liquid and solid wastes shall be stored and removed for final disposal in a manner that protects against surface and groundwater contamination.

2. Dirt, rock, concrete spoils that have settled for at least 60 days, and other inert fill material may be disposed of at this site. All off-site material disposed of on site will be monitored for potential contaminant sources.
3. Waste materials shall be handled, stored, and disposed of in a manner that controls fugitive dust, blowing debris, and other potential nuisance conditions.
4. The applicant shall remove, handle, and stockpile overburden, soil, sand and gravel from the facility area in a manner that will prevent nuisance conditions.
5. An engineered septic system will be used onsite for personnel sanitation purposes. Potable water will be supplied by the Little Thompson Water District and bottled water hauled into the site.
6. The facility shall operate in accordance with the approved dust abatement plan at all times. The facility shall have sufficient equipment available to implement the dust control as required by the Weld County Health Department.
7. The site shall be maintained in compliance with the local fire protection district, the U.S Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the Colorado Division of Minerals and Geology.
8. "No Trespassing" signs shall be posted and maintained on the perimeter to clearly identify boundaries of the site.
9. The facility shall operate in accordance with the approved stormwater detention plan.
10. All construction on the property shall be in accordance with the Weld County Building Code Ordinance.
11. Lighting provided for security and emergency night operation on the site shall be designed so that the lighting will not adversely affect surrounding property owners.
12. The sand and gravel operation will comply with operation policies identified in Section 44 of the Weld County Zoning Ordinance as articulated above.
13. The property owner or operator shall be responsible for complying with the Operating Standards of Section 24.6 of the Weld County Zoning Ordinance, as amended.
14. Personnel from the Weld County Health Department and Weld County Planning Department shall be granted access onto the property at any reasonable time in order to ensure the activities carried out on the property

comply with the Development Standards stated herein and all applicable Weld County regulations.

15. The Special Review area shall be limited to the plans shown herein and governed by the foregoing standards and all applicable Weld County Regulations. Substantial changes from the plans or Development Standards as shown or stated shall require the approval of an amendment of the Permit by the Weld County Planning Commission before such changes from the plans or Development Standards are permitted. Any other changes shall be filed in the office of the Department of Planning Services.
16. The property owner or operator shall be responsible for complying with all of the foregoing Development Standards. Noncompliance with any of the foregoing Development Standards may be reason for revocation of the Permit by the Board of County Commissioners.

6.0 Reclamation Policies

In addition to the commitments made in the application to the Colorado Division of Minerals and Geology, the Applicant commits to the following reclamation policies:

6.1 Compatibility with Surrounding Land Uses

The reclamation plan was designed to accommodate wildlife habitat facilities that will potentially coexist with a large-lot residential development that may be developed on the entire property once mining in the north portion is completed. The surrounding land uses currently are agricultural in nature with some mining activities taking place to the east of the subject property. The reclamation plan for the subject property is compatible with the existing and anticipated agricultural uses.

6.2 Completion of Operations – Safety

Access to the site will be limited to employees necessary to maintain the site. For safety purposes, access by others will be limited.

6.3 Drainage

Sufficient drainage shall be provided so as to prevent water pockets or undue erosion. Grading shall be accomplished in such a manner that stormwater does not leave the property, as any surface runoff will be directed to into the reservoirs that will occupy the property upon reclamation.

6.4 Grading and Erosion Control

All excavated areas shall finally be graded in substantial conformity to the use of the land proposed in the reclamation plan. Ridges, banks and mounds shall be graded so as to minimize erosion. Trees, shrubs, legumes, grasses, or other ground cover shall be replaced in order to avoid erosion insofar as is practicable.

7.0 Other Requirements:

7.1 Detailed Description of the Method of Mining

The detailed mining plan is included in the CMLRB application package, found in Appendix E of this Application package.

7.2 List of Property Owners Within 500 Feet

The Vicinity Map contained in this application shows and lists property owners within 500 feet of the site.

7.3 List of Mineral (i.e. Sand and Gravel) Owners and Lessees

Loveland Ready Mix, Inc. Property

Mineral Owner: Loveland Ready Mix, Inc.

Mineral Lessee: None

Croissant Property

Mineral Owner: Croissant Family Trust

Mineral Lessee: Loveland Ready Mix, Inc.

7.4 Statement of Consistency with the Weld County Comprehensive Plan

The Applicant has compared this proposed use, and has prepared this application package to conform to all Mineral Resource Goals and Policies,

which are contained in the Weld County Comprehensive Plan. The details of the proposal contained in this application support all Goals and Policies of the Plan.

7.5 Statement of Consistency with the Intent of the Zone District

The subject property is within the "A (Agricultural) District". The intent of this district is to "provide areas for the conduct of agricultural activities and activities related to agriculture and agricultural production without the interference of other, incompatible land uses". In addition, the "A" District is "intended to provide areas for the conduct of Uses by Special Review which have been determined to be more intense or to have a potentially greater impact than Uses Allowed by Right". Mineral resource development is one of the Uses by Special Review in the A (Agricultural) District. This application has been designed to meet the intent of the Zone District and the requirements of the Use by Special Review.

7.6 Statement of Adequate Provisions to Protect the Health, Safety, and Welfare

The application contains adequate provisions to protect the health, safety, and welfare of surrounding landowners and the County residents. The plan contained in this application package addresses all of the major areas of potential pollution and nuisance factors related to these issues such as noise, dust, water pollution, drainage, truck traffic, etc.

7.7 Statement of Compatibility with Existing Uses

Existing surrounding land-uses are predominantly agricultural in nature. The proposed mining and concrete production is allowed for in the zoning ordinance as a Use by Special Review. The mine and reclamation plans, along with the end-use of the property, have been designed to be consistent with the surrounding agricultural land uses and they contain provisions to ensure compatibility.

7.8 Statement of Compatibility with Future Uses

Future uses surrounding the subject property will continue to be agricultural in nature for the foreseeable future. Nearby properties also contain commercial quantities and commercial quality sand and gravel deposits. It is highly likely that

some of these surrounding deposits will be developed in the future. Mining and reclamation of the subject property is consistent with the future anticipated uses of surrounding properties.

7.9 Statement Concerning Floodplain, Geologic Hazards, and the Airport Overlay District

A portion of the subject site lies within the 100-year floodplain of the Big Thompson River (boundary of 100-year floodplain is shown on the Soils, Wetlands, and Floodplain Map contained within this application). A Floodplain Permit will be submitted and approved prior to operations.

There are no Geologic Hazards or Airport Overlay Districts present on this property.

7.10 Copy of Legal Instrument Identifying Applicant's Interest in the Property

These copies are attached to the application form contained in this document.

7.11 Special Review Use Questionnaire

The questionnaire is contained in Appendix A.

7.12 Weld County Road Access Information Sheet

A completed information sheet is contained in Appendix B.

Traffic Information and Proposed Road Improvements

There is an estimated 1,500,000 tons of gravel in reserve at the proposed permit site. Almost all of this gravel will be consumed on site in concrete production. The applicant proposes to ship approximately 50,000 tons of aggregate off-site per year. Annual production and sales in concrete production from the subject property are estimated to be 100,000 to 200,000 tons-per-year. Tractor-trailers at approximately 85,000 pounds or tandems at approximately 55,000 pounds will be used to haul aggregate material from the site. Concrete trucks weighing approximately 60,000 pounds will also be used. Outgoing traffic transporting materials to market will utilize Weld County Road 54 from Weld County Road 13

and will be split, 66% hauling towards the west and 33% hauling towards the east.

Based upon the use of these trucks and using a 250-day per year working schedule, there will be an average of 73 round-trips per day for all aggregate and concrete trucks. There will be additional traffic generated by employees, vendors and suppliers to the site. It is estimated that these trips will account for an average of approximately 22 additional round-trips per day, which will include automobiles and service/sales trucks.

Loveland Ready Mix Concrete, Inc. proposes to pave the entrance apron from the access road onto County Road 13 prior to the start of operations. If necessary, the gravel access road/haul road from the apron to the plant site will be chemically treated for dust and erosion control during operations. Upon county approval of this project, the applicant will initiate an agreement to be made with the Weld County Public Works Department for improvements and/or maintenance of the section of County Road 13 between the access road and WCR 54, based upon impacts to the roadway from truck traffic. Please reference the attached traffic study for additional information (Appendix C contains the Traffic Impact Analysis).

Note: Appendix D contains the required Affidavits of Ownership.

Appendix A:

Special Use Questionnaire

USE BY SPECIAL REVIEW QUESTIONNAIRE

The following questions are to be answered and submitted as part of the USR application. If a question does not pertain to your use, please respond with "not applicable", with an explanation as to why the question is not applicable.

1. Explain, in detail, the proposed use of the property.
   Sand and gravel mining and reclamation; ready mix concrete batch plant; related accessory uses
2. Explain how this proposal is consistent with the intent of the Weld County Comprehensive Plan.
   Such uses by special review are allowed in agricultural districts
3. Explain how this proposal is consistent with the intent of the Weld County Zoning Ordinance and the zone district in which it is located.
   Application complies with all requirements of the ordinance.
4. What type of uses surround the site? Explain how the proposed use is consistent and compatible with surrounding land uses.
   Gravel mining, residential and agricultural. Proposal has provisions for compatability
5. Describe, in detail, the following:

   a. How many people will use this site?
   20, plus truck drivers for off-site gravel sales
   b. How many employees are proposed to be employed at this site?
   15-20
   c. What are the hours of operation?
   6 AM - 7 PM, Monday through Saturday for normal operations; 6AM - 12AM for maintenance and repairs
   d. What type and how many structures will be erected (built) on this site?
   Concrete plant, aggregate plant, offices.
   e. What type and how many animals, if any, will be on this site?
   None
   f. What kind (type, size, weight) of vehicles will access this site and how often?
   Mixer trucks, dump trucks, pickups, mining equipment - daily, monday through saturday
   g. Who will provide fire protection to the site?
   Johnstown Fire Protection District
   h. What is the water source on the property? (Both domestic and irrigation).
   Groundwater and the Little Thompson Water District
   i. What is the sewage disposal system on the property? (Existing and proposed).
   Septic and leach field (existing); engineered septic system and portable toilets (proposed)
   j. If storage or warehousing is proposed, what type of items will be stored?
   Sand and gravel, topsoil, cement, and related items.
6. Explain the proposed landscaping for the site. The landscaping shall be separately submitted as a landscape plan map as part of the application submittal.
   see text and landscape plan
7. Explain any proposed reclamation procedures when termination of the Use by Special Review activity occurs.
   see CMLRB Permit application
8. Explain how the storm water drainage will be handled on the site.
   Controlled on site, routed to pit floor.
9. Explain how long it will take to construct this site and when construction and landscaping is scheduled to begin.
   Six to eight months. Construction to begin in summer of 2001
10. Explain where storage and/or stockpile of wastes will occur on this site.
    See text and maps.

Appendix B:

Road Access Information Sheet

APPENDIX B

WELD COUNTY ROAD ACCESS INFORMATION SHEET

Weld County Public Works Department
1111 H Street, P.O. Box 758, Greeley, CO 80632
Phone: (970)356-4000, Ext. 3750 Fax: (970) 304-6497

Date: _____

1. Applicant Name Loveland Ready Mix, Inc. Phone 970/667.2680
   Address P.O. Box 299 City Loveland State CO Zip 80539

2. Address or location of access 25808 WCR 13, Johnstown, CO 80534
   Section 30 Township 5 North Range 67 West
   Subdivision _____ Block _____ Lot _____
   Weld County Road # 13 Side of Road East Distance from nearest intersection 500 ft.

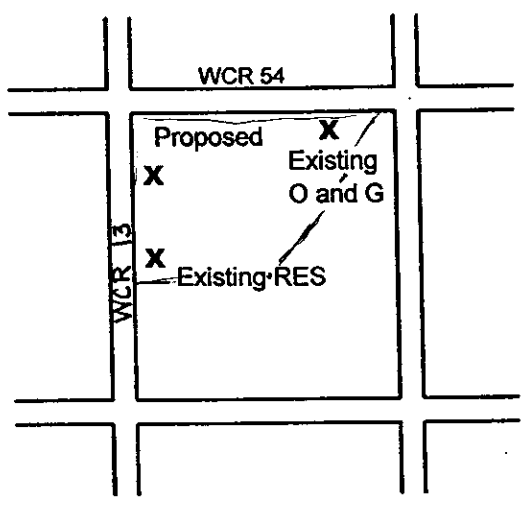
3. Is there an existing access to the property? Yes X No _____ # of accesses 2

4. Proposed Use:
   ☐ Permanent ☐ Residential/Agricultural ☐ Industrial
   ☐ Temporary ☐ Subdivision ☐ Commercial ☐ Other Sand and Gravel Mine

****

5. Site Sketch

Legend for Access Description:
AG = Agricultural
RES = Residential
O&G = Oil & Gas
D.R. = Ditch Road



****

OFFICE USE ONLY:

Road _____ ADT _____ Date _____ Accidents _____ Date _____
Road _____ ADT _____ Date _____ Accidents _____ Date _____

Drainage Requirement Culvert _____ Size _____ Length _____

Special Conditions _____

****

☐ Installation authorized ☐ Information Insufficient

Reviewed By: _____ Title: _____

Appendix C:

Traffic Impact Analysis

LSC TRANSPORTATION CONSULTANTS, INC.

1889 York Street
Denver, CO 80206
(303) 333-1105
FAX (303) 333-1107
E-mail: lsc@lscden.com
Web Site: http://www.lscden.com

TRANSPORTATION
CONSULTANTS, INC.

September 28, 2000

Mr. Tug Martin
Banks & Gesso, LLC
720 Kipling Street, Suite 117
Lakewood, CO 80215

Re: Green Property Gravel Pit
Weld County, Colorado
(LSC # 000940)

Dear Tug:

We are pleased to submit our report of the traffic impacts of the proposed Green Property Gravel Pit in Weld County, Colorado. This study first provides a summary of existing traffic conditions in the vicinity of the proposed site. It then provides estimates of the amount and directional distribution of traffic that will be generated by the proposed operation as well as estimates of existing plus project-generated traffic volumes on the surrounding road system. In light of the 15-year life of the operation, estimates of Year 2015 background and total traffic are also provided. Finally, the impacts of the project's generated traffic are evaluated and recommendations are made regarding roadway improvements.

Site Location and Proposed Use

The project site is proposed to be about 160 acres in size. The site is located about three miles northwest of the Town of Johnstown, Colorado, on the southeast corner of the intersection of Weld County Road (WCR) 54 and WCR 13. All access is planned at a single access point onto WCR 13 about 420 feet south of WCR 54. Proposed uses include gravel mining, aggregate production, and storage of aggregate materials.

Existing Roadway Characteristics

Figure 1, enclosed, illustrates the site location relative to the nearby roadway system. Figure 2 illustrates the existing lane geometry and traffic control at the intersections of WCR 54 with WCR 13 and WCR 17. WCR 54 is a paved, two-lane, east/west county highway running through both Larimer County (where it is known as Larimer County Road 18) on the west side of WCR 13 and Weld County on the east side of WCR 13. The speed limit on WCR 54 in the vicinity of the site is 55 mph. WCR 13 is an unpaved north/south county road between WCR 54 and WCR 52 in the vicinity of the site as well as on the north leg of its intersection with WCR 54. In the vicinity of the site, it forms the border between Weld and Larimer Counties. At its intersection with WCR 54, the north and south legs are stop controlled.

WCR 17 is a paved, two-lane, north/south county road. Its intersection with WCR 54 is Stop controlled on all approaches.

Existing and Future Background Traffic

Figure 3 illustrates existing peak-hour intersection turning movement traffic volumes in the vicinity of the proposed Green Property Gravel Pit at the intersections of WCR 54 with WCR 13 and WCR 17. Truck percentages on WCR 54 and 17 are estimated to be about 12 percent. This figure was obtained from the *1996 CDOT Traffic Data* for nearby State Highway 257 and assumed to be the same for WCR 54 and 17. Truck percentages on WCR 13 are estimated to be about two percent because it is a gravel road on which truck traffic is not common. Figure 2 also shows the results of a 24-hour road tube traffic count on WCR 13 in the vicinity of the site indicating that the ADT is about 170 vehicles per day (vpd). The traffic counts were conducted in July 2000 by Counter Measures, Inc. Printouts of all count data are contained in Appendix A.

According to Larimer County Traffic Engineering, the annual growth rate for Larimer County Road 18 (which is WCR 54 in Weld County) is about 7.8 percent. This corresponds to a 15-year growth factor of 3.09 and was assumed to be the same for nearby roads in Weld County. Year 2005 background traffic volumes were also determined because this is the year in which the Green Property Gravel Pit is expected to be at full operation. The annual growth percentage of 7.8 percent corresponds to a five-year growth factor of 1.46. These growth factors were applied to the existing turning movement volumes to calculate Year 2005 and Year 2015 background volumes as illustrated on Figures 4 and 5, respectively. The background traffic volumes are the future traffic volumes on the area roadways without the expected traffic generated by the site and form the basis for evaluating the impacts that traffic generated by the proposed Green Property Gravel Pit will have on the surrounding roadway system.

The background passenger car equivalents (PCE's) are also shown on Figures 4 and 5. According to Section 2.3-4e of the *Colorado State Highway Access Code*, *"all criteria in the code are based on automobile operations and performance."* Therefore, *"To allow for the impact of larger trucks, buses and recreational vehicles, "passenger car equivalents" shall be determined."* The Code indicates that for each bus or truck combination 40 feet in length or longer, a passenger car equivalent (PCE) of three is applied while a PCE of two is applied for each vehicle combination between 20 and 40 feet in length. Half of the truck percentage was assumed to have the effect of two passenger cars per truck and the other half was assumed to have the effect of three passenger cars per truck. In a study with a large number of trucks, calculating PCE's is important because, when added to the project-generated PCEs, the need for acceleration and deceleration lanes can be appropriately determined.

Estimated Traffic Generation

Based on information supplied by the applicant, the following peak daily traffic generation activities are projected:

- Cement and Fly Ash Trucks: 6 one-way trips;

- Concrete Trucks: 120 one-way trips;
- Aggregate Trucks: 20 one-way trips;
- Light Vehicles: 44 one-way trips.

Further breakdown of morning and evening peak-hour trip activity was supplied by the applicant and is shown in Table 1. The breakdown of individual trips by type was estimated based on the total number of expected morning and evening peak-hour trips which was supplied by the applicant.

As indicated in Table 1, Green Property Gravel Pit is projected to generate a total of 190 vehicle-trips, or 95 vehicles entering and 95 vehicles exiting the site during a work day. Of these, 19 would enter and 14 would exit in the morning peak, while 13 would enter and 19 would exit in the evening peak. Of the morning entering and evening exiting vehicles, about ten are projected to be heavy vehicles while all of the morning exiting and evening entering vehicles are projected to be heavy vehicles.

Table 1
TRIP GENERATION ESTIMATES (1)
Green Property Gravel Pit
September, 2000

	Summary of Vehicle-Trips				
		AM Peak		PM Peak	
Trip Description	Daily	In	Out	In	Out
Cement and Fly Ash Trucks	6	1	1	0	0
Concrete Trucks	120	8	12	12	9
Aggregate Trucks	20	1	1	1	1
Light Vehicles	44	9	0	0	9
Total Trips	190	19	14	13	19

Estimated Traffic Distribution and Assignment

Based on estimates from Banks and Gesso, LLC, about 66 percent of the traffic generated by the Green Property Gravel Pit would be oriented to and from the west on Larimer County Road 18 to the west of WCR 13. About 34 percent would be oriented to and from the east on WCR 54 to the east of WCR 13. As the traffic travels east on WCR 54, it is expected to branch off and use some of the north/south roads to travel to various destinations. Further breakdown of the traffic distribution to the east of WCR 13 is illustrated on Figure 6. Application

of these percentages to the peak-hour generation estimates of Table 1 yields the intersection traffic assignments shown on Figure 7.

Figure 7 also shows the total number of PCE's for the movements affected by the trip distribution and assignment. As with the background traffic, half of the project-generated heavy vehicle percentage was assumed to have the effect of two passenger cars per truck and the other half was assumed to have the effect of three passenger cars per truck. Note that project-generated turning movement volumes are also shown for the intersection of WCR 54 with State Highway 257. This was done in order to illustrate that the project-generated traffic volume added to this intersection is very small and so no capacity analysis was performed for this location.

Finally, Figures 8 and 9 illustrate 2005 and 2015 total traffic volumes which are the combination of background (Figures 4 and 5) and project-generated (Figure 7) traffic. Again, PCE's are indicated for affected movements.

Capacity Analyses

In order to assess the impacts of the proposed Green Property Gravel Pit, related capacity analyses have been performed which compare existing and future background traffic operating conditions (Figures 3, 4, and 5) with those reflecting the addition of project-generated traffic (Figures 9 and 10). The methodology used is that presented in the current edition of the nationally accepted *Highway Capacity Manual* published by the Transportation Research Board of the National Academy of Sciences. The concept of Level of Service (LOS) is used as a basis for computing combinations of roadway operating conditions. By definition, six different Levels of Service are used (A, B, C, D, E, and F) with "A" being a relatively free-flow condition and "E" representing the "capacity" of a given intersection or traffic movement.

At the intersection of WCR 54 with WCR 13, under the requirements of the *Colorado State Highway Access Code*, the addition of 2005 project-generated traffic to the 2005 background traffic will require eastbound and westbound right- and left-turn deceleration lanes, respectively. Due to these projections, it is assumed that these lanes will be constructed just before the start of operations for the Green Property Gravel Pit. Therefore, both 2005 background and total traffic have been analyzed with this lane geometry (as well as for the 2015 scenarios).

Initial analysis of the WCR 54/WCR 17 intersection under Year 2015 background volumes indicated that some of the approaches would have poor Levels of Service with a four-way Stop. A second analysis was performed using a four-way Stop with a lane configuration in which all approaches would have two through lanes. The results yielded acceptable Levels of Service for all the lanes. However, such a lane configuration (two through lanes on all approaches) used with a four-way Stop is not desirable, therefore, the possibility of using a signal was analyzed. The projected 2015 background traffic volumes at the intersection of WCR 54 with WCR 17 warrant a signal according to the 1988 edition of the *Manual on Uniform Traffic Control Devices* (MUTCD) and require auxiliary lanes on some of the movements according to the *Colorado State Highway Access Code*. As volumes increase at this intersection, traffic signal

warrant analyses should be performed in order to determine the proper time to construct a signal.

The background traffic capacity analyses for Year 2015 assume that at the intersection of WCR 54/WCR 17, a signal will be in operation and that auxiliary lanes have been constructed because of the volume requirements in the *Colorado State Highway Access Code*. The Year 2015 total traffic capacity analysis also uses these same assumptions.

Table 2 summarizes the results of our Level of Service (LOS) analyses. Note also in Table 2 that the various traffic control and lane configuration changes from scenario to scenario are also indicated. Computer printouts containing output from the HCS 3.2 and Synchro 4.0 software are enclosed.

Existing Traffic Levels of Service

During the morning and evening peak periods, the four-way Stop controlled intersection of WCR 54 with WCR 17 will operate at LOS "A" and "B", respectively. All approaches operate at LOS "B" or better during both the morning and evening peak periods.

At the unsignalized intersection of WCR 54 with WCR 13, all movements operate at LOS "B" or better during both morning and evening peak periods.

2005 Traffic Impacts

Year 2005 is when the Green Property Gravel Pit is expected to be at full operation. Under the 2005 background traffic scenario, the four-way Stop controlled intersection of WCR 54 with WCR 17 is expected to operate at LOS "A" and "B" during the morning and evening peak periods, respectively. With the addition of project-generated traffic, the overall intersection LOS is expected to continue to operate at LOS "A" and "B" during the morning and evening peak periods, respectively. All approaches are expected to operate at LOS "B" or better during both the morning and evening peak periods with or without the addition of project-generated traffic.

At the unsignalized intersection of WCR 54 with WCR 13, all movements are expected to operate at LOS "B" or better with or without the addition of project-generated during both morning and evening peak periods through Year 2005.

2015 Traffic Impacts

As stated previously, initial analysis of the WCR 54/WCR 17 intersection under Year 2015 background volumes indicated that some of the approaches would have poor Levels of Service with a four-way Stop. A second analysis was performed using a four-way Stop with a lane configuration in which all approaches would have two through lanes. The results yielded acceptable Levels of Service for all the lanes. However, such a lane configuration (two through lanes on all approaches) used with a four-way Stop is not desirable. Therefore, the WCR 54/ WCR 17 intersection was analyzed using a traffic signal.

Under the 2015 background traffic scenario, the assumed signalized intersection of WCR 54 with WCR 17 is expected to operate at LOS "B" during both the morning and evening peak periods. With the addition of project-generated traffic, the overall intersection LOS is expected to continue to operate at LOS "B" during the morning and evening peak periods. All movements at this intersection are expected to operate at LOS "C" or better during both the morning and evening peak periods with or without the addition of project-generated traffic.

At the unsignalized intersection of WCR 54 with WCR 13, all movements are expected to operate at LOS "C" or better with or without the addition of project-generated during both morning and evening peak periods through Year 2015.

Average Daily Traffic Impacts

Figure 10 shows the average daily impacts due to the project-generated traffic including the daily number of heavy vehicles generated by the proposed Green Property Gravel Pit. The average daily impacts are minimal, indicating that by Year 2015, it is estimated that the project-generated traffic will be accountable for less than two percent of the daily traffic on Larimer County Road 18 west of WCR 13 and less than one percent of the daily traffic on WCR 54 east of WCR 13. The project-generated traffic will account for about 26 percent of the traffic on WCR 13. Gravel roads with average daily traffic volumes exceeding 400 vehicles per day are generally considered good candidates for paving. WCR 13, in the vicinity of the site will exceed this threshold.

Truck Impacts on Pavement Condition

The destructive effect of repeated wheel loads is the major factor which contributes to the deterioration of roadway pavements. Since both the magnitude of the load and the number of repetitions are important, provision is made in pavement design procedures to allow for the effects of the number and weight of all axle loads expected during the design period. CDOT uses pavement design procedures which convert traffic data to 18 Kip equivalent single-axle load applications (18K ESAL). Eighteen Kip or 18,000 lbs is the maximum legal load allowed on a single axle. CDOT uses the following load equivalency factors for flexible pavement design:

- passenger vehicle: 0.003
- single-unit trucks: 0.249
- combination trucks: 1.087

The latter category includes most of the concrete trucks, dump trucks, and tractor trailer combinations that would be hauling materials to and from the Green Property Gravel Pit.

Eighteen Kip ESAL's have been calculated for the Green Property Gravel Pit on WCR 13, Larimer County Road 18, and WCR 54 using the CDOT load equivalency factors and assumptions regarding the breakdown of traffic into the various vehicle classifications. Based on these assumptions, the Green Property Gravel Pit will generate about 195,800 ESALs over the life of the project. On Larimer County Road 18 immediately west of WCR 13, the total number of ESALs will be about 128,800 while the total number of ESALs on WCR 54 immediately east of WCR 13 will be about 67,000. Over the life of the project, the traffic

generated by the Green Property Gravel Pit will account for approximately 96 percent of the total number of ESALs on WCR 13 from its intersection with WCR 54 to the entrance to the Green Property Gravel Pit. Additionally the traffic generated by the Green property Gravel Pit will account for approximately five percent of the total number of ESALs on Larimer County Road 18 immediately west of WCR 13 and about ten percent of the total number of ESALs on WCR 54 immediately east of WCR 13. The results of the ESAL analyses are contained in Tables 3, 4, and 5.

Recommendations

At the intersection of WCR 54 (also Larimer County Road 18) it is recommended that eastbound right-turn and westbound left-turn deceleration lanes be constructed just before the start of operations at the Green Property Gravel Pit. The *Colorado State Highway Access Code* sets forth the deceleration and taper lengths based on the speed and classification of the highway while the storage length is based on the number of vehicles using the deceleration lane. Based on these requirements, the following recommendations are made regarding the intersection of WCR 54 with WCR 13:

1. Based on the 2015 total traffic volumes that will use the eastbound right- and westbound left-turn deceleration lanes, the lengths required by the *Colorado State Highway Access Code* standards are calculated to be as follows:

Eastbound right-turn taper length -	225 feet;
Eastbound right-turn deceleration length -	380 feet;
Westbound left-turn taper length -	225 feet;
Westbound left-turn deceleration and storage length -	405 feet.

2. WCR 13 should be paved from its intersection with WCR 54 on the north to the site access on the south according to Weld and Larimer County specifications.

Conclusions

Based upon the foregoing analyses, the following conclusions can be made concerning the traffic impacts of the proposed Green Property Gravel Pit:

1. The Green Property Gravel Pit is expected to generate a total of 146 heavy vehicle-trips and 44 passenger vehicle/pickup trips on an average work day. During the morning peak-hour, about 19 entering and 14 exiting vehicles (10 entering and 14 exiting heavy vehicles) will be generated while during the evening peak-hour, 13 entering and 19 exiting vehicles (13 entering and 10 exiting heavy vehicles) will be generated.

2. About 66 percent of the traffic generated by the Green Property Gravel Pit would be oriented to and from the west on Larimer County Road 18 to the west of WCR 13. About 34 percent would be oriented to and from the east on WCR 54 to the east of WCR 13.

3. Under the existing and assumed future lane configurations and intersection traffic controls, all movements at the intersections of WCR 54 with WCR 13 and WCR 17 are expected to operate at LOS "C" or better with or without the addition of project-generated traffic during the morning and evening peak periods through Year 2015.

4. Over the life of the project, the traffic generated by the Green Property Gravel Pit will account for approximately 96 percent of the total number of ESALs on WCR 13 from its intersection with WCR 54 to the entrance to the Green Property Gravel Pit.

5. The intersection of WCR 54 and the site access should be improved to include eastbound right-turn and westbound left-turn deceleration lanes. Based on the 2015 total traffic volumes that will use the eastbound right- and westbound left-turn deceleration lanes, the lengths required by the *Colorado State Highway Access Code* standards are calculated to be as follows:

Eastbound right-turn taper length -	225 feet;
Eastbound right-turn deceleration length -	380 feet;
Westbound left-turn taper length -	225 feet;
Westbound left-turn deceleration and storage length -	405 feet.

6. WCR 13 should be paved from its intersection with WCR 54 on the north to the site access on the south according to Weld and Larimer County specifications.

7. The traffic impacts of the Green Property Gravel Pit can be accommodated by the existing roadway system with the improvements recommended herein.

* * *

We trust that this information will assist you with further planning for the proposed development of the Green Property Gravel Pit. Please call if we can be of further assistance.

Respectfully submitted,

LSC Transportation Consultants, Inc.

By: Alex J. Ariniello
Alex J. Ariniello, P.E.

COLORADO REGISTERED ALEXANDER J. ARINIELLO 14932 PROFESSIONAL ENGINEER

AJA/GSS/wc

Enclosures: Tables 1-5
Figures 1-10
Traffic Counts
Capacity Analyses

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Table 4
EDLA Analysis - Larimer County Road 18, immediately west of WCR 13
Green Property Gravel Pit
Larimer County, Colorado

			Background traffic					Green Property Gravel Pit Traffic					
			Vehicle Class Percentage (3)										
			(4)	(5)	(6)				(4)	(5)	(6)		
	Growth	Larimer County Road 18	Passenger Vehicles	Single-Unit Trucks	Combination Unit Trucks	(7)	(8)	WRC 20.5	Passenger Vehicles	Single-Unit Trucks	Combination Unit Trucks	(7)	(8)
Year	Rate (1)	ADT (2)	88.0%	6.0%	6.0%	ESAL	EDLA	ADT (9)	23.0%	38.5%	38.5%	ESAL	EDLA
												0	0
2000		2,640	2,323	158	158	39,893	109	125	29	48	48	8,048	22
2001	1.078	2,846	2,504	171	171	43,005	118	125	29	48	48	8,048	22
2002	1.078	3,068	2,700	184	184	46,359	127	125	29	48	48	8,048	22
2003	1.078	3,307	2,910	198	198	49,975	137	125	29	48	48	8,048	22
2004	1.078	3,565	3,137	214	214	53,873	148	125	29	48	48	8,048	22
2005	1.078	3,843	3,382	231	231	58,075	159	125	29	48	48	8,048	22
2006	1.078	4,143	3,646	249	249	62,605	172	125	29	48	48	8,048	22
2007	1.078	4,466	3,930	268	268	67,488	185	125	29	48	48	8,048	22
2008	1.078	4,815	4,237	289	289	72,752	199	125	29	48	48	8,048	22
2009	1.078	5,190	4,567	311	311	78,427	215	125	29	48	48	8,048	22
2010	1.078	5,595	4,924	336	336	84,544	232	125	29	48	48	8,048	22
2011	1.078	6,031	5,308	362	362	91,139	250	125	29	48	48	8,048	22
2012	1.078	6,502	5,722	390	390	98,248	269	125	29	48	48	8,048	22
2013	1.078	7,009	6,168	421	421	105,911	290	125	29	48	48	8,048	22
2014	1.078	7,556	6,649	453	453	114,172	313	125	29	48	48	8,048	22
2015	1.078	8,145	7,168	489	489	123,077	337						
					Total	1,066,467					Total	120,715	

(1) Assumes a 15 year growth factor of 3.09
(2) Estimated average daily traffic on Larimer County Road 18, immediately west of WCR 13
(3) Percentage of ADT by vehicle class (assumes about 12% heavy vehicles in the background traffic))
(4) Passenger vehicles
(5) Single-unit trucks
(6) Combination units with gross weight less than 18,000 lbs per axle (moving vans, concrete trucks, heavy rigs)
Note: Average number of axles on combination units assumed to be 4.
(7) ESAL: Equivalent 18,000 lb axle loadings : ((load equivalency factor) x (number of vehicles per day in each class) x (250 working days*))/2
(8) EDAL: Equivalent average daily 18,000 lb axle loadings
(9) Daily Traffic Generation for Green Property Gravel Pit on WCR 13, immediately west of WCR 13
* (Multiply by 365 days for background traffic)

Table 3
EDLA Analysis - WCR 13, immediately south of WCR 54
Green Property Gravel Pit
Weld County, Colorado

			Background traffic					Green Property Gravel Pit Traffic					
			Vehicle Class Percentage (3)										
Year	Growth Rate (1)	WCR 13 ADT (2)	(4) Passenger Vehicles 98.0%	(5) Single-Unit Trucks 2.0%	(6) Combination Unit Trucks 0.0%	(7) ESAL	(8) EDLA	WRC 20.5 ADT (9)	(4) Passenger Vehicles 23.0%	(5) Single-Unit Trucks 38.5%	(6) Combination Unit Trucks 38.5%	(7) ESAL	(8) EDLA
												0	0
2000		171	168	3	0	247	1	190	44	73	73	12,237	33
2001	1.078	184	181	4	0	266	1	190	44	73	73	12,237	33
2002	1.078	199	195	4	0	287	1	190	44	73	73	12,237	33
2003	1.078	214	210	4	0	310	1	190	44	73	73	12,237	33
2004	1.078	231	226	5	0	334	1	190	44	73	73	12,237	33
2005	1.078	249	244	5	0	360	1	190	44	73	73	12,237	33
2006	1.078	268	263	5	0	388	1	190	44	73	73	12,237	33
2007	1.078	289	284	6	0	418	1	190	44	73	73	12,237	33
2008	1.078	312	306	6	0	451	1	190	44	73	73	12,237	33
2009	1.078	336	329	7	0	486	1	190	44	73	73	12,237	33
2010	1.078	362	355	7	0	524	1	190	44	73	73	12,237	33
2011	1.078	391	383	8	0	565	2	190	44	73	73	12,237	33
2012	1.078	421	413	8	0	609	2	190	44	73	73	12,237	33
2013	1.078	454	445	9	0	656	2	190	44	73	73	12,237	33
2014	1.078	489	480	10	0	707	2	190	44	73	73	12,237	33
2015	1.078	528	517	11	0	763	2						
					Total	6,607					Total	183,555	

(1) Assumes a 15 year growth factor of 3.09
(2) Average daily traffic on WCR 13, immediately south of WCR 54
(3) Percentage of ADT by vehicle class (assumes about 2% heavy vehicles in the background traffic)
(4) Passenger vehicles
(5) Single-unit trucks
(6) Combination units with gross weight less than 18,000 lbs per axle (moving vans, concrete trucks, heavy rigs)
Note: Average number of axles on combination units assumed to be 4.
(7) ESAL: Equivalent 18,000 lb axle loadings : ((load equivalency factor) x (number of vehicles per day in each class) x (250 working days*))/2
(8) EDAL: Equivalent average daily 18,000 lb axle loadings
(9) Daily Traffic Generation for Green Property Gravel Pit on WCR 13, immediately south of WCR 54
* (Multiply by 365 days for background traffic)

Table 2
Intersection Levels of Service Analysis
Green Property Gravel Pit
Weld County, Colorado
September 2000

Intersection Location	Traffic Control	Existing Traffic		2005 Background Traffic		2005 Total Traffic		2015 Background Traffic		2015 Total Traffic	
		Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM	Level of Service AM	Level of Service PM
WCR 54/WCR 13	Unsignalized										
NB LTR		A	A	B	B	B	B	B	C	C	C
SB LTR		B	A	B	B	B	B	C	C	C	C
EB LTR		A	A								
EB LT (2005 and 2015)				A	A	A	A	A	A	A	A
WB LTR		A	A								
WB L (2005 and 2015)				A	A	A	A	A	A	A	A
Critical Movement Delay (sec/veh)		10.6	9.9	11.0	11.1	11.5	11.8	15.9	16.7	16.6	19.3
WCR 54/WCR 17	4-way Stop										
NB LTR		A	A	A	B	A	B				
SB LTR		A	A	A	B	A	B				
EB LTR		A	B	A	B	A	B				
WB LTR		A	A	A	B	A	B				
Intersection LOS		A	B	A	B	A	B				
Intersection Delay		8.8	10.3	9.2	11.5	9.4	11.7				
WCR 54/WCR 17	Signalized										
NB L								B	C	B	C
NB T								B	C	B	C
NB R								A	A	A	A
SB L								B	C	B	C
SB T								B	C	B	C
SB R								A	A	A	A
EB L								B	B	B	B
EB T								B	B	B	B
EB R								A	A	A	A
WB L								B	B	B	B
WB TR								B	A	B	A
Intersection LOS								B	B	B	B
Intersection Delay								14.0	14.7	14.1	14.7

Table 5
EDLA Analysis - WCR 54, Immediately east of WCR 13
Green Property Gravel Pit
Weld County, Colorado

			Background traffic					Green Property Gravel Pit Traffic					
			Vehicle Class Percentage (3)										
Year	Growth Rate (1)	WCR 54 ADT (2)	(4) Passenger Vehicles 88.0%	(5) Single-Unit Trucks 6.0%	(6) Combination Unit Trucks 6.0%	(7) ESAL	(8) EDLA	WRC 20.5 ADT (9)	(4) Passenger Vehicles 23.0%	(5) Single-Unit Trucks 38.5%	(6) Combination Unit Trucks 38.5%	(7) ESAL	(8) EDLA
												0	0
2000		2,680	2,358	161	161	40,497	111	65	15	25	25	4,185	11
2001	1.078	2,889	2,542	173	173	43,656	120	65	15	25	25	4,185	11
2002	1.078	3,114	2,741	187	187	47,061	129	65	15	25	25	4,185	11
2003	1.078	3,357	2,954	201	201	50,732	139	65	15	25	25	4,185	11
2004	1.078	3,619	3,185	217	217	54,689	150	65	15	25	25	4,185	11
2005	1.078	3,901	3,433	234	234	58,955	162	65	15	25	25	4,185	11
2006	1.078	4,206	3,701	252	252	63,554	174	65	15	25	25	4,185	11
2007	1.078	4,534	3,990	272	272	68,511	188	65	15	25	25	4,185	11
2008	1.078	4,887	4,301	293	293	73,855	202	65	15	25	25	4,185	11
2009	1.078	5,269	4,636	316	316	79,615	218	65	15	25	25	4,185	11
2010	1.078	5,680	4,998	341	341	85,825	235	65	15	25	25	4,185	11
2011	1.078	6,123	5,388	367	367	92,520	253	65	15	25	25	4,185	11
2012	1.078	6,600	5,808	396	396	99,736	273	65	15	25	25	4,185	11
2013	1.078	7,115	6,261	427	427	107,516	295	65	15	25	25	4,185	11
2014	1.078	7,670	6,750	460	460	115,902	318	65	15	25	25	4,185	11
2015	1.078	8,268	7,276	496	496	124,942	342						
						1,207,568						66,957	

(1) Assumes a 15 year growth factor of 3.09
(2) Average daily traffic on WCR 54, immediately east of WCR 13
(3) Percentage of ADT by vehicle class (assumes about 12% heavy vehicles in the background traffic)
(4) Passenger vehicles
(5) Single-unit trucks
(6) Combination units with gross weight less than 18,000 lbs per axle (moving vans, concrete trucks, heavy rigs)
Note: Average number of axles on combination units assumed to be 4.
(7) ESAL: Equivalent 18,000 lb axle loadings : ((load equivalency factor) x (number of vehicles per day in each class) x (250 working days*))/2
(8) EDAL: Equivalent average daily 18,000 lb axle loadings
(9) Daily Traffic Generation for Green Property Gravel Pit on WCR 54, immediately east of WCR 13
* (Multiply by 365 days for background traffic)

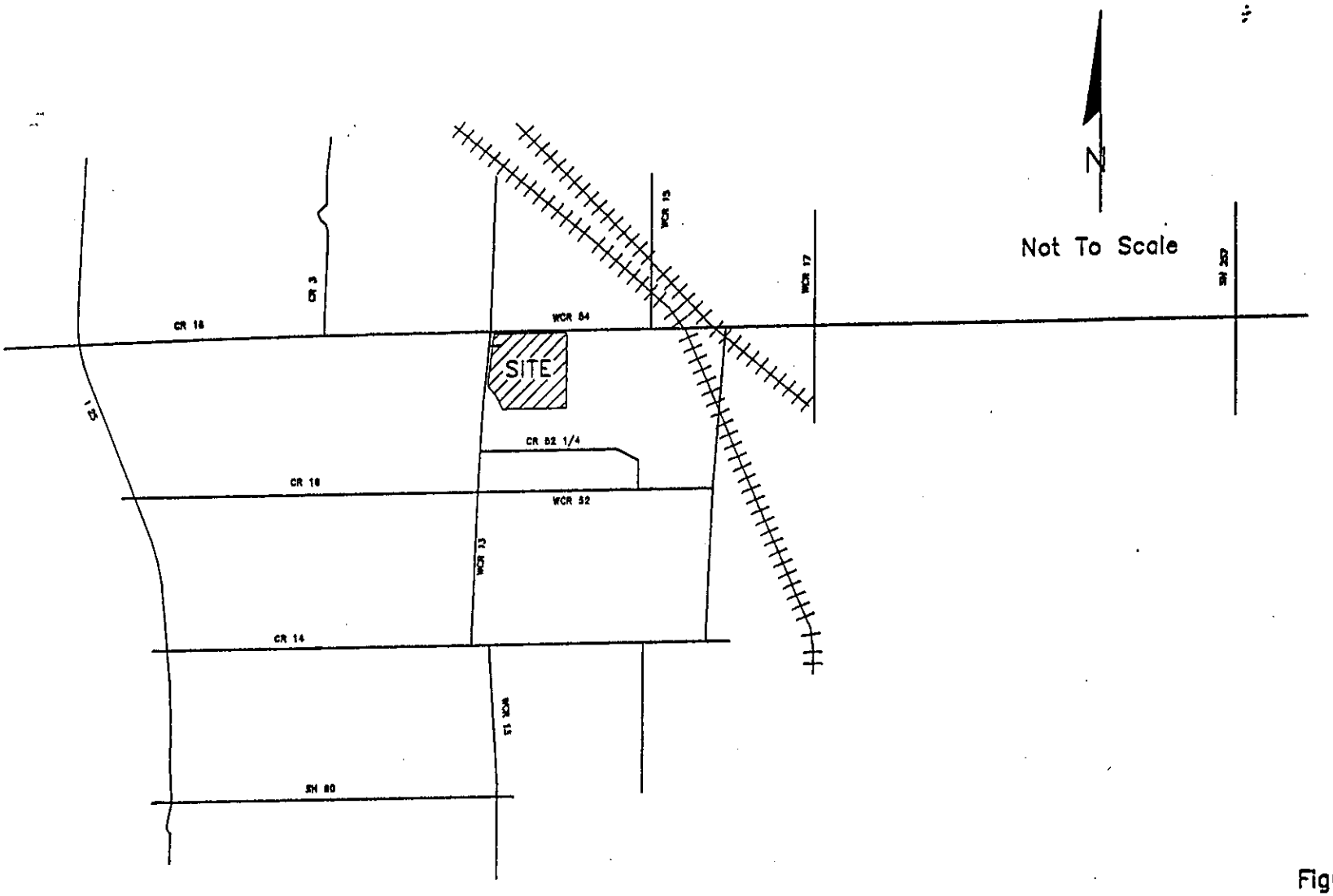

Figure 1

Site Location

September, 2000

Green Property Gravel Pit (LSC. #000980)

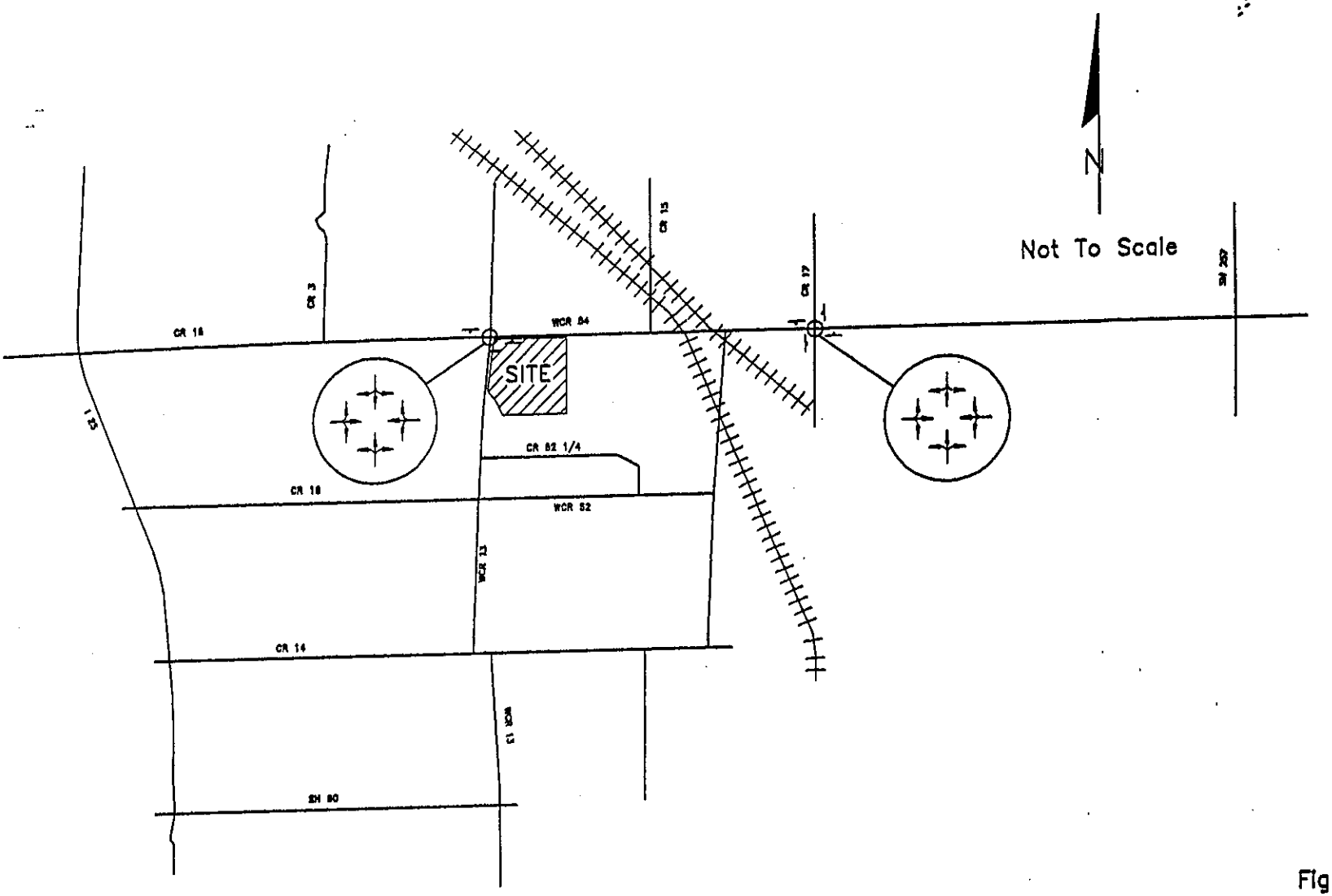

Figure 2

Existing Lane Geometry and Traffic Control

September, 2000

Green Property Gravel Pit (LSC #000980)

LEGEND:

= Stop Sign

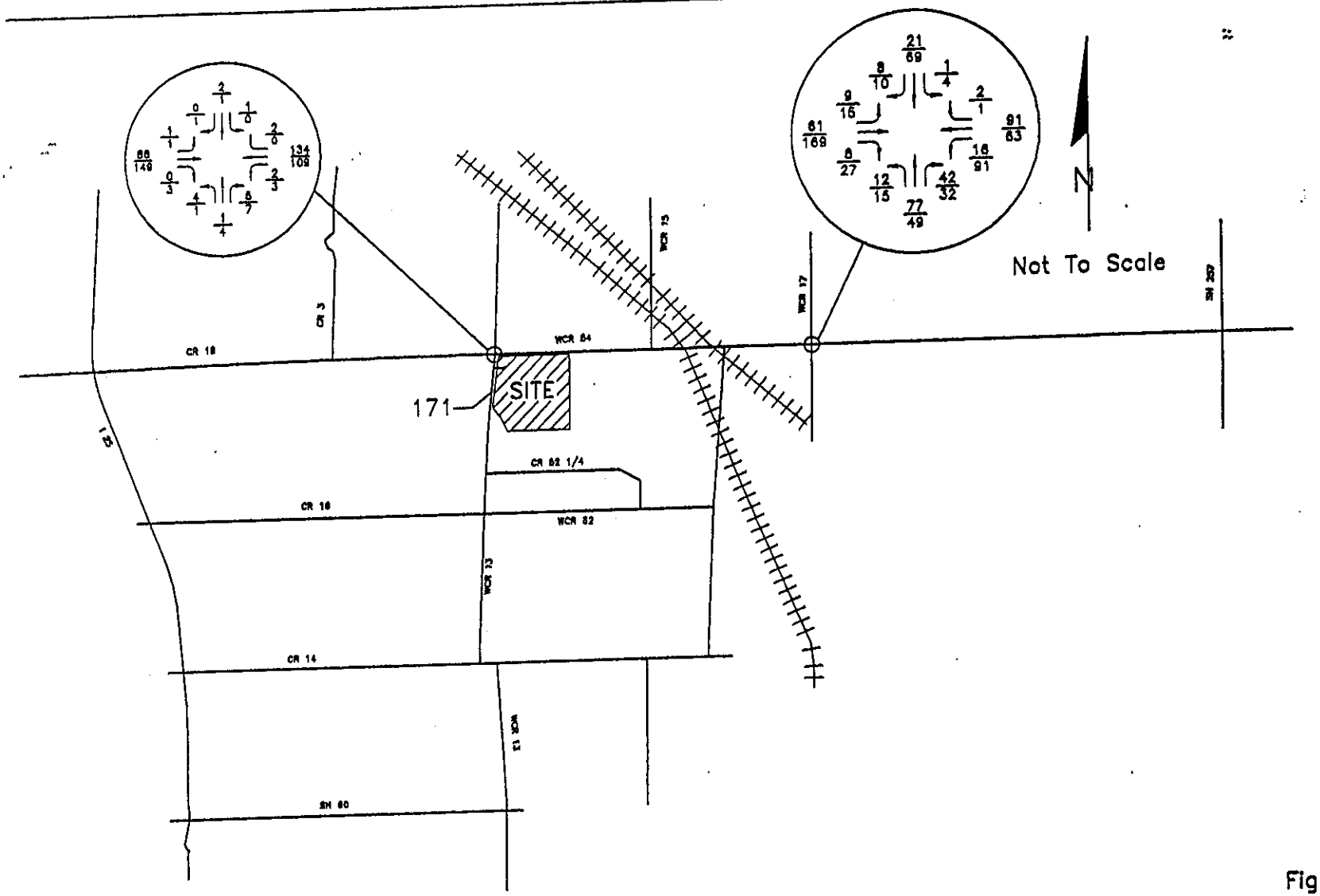

Figure 3

Existing Traffic

September, 2000

Green Property Gravel Pit (LSC #000980)

LEGEND:

$\frac{26}{31}$ = $\frac{\text{AM Peak-Hour Traffic}}{\text{PM Peak-Hour Traffic}}$

171 = Average Weekday Traffic

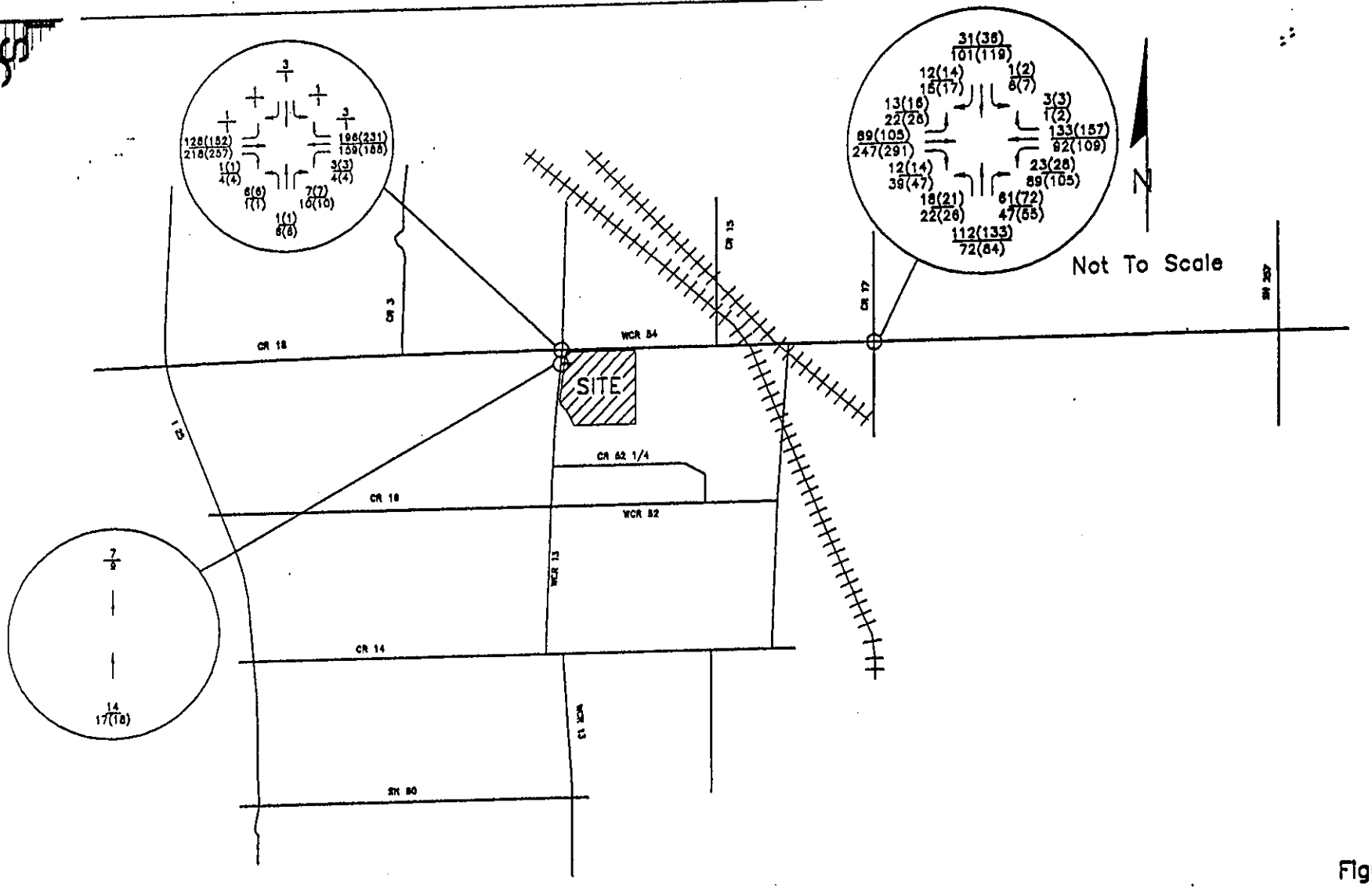

Figure 4

Year 2005 Background Traffic

September, 2000

Green Property Gravel Pit (LSC #000980)

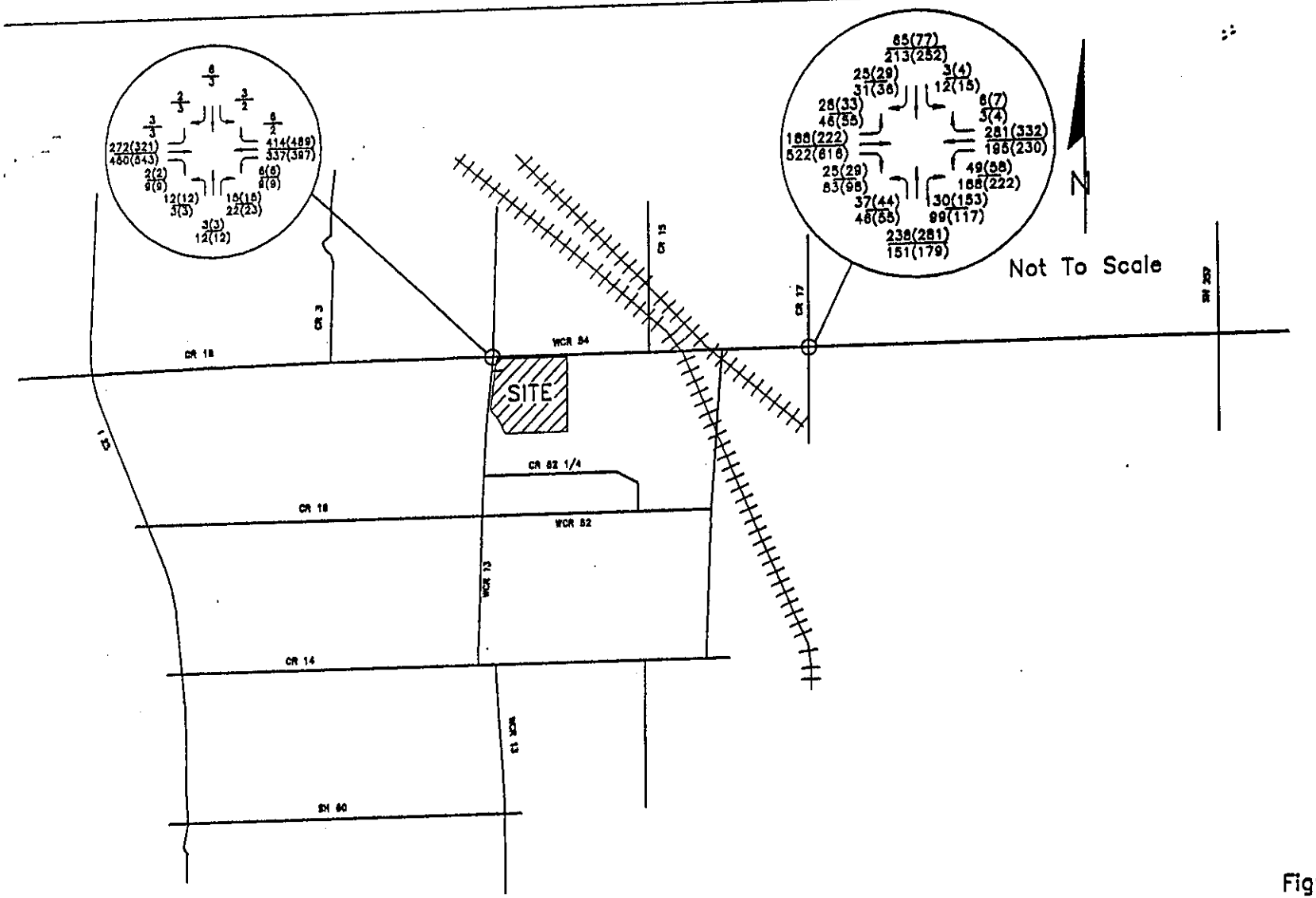

Figure 5

Year 2015 Background Traffic

September, 2000

Green Property Gravel Pit (LSC #000980)

LEGEND:

$\frac{31(36)}{25(29)}$ = $\frac{\text{2005 AM Peak-Hour Traffic (PCE's)}}{\text{2005 PM Peak-Hour Traffic (PCE's)}}$

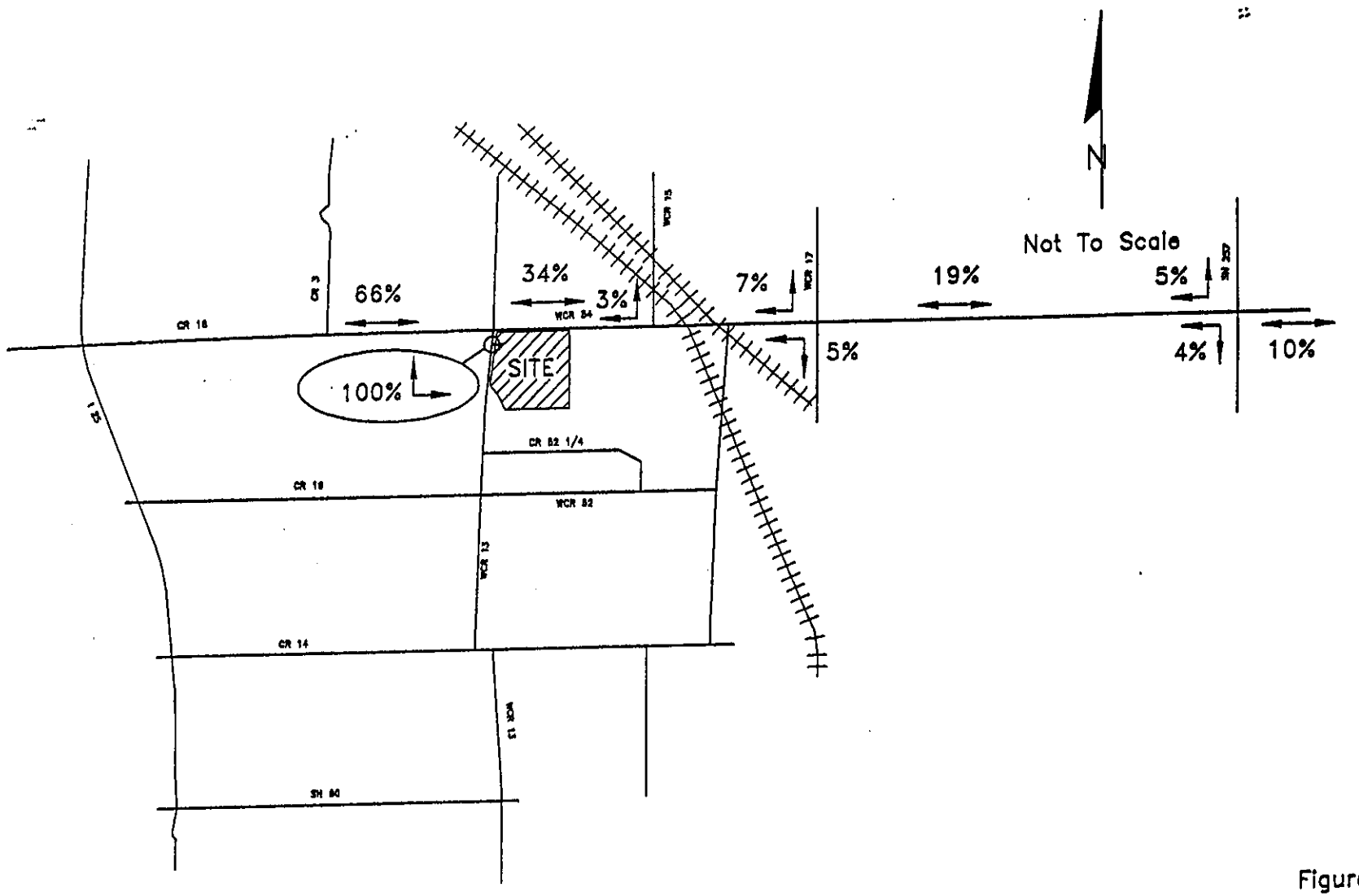

Figure 6

Directional Distribution of Project-Generated Traffic

September, 2000

Green Property Gravel Pit (LSC #000980)

LEGEND:

10% = Percent Directional Distribution

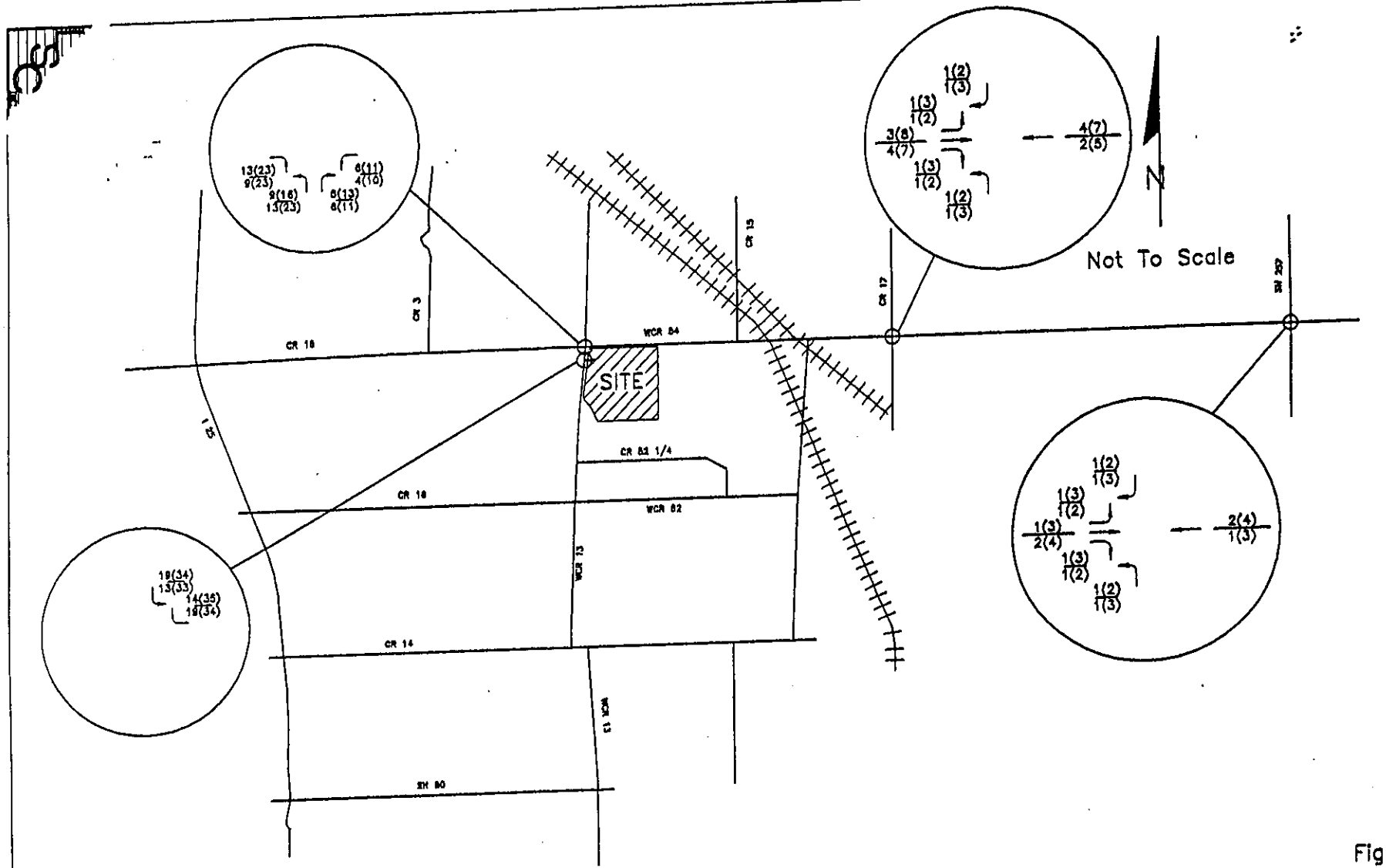

Figure 7

Assignment of Project-Generated Traffic

September, 2000

Green Property Gravel Pit (LSC #000980)

LEGEND:

$\frac{31(36)}{25(29)} = \frac{\text{2005 AM Peak-Hour Traffic (PCE's)}}{\text{2005 PM Peak-Hour Traffic (PCE's)}}$

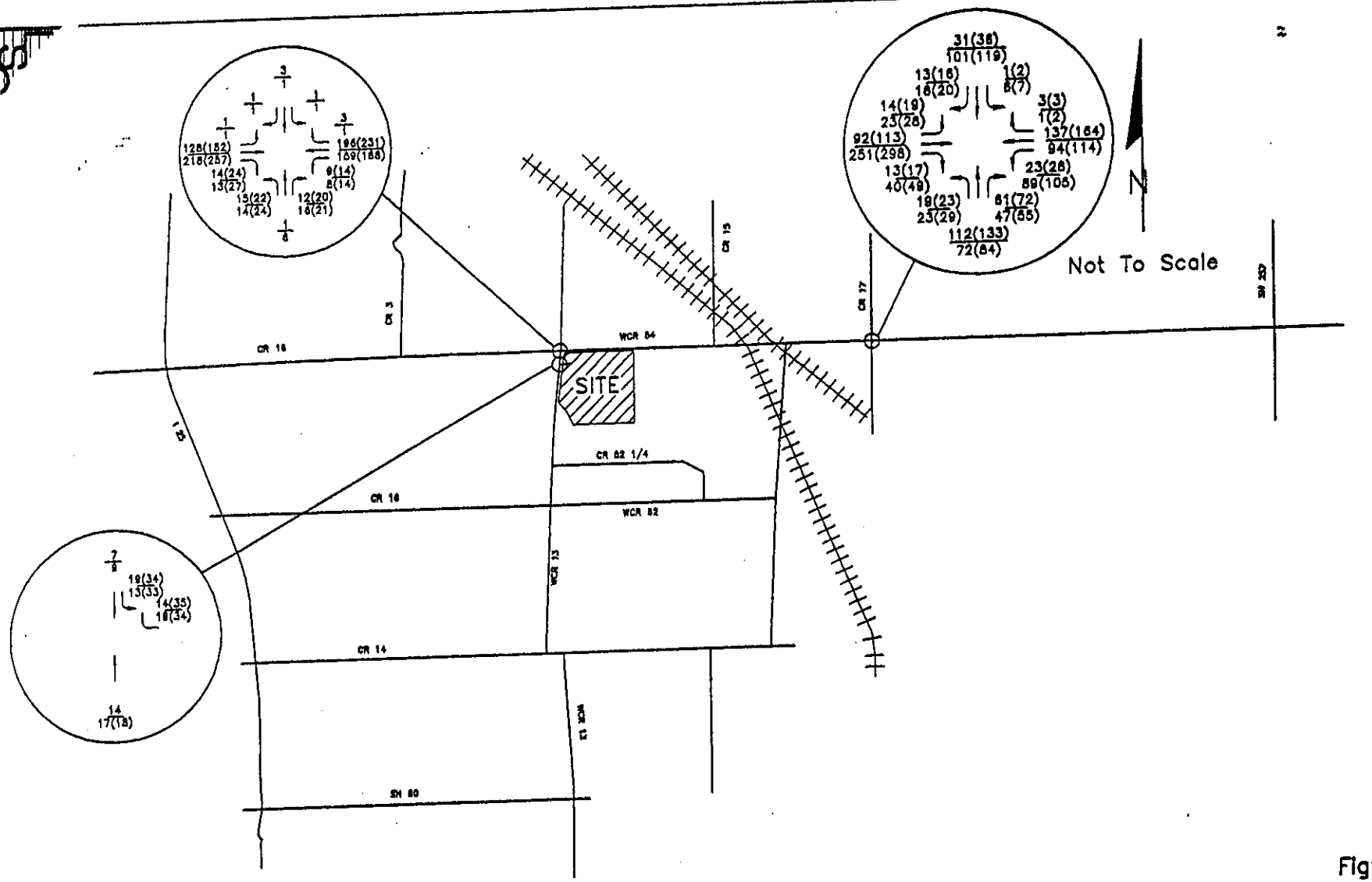

Figure 8

Year 2005 Total Traffic

September, 2000

Green Property Gravel Pit (LSC #000980)

LEGEND:

$\frac{31(36)}{25(29)}$ = $\frac{\text{2005 AM Peak-Hour Traffic (PCE's)}}{\text{2005 PM Peak-Hour Traffic (PCE's)}}$

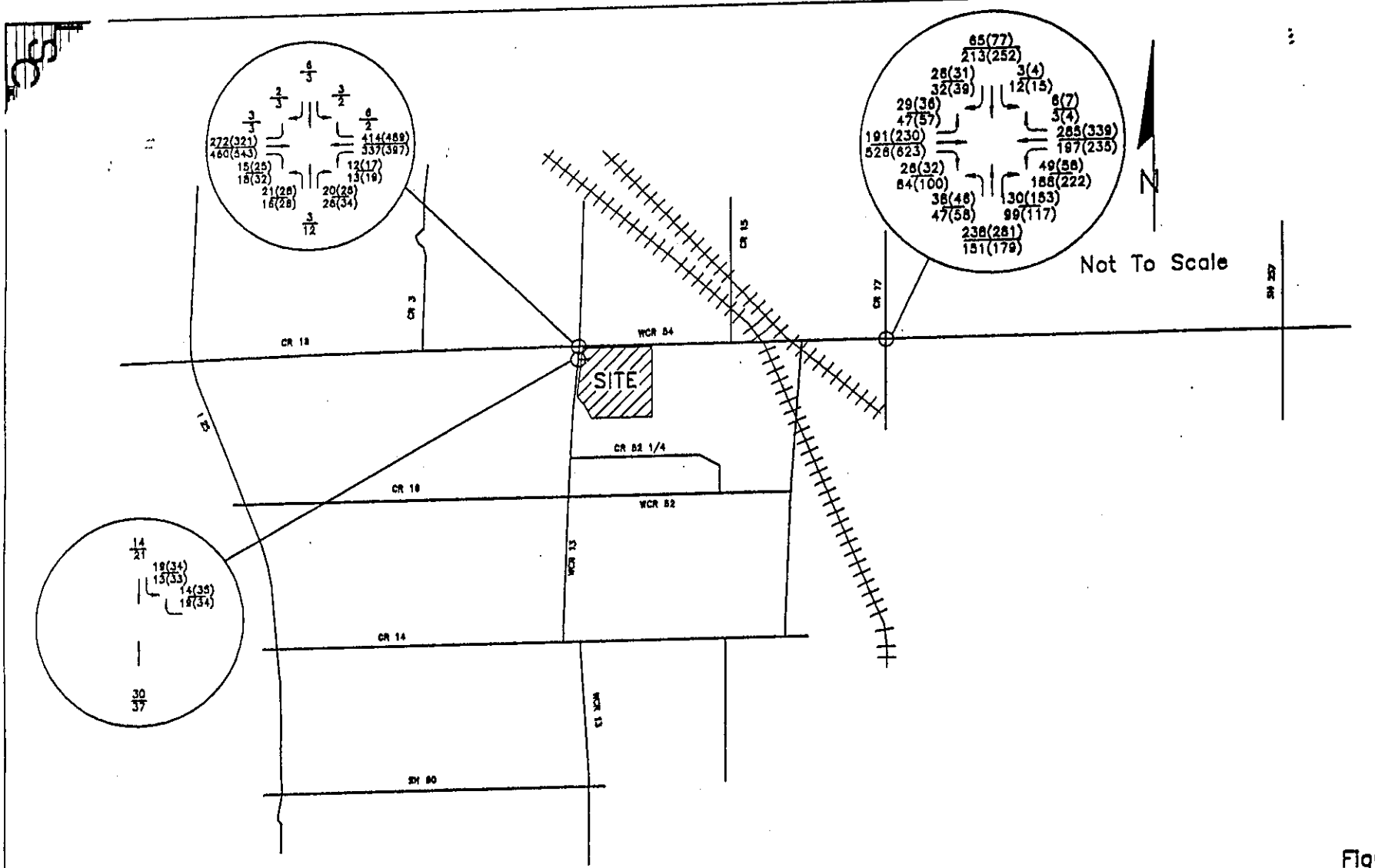

Figure 9

Year 2015 Total Traffic

September, 2000

Green Property Gravel Pit (LSC #000980)

LEGEND:

$\frac{31(36)}{25(29)}$ = $\frac{\text{2005 AM Peak-Hour Traffic (PCE's)}}{\text{2005 PM Peak-Hour Traffic (PCE's)}}$

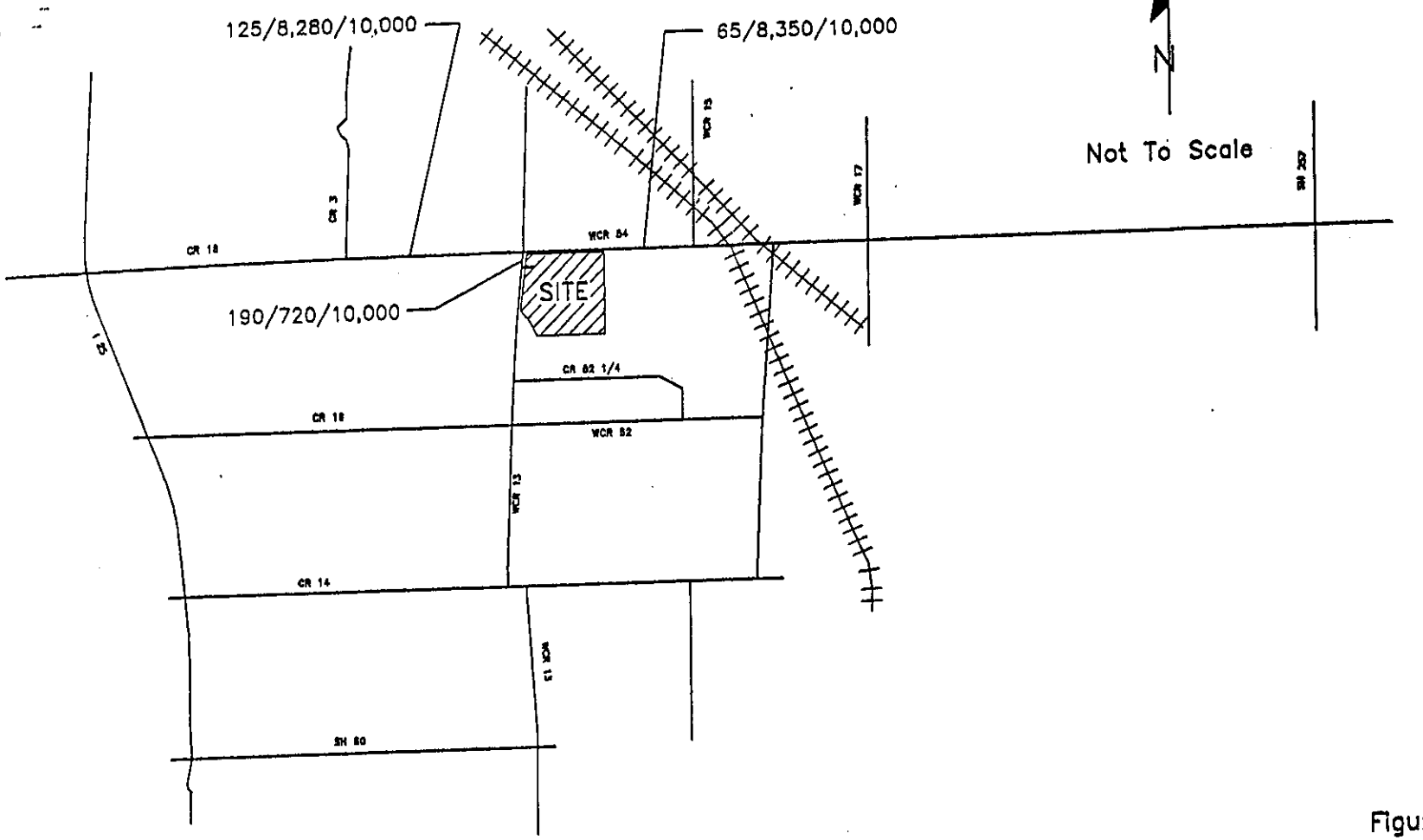

Figure 10

Year 2015 Expected Average Daily Traffic Impacts

September, 2000

Green Property Gravel Pit (LSC #000980)

LEGEND:

350/6,755/25,000 = Project-Generated Traffic / Total Traffic / Roadway Capacity