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File 1993-0119 Name: Ptarmigan Ridge – North – 27.5 Rd. / Cortland – Final Plan

Present	Scanned	
		A few items are denoted with an asterisk (*), which means they are to be scanned for permanent record on the ISYS retrieval system. In some instances, items are found on the list but are not present in the scanned electronic development file because they are already scanned elsewhere on the system. These scanned documents are denoted with (**) and will be found on the ISYS query system in their designated categories. Documents specific to certain files, not found in the standard checklist materials, are listed at the bottom of the page. Remaining items, (not selected for scanning), will be listed and marked present. This index can serve as a quick guide for the contents of each file.
X	X	**Table of Contents**
		***Review Sheet Summary**
X	X	***Application form**
		Review Sheets
X		Receipts for fees paid for anything
X	X	***Submittal checklist**
X	X	***General project report**
		Reduced copy of final plans or drawings
		Reduction of assessor's map.
		Evidence of title, deeds, easements
X	X	***Mailing list to adjacent property owners**
		Public notice cards
		Record of certified mail
X		Legal description
		Appraisal of raw land
		Reduction of any maps – final copy
		***Final reports for drainage and soils (geotechnical reports)**
		Other bound or non-bound reports
		Traffic studies
X	X	***Review Comments**
X	X	***Petitioner's response to comments**
X	X	***Staff Reports**
		***Planning Commission staff report and exhibits**
		***City Council staff report and exhibits**
		***Summary sheet of final conditions**

DOCUMENT DESCRIPTION:

X	X	Planning Commission Minutes/Agenda – 11/2/93 - **	X		Declaration of Covenants – Bk 2076 / Pg 357
X		Display Ad – 12/6/93	X		Articles of Incorporation – recorded ones not in file
X		Legal Ad – 11/30/93	X		By-Laws – Bk 2076 / Pg 368
X		Treasurer's Certificate of Taxes Due – 10/4/93	X		Consent of Directors – recorded doc not in file
X	X	Drainage Study – 11/11/93	X		Commitment for Title Insurance – from Commonwealth Land Title Ins. Co. - 7/15/93
X	X	Drainage Report – 10/3/93	X		Correspondence
X	X	Traffic Impact Study – 10/93			Newspaper article from the Daily Sentinel – Merchants find niche downtown – 12/12/93
X	X	Storm Water Management Plan – 10/03	X	X	Planning Commission Minutes – Notice of Public Hearing Mail-out -11/2/93
X	X	Sub-surface Soils Exploration – 9/27/93	X	X	Stormwater Drainage Plans
X	X	Certification of Plat – 6/2/94	X	X	Road and Flowline Profiles – to be scanned
X	X	Planning Commission Minutes – 2/10/93 - **	X	X	Correspondence
X	X	A Guide to Plat Dedications	X	X	Sewerline A & B Plans – to be scanned

X	X	Grading and Drainage Plans – to be scanned	X	X	Plat/Plan – GIS Historical Maps - **
X	X	Road Plans – to be scanned	X	X	Avigation Easement – not recorded

SUBMITTAL CHECKLIST

MAJOR SUBDIVISION: FINAL

Location: West of 27½ Rd at Cor Project Name: Ptarmigan Filing 7

ITEMS		DISTRIBUTION																														
DESCRIPTION 11 9 93 Original Do NOT Remove From Office	SSID REFERENCE	● City Community Development	● City Dev. Eng.	● City Utility Eng.	● City Property Agent	● City Parks/Recreation	● City Fire Department	● City Attorney	● City G.J.P.C. (8 sets)	○ City Downtown Dev. Auth.	● City Police	● County Planning	○ County Bldg. Dept.	● County Surveyor	● Walker Field	○ School Dist. #51	● Irrigation District (Grand Valley Ute)	○ Drainage District	● Water District	○ Sewer District	● U.S. West	● Public Service	● GVRP	○ CDOT	○ Corps of Engineers	○ Colorado Geologic Survey	○ U.S. Postal Service	● Persigo WWTF					TOTAL REQ'D.
● Application Fee	VII-1	1																														1
● Submittal Checklist*	VII-3	1																														1
● Review Agency Cover Sheet*	VII-3	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					16
● Application Form*	VII-1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					6
● 11"x17" Reduction of Assessor's Map	VII-1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					4
● Evidence of Title	VII-2	1			1			1																									
~~● Appraisal of Raw Land~~	~~VII-1~~	~~1~~			~~1~~	~~1~~		~~2~~																									2
● Names and Addresses	VII-3	1																															1
● Legal Description	VII-2	1			1																												
○ Deeds	VII-1	1			1			1																									2
○ Easements	VII-2	1	1	1	1			1													1	1	1										10
● Avigation Easement	VII-1	1			1			1																									2
○ ROW	VII-3	1	1	1	1			1													1	1	1										
● Covenants, Conditions, & Restrictions	VII-1	1	1					1																									2
○ Common Space Agreements	VII-1	1	1					1																									
● County Treasurer's Tax Cert.	VII-1	1																															1
● Improvements Agreement/Guarantee*	VII-2	1	1	1				1																									2
○ CDOT Access Permit	VII-3	1	1																														
○ 404 Permit	VII-3	1	1																														
○ Floodplain Permit*	VII-4	1	1																														
● General Project Report	X-7	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1		1	1	1	2	1	1	1	1	1	1					25
● Composite Plan	IX-10	1	2	1	1																												4
● 11"x17" Reduction Composite Plan	IX-10	1				1	1	1	8	1	1	1	1				1	1	1	1	1	1	1	1	1	1		1					12
● Final Plat	IX-15	1	2	1	1			1						1																			7
● 11"x17" Reduction of Final Plat	IX-15	1							8	1	1	1			1	1	1	1	1	1	1	1	1			1							17
● Cover Sheet	IX-11	1	2																														
● Grading & Stormwater Mgmt Plan	IX-17	1	2															1						1	1								
○ Storm Drainage Plan and Profile	IX-30	1	2															1			1	1	1										
● Water and Sewer Plan and Profile	IX-34	1	2	1			1												1	1	1	1	1					1					10
● Roadway Plan and Profile	IX-28	1	2															1															2
○ Road Cross-sections	IX-27	1	2																														
○ Detail Sheet	IX-12	1	2																														
○ Landscape Plan	IX-20	2	1	1																													
● Geotechnical Report	X-8	1	1										1												1								3
○ Phase I & II Environmental Report	X-10,11	1	1																														
● Final Drainage Report	X-5,6	1	2															1															3
○ Stormwater Management Plan	X-14	1	2															1							1								
○ Sewer System Design Report	X-13	1	2	1																1													
○ Water System Design Report	X-16	1	2	1															1														
● Traffic Impact Study/Analysis	X-15	1	2																				1										

NOTES:
1) An asterisk in the item description column indicates that a form is supplied by the City.
2) Required submittal items and distribution are indicated by filled in circles, some of which may be filled in during the pre-application conference. Additional items or copies may be subsequently requested in the review process.
3) Each submitted item must be labeled, named, or otherwise identified as described above in the description column.

PRE-APPLICATION CONFEREN

Date: 9/28/93
Conference Attendance: _____
Proposal: Filing 7, Ptarmigan Ridge
Location: _____

Tax Parcel Number: _____
Review Fee: $870
(Fee is due at the time of submittal. Make check payable to the City of Grand Junction.)

Additional ROW required? _____
Adjacent road improvements required? _____
Area identified as a need in the Master Plan of Parks and Recreation? _____
✓ Parks and Open Space fees required? $225 per lot or unit Estimated Amount: _____
✓ Recording fees required? _____ Estimated Amount: _____
Half street improvement fees required? _____ Estimated Amount: _____
Revocable Permit required? _____
State Highway Access Permit required? _____

Applicable Plans, Policies and Guidelines _____

Located in identified floodplain? FIRM panel # _____
Located in other geohazard area? _____

Located in established Airport Zone? Clear Zone, Critical Zone, Area of Influence? _____
Avigation Easement required? _____

While all factors in a development proposal require careful thought, preparation and design, the following "checked" items are brought to the petitioner's attention as needing special attention or consideration. Other items of special concern may be identified during the review process.

O Access/Parking	O Screening/Buffering	O Land Use Compatibility
O Drainage	O Landscaping	O Traffic Generation
O Floodplain/Wetlands Mitigation	O Availability of Utilities	O Geologic Hazards/Soils

● Other Irrigation
Related Files: 56-92

It is recommended that the applicant inform the neighboring property owners and tenants of the proposal prior to the public hearing and preferably prior to submittal to the City.

PRE-APPLICATION CONFERENCE

WE RECOGNIZE that we, ourselves, or our representative(s) must be present at all hearings relative to this proposal and it is our responsibility to know when and where those hearings are.

In the event that the petitioner is not represented, the proposed item will be dropped from the agenda, and an additional fee shall be charged to cover rescheduling expenses. Such fee must be paid before the proposed item can again be placed on the agenda. Any changes to the approved plan will require a re-review and approval by the Community Development Department prior to those changes being accepted.

WE UNDERSTAND that incomplete submittals will not be accepted and submittals with insufficient information, identified in the review process, which has not been addressed by the applicant, may be withdrawn from the agenda.

WE FURTHER UNDERSTAND that failure to meet any deadlines as identified by the Community Development Department for the review process may result in the project not being scheduled for hearing or being pulled from the agenda.

X _____ X _____
Signature(s) of Petitioner(s) Signature(s) of Representative(s)

First Presbyterian Curch of
Grand Junction
3940 27 1/2 Road
Grand Junction, CO 81506

Grigsby Development Inc.
Box 10
Hyattville, WY 82482

Ptarmigan Estates
Box 9088
Grand Junction, CO 81506

Jack Brown
681 27 1/2 Road
Grand Junction, CO 81506

Gerry Spomer
1401 north 1st
Grand Junction, CO 81501

Frank Beran
Box 60284
Grand Junction, CO 81506

Daniel Miller
Box 1703
Grand Junction, CO 81502

Barbara Briggs
3638 Bellridge Ct. N.
Grand Junction, CO 81506

Frank O'Brien
3630 Bellridge CT.

Frank O'Brien
3630 Bellridge Ct.
Grand Junction, Co 81506

Jimmy Schwindt
3626 27 1/2 Road
Grand Junction, Co 81506

Oran Messer
3635 27 1/2 Road
Grand Junction, Co 81506

Deborah Taylor
3645 27 1/2 Road
Grand Junction, Co 81506

Cynthia Edwards
370 Martello Dr.
Grand Junction, Co 81503

David Lacy
3644 Bell Ct.
Grand Junction, Co 81506

Howard Rudolph
3648 Bell Ct.
Grand Junction, Co 81506

Gregory Guth
3653 Bell Ct.
Grand Junction, Co 81506

Ptarmigan Investment Inc.
Box 292
Durango, Co 81502

Bob Sumrall
Sumrall Corp.
5479 East Mineral Circle
Littleton, CO 80122

Thomas A. Logue
227 S. 9th Street
Grand Junction, CO 81501

City of Grand Junction
Community Development Dept.
250 North 5th Street
Grand Junction, CO 81501

First Presbyterian Church
of Grand Junction
3940 27 1/2 Road
Grand Junction, CO 81506

Gerald Miller
3645 Bell Court
Grand Junction, CO 81506

(Form for approval of filing & recording of (SUBDIVISION PLATS) 1/03/92

SUB NO. SB-91-93

FRED A. WEBER
MESA COUNTY SURVEYOR
544 ROOD AVE
GRAND JUNCTION, COLO. 81501

RESIDENCE
(303) 434-7772

OFFICE
COUNTY COURT HOUSE
(303) 244-1821

To: Monika Todd, Mesa County Clerk & Recorder.

This is to certify that the SUBDIVISION PLAT described below

PTARMIGAN RIDGE NORTH

has been reviewed under my direction as Mesa County Surveyor and that to the best of my knowledge it conforms with the necessary requirements pursuant to the Colorado Revised Statute 1973 38-51-102 for the recording of Land Survey Plats in the records of the County Clerk's Office.
This approval does not certify as to the accuracy of Surveys, Drafting, Calculations, nor to the possibility of ommissions of easements and other Rights-of-Way or Legal Ownerships.

Dated this 14th day of January, 1994.

Signed: Fred A. Weber by Ken Swearengin
Fred A. Weber, Mesa County Surveyor.

NOTE"
The recording of this plat is subject to all Approved Signatures & Dates.
F.W.

RECORDED IN MESA COUNTY RECORDS
DATE: 6-2-94
TIME: 11:05 AM
BOOK: 14 PAGE 231-232
RECEPTION NO: 1684314
AA 95

1684314 11:05 AM 06/02/94
MONIKA TODD CLK&REC MESA COUNTY CO

MEMORANDUM

DATE: July 16, 1993

TO: Preparers and Reviewers of Plats

FROM: Gerald Williams, Development Engineer
City of Grand Junction

SUBJECT: Plat Dedications

We continue to receive plats which use a generic dedicatory statement which is not only inconsistent in terminology, but is usually inappropriate for the easements presented on the plat. A dedicatory statement must be unique to the plat on which it appears. In order to help clarify what the City requires by way of dedication -- the separation of easements, beneficiaries, and purpose -- we submit the attached compilation of statements. The list is not intended to be complete, nor is it likely that the entire list would be used on a particular plat. The list is provided only as a guide. Of the statements preceded by an asterisk, use only those which pertain to the plat on which the dedicatory language appears, modified as appropriate. All others shall not be used. It is possible that other dedications may also be required which are not presented in the list. Where easements are provided, the final note regarding easements shall be added.

Multiple labels shall be used for easements having more beneficiaries or uses than are provided by a single easement as described in the list. For example, if a Drainage Easement and Irrigation Easement coincide, then the easement shall be labeled as Drainage and Irrigation Easement. Furthermore, limits of abutting, crossing and intersecting easements shall be clearly marked on the plat.

If you have questions regarding the above, please call 244-1591.

A GUIDE TO PLAT DEDICATIONS

That said owner does hereby dedicate and set apart real property as shown and labeled on the accompanying plat as follows:

* All Streets and Rights-of-Way to the City of Grand Junction for the use of the public forever;

* All Common **(or Open Space)** Tracts to the owners (Property/Homeowners Association) of lots and tracts hereby platted for the purpose of _____;

* All Multi-Purpose Easements to the City of Grand Junction for the use of public utilities as perpetual easements for the installation, operation, maintenance and repair of utilities and appurtenances thereto including, but not limited to electric lines, cable TV lines, natural gas pipelines, sanitary sewer lines, water lines, telephone lines, and also for the installation and maintenance of traffic control facilities, street lighting, **street trees** and grade structures;

* **All Utility Easements to the City of Grand Junction for the use of public utilities as perpetual easements for the installation, operation, maintenance and repair of utilities and appurtenances thereto including, but not limited to electric lines, cable TV lines, natural gas pipelines, sanitary sewer lines, water lines and telephone lines.**

* All Irrigation Easements to the owners (Property/Homeowners Association) of the lots and tracts hereby platted as perpetual easements for the installation, operation, maintenance and repair of private irrigation systems;

* All GVWUA Easements to the City of Grand Junction for the use of the public and to the Grand Valley Water Users Association, its successors and assigns, for the installation and maintenances of GVWUA irrigation facilities;

* All GVIC Easements to the City of Grand Junction for the use of the public and to the Grand Valley Irrigation Company, its successors and assigns, for the installation, operation, maintenance and repair of GVIC irrigation water transmission facilities;

* All Drainage Easements to the owners (Property/Homeowners Association) of lots and tracts hereby platted as perpetual easements for the conveyance of runoff water which originates within the area hereby platted or from upstream areas, through natural or man-made facilities above or below ground;

* All Detention/Retention Easements to the owners (Property/Homeowners Association) of lots and tracts hereby platted for the purpose of conveying and detaining/retaining runoff water which originates from the area hereby platted, and also for the conveyance of runoff from upstream areas;

* All GJDD Easements to the City of Grand Junction for the use of the public and to the Grand Junction Drainage District, its successors and assigns, for the installation, operation, maintenance and repair of GJDD facilities;

* All Pedestrian Easements to the City of Grand Junction as perpetual easements for ingress and egress use by the general public pedestrian;

* All Ingress/Egress Easements to the owners of lots or tracts specifically identified on the plat as perpetual easements for ingress and egress purposes for the use by said lot or tract owners, their guests, and invitees, and also for use by public services, including but not limited to, postal service, trash collection, fire, police, emergency vehicles, and the City of Grand Junction.

All easements include the right of ingress and egress on, along, over, under, and through and across by the beneficiaries, their successors, or assigns, together with the right to trim or remove interfering trees and brush, and in Drainage and Detention/Retention easements, the right to dredge; provided, however, that the beneficiaries of said easements shall utilize the same in a reasonable and prudent manner. Furthermore, the owners of lots or tracts hereby platted shall not burden nor overburden said easements by erecting or placing any improvements thereon which may prevent reasonable ingress and egress to and from the easement.

DEVELOPMENT APPLICATION

Community Development Department
250 North 5th Street Grand Junction, CO 81501
(303) 244-1430

Receipt 671
Date 10-4-93
Rec'd By mp

File No. 119 93

Original
Do NOT Remove
From Office

We, the undersigned, being the owners of property situated in Mesa County, State of Colorado, as described herein do hereby petition this:

PETITION	PHASE	SIZE	LOCATION	ZONE	LAND USE
[ ] Subdivision Plat/Plan	[ ] Minor [ ] Major [ ] Resub	10 ac	West of 27½ at Cortland	PR-4	Single Family Residential
[ ] Rezone				From: To:	
[X] Planned Development	[ ] ODP [ ] Prelim [X] Final	10 ac	West of 27½ at Cortland	PR-4	Single Family Residential
[ ] Conditional Use					
[ ] Zone of Annex					
[ ] Text Amendment					
[ ] Special Use					
[ ] Vacation					[ ] Right-of-Way [ ] Easement

[X] PROPERTY OWNER	[X] DEVELOPER	[X] REPRESENTATIVE
Sumrall Corp. % Bob Sumrall		Thomas A. Logue
Name	Name	Name
5479 East Mineral Circle		227 So. 9th Street
Address	Address	Address
Littleton, Co. 80122		Grand Jct. CO. 81501
City/State/Zip	City/State/Zip	City/State/Zip
303-773-2871		245-4099
Business Phone No.	Business Phone No.	Business Phone No.

NOTE: Legal property owner is owner of record on date of submittal.

We hereby acknowledge that we have familiarized ourselves with the rules and regulations with respect to the preparation of this submittal, that the foregoing information is true and complete to the best of our knowledge, and that we assume the responsibility to monitor the status of the application and the review comments. We recognize that we or our representative(s) must be present at all hearings. In the event that the petitioner is not represented, the item will be dropped from the agenda, and an additional fee charged to cover rescheduling expenses before it can again be placed on the agenda.

X Thomas A. Logue — 10/1/93
Signature of Person Completing Application — Date

X Sumrall Corp. Robert L. Sumrall, Pres. — 9/28/93
Signature of Property Owner(s) - Attach Additional Sheets if Necessary

SUBSURFACE SOILS EXPLORATION

PTARMIGAN RIDGE NORTH

GRAND JUNCTION, COLORADO

Prepared For:

SUMRALL CORPORATION
5479 Mineral Circle
Littleton, Colorado

Prepared By:

LINCOLN-DeVORE, INC.
1441 Motor Street
Grand Junction, CO 81505

September 27, 1993

Lincoln DeVore, Inc.
Geotechnical Consultants
1441 Motor St.
Grand Junction, CO 81505

TEL: (303) 242-8968
FAX: (303) 242-1561

September 27, 1993

SUMRALL CORPORATION
5479 E. Mineral Circle
Littleton, CO 80122

Re: SUBSURFACE SOILS EXPLORATION

PTARMIGAN RIDGE NORTH

Grand Junction, Colorado

Dear Sir:

Transmitted herein are the results of a Subsurface Soils Exploration for the proposed Ptarmigan Ridge North Residential Subdivision.

If you have any questions after reviewing this report, please feel free to contact this office at any time. This opportunity to provide Geotechnical Engineering services is sincerely appreciated.

Respectfully submitted,

LINCOLN-DeVORE, INC.

By: Edward M. Morris
Edward M. Morris, E.I.T.
Western Slope Branch Manager
Grand Junction, Office

Reviewed by: George D. Morris 9/28/93
George D. Morris, P.E.
Colorado Springs Office

EMM/ss

LDTL Job No. 79303-J

TABLE OF CONTENTS

INTRODUCTION

PROJECT DESCRIPTION

This report presents the results of our geotechnical evaluation performed to determine the general subsurface conditions of the site applicable to construction of a Residential Subdivision, to be known as Ptarmigan Ridge, Fil. #7. A vicinity map is included in the Appendix of this report.

To assist in our exploration, we were provided with a prelimanary lot layout. The Boring Location Plan attached to this report is based on that plan provided to us.

We understand that the proposed structures will consist of a single-family one and two story, wood framed structures with possible full basements and concrete floor slabs on grade. Lincoln DeVore has not seen a set of building plans, but residential structures of this type typically develop wall loads on the order of 600 to 1800 plf and column loads on the order of 6 to 16 kips.

The characteristics of the subsurface materials encountered were evaluated with regard to the type of construction described above. Recommendations are included herein to match the described construction to the soil characteristics found. The information contained herein may or may not be valid for other purposes. If the proposed site use is changed or types of construction proposed, other than noted herein, Lincoln DeVore should be contacted to determine if the information in this report can be used for the new construction without further field evaluations.

PROJECT SCOPE

The purpose of our exploration was to evaluate the surface and subsurface soil and geologic conditions of the site and, based on the conditions encountered, to provide recommendations pertaining to the geotechnical aspects of the site development as previously described. The conclusions and recommendations included herein are based on an analysis of the data obtained from our field explorations, laboratory testing program, and on our experience with similar soil and geologic conditions in the area.

This report provides site specific information for the construction of a residential subdivision. Included in this report are recommendations regarding general site development and foundation design criteria.

The scope of our geotechnical exploration consisted of a surface reconnaissance, a geophoto study, subsurface exploration, obtaining representative samples, laboratory testing, analysis of field and laboratory data, and a review of geologic literature.

Specifically, the intent of this study is to:

1. Explore the subsurface conditions to the depth expected to be influenced by the proposed construction.

2. Evaluate by laboratory and field tests the general engineering properties of the various strata which could influence the development.

3. Define the general geology of the site including likely geologic hazards which could have an effect on site development.

4. Develop geotechnical criteria for site grading and earthwork.

5. Identify potential construction difficulties and provide recommendations concerning these problems.

6. Recommend an appropriate foundation system for the anticipated structure and develop criteria for foundation design.

FIELD EXPLORATION AND LABORATORY TESTING

A field evaluation was performed on August 25, 1993, and consisted of a site reconnaissance by our geotechnical personnel and the drilling of 6 exploration borings. These 6, shallow exploration borings were drilled within the proposed building sites near the locations indicated on the Boring Location Plan. The exploration borings were located to obtain a reasonably good profile of the subsurface soil conditions. All exploration borings were drilled using a CME 45B, truck mounted drill rig with continuous flight auger to depths of approximately 9 to 23 feet. Samples were taken with a standard split spoon sampler, California Lined Sampler, Shelby Tubes, and by bulk methods. Logs describing the subsurface conditions are presented in the attached figures.

Laboratory tests were performed on representative soil samples to determine their relative engineering properties. Tests were performed in accordance with test methods of the American Society for Testing and Materials or other accepted standards. The results of our laboratory tests are included in this report. The in-place moisture content and the standard penetration test values are presented on the attached drilling logs.

FINDINGS

SITE DESCRIPTION

The project site is located in the SE 1/4 Quarter of Section 1, Township 1 South, Range 1 West of the Ute Principal Meridian, Mesa County, Colorado. More specifically the site is located South of Cortland Court, West of 27 1/2 Road, all within the Grand Junction City Limits. The tract contains approximately 37 lots.

The topography of the site is relatively flat, with a slight overall gradient to the south, southeast. The exact direction of surface runoff on this site will be controlled by the proposed construction and therefore will be variable. A prominent irrigation drain ditch cuts across the eastern portion of the tract and is utilized as the division between subdivision Blocks No. 4 & 5 on the diagram provided to Lincoln DeVore. In general, surface runoff is expected to travel to the onsite drain ditch or toward 27 1/2 Road, then south by way of existing drainage structures, eventually entering The Colorado River. Surface and subsurface drainage on this site would be described as poor. In general, the subsurface drainage is toward the south, southeast.

GENERAL GEOLOGY AND SUBSURFACE DESCRIPTION

The geologic materials encountered under the site consist of the Mancos Shale Formation, which is overlain by alluvial, fine to medium grained soils. The geologic and engineering properties of the materials found in our 6 shallow exploration borings will be discussed in the following sections.

The soils on this site consist of the expansive clays of the Mancos Shale Formation, covered with colluvium transported from the hills to the north. This stratification of upper soils results in a layered system of silts and clays with thin, interbedded sand lenses overlying a sand/gravel deposit. Generally, the silts and clays are soft, wet and of low density. Soil density decreases and the moisture content increases with increasing depth. The upper 1 to 3 feet of the soil profile are somewhat stiffer and relatively dry due to surface desiccation.

The soils on this site consist of a series of silty clay and sandy clay soils which are a product of mud flow/debris flow features which originate on the south-facing slopes of the Bookcliffs. The surface soils are an erosional product of the upper Mancos Shale and the Mount Garfield Formations which are exposed on the slopes of the Bookcliffs. The soils contained within these mud flow/debris flow features normally exhibit a metastable condition which can range from very slight to severe. Metastable soil is subject to internal collapse and is very sensitive to changes in the soil moisture content. Based on the field and laboratory testing of the soils on this site, the severity of the metastable soils can be described as generally low.

The alluvial soils found on this site contain strata of metastable soil, which is defined as an unsaturated soil that undergoes a radical rearrangement of particles and loss of volume upon wetting, with or without additional

loading. The addition of moisture by any means whatsoever, will weaken the internal cohesion of the soil and saturation may destroy it until the granular structure is rearranged and a new stability achieved. Considerable settlement may take place before the internal structure is stabilized. Variable, deep wetting is the most serious settlement condition, since this causes uneven settlements. Protection from the addition of water, both surface and subsurface, is very important to maintaining stability in these soil.

The surface soils were found to be somewhat variable, very stratified and have been reworked by agriculture processes. These soils exhibit visible 'piping', due to formerly practiced surface irrigation techniques. The most commen surface soil found during this exploration program has been designated as Soil Type no. I.

This Soil Type was classified as a sandy silt (ML) under the Unified Classification System. This material contains some gravel sized fragments of siltstone and sandstone. This soil is generally non-plastic, of low to moderate permeability, and was encountered in a low density, slightly moist to wet condition. If this soil is found in a relatively dry condition, it may undergo slight expansion with the entry of small amounts of moisture, but will undergo long-term consolidation upon the addition of larger amounts of moisture. This soil will settle after being loaded. The maximum allowable bearing capacity for this soil was found to be 1200 psf, with 150 psf minimum dead load pressure required. The finer grained portion of Soil Type

No. I contains sulfates in detrimental quantities. Some strata contained sulfates in the form of ancient evaporative caliche, which is soluable and moderately metastable.

Several strata of silty clays, containing significant amount of gravel sized sandstone, mudstone, claystone and shale fragments was encountered in the exploration borings. This general soil is designated as Soil Type no. II.

This Soil Type was classified as a silty clay (ML-CL) under the Unified Classification System. This material is of low plasticity, of low to moderate permeability, and was encountered in a low density, moist to wet condition. If this soil is found in a relatively dry condition, it may undergo mild expansion with the entry of small amounts of moisture, but will undergo long-term consolidation upon the addition of larger amounts of moisture. This soil will settle after being loaded. The maximum allowable bearing capacity for this soil was found to be 1200 psf, with 250 psf minimum dead load pressure required. The finer grained portion of Soil Type No. II contains sulfates in detrimental quantities, to include sufficient amounts of soluable sulfates which are considered slightly metastable.

An alluvial deposit containing large amounts of sands and gravels was encountered in several borings. Some very large fragments of sandstone and siltstone may be associated with these deposits. In this report, this soil is designated Soil Type no. III.

This Soil Type is classified as a Gravelly Silty Sand (SM) of medium grain size under the Unified Classification System. This soil type is non-plastic and of low to

medium density. This soil will have virtually no tendency to expand upon the addition of moisture. This soil will undergo elastic settlement upon application of static foundation pressures. Such settlement is characteristically rapid and should be virtually complete by the end of construction. If the recommended allowable bearing values are not exceeded, and if all other recommendations are followed, differential movement associated with settlement will be within tolerable limits. At shallow foundation depths this soil was found to have an average allowable bearing capacity of 1500 psf.

Formational Mancos Shale was encountered in all Test Borings, at depths ranging from 9 1/2 to 21 feet below the existing ground surface. The Mancos Shale is described as a thinbedded, drab, light to dark gray marine shale, with thinly interbedded fine grain sandstone and siltstone layers. Some portions of the Mancos Shale are bentonitic, and therefore, are highly expansive. The majority of the shale, to include that encountered in this exploration program, has only a moderate expansion potential. It is anticipated that this formational shale will affect the construction and the performance of some of the foundations on the site.

This soil type was classified as a silty clay (CL) under the Unified Classification System. The Mancos Shale is of medium to high density. This soil is plastic and is sensitive to changes in moisture content. With decreased moisture, it will tend to shrink, with some cracking upon desiccation. Upon increasing moisture, it will tend to expand. Expansion

tests were performed on typical samples of the soil and expansive pressures on the order of 800 to 1600 psf were found to be typical. The allowable maximum bearing value was found to be on the order of 5500 psf, for shallow foundation systems. A minimum dead load of 1600 psf will be required. This soil was found to contain sulfates in detrimental quantities.

The Mancos Shale Formation is moderately to highly fractured, with fillings of soluble sulfate salts being very common. The samples obtained in this drilling program indicated many fractured faces and some bedding planes in the upper 3 to 5 feet of the shale contain sulfate salt deposits. Some seams of sulfate salts up to 1/8" inch thick were observed.

Sulfate Salts exhibit variable strength, depending upon surrounding moisture conditions and their chemistry as related to water. In addition, Sulfate Salts are soluble and may be physically removed from the soil by ground moisture conditions. Such removal may leave significant amounts of void areas within the Mancos Shale, which may affect the load bearing capacity of the formation. Many of the fractures in the Mancos Shale Formation are open, allowing the rapid transmission of water to occur. Some sandstone and siltstone strata within the Mancos Shale Formation also exhibit elevated permeability.

The lines defining the change between soil types or rock materials on the attached boring logs and soil profiles are determined by interpolation and therefore are approximations. The transition between soil types may be abrupt or may be gradual.

The boring logs and related information

show subsurface conditions at the date and location of this exploration. Soil conditions may differ at locations other than those of the exploratory borings. If the structure is moved any appreciable distance from the locations of the borings, the soil conditions may not be the same as those reported here. The passage of time may also result in a change in the soil conditions at the boring locations.

GROUND WATER:

A free water table came to equilibrium during drilling at 8 to 14 feet below the present ground surface. This is probably very close to the seasonal phreatic surface rather than a perched water table. In our opinion the subsurface water conditions shown are a permanent feature on this site. The depth to free water would be subject to fluctuation on this site depending upon external environmental effects.

Due to the proximity of the Mancos Shale Formation, there exists a possibility of an increased water table developing in the alluvial soils which overlie the shale. This increased water level would probably be the result of increased irrigation due to the presence of lawns and landscaping and roof runoff. The exploration holes indicate that the top of the Formation is somwhat variable and that subsurface drainage would probably be quite slow. While it is believed that under the existing conditions at the time of this exploration the construction process would be only moderately effected by any free-flowing or capillary waters, it is very possible that several years

after development is initiated, a troublesome higher water condition may develop which will provide construction difficulties. In addition, this potential higher water level could create some problems for existing or future foundations on this tract. Therefore it is recommended that the future presence of a higher water table be considered in all design and construction of both the proposed residential structures and any subdivision improvements.

Because of capillary rise, the soil zone within a few feet above the free water level identified in the borings will be quite wet. Pumping and rutting may occur during the excavation process, particularly if the bottom of the foundations are near the capillary fringe. Pumping is a temporary, quick condition caused by vibration of excavating equipment on the site. If pumping occurs, it can often be stopped by removal of the equipment and greater care exercised in the excavation process. In other cases, geotextile fabric layers can be designed or cobble sized material can be introduced into the bottom of the excavation and worked into the soft soils. Such a geotextile or cobble raft is designed to stabilize the bottom of the excavation and to provide a firm base for equipment.

Data presented in this report concerning ground water levels are representative of those levels at the time of our field exploration. Groundwater levels are subject to change seasonally or by changed environmental conditions.

CONCLUSIONS AND RECOMMENDATIONS

GENERAL DISCUSSION

No geologic conditions were apparent during our reconnaissance which would preclude the site development as planned, provided the recommendations contained herein are fully complied with. Based on our investigation to date and the knowledge of the proposed construction, the site condition which would have the greatest effect on the planned development is the low bearing, slightly metastable foundation soils.

Since the exact magnitude and nature of the foundation loads are not precisely known at the present time, the following recommendations must be somewhat general in nature. Any special loads or unusual design conditions should be reported to Lincoln DeVore so that changes in these recommendations may be made, if necessary. However, based upon our analysis of the soil conditions and project characteristics previously outlined, the following recommendations are made.

OPEN FOUNDATION OBSERVATION

Since the recommendations in this report are based on information obtained through random borings, it is possible that the subsurface materials between the boring points could vary. Therefore, prior to placing forms or pouring concrete, an open excavation observation should be performed by representatives of Lincoln DeVore. The purpose of this observation is to determine if the subsurface soils directly below the proposed foundations are similar to those encountered in our exploration borings. If the materials below the proposed founda-

tions differ from those encountered, or in our opinion, are not capable of supporting the applied loads, additional recommendations could be provided at that time.

SITE PREPARATION

It is recommended that site preparation for any foundations or site improvements begin with the removal of all vegetation, any existing man-made fill and other deleterious materials. This applies both to areas to be filled and areas to be cut. The removed materials should be legally disposed of off-site or, if appropriate, stockpiled for later use in non-structural areas or landscaping. In the case of any existing man-made fill, we recommend that it be removed completely. Prior to placing any structural fill, it is recommended that the exposed native soil be scarified to a depth of 12 inches, brought to near optimum moisture conditions and recompacted to a minimum of 90% of maximum dry density as determined by ASTM D 698.

During the placement of any structural fill, it is recommended that a sufficient amount of field tests and observation be performed under the direction of the geotechnical engineer. The geotechnical engineer should determine the amount of observation time and field density tests required to determine substantial conformance with these recommendations.

Based on slope stability computations, the maximum stable cut slope which can be constructed in this material is 2:1 (horizontal to vertical). We recommend that any existing slopes which are to receive fills be "benched" and the

fill placed against the benches in horizontal lifts. We recommend that the fill soil be brought to the optimum moisture content (+/- 2%) prior to placing, then compacted mechanically to at least 95% of the maximum standard Proctor dry density, ASTM D 698.

No major difficulties are anticipated in the course of excavating into the surficial soils on the site. It is probable that safety provisions such as sloping or bracing the sides of excavations over 4 feet deep will be necessary. Any such safety provisions shall conform to reasonable industry safety practices and to applicable OSHA regulations. The OSHA Classification for excavation purposes on this site is Soil Class C.

We recommend that all backfill placed around the exterior of the building, and in utility trenches which are outside the perimeter of the building and not located beneath roadways or parking lots, be compacted to a minimum of 85% of its maximum Proctor dry density (ASTM D 698).

In general, we recommend all structural fill in the area beneath any proposed structure or roadway be compacted to a minimum of 90% of its maximum modified Proctor dry density (ASTM D1557). This structural fill should be placed in lifts not to exceed six (6) inches after compaction. We recommend that fill be placed and compacted at approximately its optimum moisture content (+/-2%) as determined by ASTM D 1557. Structural fill should be a granular, non-expansive soil.

DRAINAGE AND GRADIENT:

Adequate site drainage should be provid-

ed in the foundation area both during and after construction to prevent the ponding of water and the saturation of the subsurface soils. We recommend that the ground surface around the structure be graded so that surface water will be carried quickly away from the building. The minimum gradient within 10 feet of the building will depend on surface landscaping. We recommend that paved areas maintain a minimum gradient of 2%, and that landscaped areas maintain a minimum gradient of 8%. It is further recommended that roof drain downspouts be carried across all backfilled areas and discharged at least 10 feet away from the structure. Proper discharge of roof drain downspouts may require the use subsurface piping in some areas. Planters, if any, should be so constructed that moisture is not allowed to seep into foundation areas or beneath slabs or pavements.

If adequate surface drainage cannot be maintained, or if subsurface seepage is encountered during excavation for foundation construction, a full perimeter drain is recommended for any affected buildings. It is recommended that this drain consist of a perforated drain pipe and a gravel collector, the whole being fully wrapped in a geotextile filter fabric. We recommend that this drain be constructed with a gravity outlet. If sufficient grade does not exist on the site for a gravity outlet, then a sealed sump and pump is recommended. Under no circumstances should a dry well be used in this subdivision.

The high water level found on some sites, or on any lots with full basements, should be controlled to prevent large upward fluctuations of this water surface. For

this purpose, we recommend that this be accomplished by construction of an area drain beneath the building area. To control water surface movement, it is recommended that the drain outfall in a free gravity drain. If a gravity outfall is not possible, a sealed sump and pump is recommended to remove the water.

Most metastable soil mitigation techniques are drainage considerations. The most important drainage consideration would be the continual maintenance of positive surface drainage away from the structures at all points. Positive surface drainage conditions must be maintained both during construction and throughout the service life of the structures. No flat areas or closed depressions should be allowed to exist anywhere on the site. Proper control of all roof runoff is extremely important. It is strongly recommended that downspout discharges be piped away from the structure. No water should be allowed to pond or stand within 30 feet of any structure.

Should an automatic lawn irrigation system be used on any of these sites, we recommend that the sprinkler heads be installed no less than 5 feet from the building. In addition, these heads should be adjusted so that spray from the system does not fall onto the walls of the building and that such water does not excessively wet the backfill soils.

FOUNDATIONS

We recommend the use of a conventional shallow foundation system consisting of continuous spread footings beneath all bearing walls and isolated spread footings beneath all columns and other points of concentrated load. Such

a shallow foundation system, resting on the native, alluvial soils, may be designed on the basis of an allowable bearing capacity of 1200 psf maximum. A minimum dead load of 150 psf must be maintained. Any soluable sulfate caliche layers must either be penetrated by the foundation footings or replaced by a structural fill placed according to the recommendations contained in this report.

Contact stresses beneath all continuous walls should be balanced to within + or - 175 psf at all points. Isolated interior column footings should be designed for contact stresses of about 150 psf less than the average used to balance the continuous walls. The criterion for balancing will depend somewhat upon the nature of the structure. Single-story, slab on grade structures may be balanced on the basis of dead load only. Multi-story structures may be balanced on the basis of dead load plus 1/2 live load, for up to 3 stories.

STRUCTURAL SOIL IMPROVEMENT

Under some loading conditions the existing low density soils may not be judged suitable for support of the proposed shallow foundation system. In addition, a rather thick soluable sulfate caliche layer may be encountered beneath the proposed footings which will not be suitable for foundation bearing. In either of these cases, it is recommended that an overexcavation/replacement scheme be used on this site.

The existing low density soils should be removed to a depth of 2 to 3 feet below the proposed bottom foot-

ing elevation. Once it is felt that adequate soil removal has been achieved, it is recommended that the excavation be closely examined by a representative of Lincoln-DeVore to ensure that an adequate overexcavation depth has indeed occurred and that the exposed soils are suitable to support the proposed structural man-made fill.

Once this examination has been completed, it is recommended that a coarse-grained, non-expansive, non-free draining man-made structural fill be imported to the site. This imported fill should be placed in the overexcavated portion of this site in lifts not to exceed 6 inches after compaction. A minimum of 90% of the soils maximum Modified Proctor dry density (ASTM D-1557) must be maintained during the soil placement. These soils should be placed at a moisture content conducive to the required compaction (usually Proctor optimum moisture content $\pm$ 2%). The granular material must be brought to the required density by mechanical means. No soaking, jetting or puddling techniques of any type should be used in placement of fill on this site. To ensure adequate lateral support, we must recommend that the zone of overexcavation extend at least 2 feet around the perimeter of the proposed footing. To confirm the quality of the compacted fill product, it is recommended that surface density tests be taken at maximum 2 foot vertical intervals.

If very soft conditions or free water is encountered, the placement of a geotextile fabric for separation between the native soils and the structural fill is recommended to aid the fill placement and to improve the stability of the completed fill.

When The structural fill is completed, an allowable bearing capacity of 2200 psf maximum may be assumed for proportioning the footings.

DRILLED PIERS:

Under some loading conditions, we recommend that a deep foundation system consisting of drilled piers be used to carry the weight of the proposed structure. We recommend that drilled piers have a minimum shaft length of 15 feet and be embedded at least 4 feet and no more than 6 feet into the relatively unweathered bedrock of the Mancos Shale Formation. At this level,these piers may be designed for a maximum end bearing capacity of 25000 psf, plus 1800 psf side support considering only the side wall area embedded in the bedrock. Due to the expansive potential of the bedrock, a minimum dead load uplift is required, consisting of a point uplift of 1600 psf and 250 psf side uplift, based on the side wall embedded in the bedrock. The overburden is soft and no supporting or uplift values are assigned to this material. The weight of the concrete in the pier may be incorporated into the required dead load.

GRADE BEAMS:

A reinforced concrete grade beam is recommended to carry the exterior wall loads in conjunction with the deep foundation system. We recommend that this grade beam be designed to span from bearing point to bearing point and not be allowed to rest on the ground surface between these points. We recommend a void space be left between the bottom of the grade

beam and the subgrade below due to the expansive nature of the subgrade soils.

Based upon our experience in this general area, the rather poor surface and subsurface water drainage conditions of the subdivision may not allow the determination of a discreet 'upper zone of seasonal moisture change' at this time. It must be noted that a drilled pier and fully voided grade beam system is quite rigid and may behave in an undesirable manner to differential movement of the individual piers.

It is recommended that the bottoms of all piers be thoroughly cleaned prior to the placement of concrete. The amount of reinforcing in each pier will depend on the magnitude and nature of loads involved. As a rule of thumb, reinforcing equal to approximately 1/2 of 1% of the gross cross-sectional concrete area should be used. Additional reinforcing should be used if structural conditions warrant. We recommend that reinforcing extend through the full length of pier.

To minimize the possibilty of voids developing in the drilled piers, concrete with a slump of 5 to 6 inches is recommended. We recommend that piers be dewatered and thoroughly cleaned of all loose material prior to placing the steel cage and concrete. The pier excavation should contain no more than 2 inches of free water unless the concrete is placed by means of a tremie extending to the bottom of the pier. A free fall in excess of 5 feet is not recommended when placing concrete in drilled piers.

Free water may be encountered during the

construction of drilled piers on this site, requiring the use of casing. We recommend that casing be pulled as the concrete is being placed and that a 5 foot head of concrete be maintained while pulling the casing. It is recommended that drilled piers be plumb with 2% of their length and that the shaft maintain a constant diameter for the full length of the pier and not allowed to "mushroom" at the top.

DRILLED PIER OBSERVATION:

The foundation installation for drilled piers should be continuously observed by a representative of Lincoln DeVore to determine that the recommended bearing material has been adequately penetrated and that soil conditions are as anticipated by the exploration. This observation will aid in attaining an adequate foundation system. In addition, abnormalities in the subsurface conditions encountered during foundation installation can be identified and corrective measures taken as required. Lincoln DeVore requires a minimum of one working day's notice, and a copy of the foundation plan, to schedule any field observation.

CONCRETE SLABS ON GRADE

Slabs could be placed directly on the natural soils or on a structural fill. We recommend that all slabs on grade be constructed to act independently of the other structural portions of the building. One method of allowing the slabs to float freely is to use expansion material at the slab-structure interface.

Any nonbearing partitions which will be located on slabs on grade should be constructed with a minimum space of 1-1/2 inches at the bottom of the wall. This space should allow for any future potential upward movement of the floor slabs and minimize damage to the walls and roof sections above the slabs.

It is recommended that slabs on grade be constructed over a capillary break of approximately 6 inches in thickness. We recommend that the material used to form the capillary break be free draining, granular material and not contain significant fines. A free draining outlet is also recommended for this break so that it will not trap water beneath the slab. A vapor barrier is recommended beneath the floor slab and above the capillary break. To prevent difficulty in finishing concrete, a 2 inch sand layer should be placed above the break. An alternate method of reducing finishing problems would be to place the vapor barrier beneath approximately 6 inches of a minus 3/4 inch gravel fill. This method must be very carefully accomplished to minimize excessive puncturing and tearing of the vapor barrier.

It is recommended that floor slabs on

grade be constructed with control joints placed to divide the floor into sections not exceeding 360 square feet, maximum. Also, additional control joints are recommended at all inside corners and at all columns to control cracking in these areas.

Problems associated with slab 'curling' are usually minimized by proper curing of the placed concrete slab. This period of curing usually is most critical within the first 5 days after placement. Proper curing can be accomplished by continuous water application to the concrete surface or by the placement of a 'heavy' curing compound, formulated to minimize water evaporation from the concrete. Curing by continuous water application must be carefully undertaken to prevent the wetting or saturation of the subgrade soils.

EARTH RETAINING STRUCTURES

The active soil pressure for the design of earth retaining structures may be based on an equivalent fluid pressure of 48 pounds per cubic foot. The active pressure should be used for retaining structures which are free to move at the top (unrestrained walls). For earth retaining structures which are fixed at the top, such as basement walls, an equivalent fluid pressure of 60 pounds per cubic foot may be used. It should be noted that the above values should be modified to take into account any surcharge loads, sloping backfill or other externally applied forces. The above equivalent fluid pressures should also be modified for the effect of free water, if any.

The passive pressure for resistance to lateral movement may be considered to be 231 pcf per foot of depth. The coefficient of friction for concrete to soil may be assumed to be .27 for resistance to lateral movement. When combining frictional and passive resistance, the latter must be reduced by approximately 1/3.

REACTIVE SOILS

Since groundwater in the Grand Junction area typically contains sulfates in quantities detrimental to a Type I cement, a Type II or Type I-II or Type II-V cement is recommended for all concrete which is in contact with the subsurface soils and bedrock. Calcium chloride should not be added to a Type II, Type I-II or Type II-V cement under any circumstances.

LIMITATIONS

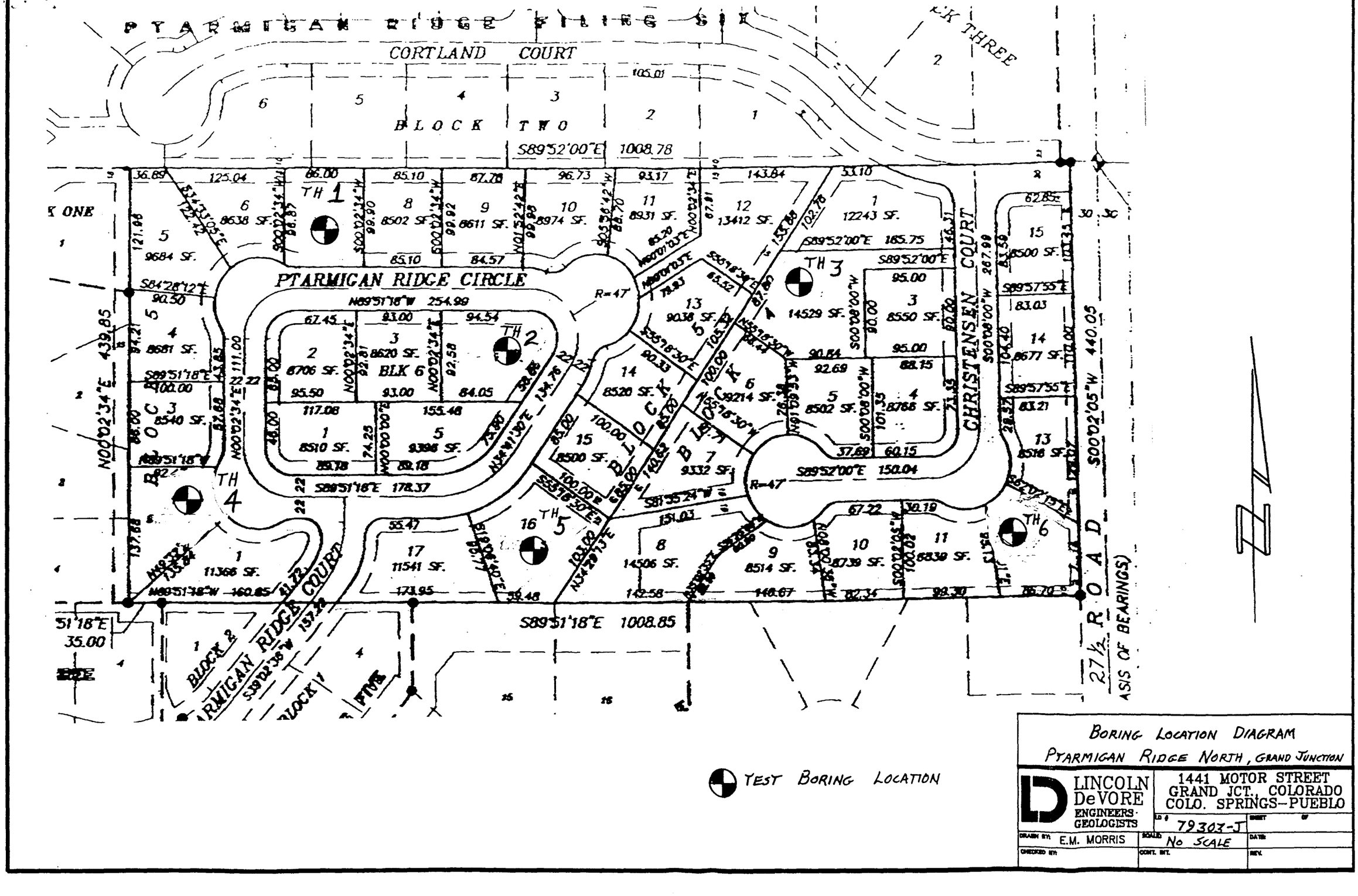
This report is issued with the understanding that it is the responsibility of the owner, or his representative to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project, and are incorporated into the plans. In addition, it is his responsibility that the necessary steps are taken to see that the contractor and his sub-contractors carry out these recommendations during construction.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. In addition, changes in acceptable or appropriate standards may occur or may result from legislation or the broadening of engineering knowledge. Accordingly, the findings of this report may be invalid, wholly or partially, by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of 3 years.

The recommendations of this report pertain only to the site investigated and are based on the assumption that the soil conditions do not deviate from those described in this report. If any variations or undesirable conditions are encountered during construction or the proposed construction will differ from that planned on the day of this

report, Lincoln DeVore should be notified so that supplemental recommendations can be provided, if appropriate.

Lincoln DeVore makes no warranty, either expressed or implied, as to the findings, recommendations, specifications or professional advice, except that they were prepared in accordance with generally accepted professional engineering practice in the field of geotechnical engineering.



BORING LOCATION DIAGRAM

PTARMIGAN RIDGE NORTH, GRAND JUNCTION

LINCOLN DeVORE ENGINEERS · GEOLOGISTS

1441 MOTOR STREET
GRAND JCT., COLORADO
COLO. SPRINGS–PUEBLO

DRAWN BY: E.M. MORRIS	SCALE: No SCALE	LD #: 79303-J	SHEET OF
CHECKED BY:	CONT. INT.	DATE:	REV.

BORING NO. 1

ELEVATION:

DEPTH (FT.)	LOG		DESCRIPTION				BLOW COUNT	SOIL DENSITY pcf	WATER %
			Surface Soils reworked by Agriculture						
		II	Gravelly, Sandy Silty Clay		Low Density				
			ML-CL Alluvial	Low Plastic	Moist	ST		97.4	10.7%
		I	Sandy Silt	Stratified	Non-Plastic				
5			ML Scattered Gravel	Moist	Low Density	5			
				Compressible					
		III	Gravelly, Silty Sand	Very Moist					
			Free Water			CS	8 6	98.9	15.9%
			SM alluvial	Low to Medium Density			19 12		
10		II	Gravelly, Sandy Silty Clay		Compressible	10			
			ML-CL	Low Density					
			Stratified	Very Gravelly Strata					
		III	Gravelly Silty Sand			BULK			19.0%
				Alluvial	Low Density				
15		III				15			
			Compressive, Low Density Silty Sand						
			17'						
		IV	Mancos Shale Formation		High Density				
		TD @ 18'		Expansive	Sulfates				
20		CL	Low Plastic Clay	Silty Strata		20			
25						25			
30						30			

Free Water @ 8 feet
During Drilling

LOG OF SUBSURFACE EXPLORATION

LINCOLN - DeVORE, Inc.

Grand Junction, Colorado

Grand Junction, CO.

SUMRALL CORPORATION

Littleton, CO.

Date 9-14-93

Job No 79303-J

Drawn EMM

BORING NO. 2

ELEVATION:

DEPTH (FT.)	LOG	DESCRIPTION				BLOW COUNT	SOIL DENSITY pcf	WATER %
		Surface Soils reworked by Agriculture						
	I	Sandy Silt		Low Density				
		ML Stratified	Low Plastic	Moist	CS	7/6	99.2	9.5%
	I	Sandy Silt	Stratified	Non-Plastic		14/12		
5	II	Gravelly, sandy Silty Clay		Medium Density	5			
		ML-CL Moist	Compressible					
	III	Gravelly, Silty Sand	Very Moist					
		Free Water			ST		100.3	17.9%
		SM alluvial	Low to Medium Density					
10	III	Gravelly Silty Sand		Very Gravelly	10			
		SM Low to Medium Density						
	III	Gravelly Silty Sand			BULK			21.2%
		14'	Alluvial	Low Density				
15		**Mancos Shale Formation**	Expansive		15			
		Very Silty Strata	Sulfates					
	CL	Low Plastic Silty Clay						
		TD @ 17'						
20					20			
25					25			
30					30			

Free Water @ 8 feet During Drilling

LOG OF SUBSURFACE EXPLORATION

LINCOLN - DeVORE, Inc.

Grand Junction, Colorado

Grand Junction, CO.

SUMRALL CORPORATION

Littleton, CO.

Date 9-14-93

Job No. 79303-J

Drawn EMM

BORING NO. 3

ELEVATION:

DEPTH (FT.)	LOG	DESCRIPTION				BLOW COUNT	SOIL DENSITY pcf	WATER %
		Surface Soils reworked by Agriculture						
	I	Sandy Silt		Low Density				
		ML Non-Plastic	Stratified	Moist	ST		101.2	5.6%
		Alluvial, Compressible		High Sulfates				
5	II	Gravelly, sandy Silty Clay		Medium Density	5			
		ML-CL Moist	Compressible					
	I	ML Sandy Silt	Very Moist					
		Nearly Saturated	High Sulfates		CS	13/6	112.7	16.7%
		8-1/2' Weathered Mancos Shale				36/6		
10	IV	CL High Sulfates	Silty	Expansive	10			
		Very Moist to Saturated		Medium Density				
		TD @ 9'						
15					15			
20					20			
25					25			
30					30			

No Free Water During Drilling

LOG OF SUBSURFACE EXPLORATION

LINCOLN - DeVORE, Inc.

Grand Junction, Colorado

Grand Junction, CO.

SUMRALL CORPORATION

Littleton, CO.

Date 9-14-93

Job No. 79303-J

Drawn EMM

BORING NO. 4

ELEVATION:

DEPTH (FT.)	LOG	DESCRIPTION				BLOW COUNT	SOIL DENSITY pcf	WATER %
		Surface Soils reworked by Agriculture						
	II	Gravelly, Sandy, Silty Clay		Low Density				
		ML-CL Stratified	Low Plastic	Moist	ST		94.4	8.2%
		Alluvial, Compressible		High Sulfates				
5	II	Gravelly, sandy Silty Clay		Medium Density	5			
		ML-CL Moist	Compressible					
	III	Gravelly, Silty Sand	Very Moist					
	------	**7-1/2 feet**			CS	10/6	125.8	10.7%
	IV	Mancos Shale Formation		Weathered		38/6		
10		Expansive, Stratified		Very Moist	10			
		Silty and Sulfate Strata						
		Variable drilling Hardness						
			Very Moist		BULK			17.1%
15					15			
	IV	Expansive Mancos Shale						
		CL High Density	Low Plastic Silty Clay					
		TD @ 18'						
20					20			
25					25			
30					30			

Free Water @ 9 feet
24 Hours After Drilling

LOG OF SUBSURFACE EXPLORATION

LINCOLN - DeVORE, Inc.

Grand Junction, Colorado

Grand Junction, CO.

SUMRALL CORPORATION

Littleton, CO.

Date 9-14-93

Job No. 79303-J

Drawn EMM

BORING NO. 5

ELEVATION:

DEPTH (FT.)	LOG	DESCRIPTION				BLOW COUNT	SOIL DENSITY pcf	WATER %
		Surface Soils reworked by Agriculture						
		I Sandy Silt		Low Density				
		ML Non-Plastic	Stratified	Moist	ST		94.4	8.2%
		Alluvial, Compressible		High Sulfates				
5		II Gravelly, sandy Silty Clay		Medium Density	5			
		ML-CL Moist	Compressible					
		I ML Sandy Silt	Very Moist					
		Nearly Saturated	High Sulfates		CS	10/6	115.8	15.0%
		9-1/2'	Free Water			50/12		
10		IV Mancos Shale Formation		Expansive	10			
		Very Moist to Saturated		Sulfates				
		Silt Strata	Medium to High Density					
		TD @ 10'						
15					15			
20					20			
25					25			
30					30			

Free Water @ 9-1/2'
24 Hours After Drilling

LOG OF SUBSURFACE EXPLORATION

LINCOLN - DeVORE, Inc.

Grand Junction, Colorado

Grand Junction, CO.

SUMRALL CORPORATION

Littleton, CO.

Date 9-14-93

Job No. 79303-J

Drawn EMM

BORING NO. 6

ELEVATION:

DEPTH (FT.)	LOG	DESCRIPTION				BLOW COUNT	SOIL DENSITY pcf	WATER %
		Surface Soils reworked by Agriculture						
	II	Gravelly, Sandy Silty Clay		Low to Medium Density				
		ML-CL Alluvial	Moist		ST		102.1	10.7%
5	III	Gravelly Silty Sand		Medium Density	5			
		SM Very Moist	Sulfates	Stratified				
	I	Sand Silt ML	Low to Medium Density		CS	13/6	99.7	6.7%
		Compressible Moist	Stratified			25/12	103.1	8.6%
10		Light Brown, thin clayey strata			10			
	II	Sandy Silty Clay			ST		100.7	20.4%
		ML-CL alluvial	Low to medium Density					
15		Compressible	Very Moist to Saturated		15			
			Increasing Density					
	IV	Plastic Clay, Silty	Alluvial?					
		Possibly Very Weathered Mancos Shale?						
20		CL	Medium Density		20			
		21' Free Water During Drilling						
		Silty Clay	Low Compressible					
		CL	Saturated	Sulfates	BULK			25.3%
		TD @ 23'						
25		Dense, Mancos Shale Formation not encountered			25			
		in boring to Total Depth drilled.						
30					30			

Free Water @ 14 feet
Stabilized after 24 hours

LOG OF SUBSURFACE EXPLORATION

LINCOLN - DeVORE, Inc.

Grand Junction, Colorado

Grand Junction, CO.

SUMRALL CORPORATION

Littleton, CO.

Date: 9-14-93

Job No. 79303-J

Drawn: EMM

SUMMARY SHEET

Soil Sample SANDY SILT (ML) Test No. 79303-J

Location PTARMIGAN RIDGE NORTH G.J. Date 9-2-93

Boring No. _____ Depth _____

Sample No. I Test by JLS

Natural Water Content (w) _____ %

Specific Gravity (Gs) _____ In Place Density (γ_o) _____ pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	
1"	
3/4"	
1/2"	100
4	98
10	93
20	86
40	80
100	70
200	66

HYDROMETER ANALYSIS:

Grain size (mm)	%
.02	35
.005	24

Plastic Limit P.L. _____ %

Liquid Limit L. L. _____ %

Plasticity Index P.I. N.P. %

Shrinkage Limit _____ %

Flow Index _____

Shrinkage Ratio _____ %

Volumetric Change _____ %

Lineal Shrinkage _____ %

MOISTURE DENSITY: ASTM METHOD

Optimum Moisture Content - w_o _____ %

Maximum Dry Density - γ_d _____ pcf

California Bearing Ratio (av) _____ %

Swell: _____ Days _____ %

Swell against _____ psf Wo gain _____ %

BEARING:

Housel Penetrometer (av) 1200 psf

Unconfined Compression (qu) _____ psf

Plate Bearing: _____ psf

Inches Settlement _____

Consolidation % under psf

PERMEABILITY:

K (at 20°C) _____

Void Ratio _____

Sulfates 500 ppm.

SOIL ANALYSIS

LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS, COLORADO

SUMMARY SHEET

Soil Sample GRAVELLY, SANDY, SILTY CLAY (ML-CL) Test No. 79303-J

Location PTARMIGAN RIDGE NORTH G.J. Date 9-2-93

Boring No. _____ Depth _____

Sample No. II Test by JLS

Natural Water Content (w) _____ %

Specific Gravity (Gs) _____ In Place Density (γ_o) _____ pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	
1"	100
3/4"	98
1/2"	97
4	89
10	81
20	75
40	72
100	57
200	51

HYDROMETER ANALYSIS:

Grain size (mm)	%
.02	35
.005	22

Plastic Limit P.L. 17.7 %

Liquid Limit L. L. 22.6 %

Plasticity Index P.I. 5 %

Shrinkage Limit _____ %

Flow Index _____

Shrinkage Ratio _____ %

Volumetric Change _____ %

Lineal Shrinkage _____ %

MOISTURE DENSITY: ASTM METHOD

Optimum Moisture Content - w_o _____ %

Maximum Dry Density - γ_d _____ pcf

California Bearing Ratio (av) _____ %

Swell: _____ Days _____ %

Swell against _____ psf Wo gain _____ %

BEARING:

Housel Penetrometer (av) 1200 psf

Unconfined Compression (qu) _____ psf

Plate Bearing: _____ psf

Inches Settlement _____

Consolidation % under psf

PERMEABILITY:

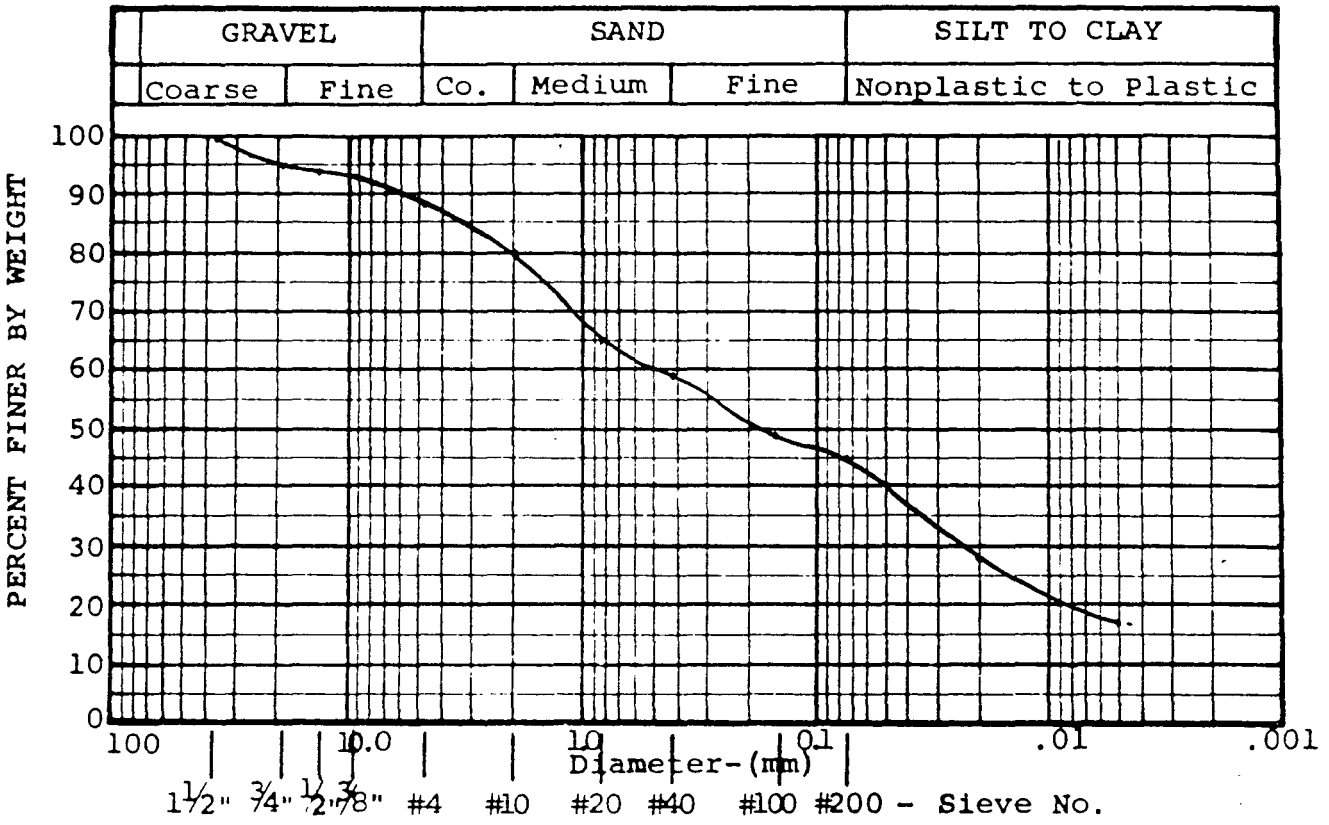
K (at 20°C) _____

Void Ratio _____

Sulfates 1500 ppm.

SOIL ANALYSIS

LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS, COLORADO



Soil Sample GRAVELLY SILTY SAND Sample Location _____

Sample No. III

Specific Gravity _____

Moisture Content _____

Effective Size _____

Cu _____

Cc _____

Fineness Modulus _____

L.L. _____ % P.I. N.P. %

Bearing 1500 psf

Sulfates 500 ppm

Sieve Size	% Passing
1-1/2"	100
1"	96
3/4"	95
1/2"	94
3/8"	93
#4	88
#10	80
#20	65
#40	59
#100	39
#200	35
0.0200	28
0.0050	17

Lincoln DeVore, Inc.
Geotechnical Consultants

PTARMIGAN RIDGE NORTH, G.J.

SUMRALL CORP.

DATE 9-2-93

JOB NO. 79303-J

DRAWN EHM

SUMMARY SHEET

Soil Sample: SILTY CLAY (CL) MANCOS SHALE
Test No.: 79303-J

Location: PTARMIGAN RIDGE NORTH G.J.
Date: 9-2-93

Boring No.: _____ Depth: _____
Sample No.: IV
Test by: JLS

Natural Water Content (w) _____ %
Specific Gravity (Gs) _____
In Place Density (γ_o) _____ pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	
1"	
3/4"	
1/2"	
4	
10	100
20	95
40	90
100	83
200	77

HYDROMETER ANALYSIS:

Grain size (mm)	%
.02	56
.005	42

Plastic Limit P.L. 17.7 %
Liquid Limit L. L. 28.2 %
Plasticity Index P.I. 10 %
Shrinkage Limit _____ %
Flow Index _____
Shrinkage Ratio _____ %
Volumetric Change _____ %
Lineal Shrinkage _____ %

MOISTURE DENSITY: ASTM METHOD

Optimum Moisture Content - w_o _____ %
Maximum Dry Density - γ_d _____ pcf
California Bearing Ratio (av) _____ %
Swell: 1 Days 3.9 %
Swell against 1570 psf Wo gain 7.3 %

BEARING:

Housel Penetrometer (av) 5500 psf
Unconfined Compression (qu) _____ psf
Plate Bearing: _____ psf
Inches Settlement _____
Consolidation _____ % under _____ psf

PERMEABILITY:

K (at 20°C) _____
Void Ratio _____

Sulfates 1000 ppm.

SOIL ANALYSIS

LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS, COLORADO

SUMMARY SHEET

Soil Sample SANDY SILT (ML)

Test No. 79303-J

Location PTARMIGAN RIDGE NORTH G-J.

Date 9-2-93

Boring No. _____ Depth _____

Sample No. I

Test by JLS

Natural Water Content (w) _____ %

Specific Gravity (Gs) _____

In Place Density (γ_o) _____ pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	
1"	
3/4"	
1/2"	100
4	98
10	93
20	86
40	80
100	70
200	66

HYDROMETER ANALYSIS:

Grain size (mm)	%
.02	35
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Plastic Limit P.L. _____ %

Liquid Limit L. L. _____ %

Plasticity Index P.I. N.P. %

Shrinkage Limit _____ %

Flow Index _____

Shrinkage Ratio _____ %

Volumetric Change _____ %

Lineal Shrinkage _____ %

MOISTURE DENSITY: ASTM METHOD

Optimum Moisture Content - w_o _____ %

Maximum Dry Density - γ_d _____ pcf

California Bearing Ratio (av) _____ %

Swell: _____ Days _____ %

Swell against _____ psf Wo gain _____ %

BEARING:

Housel Penetrometer (av) 1200 psf

Unconfined Compression (qu) _____ psf

Plate Bearing: _____ psf

Inches Settlement _____

Consolidation % under psf

PERMEABILITY:

K (at 20°C) _____

Void Ratio _____

Sulfates 500 ppm.

SOIL ANALYSIS

LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS, COLORADO

SUMMARY SHEET

Soil Sample GRAVELLY, SANDY, SILTY CLAY (ML-CL) Test No. 79303-J

Location PTARMIGAN RIDGE NORTH G.J. Date 9-2-93

Boring No. _____ Depth _____

Sample No. II Test by JLS

Natural Water Content (w) _____ %

Specific Gravity (Gs) _____

In Place Density (γ_o) _____ pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	
1"	100
3/4"	98
1/2"	97
4	89
10	81
20	75
40	72
100	57
200	51

HYDROMETER ANALYSIS:

Grain size (mm)	%
.02	35
.005	22

Plastic Limit P.L. 17.7 %

Liquid Limit L. L. 22.6 %

Plasticity Index P.I. 5 %

Shrinkage Limit _____ %

Flow Index _____

Shrinkage Ratio _____ %

Volumetric Change _____ %

Lineal Shrinkage _____ %

MOISTURE DENSITY: ASTM METHOD

Optimum Moisture Content - w_o _____ %

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Housel Penetrometer (av) 1200 psf

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Inches Settlement _____

Consolidation % under psf

PERMEABILITY:

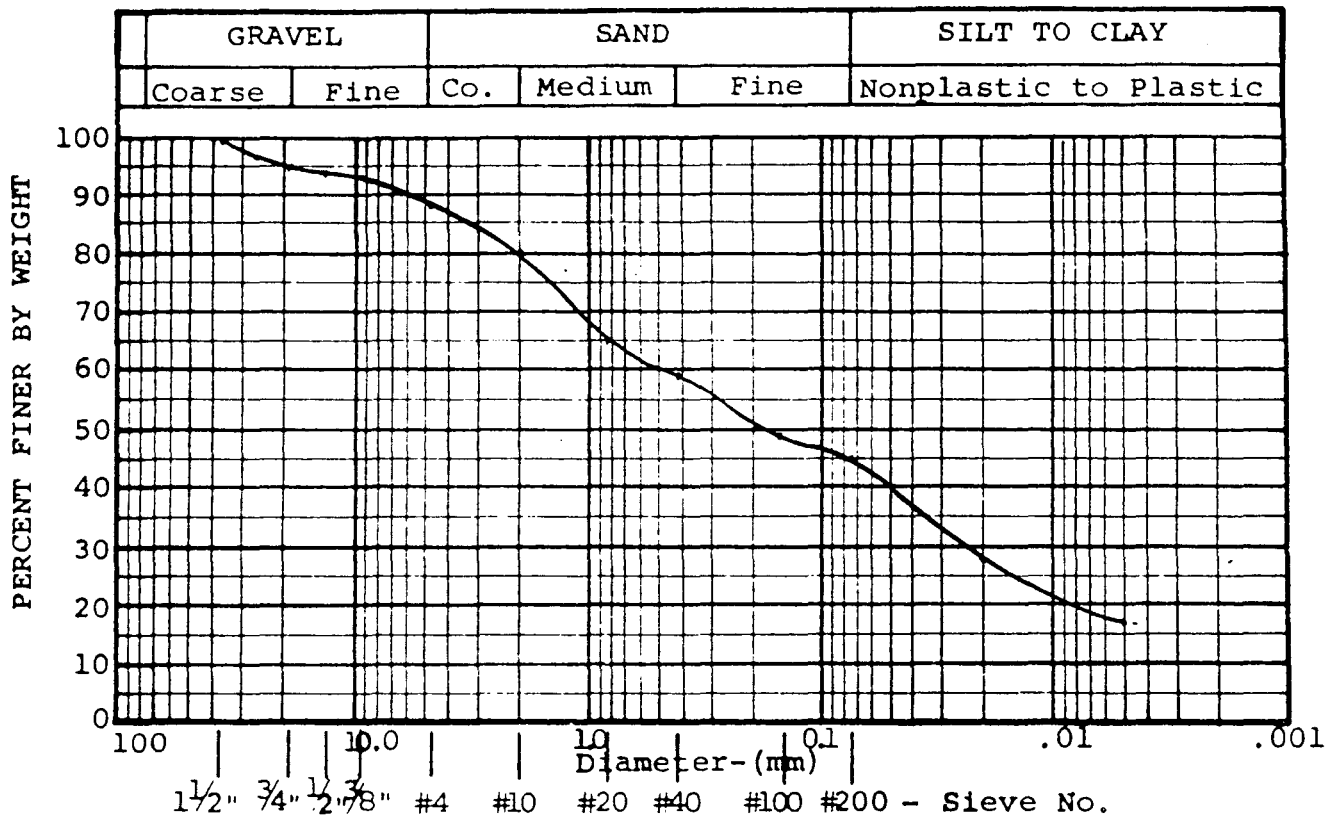
K (at 20°C) _____

Void Ratio _____

Sulfates 1500 ppm.

SOIL ANALYSIS

LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS, COLORADO



Soil Sample GRAVELLY SILTY SAND Sample Location

Sample No. III

Specific Gravity

Moisture Content

Effective Size

Cu

Cc

Fineness Modulus

L.L. % P.I. N.P. %

Bearing 1500 psf

Sulfates 500 ppm

Sieve Size	% Passing
1-1/2"	100
1"	96
3/4"	95
1/2"	94
3/8"	93
#4	88
#10	80
#20	65
#40	59
#100	39
#200	35
0.0200	28
0.0050	17

Lincoln DeVore, Inc.
Geotechnical Consultants

PTARMIGAN RIDGE NORTH, G.J.

SUMRALL CORP.

DATE 9-2-93

JOB NO. 79303-J

DRAWN EMH

SUMMARY SHEET

Soil Sample SILTY CLAY (CL) MANCOS SHALE Test No. 79303-J

Location PTARMIGAN RIDGE NORTH G.J. Date 9-2-93

Boring No. _____ Depth _____

Sample No. IV Test by JLS

Natural Water Content (w) _____ %

Specific Gravity (Gs) _____ In Place Density (γ_o) _____ pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	
1"	
3/4"	
1/2"	
4	
10	100
20	95
40	90
100	83
200	77

HYDROMETER ANALYSIS:

Grain size (mm)	%
.02	56
.005	42

Plastic Limit P.L. 17.7 %

Liquid Limit L. L. 28.2 %

Plasticity Index P.I. 10 %

Shrinkage Limit _____ %

Flow Index _____

Shrinkage Ratio _____ %

Volumetric Change _____ %

Lineal Shrinkage _____ %

MOISTURE DENSITY: ASTM METHOD

Optimum Moisture Content - w_o _____ %

Maximum Dry Density - γ_d _____ pcf

California Bearing Ratio (av) _____ %

Swell: 1 Days 3.9 %

Swell against 1570 psf Wo gain 7.3 %

BEARING:

Housel Penetrometer (av) 5500 psf

Unconfined Compression (qu) _____ psf

Plate Bearing: _____ psf

Inches Settlement _____

Consolidation % under psf

PERMEABILITY:

K (at 20°C) _____

Void Ratio _____

Sulfates 1000 ppm.

SOIL ANALYSIS

LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS, COLORADO

GENERAL PROJECT REPORT

FOR

PTRAMIGAN RIDGE NORTH SUBDIVISION

October, 1993

Prepared For:

SUMRALL CORP.
Commercial and Investment Real Estate
5479 East Mineral Circle
Littleton, Colorado 80122
303-772-2871

T L

TABLE OF CONTENTS

production is almost non-existent in the vicinity of Ptramigan Ridge North. The only non-residential use in the surrounding area is a church located northeast of the subject property. The attached *Assessor's Map* depicts the configuration of various properties in the area surrounding Ptramigan Ridge North. Platted subdivisions within the study area include:

SURROUNDING SUBDIVISION CHART		
SUBDIVISION NAME	ZONING	DENSITY (du/ac)
Ptramigan Ridge, Filing 6	PD	3.8
Ptramigan Ridge, Filings 1-5	RSF-4	3.0
Bell Ridge	RSF-5	2.8
O'Nan Subdivision	RSF-4	2.5
Ptramigan Estates	RSF-4	1.3
Apple Crest	PR-4.2	2.0
Crown Heights	PR-8	3.2
Spring Valley	RSF-5	3.2
Crestview Subdivison	PR-8	1.4
Crestview Townhomes	PR-8	8.3

PROPOSED LAND USE - The proposal calls for the ultimate development of 34 single family building sites on 10 acres. Lots range in size from 4,600 square feet to 15,685. The resulting density is 3.3 dwelling units per acre. The accompanying Final Development Plan depicts the relationship of each lot to the property boundary, roadway access, and other features of the proposed development.

Six of the total lots are designated as *Townhome* lots. The proposal allows for the ultimate configuration of the dwelling units in either a single family detached, or in a "du-plex" type fashion with a minimum building separation of ten feet.

Approximately three present of the total site area is designated as Private Open Space. This space will be fully landscaped and will be available for use by the future residents of Ptramigan Ridge North Subdivision. The Open Space will also serve both as a storm water management facility and storage of irrigation water.

In addition to the individual lot development standards presented herein, strict architectural controls will be instigated to protect the development from undesirable influences. To achieve this, a set of covenants,

GENERAL PROJECT REPORT FOR:

PTRAMIGAN RIDGE NORTH SUBDIVISION

INTRODUCTION - A preliminary plan for Ptramigan Ridge North Subdivision property was conditionally approved by the City of Grand Junction in 1992. The accompanying narrative statement and maps will provide sufficient data to assess the merits of this requested Final Development Plan application. The following chart provides a comparison between the approved preliminary plans and this final plan application.

COMPARISION CHART		
ACTIVITY	PRELIMINARY PLAN	FINAL PLAN
Total Site Area	10.2	10.2
Area In Streets	2.0	2.0
Area In Lots	8.0	7.7
Area In Pvt. Open Space	0.0	0.3
Total Lots	37	34
Density	3.6 du/ac	3.3 du/ac
Access Points	2	2
Townhome Lots	0	6

LOCATION - Ptramigan Ridge North Subdivision contains approximately 10 acres. Ptramigan Ridge North Subdivision is located in the North Grand Junction area, southwest of 27 1/2 Road and Courtland Avenue (F 3/4 Road). The property is located in part of the NW 1/4 of Section 1, Township One South, Range One West, of the Ute Meridian.

EXISTING LAND USE - The site contains one single family dwelling and out buildings. Some recent agricultural production is evident on the balance of the property consisting of alfalfa. The site is affected by an existing drainage ditch which flows to the property near the northeast corner. Topography of the property is considered to be "flat" in nature. The land within Ptramigan Ridge North slopes towards the southwest at a average rate of 1.5 percent. The subject property is zoned PD (Planned Development) by the City of Grand Junction.

SURROUNDING LAND USE -The surrounding land use in the vicinity of the subject property is considered to be of moderate intensity. Predominate uses include single family dwellings on subdivided tracts. Agricultural

conditions and restrictions (C.C.& R's) will be adopted to insure ongoing protection to the future residents of Ptramigan Ridge North Subdivision and surrounding property owners. The C.C. & R's will also include provisions for ownership and maintenance of the Private Open Space and irrigation system. A copy of a draft set of C.C.& R's has been transmitted to the Planning Department under separate cover. The accompanying Site Development Plan indicates the minimum building setbacks which will be incorporated in determining lot building envelopes.

ACCESS - Two primary access points are available to Ptramigan Ridge North; 27 1/2 Road, designated as a collector road by the City of Grand Junction, and Ptarmigan Ridge Court, a local street. Review of the accompanying maps reveal that access is available to Horizon Drive and Patterson Road, both of which are major arterial roadways. Interstate 70 is located approximately one half mile north of the site.

Proposed roadway improvements call for the construction of approximately 1600 feet of new public street. Internal streets will be constructed in accordance with the City's current standards for "Local Streets". The street right-of-way will also serve as a utility corridor. The proposal also calls for additional widening and the installation of curb, gutter and sidewalk along the site's 27 1/2 Road frontage.

A Traffic Impact Study and Analysis has been transmitted under separate cover to the City Planning and Engineering Departments. Results of the study indicate that existing roadways in the area should have capacity to absorb additional traffic which will result on the property is fully developed.

UTILITY SERVICE

DOMESTIC WATER - All lots within Ptramigan Ridge North Subdivision will be served by a domestic water distribution system. Existing 8 inch water mains are located within 27 1/2 Road and in Ptramigan Ridge Court, both mains will be used to provide water service to lots within subdivision. Two new 8 inch mains will be extended within the property. All of the existing water mains are owned and maintained by the Ute Water Conservancy District. Fire hydrants will be placed throughout the development. Sufficient flows and pressure exist to provide adequate water supply for fire protection.

SANITARY SEWER - A new sanitary sewage collection system will be constructed to serve all lots within Ptramigan Ridge North. Sewer service will be extended from an existing 8 inch main located in Ptramigan Ridge Court. It is estimated that peak sewage flows generated by the lots within the development will be 7,500 gallons per day.

ELECTRIC, GAS, PHONE & CATV - Electric, gas, and communication lines will be extended to each lot within the development from existing lines located adjacent to the proposed development. Other than underground electric lines; gas and communication lines will be located in a "common trench" adjacent to the dedicated road right-of-way.

IRRIGATION WATER - The Grand Valley Water Users Association provide irrigation water to the property. Water is delivered to the northeast property corner through a series of open ditches and pipelines. A central pressurized system will deliver water to each lot within Ptramigan Ridge North Subdivision. Irrigation water will be stored in a pond which will be constructed within the proposed Private Open Space.

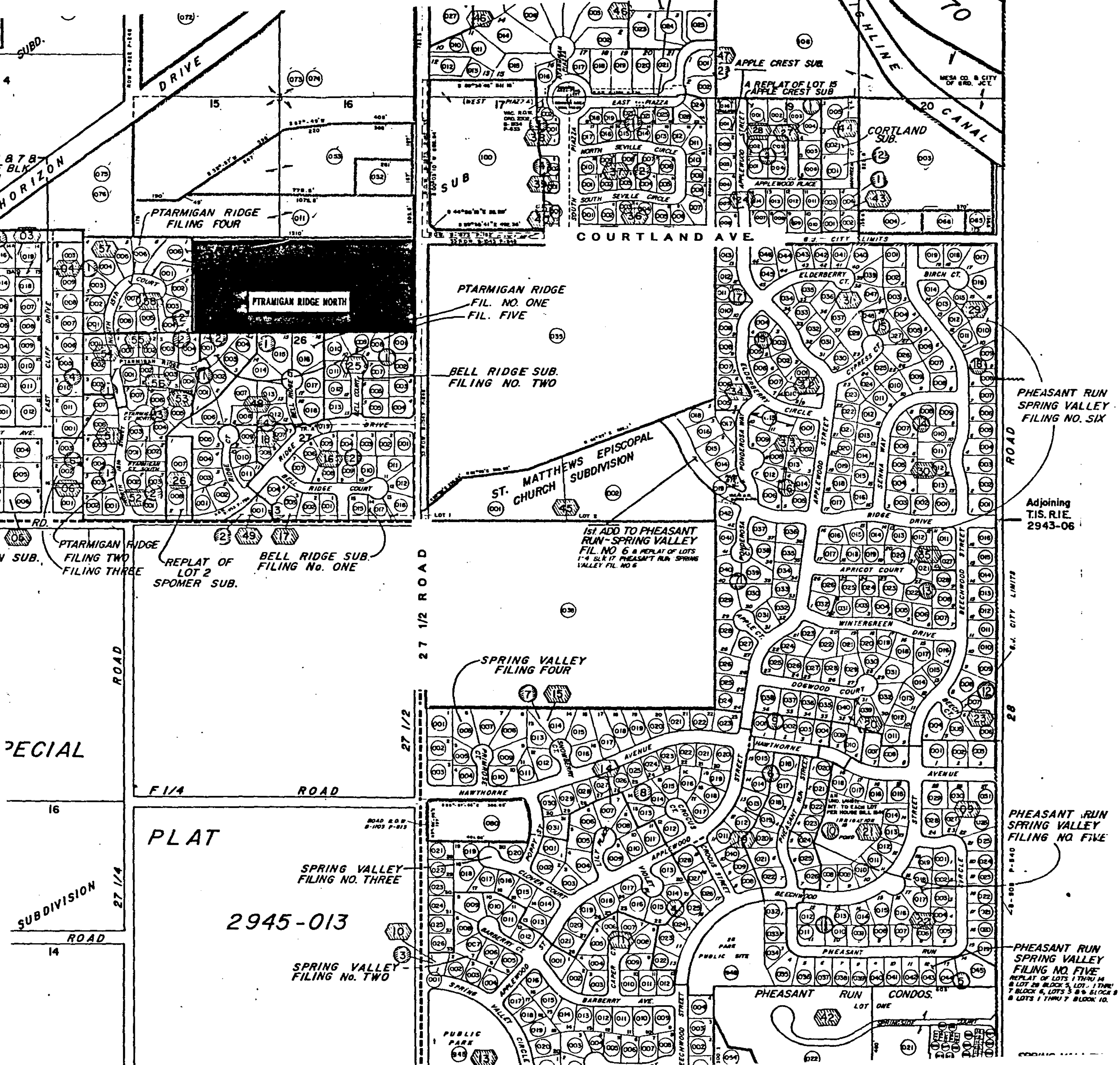
SOILS - According to data contained within the Soil Conservation Service (SCS) soil evaluations, soil limitations are not identified as severe for identified building areas within Ptramigan Ridge North Subdivision. SCS has identified two soil classification within the property.

Fp - Fruita Very Fine Sandy Loam, Class I
Fr - Fruita Very Fine Sandy Loam, Class IIe

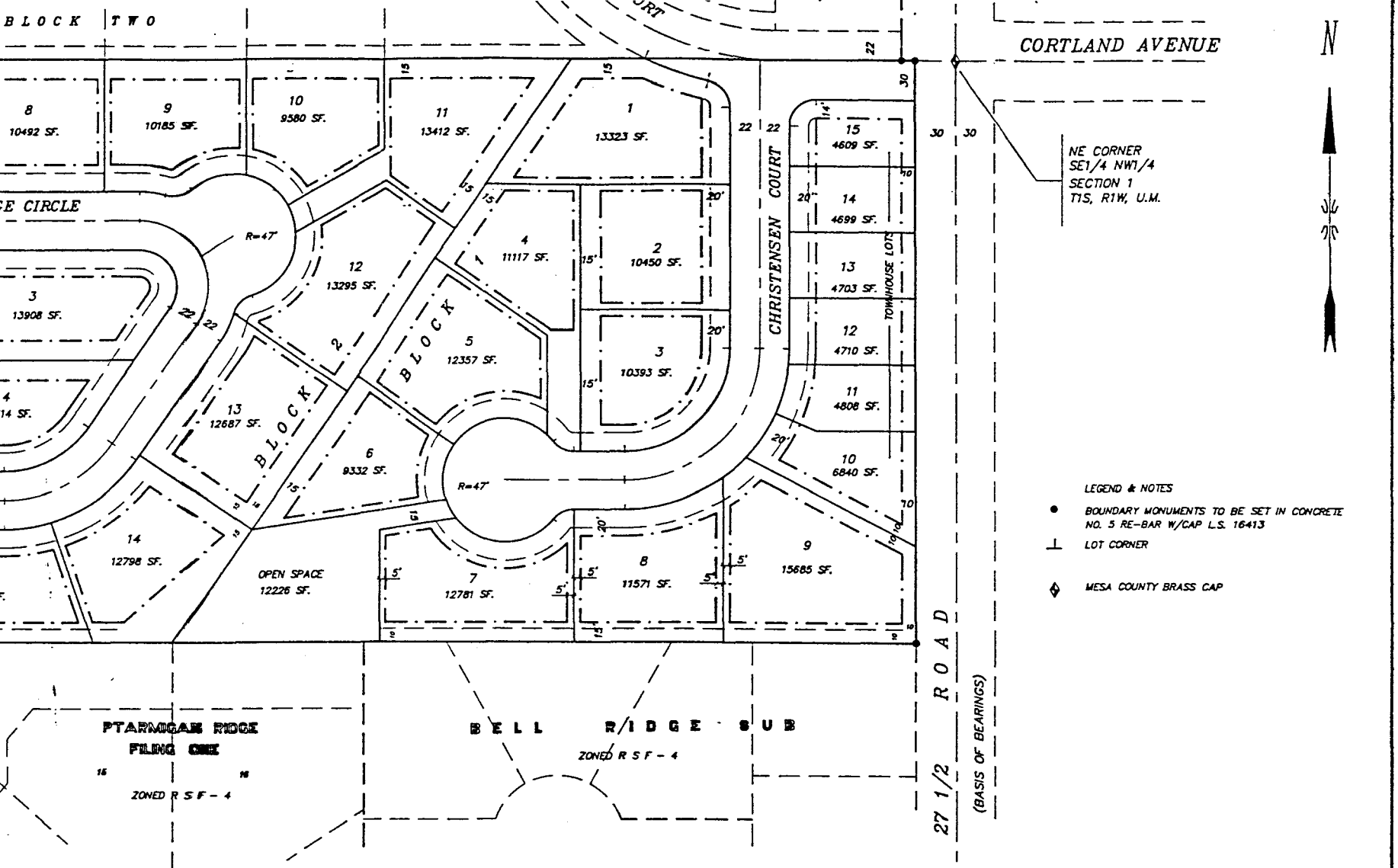
An Subsurface Soils Exploration has been conducted on the property and has been transmitted to the City's Planning and Engineering Departments. The report indicates, "No geologic conditions were apparent during (the) reconnaissance which would preclude the site development as planned, provided the recommendations...are fully complied with."

DRAINAGE - A Drainage Report which evaluates the impacts on existing drainage patterns has been submitted to the City Engineering Department under separate cover. Most of the future drainage will be carried on the ground surface to the proposed street system and to the south-central portion of the site. A new outlet control structure will be constructed within a depressed area in the Private Open Space in a manner which will control the amount of developed storm water flows which will be discharged from the site. The site is some what affected by drainage from off-site sources particularly from land lying to the north. The existing drainage ditch found on the property will be piped.

DEVELOPMENT SCHEDULE - The rate at which development of Ptramigan Ridge North Subdivision, will occur is dependent upon the City's future growth and housing needs. Development of the site will occur in two separate phases. At this point in time it is anticipated that Phase One site development, 15 lots along Christensen Court will begin and be completed during the spring of 1994. Phase Two, the balance of the subdivision could be completed as early as the fall of 1994.



COURTLAND AVE.
APPLE CREST SUB.
A REPLAT OF LOT 15 APPLE CREST SUB
CORTLAND SUB.
HIGHLINE CANAL
MESA CO. & CITY OF GRD. JCT.
HORIZON DRIVE
PTARMIGAN RIDGE FILING FOUR
PTARMIGAN RIDGE NORTH
PTARMIGAN RIDGE FIL. NO. ONE FIL. FIVE
BELL RIDGE SUB. FILING NO. TWO
BELL RIDGE SUB. FILING No. ONE
PTARMIGAN RIDGE FILING TWO FILING THREE
REPLAT OF LOT 2 SPOMER SUB.
ST. MATTHEWS EPISCOPAL CHURCH SUBDIVISION
1st. ADD TO PHEASANT RUN-SPRING VALLEY FIL. NO. 6 & REPLAT OF LOTS 1-4 BLK 17 PHEASANT RUN SPRING VALLEY FIL. NO 6
PHEASANT RUN SPRING VALLEY FILING NO. SIX
Adjoining T.1S. R.1E. 2943-06
ELDERBERRY CT.
BIRCH CT.
CYPRESS CT.
ELDERBERRY CIRCLE
PONDEROSA WAY
APPLEWOOD STREET
SENNA WAY
RIDGE DRIVE
APRICOT COURT
BEECHWOOD STREET
WINTERGREEN DRIVE
DOGWOOD COURT
HAWTHORNE AVENUE
G.J. CITY LIMITS
28 ROAD
27 1/2 ROAD
SPRING VALLEY FILING FOUR
SPRING VALLEY FILING NO. THREE
SPRING VALLEY FILING No. TWO
PHEASANT RUN SPRING VALLEY FILING NO. FIVE
PHEASANT RUN SPRING VALLEY FILING NO. FIVE REPLAT OF LOTS 1 THRU 14 & LOT 28 BLOCK 5, LOT 1 THRU 7 BLOCK 6, LOTS 3 & 4 BLOCK 8 & LOTS 1 THRU 7 BLOCK 10.
PHEASANT RUN CONDOS.
PHEASANT RUN
CLOVER COURT
BARBERRY CT.
BARBERRY AVE.
APPLEWOOD
CROCUS CT.
LILY PLACE
POPPY ST.
VIOLET
PUBLIC PARK
PUBLIC SITE
F 1/4 ROAD
27 1/4 ROAD
SPECIAL
PLAT
2945-013
SUBDIVISION
NORTH SEVILLE CIRCLE
SOUTH SEVILLE CIRCLE
EAST PIAZZA
WEST PIAZZA
APPLEWOOD PLACE



LEGEND & NOTES

- ● BOUNDARY MONUMENTS TO BE SET IN CONCRETE NO. 5 RE-BAR W/CAP L.S. 16413
- ⊥ LOT CORNER
- ◈ MESA COUNTY BRASS CAP

LAND USE SUMMARY

LOT AREA = 7.95 ACRES = 78%
ROAD AREA = 1.96 ACRES = 19%
OPEN SPACE AREA = 0.28 ACRES = 3%

TOTAL AREA = 10.19 ACRES = 100%

6 SINGLE FAMILY ATTACHED UNITS (3 BUILDINGS)
28 SINGLE FAMILY DETACHED UNITS

SET BACKS

SINGLE FAMILY DETACHED
- FRONT 20' FROM FRONT PROPERTY LINE
- SIDE 5'
- REAR 15'

TOWNHOMES
- FRONT OF MAIN STRUCTURE 20' FROM FRONT PROPERTY LINE
- BUILDING SEPERATION 10 FEET
- REAR 5'

SE CORNER
SE1/4 NW1/4
SECTION 1
T1S, R1W, U.M.
T.B.M. = 4708.15

PTRAMIGAN RIDGE NORTH

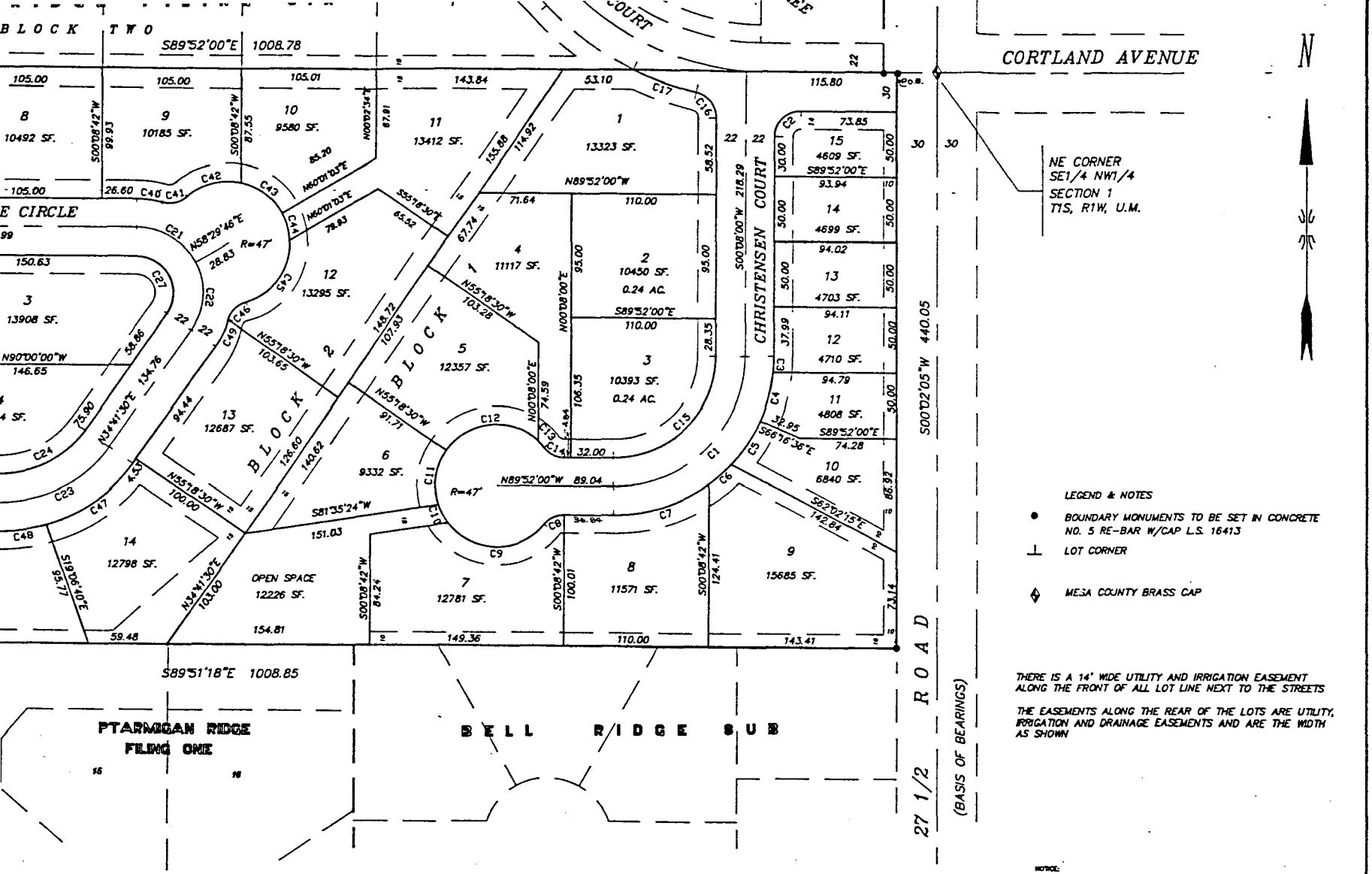
SITE PLAN

SITUATED IN THE NW1/4 SECTION 1, TOWNSHIP 1 SOUTH, RANGE 1 WEST, UTE MERIDIAN

FOR: ROBERT SUMRALL

Q.E.D. SURVEYING

SURVEYED BY: MEM DKB



IGAN RIDGE NORTH

CURVE TABLE

ANGLE	TANGENT	CURVE#	RADIUS	LENGTH	CHORD	CHORD BEARING	DELTA ANGLE	TANGENT
00°	100.00							
00°	20.00	C28	78.00	30.52	30.33	S27°49'57"W	22°25'18"	15.46
55°	6.02	C29	20.00	37.17	32.05	S36°37'00"E	106°28'36"	26.77
28°	19.26	C30	20.00	11.29	11.14	N73°58'46"E	32°19'52"	5.80
44°	20.19	C31	47.00	63.48	58.76	S83°29'34"E	77°23'11"	37.64
52°	11.49	C32	47.00	53.26	50.46	N12°20'01"W	64°55'55"	29.90
00°	40.64	C33	47.00	10.04	10.02	N26°15'11"E	12°14'29"	5.04
51°	9.58	C34	20.00	11.29	11.14	S16°12'30"W	32°19'52"	5.80
38°	59.61	C35	20.00	11.25	11.10	S16°04'20"E	32°13'48"	5.78
51°	8.07	C36	47.00	32.61	31.96	N12°18'32"W	39°45'25"	16.99
58°	23.31	C37	47.00	34.74	33.96	N28°44'42"E	42°21'03"	18.21
00°	54.47	C38	47.00	59.57	55.66	N86°13'52"E	72°37'18"	34.54
20°	3.37	C39	20.00	11.25	11.10	S73°44'24"E	32°13'48"	5.78
51°	9.58	C40	72.00	19.43	19.37	S82°07'33"E	15°27'29"	9.77
00°	78.00	C41	20.00	19.84	19.03	N77°11'23"E	56°49'36"	10.82
57°	16.01	C42	47.00	43.60	42.06	N75°21'13"E	53°09'16"	23.51
21°	25.44	C43	47.00	40.23	39.01	S53°32'49"E	49°02'38"	21.44
54°	35.31	C44	47.00	21.67	21.48	S15°48'58"E	26°25'05"	11.03
52°	49.91	C45	47.00	62.18	57.74	S35°17'32"W	75°47'56"	36.59
08°	50.09	C46	20.00	19.84	19.03	N44°46'42"E	56°49'36"	10.82
24°	30.21	C47	122.00	81.59	80.08	S33°51'05"W	38°19'09"	42.39
24°	30.21	C48	122.00	36.48	36.35	N81°34'40"E	17°08'03"	18.38

SE CORNER
SE1/4 NW1/4
SECTION 1
T1S, R1W, U.M.
T.B.M. = 4708.15

LEGEND & NOTES

- ● BOUNDARY MONUMENTS TO BE SET IN CONCRETE NO. 5 RE-BAR W/CAP L.S. 16413
- ⊥ LOT CORNER
- ⧫ MESA COUNTY BRASS CAP

THERE IS A 14' WIDE UTILITY AND IRRIGATION EASEMENT ALONG THE FRONT OF ALL LOT LINE NEXT TO THE STREETS

THE EASEMENTS ALONG THE REAR OF THE LOTS ARE UTILITY, IRRIGATION AND DRAINAGE EASEMENTS AND ARE THE WIDTH AS SHOWN

NOTICE:

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 FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

AREA SUMMARY

LOT AREA = 7.95 ACRES = 78%
ROAD AREA = 1.96 ACRES = 19%
OPEN SPACE AREA = 0.28 ACRES = 3%

TOTAL AREA = 10.19 ACRES = 100%

PTRAMIGAN RIDGE NORTH

FINAL PLAT

SITUATED IN THE NW1/4 SECTION 1, TOWNSHIP 1 SOUTH, RANGE 1 WEST, UTE MERIDIAN

FOR:

SURVEYED BY: MEM DKB

NICHOLS ASSOCIATES, INC.
751 Horizon Court, Suite #102
P.O. Box 60010
Grand Junction, Colorado 81506

PTARMIGAN NORTH
Storm Water Management Plan

3-October-1993

The Ptarmigan North site consists of 10.19 acres. Off-site drainage enteriers the property at the north east corner via a 15 inch diameter storm drain. This drain pipe will be extended though the property to an open drain ditch along the south boundary.

One entrances to the property is at the high side, and the site drains naturally to the proposed detention pond with the exception of a small area in the south west corner of the property. The proposed road at the south west corner will be graded so as to force all drainage in to the subdivision boundaries.

The 15 inch storm drain and the detention pond should be the first items of construction so that the pond can be used for construction storm water management. During construction, a berm and ditch should be maintained along the south side of the property to divert runoff to the detention pond area. Any storm drainage leaving the site during construction should be filtered through straw bails placed around the outlets to the detention pond.

① Put note on GRD plan, also show facilities there

The road grading should be the second item of construction in order to provide a construction storm water channel in the road excavation to the pond.

This report was prepared by:

Terry Nichols

Terry Nichols PE No. 12093

PTARMIGAN NORTH DRAINAGE REPORT

3-October-1993

I. General Location and Description

The Ptarmigan North project is located in the city of Grand Junction, Colorado.

The property is bounded on the north, west and partly on the south by earlier filings of Ptarmigan subdivision, he south also borders Bell Ridge Subdivision. The project is bounded on the east by 27.5 Road.

II. Existing Drainage Conditions

The present ground cover consists of native grasses and scattered deciduous trees. The surface soil type is predominantly medium silt. Parts of the property have been irrigated in the past. There is an existing man made drainage ditch traversing the property from the north east corner to the middle of the south side where it enters another existing drainage ditch.

III. Proposed Drainage Conditions

As shown on the grading and drainage plan, the site will be developed to include 35 single family homes. It is anticipated that each lot will have a paved driveway.

There will be a detention facility in the south center of the property. The streets and short drainage pipes will convey the storm water to the detention facility. A 15 inch pipe will convey the off site water to the existing drain ditch along the south boundary.

The detention facility includes a two-stage controlled outlet and a spillway overflow. The 2 year and 100 year control outlets consist of a 6 inch and a 12 inch PVC pipe fitted with a trash screen. 8" on plans (1)

Both outlets enter a 12 inch pipe leading form an irrigation storage area in the bottom of the detention pond. This same 12 inch pipe fitted with a head gate serves as a drain for the irrigation storage reservoir.

IV. Design Criteria & Approach

Design rainfall intensities are taken from the Interim Outline of Grading and Drainage Criteria, City of Grand Junction, 1 July 1992 . The time of concentration for each basin is calculated using a combination of overland flow, channel flow and pipe flow travel time.

The following formula is used to calculate overland sheet flow:

$t_c=1.8(1.1-C)\,(L^{1/2})/100S)^{1/3}$

where:

t_c= time of concentration in minutes;
C= runoff coefficient;
L= length of basin in feet; and
S= slope of the basin in feet/feet.

The intensity is taken from APPENDIX A of the Interim Outline Of Grading And Drainage Criteria.

For on site development, the peak runoff discharges are calculated using the rational formula:

Q=CiA

where:

Q= peak runoff rate in cubic feet per second (CFS);
C= runoff coefficient representing a ratio of peak runoff to average rainfall intensity for a duration equal to the runoff time of concentration;
i= average rainfall intensity in inches per hour; and
A= drainage area in acres

Results and Conclusions

Reference APPENDIX Page 1:

The historic 2 year and 100 year runoff quantities are 2.76 CFS and 6.33 CFS respectively. The calculated discharge after construction is 5.45 CFS for the 2 year storm and 15.61 CFS for the 100 year storm. The net increase in runoff is 2.76 CFS for the 2 year storm and 9.28 CFS for the 100 year storm.

Reference APPENDIX Page 3:

The required detention volume to limit discharge to historic levels are 5,195 CF for the 2 year frequency storm and 10,080 CF for the 100 year frequency storm. an additional volume of 1,995 CF has been added for irrigation water storage.

Reference APPENDIX Page 5

A depth capacity curve has been developed for the proposed detention pond. The curve indicates that a pond depth of 1.0 feet will provide the required 2 year

volume, and the pond depth of 4.0 feet will exceed the storage volume requirements for the 100 year storm. The 2 year historic orifice at the bottom of the pond should be a 8 inch diameter pipe. The inlet should be set at elevation 4714.5.

The 100 year historic orifice is a 12 inch diameter pipe set at elevation 4716.8 feet with. This elevation allows 1.0 feet of depth for the 2 year detention. This orifice, in combination with the 2 year orifice, will pass the 100 year historic storm when the pond surface elevation reaches 4717.5 feet. (See the composite stage discharge graph-APPENDIX Page 4.) Flows grater than the 100 year historic volume will flow through the spill way after the storage capacity has been exceeded.

VI. References

Interim Outline of Grading and Drainage Criteria, City of Grand Junction, July 1992

Submittal Standards for Improvements and Development (SSID) Draft; City of Grand Junction; March 1993 (3)

Civil Engineering Handbook Fourth Edition; by Urquhart

Mesa County Storm Drainage Criteria Manual; Adopted April 14, 1992

VII. Appendices Table of Contents

Nichols Associates, Inc.
751 Horizon Court - Suite 102
Grand Junction, Colorado 81506
Phone: 303-245-7101

(4) MAPS PER SSTD? (BASIN AREAS, ETC)

3-Oct-93

PTARMIGAN RIDGE NORTH - Drainage Study

CALCULATION OF INCREASE IN DISCHARGE DUE TO PROPOSED CONSTRUCTION

After Construction {Area - Intensity - Discharge}

BASIN	AREA SURFACE TYPE	AREA Ac.	RUNOFF COEF. C2	RUNOFF COEF. C100	REACH	LENGTH FEET	SLOPE (S) %	VELOVITY FT./SEC.	TIME MIN.	INTENSITY Inches/Hour 2-Yr	INTENSITY Inches/Hour 100-Yr	DISCHARGE CFS (Q=CiA) 2-Yr	DISCHARGE CFS (Q=CiA) 100-Yr
A	Landscaped	6.5605	0.30	0.4	A-1	150	1.0	0.12	17.6				
	Paved	2.0684	0.99	0.99	A-2	500.0	0.5	1.50	5.6				
	Roofs	1.5611	0.99	0.99	A-3	130.0	0.4	1.50	1.4				
Total Ac. & weighted C		10.19	0.55	0.61				TOTAL	24.6	0.98	2.51	5.45	15.61

(6) WHY NOT 2 BASINS? YOU HAVE 2 DRAINAGE AREAS?

(5) OK, BUT HIGHER THAN NECESSARY

Historic {Area - Intensity - Discharge}

BASIN	LENGTH (L) FEET	AREA Ac.	SLOPE (S) PERCENT	RUNOFF COEF. C	BASIN TIME MIN.	MAX. TRAVEL FT.	TRAVEL VELOCITY FT./SEC.	TRAVEL TIME MIN.	TOTAL TIME Tc MIN.	INTENSITY Inches 2-Yr	INTENSITY Inches 100-Yr	DISCHARGE CFS (Q=CiA) 2-Yr	DISCHARGE CFS (Q=CiA) 100-Yr
H1	150	10.19	1.0	0.30	17.6	400	0.50	13.33	31.0	0.88	2.07	2.69	6.33
TOTAL:		10.19										2.69	6.33
											NET INCREASE:	2.76	9.28

(7) C_2? C_{100}?

DETENTION POND OUTLET ORIFICE CALCULATIONS

Orifice flow formula: Q=CA(2gH)^.5 Where: Q=Orifice flow in CFS

C=Coefficient

g=Gravitational constant

H=Height of water above the bottom of the orifice opening in feet

D=Orfice diameter

Subscripts: h = Historic flow 2 = Two year storm

100 = One hundred year storm

t = Top orifice

b = Bottom orifice

T = total

Bottom orifice

The bottom orifice must pass the historic 2 Yr storm

Storage depth above bottom of lower orifice = 2.30

Q2= 2.69

C= 0.65

g= 32.20

Hb= 2.30

A= Q/C(2gH)^.5

= 0.34

D= 0.658 Ft. = 7.90 Inches

Qo= 2.1965

Top orifice

The bottom & top orifices must pass the historic 100 Yr storm

Storage depth above bottom of top orifice = 0.70

C= 0.65

Ht= 0.7 Hb= 2.30

Bottom orifice Q=CA(2gH)^.5 where H = Hb + Ht

Qb= 3.07

Top orifice Q= Qh100 - Q bottom orifice

Qt= 3.26 Total Q = 6.33

A= Q/C(2gH)^.5

= 0.75

D= 0.97 11.69 Inches

Qo= 5.06

Capacity For Pipe Storm Drainage

Storm Drain Location	Pipe Diameter Inches	Slope Feet/Feet	Rough. Coeff. n	Capacity Q CFS
Ridge Circle to pond	12	0.0192	0.015	4.3
Pond drain (full pond)	12	0.0714	0.015	8.2
Christensen Court to pond	12	0.0150	0.015	3.8

(8) Q Capacity Req'd

? (Greater Than 4.3 cfs ! - RUNOFF FROM WEST OF DRAW) (9)

6.3

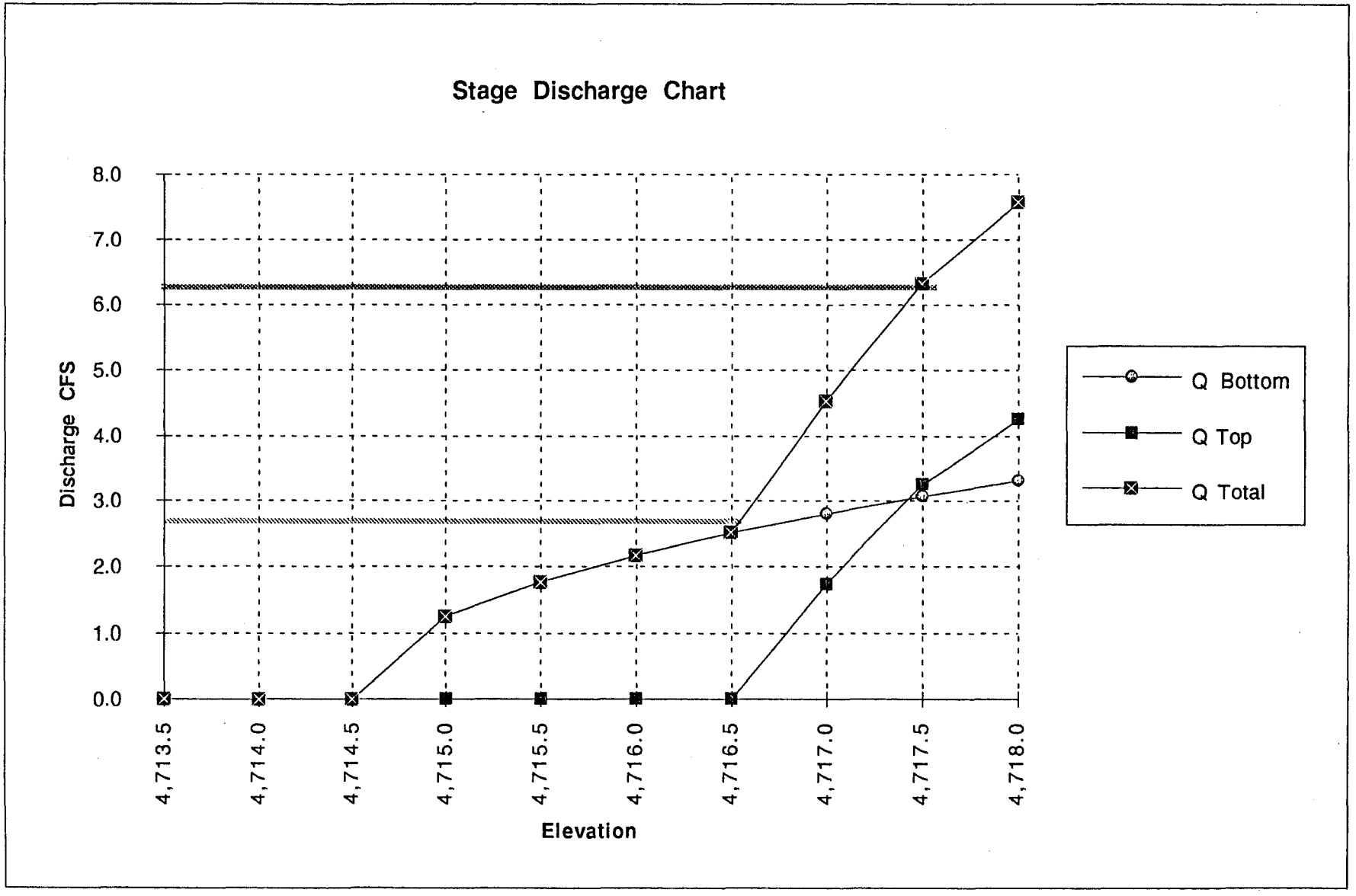
? (Greater Than 3.8 cfs ! - RUNOFF FROM EAST OF DRAW)

(10) PIPE CONVEYING UPSTREAM RUNOFF?

Required Detention Volume Vs

2 year storm detention volume			100 year storm detention volume	
A	6.90		A	6.90
Qo	2.197		Qo	5.062
Td2	24.94		Td100	11.68
Id2	1.00		Id100	3.19
Qd	5.53		Qd	17.61
K	0.99		K	2.11
V	5,195 Cu Ft	REQUIRED STORAGE	V	10,080 Cu Ft
Irrigation Storage:	1,915 Cu Ft			1,915 Cu Ft
Total storage below 2 yr orfice:	7,110 Cu Ft		TOTAL REQUIRED VOLUME:	11,995 Cu Ft

Detention Pond Stage Discharge

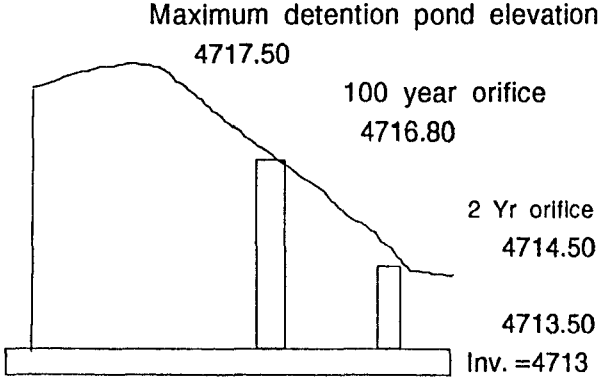


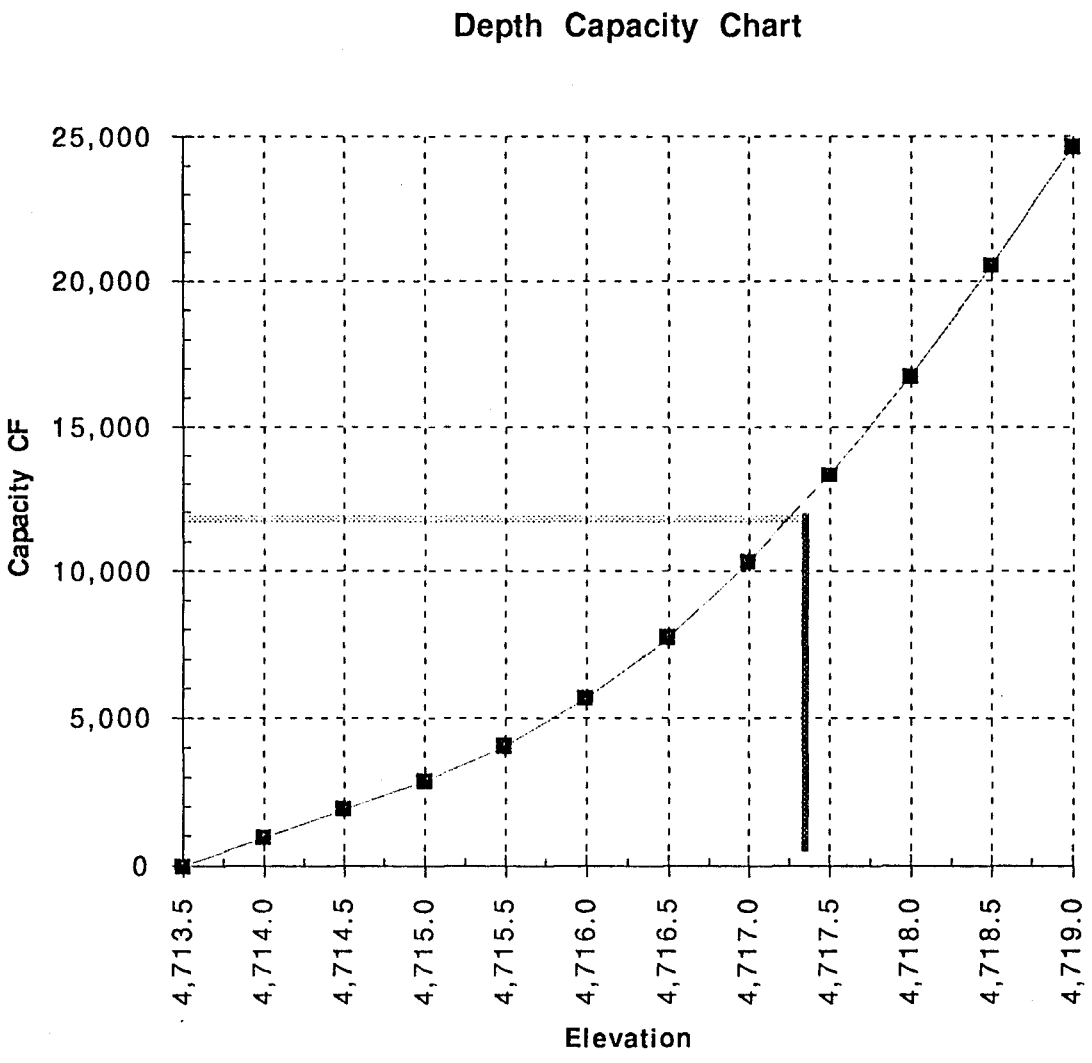
Detention Pond Depth Capacity Curve

Elevation Ft.	Area Ft. Sq.	Volume Cu. Ft.	Accum. Volume Cu. Ft.
4,713.5	1,915	0	0
4,714.0	1,915	958	958
4,714.5	1,915	958	1,915
4,715.0	1,915	958	2,873
4,715.5	2,807	1,173	4,046
4,716.0	3,698	1,621	5,667
4,716.5	4,662	2,085	7,752
4,717.0	5,626	2,568	10,320
4,717.5	6,420	3,009	13,330
4,718.0	7,214	3,407	16,736
4,718.5	7,923	3,783	20,519
4,719.0	8,631	4,137	24,656

Storage Required Below 100 Yr Orfice: 7,109.84

TOTAL STORAGE REQUIREMENT: 11,995.29





TRAFFIC IMPACT STUDY

FOR

PTRAMIGAN RIDGE NORTH SUBDIVISION

October, 1993

Prepared For:

SUMRALL CORP.
Commercial and Investment Real Estate
5479 East Mineral Circle
Littleton, Colorado 80122
303-772-2871

TABLE OF CONTENTS

TRAFFIC IMPACT STUDY FOR:

PTRAMIGAN RIDGE NORTH SUBDIVISION

INTRODUCTION - A preliminary plan for Ptramigan Ridge North Subdivision property was conditionally approved by the City of Grand Junction in 1992. In order to fully understand the contents of this study it is important to read the *General Project Report for Ptramigan Ridge North Subdivision, October, 1993* which is on file with the City of Grand Junction's Planning and Engineering Departments.

The scope of this study is limited to only the proposal and does not take into account any other development activity which has been recently approved by the City of Grand Junction. The actual capacity of the existing roadway system in the vicinity of the request requires judgmental factors best determined by City staff personnel, in determining existing street condition, number of driveways, direction of existing traffic flow and future growth patterns.

LOCATION - Ptramigan Ridge North Subdivision contains approximately 10 acres. Ptramigan Ridge North Subdivision is located in the North Grand Junction area, southwest of 27 1/2 Road and Courtland Avenue (F 3/4 Road). The property is located in part of the NW 1/4 of Section 1, Township One South, Range One West, of the Ute Meridian.

SURROUNDING LAND USE -The surrounding land use in the vicinity of the subject property is considered to be of moderate intensity. Predominate uses include single family dwellings on subdivided tracts. Agricultural production is almost non-existent in the vicinity of Ptramigan Ridge North. The only non-residential use in the surrounding area is a church located northeast of the subject property. The attached Exhibit A depicts

the configuration of various properties in the area surrounding Ptramigan Ridge North. Platted subdivisions within the study area include:

SURROUNDING SUBDIVISION CHART		
SUBDIVISION NAME	ZONING	DENSITY (du/ac)
Ptramigan Ridge, Filing 6	PD	3.8
Ptramigan Ridge, Filings 1-5	RSF-4	3.0
Bell Ridge	RSF-5	2.8
O'Nan Subdivision	RSF-4	2.5
Ptramigan Estates	RSF-4	1.3
Apple Crest	PR-4.2	2.0
Crown Heights	PR-8	3.2
Spring Valley	RSF-5	3.2
Crestview Subdivison	PR-8	1.4
Crestview Townhomes	PR-8	8.3

PROPOSED LAND USE - The proposal calls for the ultimate development of 34 single family building sites on 10 acres. Lots range in size from 4,600 square feet to 15,685. The resulting density is 3.3 dwelling units per acre. The accompanying Exhibit B depicts the relationship of each lot to the property boundary, roadway access, and other features of the proposed development.

Six of the total lots are designated as *Townhome* lots. The proposal allows for the ultimate configuration of the dwelling units in either a single family detached, or in a "du-plex" type fashion with a minimum building separation of ten feet.

TRAFFIC VOLUMES - Two primary access points are available to Ptramigan Ridge North; 27 1/2 Road, designated as a collector road by the City of Grand Junction, and Ptarmigan Ridge Court, a local street. For the purposes of this study, Point A is on 27 1/2 Road and Point B is at

Ptarmigan Ridge Court. Review of Exhibit A reveals that access is available to Horizon Drive and Patterson Road, both of which are major arterial roadways. Interstate 70 is located approximately one half mile north of the site.

Exhibit "B", Local Street Standards, prepared by the City of Grand Junction Department of Public Works indicates the following:

Average Weekday Trips for Single Family Development Type = 9.55
Peak Hourly Trips = 1.02
Max A.D.T. for Urban Residential Street = 1000
Max A.D.T. for Collector Street = 8000

In 1988 the City of Grand Junction published, *Traffic Volume Map*, dated 10-88, of which a portion is attached and identified as Exhibit B. Results of the City's traffic counts in the area of Ptramigan Ridge North Subdivision are as follows:

G Road west of 27 1/2 Road	2500 A.D.T.
27 1/2 Road north of F Road	4250 A.D.T
Courtland Avenue	(no counts indicated)

Since the *Traffic Volume Map* did not include counts for North 15th. Street at Ridge Drive, south of the subject property, the following estimate is made utilizing the existing platted lots in the area and the City's Trip Generator.

47 existing SF lots @ 9.55 A.D.T = 449 A.D.T

According the Colorado Department of Transportation, Division of Highways, *Estimating Trip Generation*, Nov. 10, 1981, "In the morning a residential use has about twice the outgoing flow ... total traffic in the afternoon is generally 20 percent higher than the morning traffic."

Using the above data as a base Exhibit C was prepared. Point A is broken into three parts as follows:

Point A-1, Traffic Projections south of Courtland Avenue.
Point A-2, Traffic Projections north of Courtland Avenue.
Point A-3, Traffic Projections east of 27 1/2 Road on Courtland Ave.

CONCLUSIONS - Development of Ptarmigan Ridge North Subdivision should not adversely affect the existing street system in the area surrounding the subject site due to the following:

1. The proposal call for a reduction in approved density. There have not been any major changes in traffic patterns since the time of the City's original acceptance of the proposal in 1993.

2. The City has identified major street improvements for 27 1/2 Road within their five year capitol improvement plan.

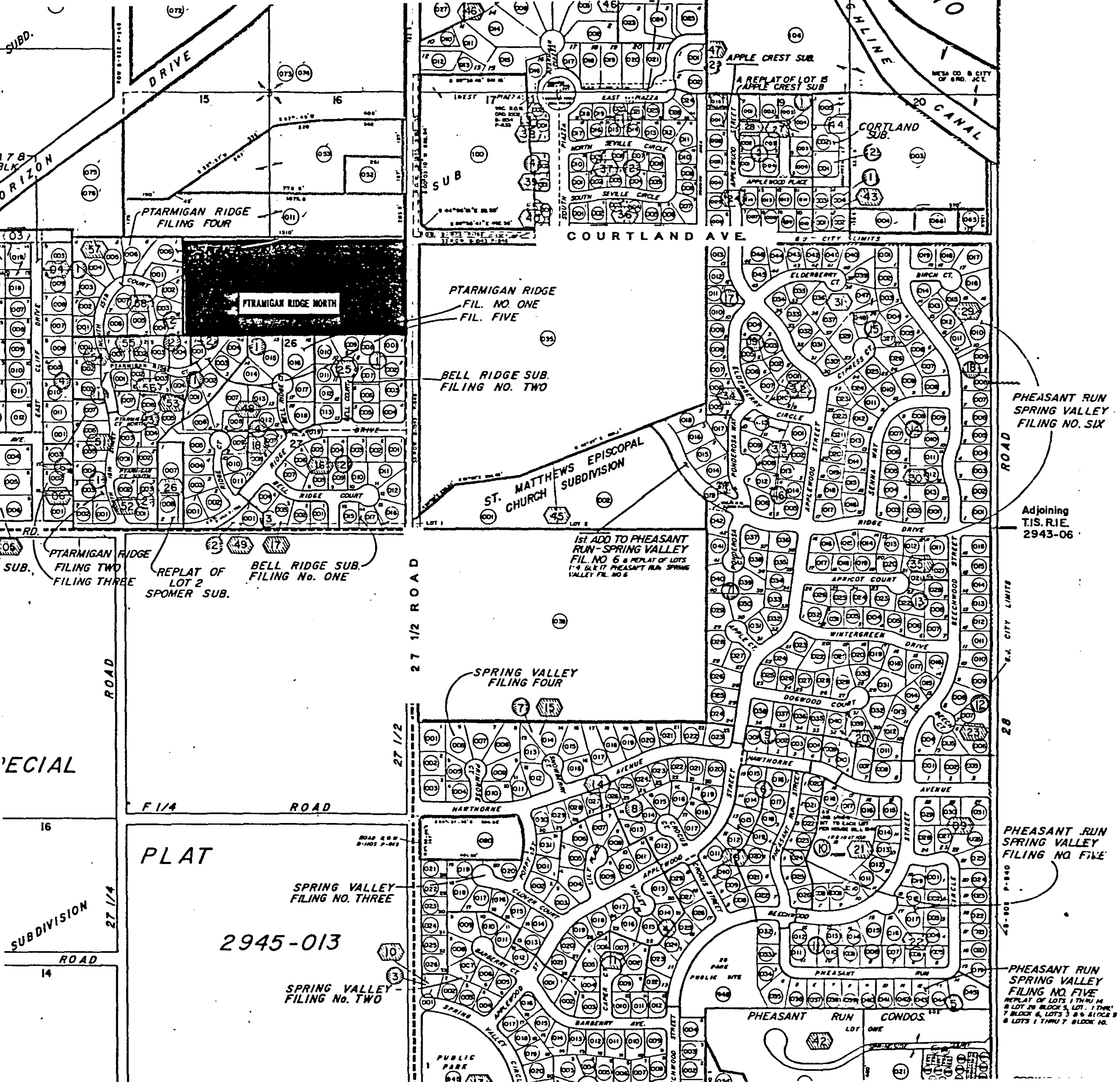
3. Based on existing traffic counts available capacity exists within existing affected streets.

E X H I B I T S

EXHIBIT A SURROUNDING OWNERSHIP MAP

EXHIBIT B TRAFFIC VOLUME MAP

EXHIBIT C FUTURE TRAFFIC PROJECTIONS



SUBD.
DRIVE
HORIZON
PTARMIGAN RIDGE FILING FOUR
PTARMIGAN RIDGE NORTH
PTARMIGAN RIDGE FIL. NO. ONE
FIL. FIVE
BELL RIDGE SUB. FILING NO. TWO
COURTLAND AVE.
APPLE CREST SUB.
A REPLAT OF LOT 15 APPLE CREST SUB
CORTLAND SUB.
CANAL
MESA CO. & CITY OF GRD. JCT.
NORTH SEVILLE CIRCLE
SOUTH SEVILLE CIRCLE
EAST PIAZZA
WEST PIAZZA
APPLEWOOD PLACE
SUB
ST. MATTHEWS EPISCOPAL CHURCH SUBDIVISION
PHEASANT RUN SPRING VALLEY FILING NO. SIX
ELDERBERRY CT.
BIRCH CT.
CYPRESS CT.
ELDERBERRY CIRCLE
PONDEROSA WAY
APPLEWOOD STREET
SENNA WAY
RIDGE DRIVE
ROAD
Adjoining T.1S. R.1E. 2943-06
PTARMIGAN RIDGE FILING TWO FILING THREE
REPLAT OF LOT 2 SPOMER SUB.
BELL RIDGE SUB. FILING No. ONE
BELL RIDGE COURT
1st. ADD. TO PHEASANT RUN - SPRING VALLEY FIL. NO. 6 & REPLAT OF LOTS 1-4 BLK 17 PHEASANT RUN SPRING VALLEY FIL. NO. 6
APRICOT COURT
WINTERGREEN DRIVE
BEECHWOOD STREET
APPLE CT.
CITY LIMITS
27 1/2 ROAD
SPRING VALLEY FILING FOUR
DOGWOOD COURT
HAWTHORNE
AVENUE
28
SPECIAL
F 1/4 ROAD
PLAT
PHEASANT RUN SPRING VALLEY FILING NO. FIVE
SPRING VALLEY FILING NO. THREE
CLOVER COURT
SUBDIVISION
27 1/4
ROAD
2945-013
SPRING VALLEY FILING No. TWO
BARBERRY CT.
BARBERRY AVE.
PUBLIC SITE
PHEASANT RUN
PHEASANT RUN SPRING VALLEY FILING NO. FIVE REPLAT OF LOTS 1 THRU 14 & LOT 28 BLOCK 5, LOT 1 THRU 7 BLOCK 6, LOTS 3 & 6 BLOCK 9 & LOTS 1 THRU 7 BLOCK 10.
PHEASANT RUN CONDOS.
LOT ONE
PUBLIC PARK
SPRING VALLEY CIRCLE

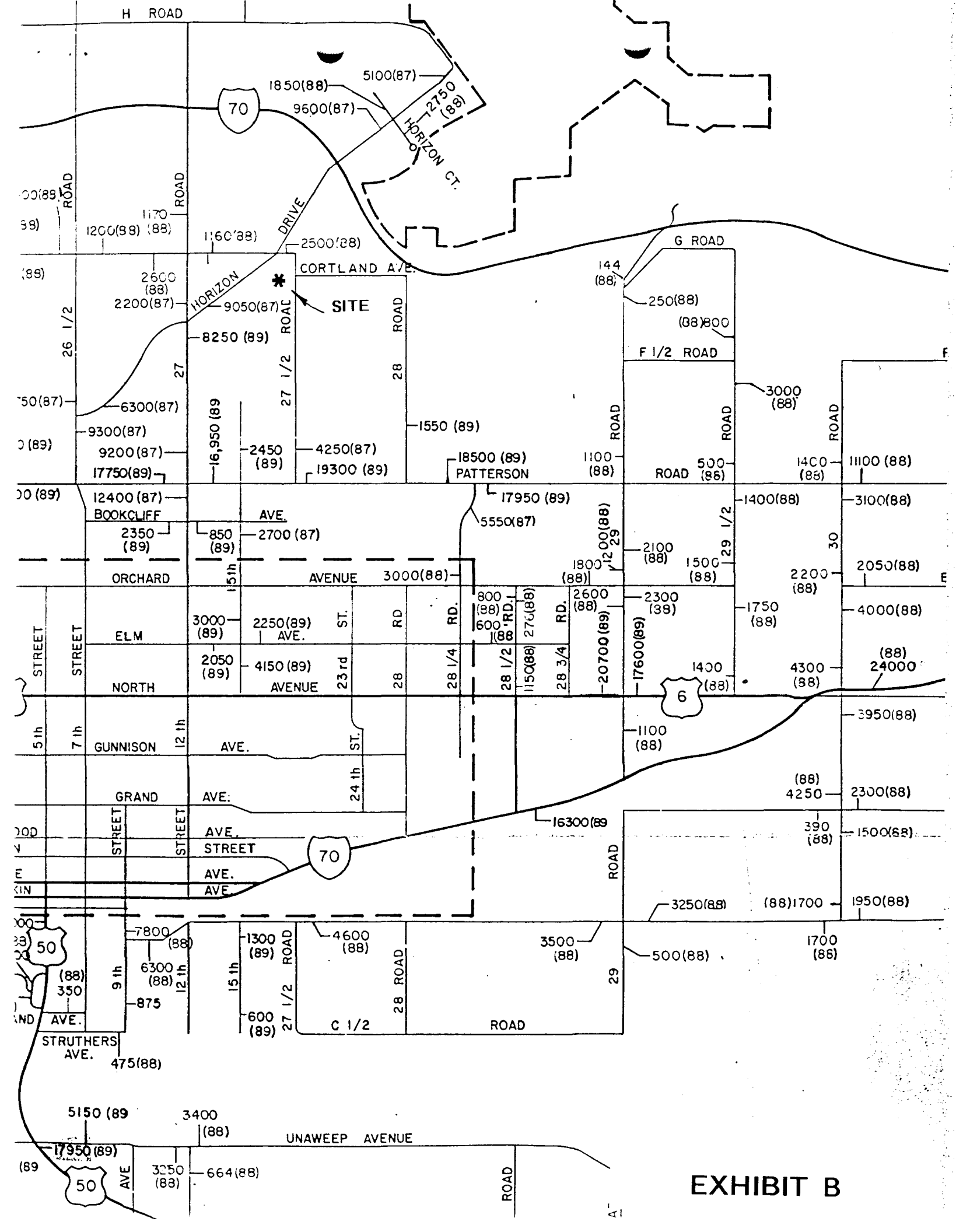

H ROAD
70
1850(88)
5100(87)
9600(87)
2750 (88)
HORIZON CT.
HORIZON DRIVE
CORTLAND AVE.
SITE
2600 (88)
2200(87)
9050(87)
8250 (89)
1200(88) (88)
1160(88)
2500(88)
26 1/2 ROAD
27 ROAD
27 1/2 ROAD
28 ROAD
6300(87)
9300(87)
9200(87)
17750(89)
16,950 (89)
2450 (89)
4250(87)
19300 (89)
1550 (89)
18500 (89)
PATTERSON
17950 (89)
5550(87)
G ROAD
144 (88)
250(88)
(88)800
F 1/2 ROAD
3000 (88)
1100 (88)
500 (88)
1400 (88)
1100 (88)
12400 (87)
BOOKCLIFF AVE.
2350 (89)
850 (89)
2700 (87)
ORCHARD AVENUE
15th STREET
7th STREET
3000(88)
1800 (88)
2100 (88)
1500 (88)
1400(88)
29 1/2 ROAD
30 ROAD
3100(88)
2200 (88)
2050(88)
3000 (89)
2250(89) AVE.
ELM
2050 (89)
4150 (89)
NORTH AVENUE
23rd ST.
28 ROAD
28 1/4 RD.
28 1/2 RD.
28 3/4 RD.
800 (88)
600 (88)
2600 (88)
2300 (88)
1750 (88)
4000(88)
20700(89)
17600(89)
1400 (88)
4300 (88)
(88) 24000
6
5th STREET
7th STREET
GUNNISON AVE.
12th ST.
24th ST.
GRAND AVE.
1100 (88)
3950(88)
(88) 4250
2300(88)
16300(89
AVE.
STREET
AVE.
AVE.
70
390 (88)
1500(88)
ROAD
3250(88)
(88)1700
1950(88)
50
7800 (88)
6300 (88)
9th
12th
15th
1300 (89)
600 (89)
27 1/2 ROAD
4600 (88)
C 1/2
28 ROAD
ROAD
3500 (88)
500(88)
29
1700 (86)
(88) 350
875
AVE.
STRUTHERS AVE.
475(88)
5150 (89
3400 (88)
UNAWEEP AVENUE
17950(89)
50
AVE
3250 (88)
664(88)
ROAD

EXHIBIT B

PT. A	TRIPS IN	TRIPS OUT	TOTAL
PEAK AM	5	10	15
PEAK PM	12	6	18

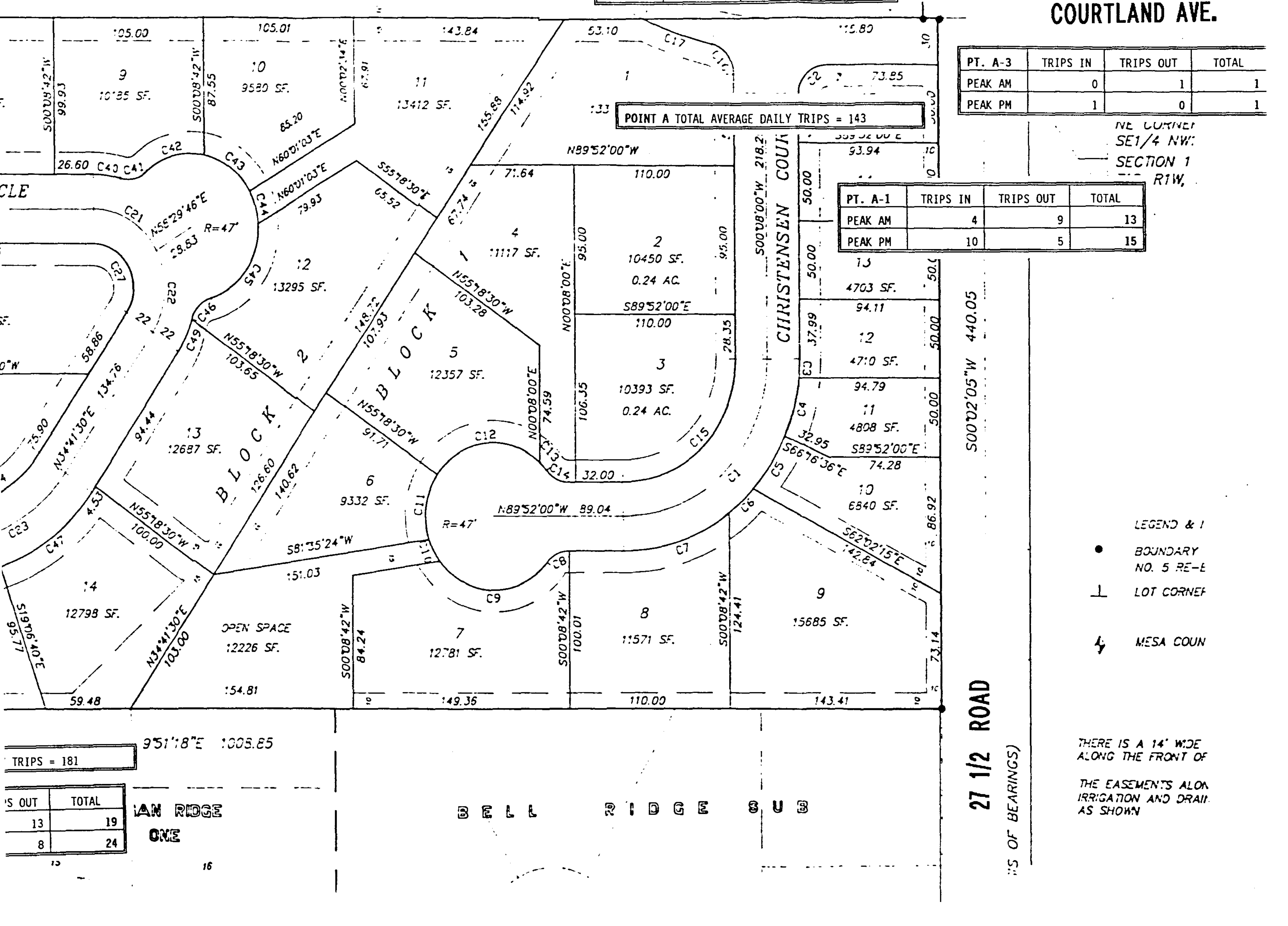
PT. A-3	TRIPS IN	TRIPS OUT	TOTAL
PEAK AM	0	1	1
PEAK PM	1	0	1

POINT A TOTAL AVERAGE DAILY TRIPS = 143

PT. A-1	TRIPS IN	TRIPS OUT	TOTAL
PEAK AM	4	9	13
PEAK PM	10	5	15

TRIPS = 181

...S OUT	TOTAL
13	19
8	24



NICHOLS ASSOCIATES, INC.
751 Horizon Court, Suite #102
P.O. Box 60010
Grand Junction, Colorado 81506

Ptarmigan Ridge North:

Drainage Study
November 11, 1993

NICHOLS ASSOCIATES, INC.
751 Horizon Court, Suite #102
P.O. Box 60010
Grand Junction, Colorado 81506

11-Nov-1993

CITY OF GRAND JUNCTION
GRAND JUNCTION, COLORADO

Ladies and Gentlemen:

Please find enclosed a drainage study report for the proposed Ptarmigan North.

A detention facility is designed with a two stage outlet to limit storm water discharge to the 2 year and 100 year historic levels. The Bottom portion of the facility is designed as storage for irrigation water.

I hereby certify that this report was prepared by me.

Terry Nichols
Registered Professional Engineer.
State of Colorado, Number 12093

PTARMIGAN NORTH DRAINAGE REPORT

11-November-1993

I. General Location and Description

The Ptarmigan North project is located in the city of Grand Junction, Colorado.

The property is bounded on the north, west and partly on the south by earlier filings of Ptarmigan subdivision. The south also borders Bell Ridge Subdivision. The project is bounded on the east by 27.5 Road.

II. Existing Drainage Conditions

The present ground cover consists of native grasses and scattered deciduous trees. The surface soil type is predominantly medium silt. Parts of the property have been irrigated in the past. There is an existing man made drainage ditch traversing the property from the north east corner to the middle of the south side where it enters another existing drainage ditch.

III. Proposed Drainage Conditions

As shown on the grading and drainage plan, the site will be developed to include 35 single family homes. It is anticipated that each lot will have a paved driveway.

There will be a detention facility in the south center of the property. The streets and short drainage pipes will convey the storm water to the detention facility. An 18 inch pipe will convey the off site water to the existing drain ditch along the south boundary.

The detention facility includes a two-stage controlled outlet and a spillway overflow. The control structure consists of a concrete box open at the top to allow discharge of the 100 year historic flow at the design elevation of 4716.00. The head on the weir (top of the structure) will force the maximum pond elevation to 4717.1.

A rectangular orifice is to be constructed in the front of the structure to allow the 2 year historic flow to discharge at the design elevation of 4714.50. The front of the structure is to be fitted with a 6 inch diameter orifice and head gate at elevation 4713.00. This gate is required to drain the irrigation storage portion of the pond.

An 18 inch diameter PVC drain pipe extends from the control structure to an existing drain ditch.

IV. Design Criteria & Approach

Design rainfall intensities are taken from the Interim Outline of Grading and Drainage Criteria, City of Grand Junction, 1 July 1992 . The time of concentration for

each basin is calculated using a combination of overland flow, channel flow and pipe flow travel time.

The following formula is used to calculate overland sheet flow:

$t_c=1.8(1.1-C)\,(L^{1/2})/100S)^{1/3}$

where:

t_c= time of concentration in minutes;
C= runoff coefficient;
L= length of basin in feet; and
S= slope of the basin in feet/feet.

The intensity is taken from APPENDIX A of the Interim Outline Of Grading And Drainage Criteria.

For on site development, the peak runoff discharges are calculated using the rational formula:

Q=CiA

where:

Q= peak runoff rate in cubic feet per second (CFS);
C= runoff coefficient representing a ratio of peak runoff to average rainfall intensity for a duration equal to the runoff time of concentration;
i= average rainfall intensity in inches per hour; and
A= drainage area in acres

Results and Conclusions

Reference APPENDIX Pages 1 & 2:

The historic 2 year and 100 year runoff quantities are 2.61 CFS and 11.47 CFS respectively. The calculated discharge after construction is 5.18 CFS for the 2 year storm and 17.24 CFS for the 100 year storm. The net increase in runoff is 2.61 CFS for the 2 year storm and 5.76 CFS for the 100 year storm.

Reference APPENDIX Page 3:

The 2 year orifice is a 36" X 1.6" rectangular opening in the front of the structure with the bottom of the orifice at elevation 4,714.5

The 100 year historic control is the weir effect of the top of the structure. The effective weir length is 120" . The required head is 1.1 feet.

This 2 year orifice, in combination with flow in the top of the box will pass the 100 year historic storm when the pond surface elevation reaches 4717.1 feet. Flows greater than the 100 year historic volume will flow through the spill way after the storage capacity has been exceeded.

Reference APPENDIX Page 4:

The depth of flow in the streets is calculated at the most critical section for each side of each street. Ptarmigan Ridge circle flows are split with approximately 1/2 of the flow running clockwise and 1/2 flowing counterclockwise.

The pipe storm drain table lists culvert sizes and capacity compared to requirements for each pipe.

Reference APPENDIX Page 5:

The required detention volume to limit discharge to historic levels are 3,680 CF for the 2 year frequency storm and 5,365 CF for the 100 year frequency storm. An additional volume of 2,873 CF has been added for irrigation water storage.

Reference APPENDIX Page 6

A depth capacity curve has been developed for the proposed detention pond. The curve indicates that a pond elevation of 4,716.00 feet will provide a volume of 6,624 cubic feet which is within 1.6% of the required combined volume of 6,744 for the 2 year storm and the irrigation storage. The maximum pond elevation of 4,717.1 has a capacity of 10,950 cubic feet which exceeds the required total capacity of 8,517 cubic feet.

VI. References

Interim Outline of Grading and Drainage Criteria, City of Grand Junction, July 1992

Submittal Standards for Improvements and Development (SSID); City of Grand Junction; May 1993

Civil Engineering Handbook Fourth Edition; by Urquhart

Mesa County Storm Drainage Criteria Manual; Adopted April 14, 1992

VII. Appendices Table of Contents

APPENDIX

Nichols Associates, Inc.
751 Horizon Court - Suite 102
Grand Junction, Colorado 81506
Phone: 303-245-7101

13-Nov-93

PTARMIGAN RIDGE NORTH - Drainage Study

CALCULATION OF INCREASE IN DISCHARGE DUE TO PROPOSED CONSTRUCTION

After Construction {Area - Intensity - Discharge}

BASIN	AREA		RUNOFF	RUNOFF	REACH	LENGTH	SLOPE	V	2-Yr	100-Yr	INTENSITY		DISCHARGE	
	SURFACE TYPE	Ac.	COEF. C2	COEF. C100		FEET	(S) %	Ft./Sec	TIME MIN.	TIME MIN.	Inches/Hour 2-Yr	Inches/Hour 100-Yr	CFS (Q=CiA) 2-Yr	CFS (Q=CiA) 100-Yr
A	Landscaped	2.64	0.25	0.4	A-1	140	1.0	0.13	18.1	**14.9**				
	Paved & Roofs	1.76	0.90	0.95	A-2	700	0.5	1.50	7.8	**7.8**				
	Total/Average	4.40	0.51	0.62					25.9	**22.7**	0.96	**2.63**	2.15	**7.17**
B	Landscaped	0.96	0.25	0.4	B-1	100	1.0	0.15	15.3	**12.6**				
	Paved & Roofs	0.64	0.90	0.95	B-2	440	0.5	1.50	4.9	**4.9**				
	Total/Average	1.60	0.51	0.62					20.2	**17.5**	1.11	**3.07**	0.91	**3.05**
C	Landscaped	1.14	0.25	0.4	A-1	100	1.0	0.15	15.3	**12.6**				
	Paved & Roofs	0.76	0.90	0.95	A-2	550	0.5	1.50	6.1	**6.1**				
	Total/Average	1.90	0.51	0.62					21.4	**18.7**	1.08	**2.91**	1.05	**3.43**
D	Landscaped	1.32	0.25	0.4	A-1	140	1.0	0.13	18.1	**14.9**				
	Paved & Roofs	0.88	0.90	0.95	A-2	700	0.5	1.50	7.8	**7.8**				
	Total/Average	2.20	0.51	0.62					25.9	**22.7**	0.96	**2.63**	1.08	**3.59**
Total Ac./weighted C:		10.10	0.51	0.62				**MAX. Tc**	25.9	**22.7**		**TOTAL Q:**	5.18	**17.24**

Historic {Area - Intensity - Discharge}

BASIN	AREA		RUNOFF	RUNOFF	REACH	LENGTH	SLOPE	VELOVITY	2-Yr	100-Yr	INTENSITY		DISCHARGE	
	SURFACE		COEF.	COEF.			(S)		TIME	TIME	Inches/Hour		CFS (Q=CiA)	
	TYPE	Ac.	C2	C100		FEET	%	FT./SEC.	MIN.	MIN.	2-Yr	100-Yr	2-Yr	100-Yr
	Native grass &	10.1	0.25	0.4	A-1	150	1.0	0.12	18.7	**15.4**				
A	scattered trees				A-2	400	0.5	1.50	4.4	**4.4**				
	Total/Average	10.1	0.25	0.40					23.2	**19.9**	1.02	**2.84**	2.58	**11.47**
								MAX. Tc	23.2	**19.9**		**TOTAL Q:**	2.58	**11.47**
												INCREASE:	2.61	**5.76**

DETENTION POND OUTLET ORIFICE CALCULATIONS

Orifice flow formula: Q=CA(2gH)^.5

Where: Q=Orifice flow in CFS
C=Coefficient
g=Gravitational constant
H=Height of water above the bottom of the orifice opening in feet
D=Orfice diameter

Subscripts: h = Historic flow
2 = Two year storm
100 = One hundred year storm
t = Top orifice
b = Bottom orifice
T = total

Weir flow formula: Q=CLH^1.5

Where:
Q=Weir flow in CFS
C=Coefficient
L=Length of overflow
H=Depth from the weir crest to the pond water surface

Bottom orifice

The bottom orifice must pass the historic 2 Yr storm
Storage depth above bottom of lower orifice = 1.50

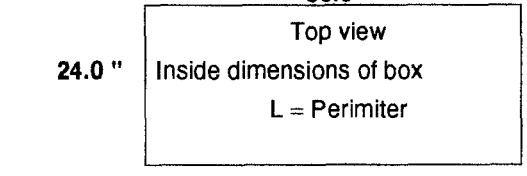
Q2= 2.58
C= 0.65
g= 32.20
Hb= 1.50
A= Q/C(2gH)^.5
= 0.40 Width = 36.00 " Depth = 1.62 "

Top orifice

The bottom & top orifices must pass the historic 100 Yr storm
Storage depth above bottom of top orfice =

C= 0.65
Ht= 1.1 Hb= 1.5
Bottom orifice Q=CA(2gH)^.5 where H = Hb + Ht
Qb= 3.41

Top orifice Q= Qh100 - Q bottom orifice
Qt= 8.06 CFS QT= 11.47 CFS
L= 120.0 " H= 13.9 " = 1.15 '



STREET FLOW DEPTH AT THE GUTTER FOR CRITICAL SECTIONS

Flow Through Street, Curb & Gutter
Discharge quantity is calculated by the following formula:
Q=0.56*(Z/n)*S^.5*d^2.67
Where:

Q = Discharge in CFS (Cubic Feet per Second)
Z = Inverse pavement cross slope
n = Manning roughness coefficient
S = Longitudinal slope of the street or gutter
d = Depth of gutter flow in feet

Solving for maximum depth at gutter
Manning Roughness Coefficient= 0.016

Capacity For Storm Drain Inlets
curb opening length = grate length
Ponding Q= .6 A (2gH)^.5]
H2 = 0.5 Ft. H100 = 1.0 Ft.

Street Name	Side of street	Inverse Pave. x slope 1/ft/ft	Min. Long. Slope S ft/ft	Required 2 Year Capacity Q CFS	2 year Water Depth d Ft.	Required 100 Yr Capacity Q CFS	Water Depth d Ft.	Grate Type NEENAH	Open Area Sq. Ft.	Capacity 2 Yr CFS	Required 2 Yr CFS	Capacity 100 Yr CFS	Required 100 Yr CFS
Ptarmigan Ridge Circle	Outside	66.67	0.005	1.08	0.15	3.59	0.24	R-3246 C	1.70	5.79	2.15	8.19	7.17
Ptarmigan Ridge Circle	Inside	66.67	0.005	0.56	0.12	1.52	0.17	R-3246 C	1.70	5.79	0.91	8.19	3.05
Christensen Court	West	66.67	0.005	1.05	0.15	3.43	0.23	R-3246 C	1.70	5.79	2.12	8.19	7.02
Christensen Court	East	66.67	0.005	1.08	0.15	3.59	0.24						

Capacity For Pipe Storm Drainage

Storm Drain Location	Pipe Diameter Inches	Slope Feet/Feet	Rough. Coeff. n	Capacity Q CFS	Required Q CFS
Crossing Ridge Circle	12	0.0192	0.015	4.3	3.0
Ridge Circle to pond	18	0.0192	0.015	12.6	10.2
Pond drain (full pond)	18	0.0643	0.015	23.1	17.2
Christensen Court to pond	18	0.0150	0.015	11.2	7.0
Drain in wash (Reach B)	18	0.0122	0.015	10.1	9.0
Drain in wash (Reach A)	18	0.0119	0.015	10.0	9.0

REQUIRED DETENTION VOLUME

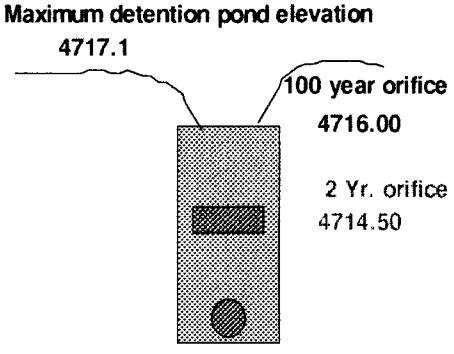
2 year storm detention volume			100 year storm detention volume	
A	10.10		A	10.10
Qo	2.060		Qo	9.179
Td2	26.68		Td100	22.74
Id2	0.96		Id100	2.45
Qd	4.95		Qd	15.35
K	0.90		K	0.88
V	3,872 Cu Ft	**REQUIRED STORAGE**	V	**5,644 Cu Ft**
Irrigation Storage:	2,873 Cu Ft			**2,873 Cu Ft**
Total storage below 2 yr orfice:	6,744 Cu Ft	**TOTAL REQUIRED VOLUME:**		**8,517 Cu Ft**

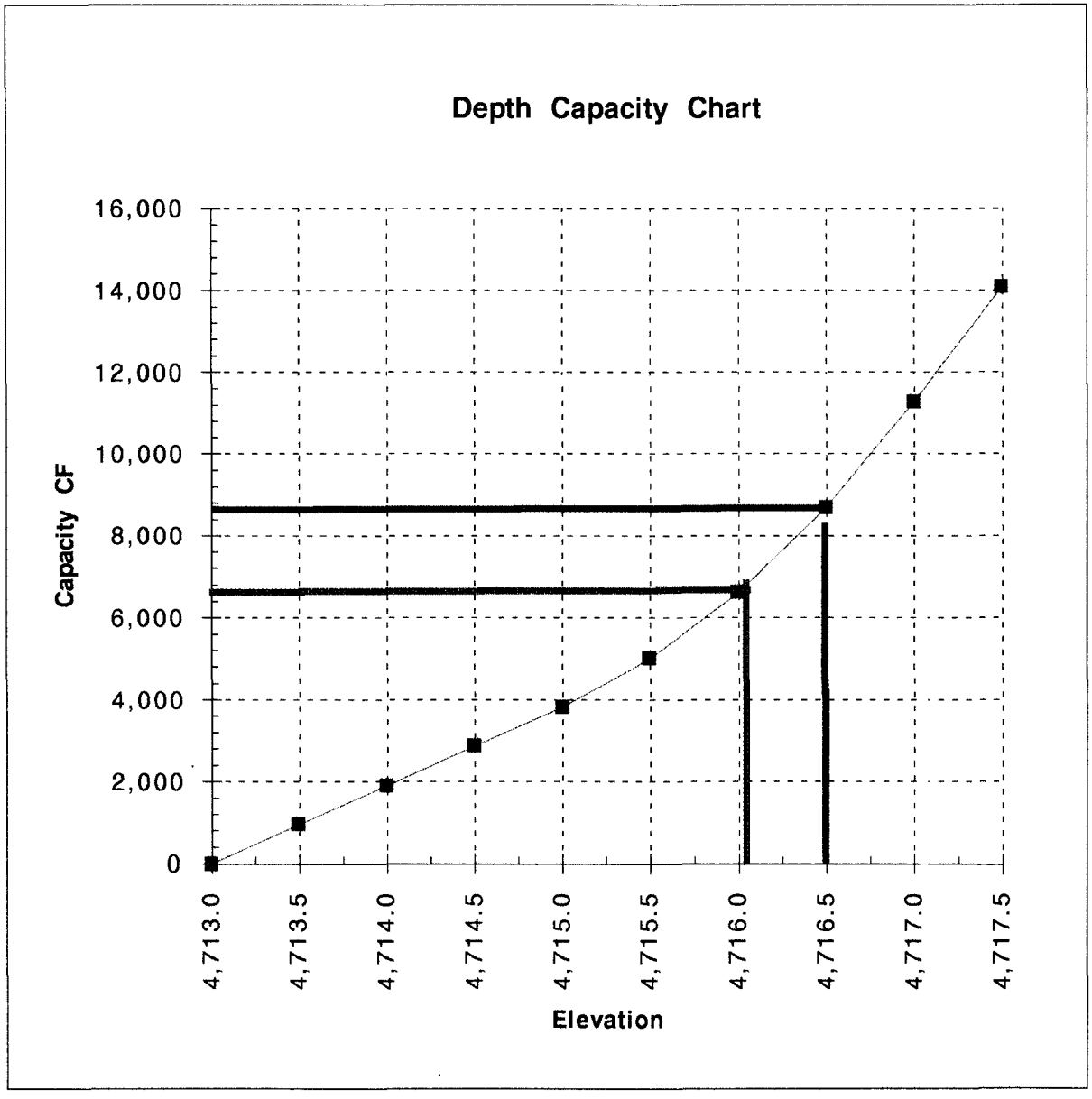
DETENTION POND DEPTH VS CAPACITY CURVE

Elevation Ft.	Area Ft. Sq.	Volume Cu. Ft.	Accum. Volume Cu. Ft.
4,713.0	1,915	0	0
4,713.5	1,915	958	958
4,714.0	1,915	958	1,915
4,714.5	1,915	958	2,873
4,715.0	1,915	958	3,830
4,715.5	2,807	1,173	5,003
4,716.0	3,698	1,621	6,624
4,716.5	4,662	2,085	8,710
4,717.0	5,626	2,568	11,278
4,717.5	5,626	2,813	14,091

Storage Required Below 100 Yr Orfice: **6,744.11**

TOTAL STORAGE REQUIREMENT: 8,516.57





REVIEW COMMENTS

FILE #119-93 **TITLE HEADING:** Final Plan/Plat - Ptarmigan Ridge North

LOCATION: SW 27 1/2 Road & Cortland Avenue

PETITIONER: Sumrall Corporation

PETITIONER'S ADDRESS/TELEPHONE: 5479 East Mineral Circle
Littleton, CO 80122
773-2871

PETITIONER'S REPRESENTATIVE: Thomas A. Logue

STAFF REPRESENTATIVE: Dave Thornton

NOTE: WRITTEN RESPONSE BY THE PETITIONER TO THE REVIEW COMMENTS IS REQUIRED ON OR BEFORE 5:00 P.M., OCTOBER 25, 1993.

U.S. WEST **10/11/93**
Leon Peach **244-4964**

New or additional telephone facilities necessitated by this project may result in a "contract" and up-front monies required from developer, prior to ordering or placing of said facilities. For more information, please call Leon Peach, 244-4964.

UTE WATER **10/11/93**
Gary R. Mathews **242-7491**

An 8" water main throughout the project is required (C-900 PVC). The northwest and southwest corner of Ptarmigan Ridge Circle will be 45 angels and not 90 angles.

All water mains will be installed 2-3 foot in oil from curb and gutter. It might be necessary for one more sewer manhole, on Christensen Court, to keep the water main on the east side.

Construction plans and as-builts are required.

Policies and fees in effect at the time of application will apply.

CITY UTILITY ENGINEER **10/14/93**
Bill Cheney **244-1590**

WATER - Ute Water

SEWER

1. Reduce grades on line between MH#4 and #3 to o.40% to provide as much cover over the pipe as possible. Specifications require 72" cover over sewer unless existing grades and other circumstances do not permit.
2. The utility easement between lots 12 and 13, Block 2, is not accurately depicted on the plat.

GRAND JUNCTION POLICE DEPARTMENT **10/18/93**
Mark Angelo **244-3587**

What is going to be done with the open space? If it is going to be used as a neighborhood park, what is going to be placed in the park? Is there going to be any lighting? If not, I recommend park lights. What type of barrier is going to be used along 27 1/2 Road and where will it be placed?

GRAND JUNCTION FIRE DEPARTMENT **10/19/93**
George Bennett **244-1400**

The fire hydrant at Lot 4, Block 2 needs to be moved to between Lots 6 & 7 of Block 2. Submit a revised utility plan with this change.

CITY DEVELOPMENT ENGINEER **10/19/93**
Gerald Williams **244-1591**

See attached comments (5 pages), red-lined text and red-lined drawings.

COMMUNITY DEVELOPMENT DEPARTMENT **10/19/93**
Dave Thornton **244-1447**

See attached comments (2 pages).

FILE #119-93

LATE REVIEW COMMENTS

PUBLIC SERVICE COMPANY **10/22/93**
Dale Clawson **244-2695**

ELECTRIC & GAS: No objections.

COUNTY PLANNING **10/21/93**
Mike Joyce **244-1642**

The "open space" provided does not have good visibility which may cause security problems. The location does not provide any access for residents of Ptarmigan Ridge Circle to use the open space. If irrigation water is to be stored in the open space, how usable will the 1/4 acre site really be?

CITY PARKS & RECREATION DEPT. **10/21/93**
Don Hobbs **244-1542**

Based upon final plan for 34 lots a total of $7,650 will be due in Open Space fees.

REVIEW COMMENTS

FILE #119-93 **TITLE HEADING:** Final Plan/Plat - Ptarmigan Ridge North

LOCATION: SW 27 1/2 Road & Cortland Avenue

PETITIONER: Sumrall Corporation

PETITIONER'S ADDRESS/TELEPHONE: 5479 East Mineral Circle
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Construction plans and as-builts are required.

Policies and fees in effect at the time of application will apply.

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Gerald Williams **244-1591**

See attached comments (5 pages), red-lined text and red-lined drawings.

COMMUNITY DEVELOPMENT DEPARTMENT **10/19/93**
Dave Thornton **244-1447**

See attached comments (2 pages).

STAFF REVIEW COMMENTS - COMMUNITY DEVELOPMENT

FILE: #119-93
DATE: October 18, 1993
STAFF: David Thornton

1. Please submit a profile for the proposed boundary fence along 27 1/2 Road for our review and approval. Site distance requirements must be met.

2. A cash escrow shall be required for 27 1/2 Road half street improvements prior to recording the final plat. AT $50.00 per linear foot FOR 410' = $20,500

3. This development shall be required to construct a concrete pedestrian path of a minimum of 5 feet in width as per City standards between Christensen Court and Ptarmigan Ridge Circle. We recommend that this be accomplished by using the Open Space tract and extend the path westward along the North boundary of lot 14 of block 2 via a pedestrian easement. This pedestrian path will allow for better access to the open space area for all residents of filing 7. It will also allow for better neighborhood pedestrian circulation for the entire area and allow school children better access to bus stops.

The pedestrian path needs to be included in the improvements agreement and guarantee. The final plat shall have language describing maintenance and repair responsibilities for the pedestrian path. The homeowners association should be responsible for all maintenance of the path except the normal repair of the concrete sidewalk. Once the path has been constructed to City standard and accepted by the City, concrete repairs will be made by the City just as any other sidewalk.

4. The general project report talks about the open space tract being landscaped and it should be. Please submit a landscaping plan for this area and include landscaping improvements in the improvements agreement and guarantee.

5. The general project report discusses phasing this development. Please remember that as currently submitted, all improvements for both phases will have to be guaranteed before recording the final plat.

6. The grading and drainage plan shows the existing house to be removed. Will the shed also be removed? We request that as many of the existing trees as possible be allowed to remain.

7. Please include on the final plat a table describing all proposed setbacks.

8. Please submit a site plan showing the pedestrian path, open space improvements, etc.

9. The street improvements being constructed by the developers of Ptarmigan Ridge filing 6 for Cortland Court are not constructing sidewalk along that portion of Cortland Court which is adjacent to this subdivision. That portion of road improvements along Cortland are the responsibility of this development. Please include this in the improvements agreement and guarantee.

10. Are there any wetlands on this property? If so, the Army Corp of Engineers may need to review this proposal.

RESPONSE TO REVIEW COMMENTS

FILE NO. 119-93, FINAL PLAT & PLAN - PTARMIGAN RIDGE NORTH

LOCATION: SW 27 1/2 ROAD AND COURTLAND AVENUE

US WEST
Comment does not require a response.

UTE WATER
Water main bends have been modified, as requested, at the southwest corner of Ptarmigan Ridge Circle.

Construction plans have been provided as requested. As Built drawings will be prepared during the construction phase.

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Development Department.

Responses to Comments are adequate. Will need to see final drawings including plat prior to approval

Bill Cheney

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ion Plans,
Community

COMMUNITY DEVELOPMENT DEPARTMENT
1. Screen Fencing Details have been added to the Site Plan sheet.

2. Cash escrow or actual half street improvements for 27 1/2 Road will be provided.

3. A concrete pedestrian path has been added to the Construction Plans and to the Improvement Agreement. A pedestrian easement has been added to the Final Plat with associated language describing maintenance and repair responsibilities.

4. A Landscaping Plan for the Open Space has been added to the Site Plan sheet.

5. Specific phasing can not be determined until after the acceptance of the Final Plat and Plan by the City. Lenders will not commit to funding of all, or part, of the project until acceptance by the City. Therefore, if the lenders do not fund the entire project, a new Final Plat will be submitted for Phase I. A Phase II Final Plat will then be submitted at a later date.

6. The existing outbuilding will be remove in conjunction with the removal of the existing dwelling. Every effort will be made to preserve the healthy trees within the property.

7. A Setback Requirement Table has been added to the Final Plat.

8. The originally submitted Site Plan sheet has been resubmitted which shows the pedestrian path, open space landscaping, fencing, etc.

9. The Improvements Agreement has been revised to show the Courtland Avenue improvements which are to be made by this development.

10. The only wetlands on this property are located in the bottom of the existing drainage channel which crosses the site and are substantially less than one acre in size. It is the understanding of the applicant that wetland areas less than one acre in size do not require review by the U.S. Army Corps. of Engineers.

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7. Please include on the final plat a table describing all proposed setbacks.

8. Please submit a site plan showing the pedestrian path, open space improvements, etc.

9. The street improvements being constructed by the developers of Ptarmigan Ridge filing 6 for Cortland Court are not constructing sidewalk along that portion of Cortland Court which is adjacent to this subdivision. That portion of road improvements along Cortland are the responsibility of this development. Please include this in the improvements agreement and guarantee.

10. Are there any wetlands on this property? If so, the Army Corp of Engineers may need to review this proposal.

119-93

PTARMIGAN RIDGE FILING #6 DATE 10/29/93

FINAL PLAT

REC.# 1658692 BK. 14 PG. 166 DRAWER AA4Z
10:22AM

SITE PLAN

REC.# SAME AS ABOVE BK. 14 PG. 167 DRAWER AA4Z

COVENANTS

REC.# 1658693 BK. 2019 PG. 851 - 854
10:22AM

AVIGATION EASEMENT

REC.# 1658696 BK. 2019 PG. 870 - 871
10:22AM

ONSITE IMPROVEMENTS AGREEMENT

REC.# 1658694 BK. 2019 PG. 855 - 864
10:22 AM

OFFSITE IMPROVEMENTS AGREEMENT

REC.# 1658695 BK. 2019 PG. 865 - 869
10:22AM

STAFF REVIEW

FILE: #119-93

DATE: December 2, 1993

STAFF: David Thornton

ACTION REQUESTED: Final Plat/Plan approval for Ptarmigan Ridge North Subdivision. This subdivision consists of 28 single family lots and 6 duplex lots for a total of 34 units on 10.19 acres.

APPLICANTS: Sumrall Corp.
Representative: Tom Logue

EXECUTIVE SUMMARY: This is the last filing for Ptarmigan Ridge North Preliminary Plan approved by Planning Commission. The preliminary plan approved 39 single family dwelling unit for this 10 acre portion of the preliminary plan. This final plat request for Ptarmigan Ridge North has 34 dwelling units. This final plan/plat request is very similar to the preliminary approval except the number of units has been decreased and 6 of the units are proposed to be single family attached units (3 duplexes).

EXISTING LAND USE: Vacant

PROPOSED LAND USE: 34 Single Family residential including 6 duplex units built on townhome lots.

SURROUNDING LAND USE:
NORTH -- Approved for single family residential detached and attached duplex townhomes.
EAST -- First Presbyterian Church to the NE and a large vacant parcel to the East.
SOUTH -- Residential Single Family
WEST -- Residential Single Family

EXISTING ZONING: Planned Residential

PROPOSED ZONING: No Change

SURROUNDING ZONING:
NORTH -- Planned Residential - maximum 4 units per acre
EAST -- Planned Residential - 7.7 units per acre but limited to 4 units per acre due to airport overlay - critical zone.
SOUTH -- Residential Single Family - maximum 5 units per acre (RSF-5) and PR-4.
WEST -- Residential Single Family - maximum 4 units per acre (RSF-4)

RELATIONSHIP TO COMPREHENSIVE PLAN/POLICIES/GUIDELINES: No Plan exists for this area.

STAFF ANALYSIS:

The preliminary plan for Ptarmigan Ridge North which include this 10 acre tract was approved by Planning Commission Feb. 10th, 1993. Planning Commission approved it with the following conditions:

1. a pedestrian access be provided between Christensen Court and Ptarmigan Ridge Circle;

2. the drainage facilities be located in designated common open space to be maintained by the homeowners rather than in easements;

3. all structures be required to have a 20 foot front yard setback to allow vehicles to park in the driveways; and all technical requirements as indicated on the review agency summary sheets and the staff report be addressed with the submittal of final plan/plat.

All conditions of preliminary plan approval are being met. The majority of the review agency comments for final plan/plat approval have been adequately addressed.

The approved preliminary plan included 39 single family detached homes on the 10 acre parcel now under consideration for final plat approval. The proposal calls for 34 units made up of 28 single family detached homes and 3 duplexes (attached single family homes). Staff supports the change to allow 3 duplexes (6 units) at the proposed location along 27 1/2 Road for the following reasons: 1) these lots will be bordered by a road in the front (Christensen Ct) and the rear (27 1/2 Road). Creating duplexes lots in this area that are smaller thus having a higher density than the single family lots in the remainder of the subdivision can act as a buffer from 27 1/2 Road, classified as a collector road; 2) the petitioner is proposing to reduce the overall density of the 10 acres as approved in the preliminary plan by making the single family lots larger. As part of the density reduction, the petitioner is proposing to make up some of the loss in density by creating 6 duplex lots to accommodate 3 duplexes. Other than the decrease in density and creating 6 smaller lots to accommodate 3 duplexes, the proposed final plan and plat for Ptarmigan Ridge North conforms to the approved preliminary plan.

STAFF RECOMMENDATION:

Staff recommends approval as submitted with revisions dated 11/25/93 and received 12/1/93 with the following changes:

1) That the north 8 feet of Tract "A" be dedicated to the City of Grand Junction for the use of the public as a pedestrian easement.

2) All technical issues be resolved on the plat.

3) That all review comments made by Jody Kliska, City Development Engineer, dated 12-02-93 be adequately addressed.

PLANNING COMMISSION RECOMMENDATION:

Mr. Chairman, I move that we approve item #119-93, Final Plan and Plat for Ptarmigan Ridge North Subdivision as submitted with revisions dated 11/25/93 and received 12/1/93 with the following changes:

1) That the north 8 feet of Tract "A" be dedicated to the City of Grand Junction for the use of the public as a pedestrian easement.

2) All technical issues be resolved on the plat.

3) That all review comments made by Jody Kliska, City Development Engineer, dated 12-02-93 be adequately addressed.

Grand Junction Community Development Department
Planning • Zoning • Code Enforcement
250 North Fifth Street
Grand Junction, Colorado 81501-2668
(303) 244-1430 FAX (303) 244-1599

September 14, 1994

Bob Sumrall
Sumrall Corp.
5479 East Mineral Circle
Littleton, CO 80122

Dear Mr. Sumrall:

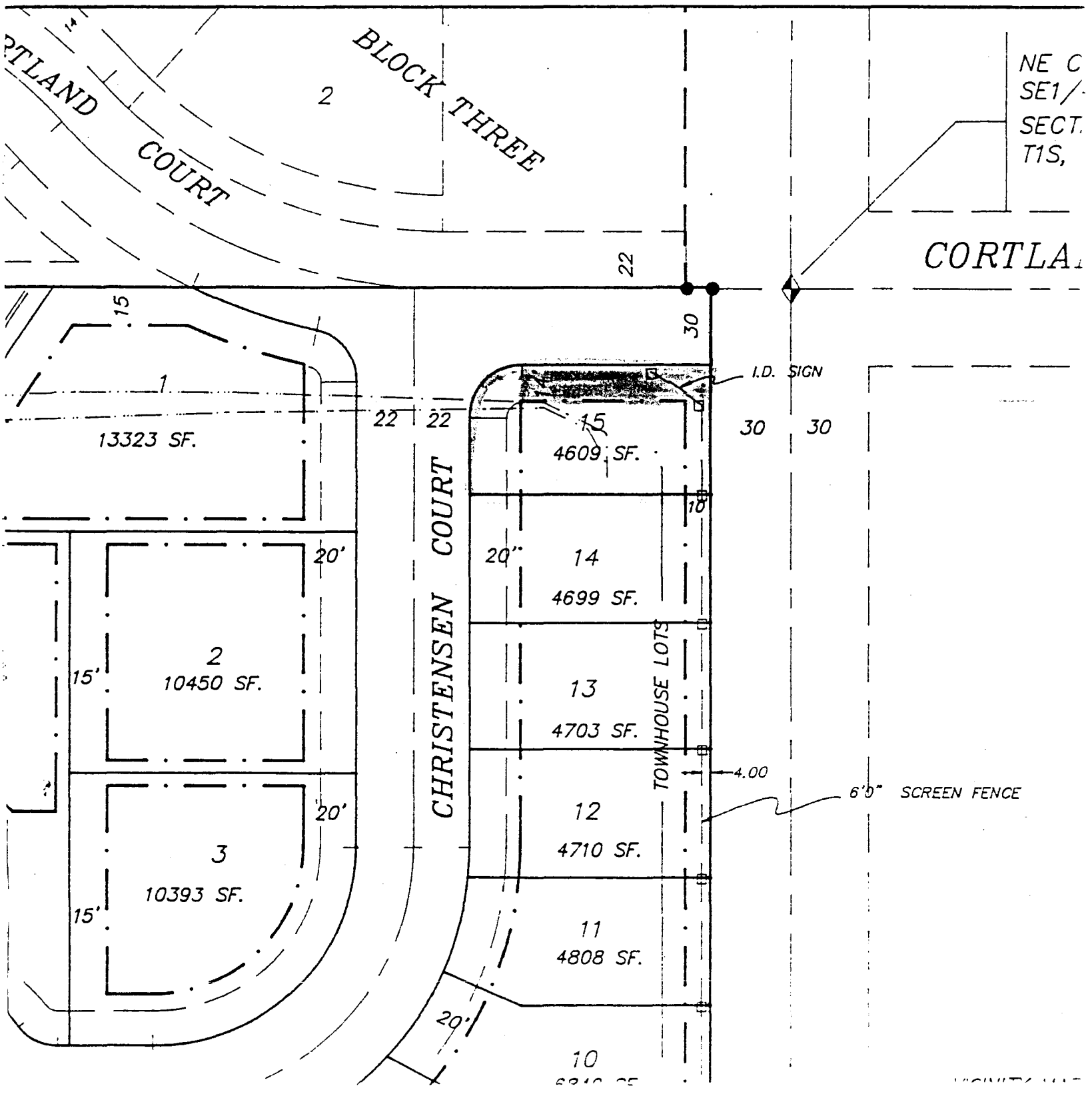
This is to confirm the approved setbacks for Lot 15, Block 1, Ptarmigan Ridge North Subdivision. The setback along Cortland Court as shown by the building envelop on the approved site plan dated 12/7/93 (see attached) is 14' from property line. Driveway access to this lot will not be allowed from Cortland Court. Access must be from Christensen Court.

If you have other questions you can call me at 244-1446.

Sincerely,

Katherine M. Portner

Katherine M. Portner
Planning Supervisor


RTLAND COURT
BLOCK THREE
2
NE C
SE1/
SECT.
T1S,
CORTLA
22
30
I.D. SIGN
15
1
13323 SF.
22
22
15
4609 SF.
30
30
10
20'
14
4699 SF.
20'
2
10450 SF.
15'
CHRISTENSEN COURT
TOWNHOUSE LOTS
13
4703 SF.
4.00
6'0" SCREEN FENCE
20'
12
4710 SF.
3
10393 SF.
15'
11
4808 SF.
20'
10

PTARMIGAN RIDGE NORTH

DEDICATION

KNOW ALL MEN BY THESE PRESENTS:

That the undersigned, Sumrall Corp., a Colorado Corporation, is the owner of that real property situated in the City of Grand Junction, County of Mesa, State of Colorado, and is described in Book at Page of the Mesa County Clerk and Recorders Office, and being situated in the NW1/4 Section 1, Township 1 South, Range 1 West of the Ute Meridian, Mesa County, Colorado as shown on the accompanying plat, said property being additionally described as follows:

A parcel of land situated in the NW1/4 Section 1, Township 1 South, Range 1 West of the Ute Meridian, Grand Junction, Colorado being described as follows: Considering the East line of the NW1/4 Section 1, T1S, R1W, U.M. to bear S00°02'05"W and all bearings contained herein to be relative thereto: Commencing at the NE corner of the SE1/4 NW1/4 Section 1, Township 1 South, Range 1 West, Ute Meridian; thence N89°52'00"W 30.00 feet to the POINT OF BEGINNING; thence S00°02'05"W 440.05 feet along the West right-of-way line for 27 1/2 Road to the NE corner of Bell Ridge Subdivision; thence N89°51'18"W 1008.85 feet along the North line of Bell Ridge Sub., Ptarmigan Ridge Filing One, Ptarmigan Ridge Filing Five, and Ptarmigan Ridge Filing Three to the SE corner of Ptarmigan Ridge Filing Four; thence N00°02'34"E 439.85 feet along the East line of Ptarmigan Ridge Filings Four and Six to the NE corner of Lot 1 Block One, Ptarmigan Ridge Filing Six; thence S89°52'00"E 1008.78 feet to the POINT OF BEGINNING, containing 10.19 Acres as described.

That said owner has caused the said real property to be laid out and surveyed as PTARMIGAN RIDGE NORTH, a subdivision of a part of City of Grand Junction, County of Mesa, State of Colorado.

That said owner does hereby dedicate and set apart real property as shown and labeled on the accompanying plat as follows:

All streets and rights-of-way as shown on the accompanying plat to the City of Grand Junction, for the use of the public forever;

All Multi-purpose easements to the City of Grand Junction for the use of the public utilities as perpetual easements for the installation, operation, maintenance and repair of utilities and appurtenances thereto including, but not limited to electric lines, cable TV lines, natural gas pipelines, sanitary sewer lines, water lines, telephone lines, and also for the installation and maintenance of traffic control facilities, street lighting, street trees, and grade structures;

All Irrigation Easements to the Property owners of the lots and tracts hereby platted as perpetual easements for the installation, operation, maintenance and repair of private irrigation systems;

All Drainage Easements to the Property owners of lots and tracts hereby platted as perpetual easements for the conveyance of runoff water which originates within the area hereby platted or from upstream areas, through natural or man-made facilities above or below ground;

TRACT "A" is hereby dedicated to the Ptarmigan Ridge North Home Owners Association as open space, detention/retention, drainage, irrigation, utility, and pedestrian easement. See easement notes regarding maintenance agreements.

All easements include the right of ingress and egress on, along, over, under, and through and across by the beneficiaries, their successors, or assigns, together with the right to trim or remove interfering trees and brush, and in Drainage and Detention/Retention easements, the right to dredge; provided, however, that the beneficiaries of said easements shall utilize the same in a reasonable and prudent manner. Furthermore, the owners of lots or tracts hereby platted not burden nor overburden said easements by erecting or placing any improvements thereon which may prevent reasonable ingress and egress to and from the easement.

That all expenses for street paving or improvements shall be furnished by the seller or purchaser, not the City of Grand Junction.

IN WITNESS WHEREOF said owner has caused his name to be hereunto subscribed this _____ day of _____ A.D., 199__.

_____
Sumrall Corp., a Colorado Corp.
Robert L. Sumrall, President

STATE OF COLORADO)
) S.S.
COUNTY OF MESA)

The foregoing instrument was acknowledged before me this _____ day of _____ A.D., 199__, by Robert S. Sumrall as president of Sumrall Corp., a Colorado Corporation.

_____ _____
My commission expires: Notary Public

_____
Address

CLERK AND RECORDERS CERTIFICATE

STATE OF COLORADO)
) S.S.
COUNTY OF MESA)

I hereby certify that this instrument was filed in my office at _____ o'clock ___ M. this _____ day of _____ A.D., 199__, and is duly recorded in Plat Book No. _____, Page _____

CITY APPROVAL

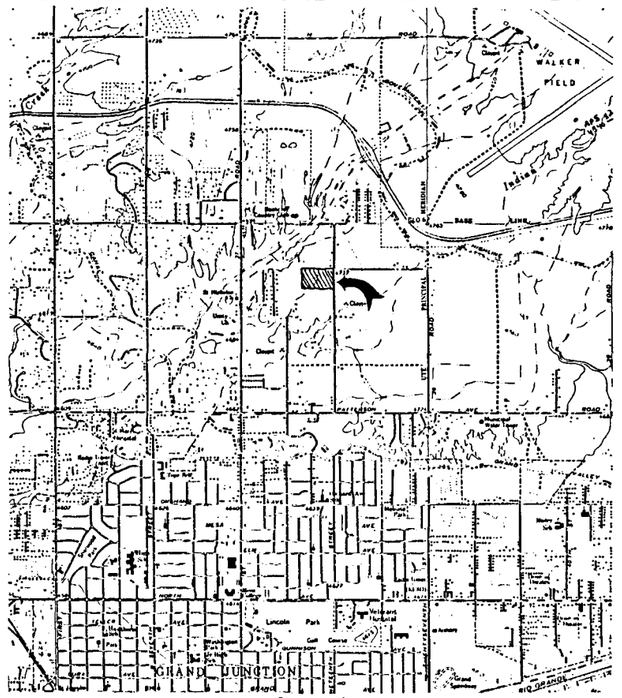
This plat of PTARMIGAN RIDGE NORTH, a subdivision of the City of Grand Junction, County of Mesa, and State of Colorado was approved and accepted this _____ day of _____ A.D. 199__.

_____ _____
City Manager President of Council

SURVEYOR'S CERTIFICATE

I, Max E. Morris, certify that the accompanying plat of PTARMIGAN RIDGE NORTH, a subdivision of a part of the City of Grand Junction, County of Mesa, State of Colorado has been prepared under my direct supervision and accurately represents a field survey of same. I further certify that this plat conforms to all applicable requirements of the Zoning and Development Code of the City of Grand Junction and all applicable state laws and regulations.

_____ _____
Max E. Morris, Q.E.D. Surveying Systems Inc. Date
Colorado Registered Professional Land Surveyor L.S. 16413



INSERT: 1"IN = 2000'FT

N

EASEMENT NOTES:

TRACT "A"

No structures, EXCEPT approved pump house shall be constructed within this drainage easement.
No activity shall occur that would divert or change the City approved drainage facility..
The Ptarmigan Ridge North Homeowners Association shall be responsible for maintenance of the drainage facility.
Drainage within this tract shall be constructed and maintained so that all runoff within the tract is contained within the tract.
Pedestrian access along the 5.0 feet pedestrian path shall be maintained.
General maintenance of the pedestrian path such as snow removal, sidewalk sweeping, and keeping the path clear of obstructions and debris shall be the responsibility of the property owners. The City shall be responsible for concrete repairs.
Maintenance of the entire tract shall be the responsibility of the property owners.

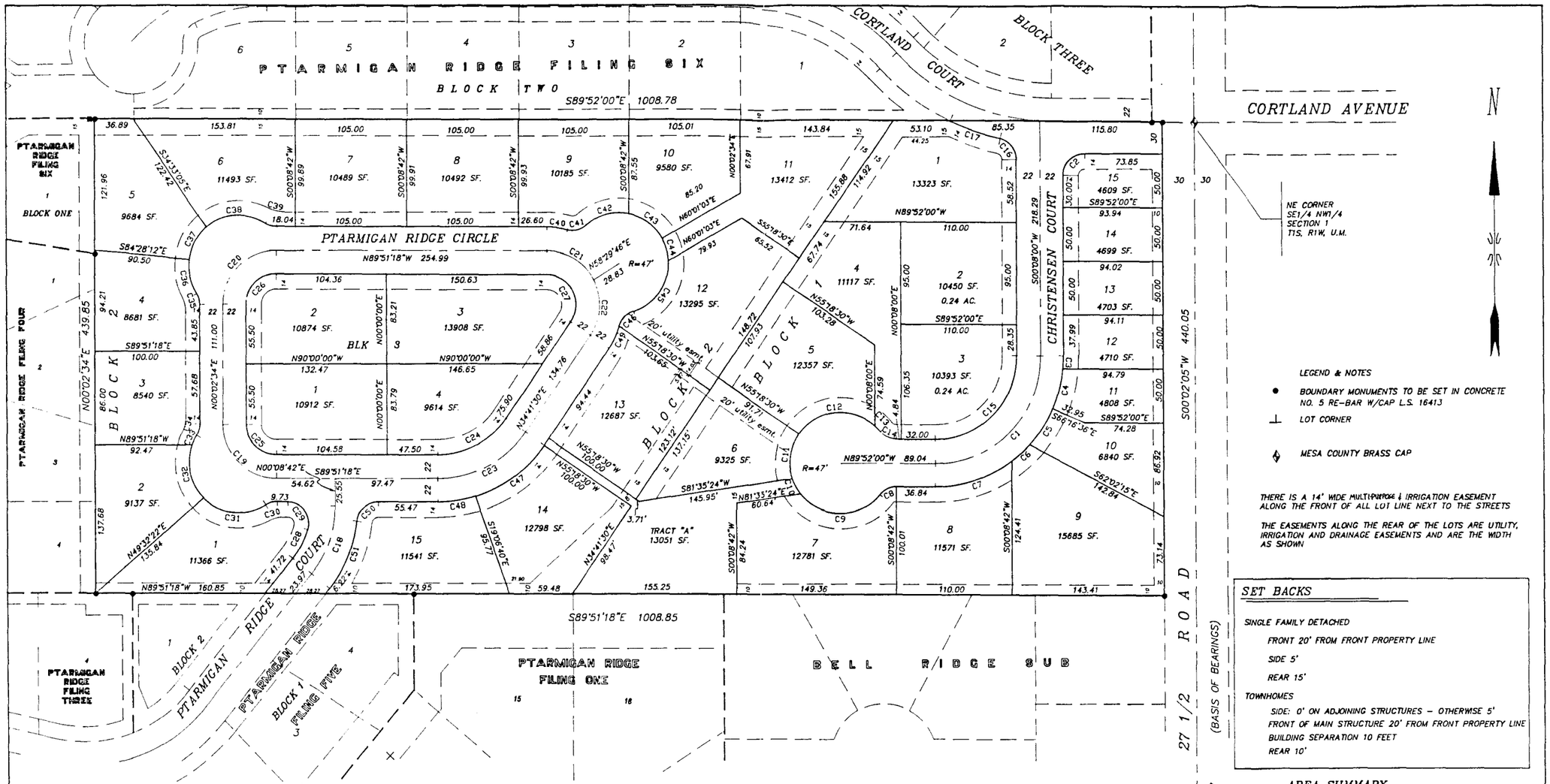
RECORDED GRAND JUNCTION PLANNING DEPARTMENT

PTARMIGAN RIDGE NORTH

FINAL PLAT

SITUATED IN THE NW1/4 SECTION 1, TOWNSHIP 1 SOUTH, RANGE 1 WEST, UTE MERIDIAN

FOR: SUMRALL	Q.E.D. SURVEYING SYSTEMS Inc. 1013 COLO. AVE. GRAND JUNCTION COLORADO 81501 (303) 241-2370 464-7568	SURVEYED BY: N/A
SCALE: 1"IN = 50'FT		DRAWN BY: MEM
DATE: 11/25/93		ACAD ID: PRNF
		SHEET NO. 1 OF 10
		FILE: 93224.1



PTRAMIGAN RIDGE NORTH

CURVE TABLE

CURVE#	RADIUS	LENGTH	CHORD	CHORD BEARING	DELTA ANGLE	TANGENT
C1	100.00	157.08	141.42	S45°08'00"W	90°00'00"	100.00
C2	20.00	31.42	28.28	N45°08'00"E	90°00'00"	20.00
C3	122.00	12.03	12.02	S02°57'28"W	05°38'55"	6.02
C4	122.00	38.20	38.05	S14°45'10"W	17°56'28"	19.26
C5	122.00	40.02	39.84	S33°07'16"W	18°47'44"	20.19
C6	122.00	22.92	22.89	S47°54'04"W	10°45'52"	11.49
C7	122.00	78.46	77.12	N71°42'30"E	36°51'00"	40.64
C8	20.00	17.87	17.28	N64°32'35"E	51°10'51"	9.58
C9	47.00	84.90	73.82	S89°18'04"E	103°29'32"	59.61
C10	47.00	15.98	15.90	N27°48'53"W	19°28'51"	8.07
C11	47.00	43.28	41.77	N08°18'31"E	52°45'58"	23.31
C12	47.00	80.73	71.17	N83°54'01"E	98°25'00"	54.47
C13	47.00	6.73	6.73	S42°47'19"E	08°12'20"	3.37
C14	20.00	17.87	17.28	S64°16'34"E	51°10'51"	9.58
C15	78.00	122.52	110.31	S45°08'00"W	90°00'00"	78.00
C16	20.00	27.00	25.00	S38°32'28"E	77°20'57"	16.01
C17	222.00	50.65	50.54	S70°40'46"E	13°04'21"	25.44
C18	100.00	67.89	66.59	S19°35'39"W	38°53'54"	35.31
C19	50.00	78.45	70.65	N44°54'22"W	89°53'52"	49.91
C20	50.00	78.63	70.77	N45°05'38"E	90°06'08"	50.09
C21	50.00	54.34	51.71	S58°43'06"E	62°16'24"	30.21
C22	50.00	54.34	51.71	S03°33'18"W	62°16'24"	30.21
C23	100.00	96.78	93.05	N62°25'06"E	55°27'12"	52.56
C24	78.00	75.49	72.58	N62°25'06"E	55°27'12"	41.00
C25	28.00	43.93	39.56	N44°54'22"W	89°53'52"	27.95
C26	28.00	44.03	39.63	N45°05'38"E	90°06'08"	28.05
C27	28.00	60.87	49.57	S27°34'54"E	124°32'48"	53.27

CURVE#	RADIUS	LENGTH	CHORD	CHORD BEARING	DELTA ANGLE	TANGENT
C28	78.00	30.52	30.33	S27°49'57"W	22°25'18"	15.46
C29	20.00	37.17	32.05	S36°37'00"E	106°28'36"	26.77
C30	50.00	11.29	11.14	N73°58'46"E	12°56'52"	5.80
C31	47.00	63.48	58.76	S83°29'34"E	77°23'11"	37.64
C32	47.00	53.26	50.46	N12°20'01"W	64°55'55"	29.90
C33	47.00	10.04	10.02	N26°15'11"E	12°14'29"	5.04
C34	20.00	11.29	11.14	S16°12'30"W	32°19'52"	5.80
C35	20.00	11.25	11.10	S16°04'20"E	32°13'48"	5.78
C36	47.00	32.61	31.96	N12°18'32"W	39°45'25"	16.99
C37	47.00	34.74	33.96	N28°44'42"E	42°21'03"	18.21
C38	47.00	59.57	55.66	N86°13'52"E	72°37'18"	34.54
C39	20.00	11.25	11.10	S73°44'24"E	32°13'48"	5.78
C40	72.00	19.43	19.37	S82°07'33"E	15°27'29"	9.77
C41	20.00	19.84	19.03	N77°11'23"E	56°49'36"	10.82
C42	47.00	43.60	42.06	N75°21'13"E	53°09'16"	23.51
C43	47.00	40.23	39.01	S53°32'49"E	49°02'38"	21.44
C44	47.00	21.67	21.48	S15°48'58"E	26°25'05"	11.03
C45	47.00	62.18	57.74	S35°17'32"W	75°47'56"	36.59
C46	20.00	19.84	19.03	N44°46'42"E	56°49'36"	10.82
C47	122.00	81.59	80.08	S53°51'05"W	38°19'09"	42.39
C48	122.00	36.48	36.35	N81°34'40"E	17°08'03"	18.38
C49	72.00	23.03	22.93	S25°31'42"W	18°19'36"	11.61
C50	20.00	29.09	26.60	N48°28'17"E	93°20'51"	17.80
C51	122.00	68.66	67.76	S22°55'13"W	32°14'45"	35.27

LEGEND & NOTES

- ● BOUNDARY MONUMENTS TO BE SET IN CONCRETE NO. 5 RE-BAR W/CAP L.S. 16413
- ⊥ LOT CORNER
- ⧫ MESA COUNTY BRASS CAP

THERE IS A 14' WIDE MULTI-PURPOSE & IRRIGATION EASEMENT ALONG THE FRONT OF ALL LOT LINE NEXT TO THE STREETS

THE EASEMENTS ALONG THE REAR OF THE LOTS ARE UTILITY, IRRIGATION AND DRAINAGE EASEMENTS AND ARE THE WIDTH AS SHOWN

SET BACKS

SINGLE FAMILY DETACHED
- FRONT 20' FROM FRONT PROPERTY LINE
- SIDE 5'
- REAR 15'

TOWNHOMES
- SIDE: 0' ON ADJOINING STRUCTURES – OTHERWISE 5'
- FRONT OF MAIN STRUCTURE 20' FROM FRONT PROPERTY LINE
- BUILDING SEPARATION 10 FEET
- REAR 10'

AREA SUMMARY

LOT AREA = 7.93 ACRES = 78%
ROAD AREA = 1.96 ACRES = 19%
TRACT A = 0.30 ACRES = 3%

TOTAL AREA = 10.19 ACRES = 100%

NOTICE:

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 FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

PTRAMIGAN RIDGE NORTH

FINAL PLAT

SITUATED IN THE NW1/4 SECTION 1, TOWNSHIP 1 SOUTH, RANGE 1 WEST, UTE MERIDIAN

FOR: ROBERT SUMRALL

SCALE: 1"IN = 50'FT

DATE: 11/25/93

Q.E.D. SURVEYING SYSTEMS Inc.
1018 COLO. AVE.
GRAND JUNCTION
COLORADO 81501
464-7568
241-2370

SURVEYED BY: MEM DKB
DRAWN BY: MEM,DMM
ACAD ID: PRNFIN1
SHEET NO 2 OF 10
FILE: 93224.1

PTARMIGAN RIDGE FILING SIX
BLOCK TWO
CORTLAND COURT
BLOCK THREE
NE CORNER SE1/4 NW1/4 SECTION 1 T1S, R1W, U.M.
CORTLAND AVENUE
PTARMIGAN RIDGE FILING SIX BLOCK ONE
PTARMIGAN RIDGE CIRCLE
R=47'
BLK 3
BLOCK 2
CHRISTENSEN COURT
TOWNHOUSE LOTS
I.D. SIGN
6'0" SCREEN FENCE
539.33' OF 15" PVC
PROPOSED PUMP HOUSE
5' CONC. SIDE WALK
TRACT 'A' 13052 SF.
DETENTION/RETENTION BASIN (SEE GRADING AND DRAINAGE PLAN FOR DETAIL OF IMPROVEMENTS)
PTARMIGAN RIDGE FILING FOUR ZONED R S F - 4
PTARMIGAN RIDGE FILING THREE ZONED R S F - 4
PTARMIGAN RIDGE FILING ONE ZONED R S F - 4
BELL RIDGE SUB ZONED R S F - 4
PTARMIGAN RIDGE COURT
PTARMIGAN RIDGE
BLOCK 2
BLOCK 1 FILING FIVE ZONED R S F - 4
27 1/2 ROAD
(BASIS OF BEARINGS)
N00°02'05"E 1320.17
SE CORNER SE1/4 NW1/4 SECTION 1 T1S, R1W, U.M. T.B.M. = 4708.15

VICINITY MAP: SCALE 1"IN = 2000'FT

LEGEND & NOTES

- BOUNDARY MONUMENTS TO BE SET IN CONCRETE NO. 5 RE-BAR W/CAP L.S. 16413
- LOT CORNER
- MESA COUNTY BRASS CAP

SET BACKS

SINGLE FAMILY DETACHED
FRONT 20' FROM FRONT PROPERTY LINE
SIDE 5'
REAR 15'
TOWNHOMES
SIDE: 0' ON ADJOINING STRUCTURES - OTHERWISE 5'
FRONT OF MAIN STRUCTURE 20' FROM FRONT PROPERTY LINE
BUILDING SEPERATION 10 FEET
REAR 10'

LAND USE SUMMARY

LOT AREA = 7.93 ACRES = 78%
ROAD AREA = 1.96 ACRES = 19%
OPEN SPACE AREA = 0.30 ACRES = 3%

TOTAL AREA = 10.19 ACRES = 100%

6 SINGLE FAMILY ATTACHED UNITS (3 BUILDINGS)
28 SINGLE FAMILY DETACHED UNITS

FENCE DETAIL

PTRAMIGAN RIDGE NORTH

SITE PLAN
SITUATED IN THE NW1/4 SECTION 1, TOWNSHIP 1 SOUTH, RANGE 1 WEST, UTE MERIDIAN

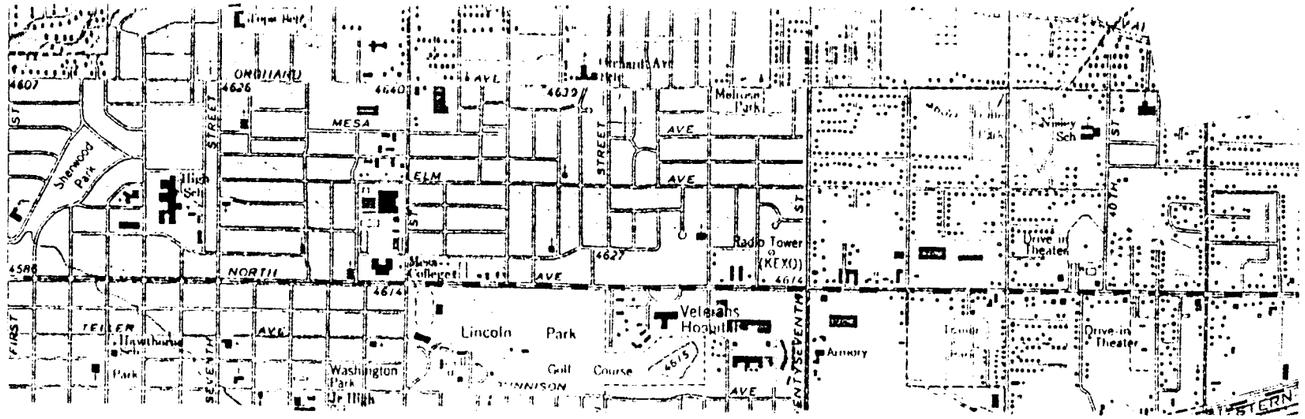
FOR: ROBERT SUMRALL
SCALE: 1"IN = 50'FT
DATE: 11/25/93

Q.E.D. SURVEYING SYSTEMS Inc.
1018 COLO. AVE.
GRAND JUNCTION
COLORADO 81501
464-7568
241-2370

SURVEYED BY: MEM DKB
DRAWN BY: MEM,DMM
ACAD ID: PRNSITE
SHEET NO. 3 OF 10
FILE: 93224.1

burden nor overburden said easements

ed and accepted



INSERT: 1"IN = 2000'FT

N

Except pump house? As approved

"Remove" or Fences"

EASEMENT NOTES:

TRACT "A"

No structures ~~or fences~~ shall be constructed within this drainage easement.
No activity shall occur that would divert or change the City approved drainage facility..
The Ptarmigan Ridge North Homeowners Association shall be responsible for maintenance of the drainage facility.
~~No planting of trees or shrubs shall be allowed within the this tract.~~ ← CONFLICTS WITH SHT 3 OF 10
Remove →
Drainage within this tract shall be constructed and maintained so that all runoff within the tract is contained within the tract.
Pedestrian access along the 5.0 feet pedestrian path shall be maintained.
General maintenance of the pedestrian path such as snow removal, sidewalk sweeping, and keeping the path clear of obstructions and debris shall be the responsibility of the property owners. The City shall be responsible for concrete repairs.
Maintenance of the entire tract shall be the responsibility of the property owners.

considering the East line of the NW1/4 Section 1, T1S, R1W, U.M. to bear S00°02'05"W and all bearings contained herein to be relative thereto: Commencing at the NE corner of the SE1/4 NW1/4 Section 1, Township 1 South, Range 1 West, Ute Meridian; thence N89°52'00"W 30.00 feet to the thence S00°02'05"W 440.05 feet along the West right-of-way line for 27 1/2 Road to the NE corner of Bell Ridge Subdivision; thence N89°51'18"W 1 along the North line of Bell Ridge Sub., Ptarmigan Ridge Filing One, Ptarmigan Ridge Filing Five, and Ptarmigan Ridge Filing Three to the SE corner c Ridge Filing Four; thence N00°02'34"E 439.85 feet along the East line of Ptarmigan Ridge Filings Four and Six to the NE corner of Lot 1 Block One, Filing Six; thence S89°52'00"E 1008.78 feet to the POINT OF BEGINNING, containing 10.19 Acres as described.

That said owner has caused the said real property to be laid out and surveyed as PTARMIGAN RIDGE NORTH, a subdivision of a part of City of Granc of Mesa, State of Colorado.

That said owner does hereby dedicate and set apart real property as shown and labeled on the accompanying plat as follows:

All streets and rights-of-way as shown on the accompanying plat to the City of Grand Junction, for the use of the public forever;

COMMENT MADE PREVIOUSLY

UTILITY ESMT ¶ (SEE GW MEMO)

All Multi-purpose easements to the City of Grand Junction for the use of the public utilities as perpetual easements for the installation, operation, r and repair of utilities and appurtenances thereto including, but not limited to electric lines, cable TV lines, natural gas pipelines, sanitary sewer lines, lines, telephone lines, and also for the installation and maintenance of traffic control facilities, street lighting, and grade structures; STREET TREES

All Irrigation Easements to the Property owners of the lots and tracts hereby platted as perpetual easements for the installation, operation, maintenc of private irrigation systems;

All Drainage Easements to the Property owners of lots and tracts hereby platted as perpetual easements for the conveyance of runoff water which c the area hereby platted or from upstream areas, through natural or man-made facilities above or below ground;

TRACT "A" is hereby dedicated to the Ptarmigan Ridge North Home Owners Association as open space, detention/retention, drainage, irrigation, utility See easement notes regarding maintenance agreements.

All easements include the right of ingress and egress on, along, over, under, and through and across by the beneficiaries, their successors, or assign the right to trim or remove interfering trees and brush, and in Drainage and Detention/Retention easements, the right to dredge; provided, however, of said easements shall utilize the same in a reasonable and prudent manner. Furthermore, the owners of lots or tracts hereby platted not burden r by erecting or placing any improvements thereon which may prevent reasonable ingress and egress to and from the easement.

That all expenses for street paving or improvements shall be furnished by the seller or purchaser, not the City of Grand Junction.

IN WITNESS WHEREOF said owner has caused his name to be hereunto subscribed this ______________ day of ______________ ______________ A.D., 199__.

____

Sumrall Corp., a Colorado Corp.
Robert S. Sumrall, President

STATE OF COLORADO)
) S.S.
COUNTY OF MESA)

The foregoing instrument was acknowledged before me this__________day of __________ A.D., 199_, by Robert S. Sumrall as president of Sumrall Corp., a Colorado Corporation.

____

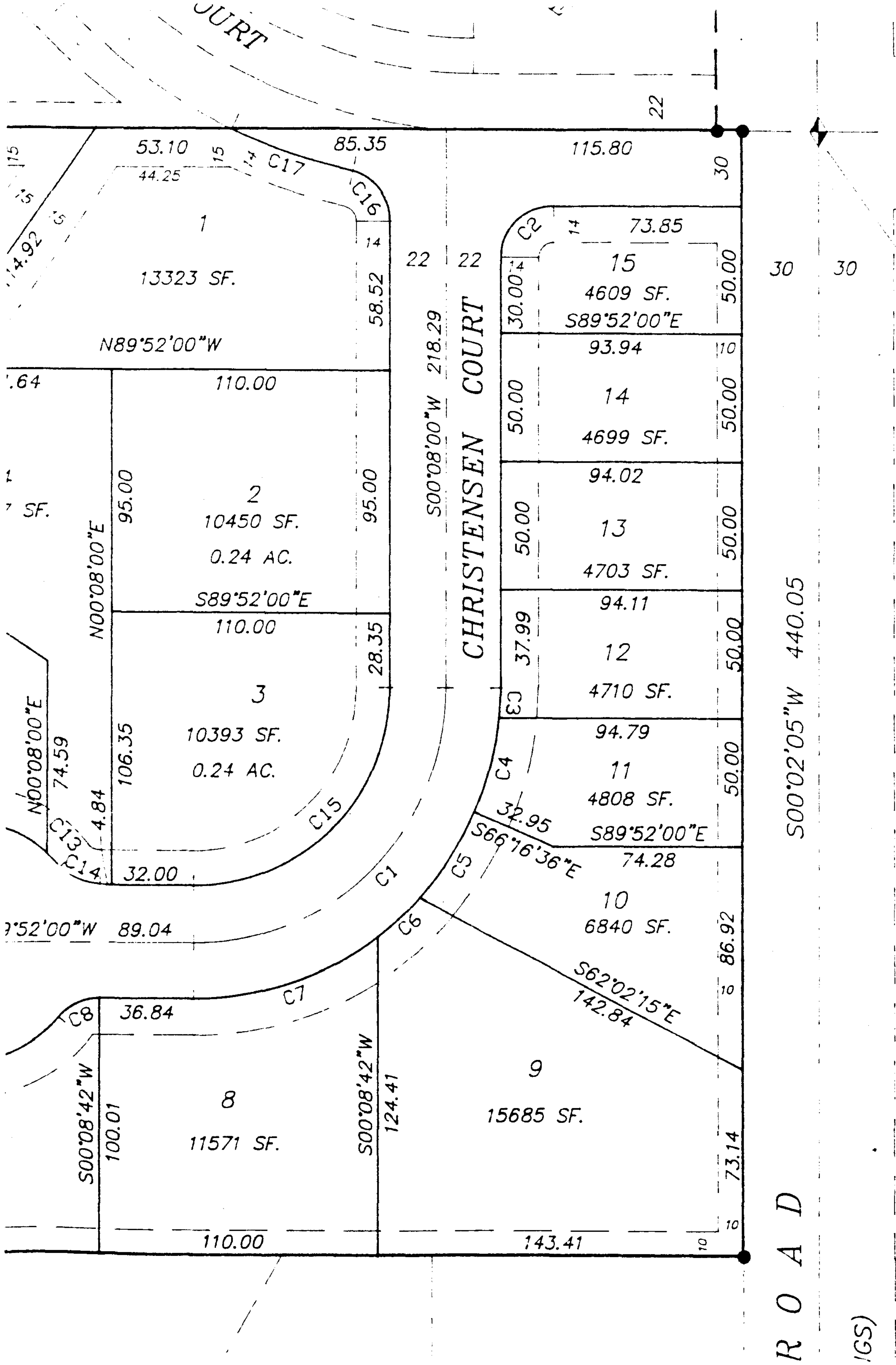
My commission expires:

____

Notary Public

____

Address



CORTLAND AVENUE

N

NE CORNER
SE1/4 NW1/4
SECTION 1
T1S, R1W, U.M.

LEGEND & NOTES

● BOUNDARY MONUMENTS TO BE SET IN CONCRETE NO. 5 RE-BAR W/CAP L.S. 16413

⊥ LOT CORNER

MESA COUNTY BRASS CAP

COMMENT MADE PREVIOUSLY

THERE IS A 14' WIDE ~~UTILITY~~ MULTI-PURPOSE AND IRRIGATION EASEMENT ALONG THE FRONT OF ALL LOT LINE NEXT TO THE STREETS

THE EASEMENTS ALONG THE REAR OF THE LOTS ARE UTILITY, IRRIGATION AND DRAINAGE EASEMENTS AND ARE THE WIDTH AS SHOWN

SET BACKS

SINGLE FAMILY DETACHED

FRONT 20' FROM FRONT PROPERTY LINE

COURT

REE

SECTION 1
T1S, R1W, U.M.

CORTLAND AVENUE

22

30

I.D. SIGN

14'

22 22

30 30

SF.

15
4609 SF.

10

20'

20'

14
4699 SF.

2
10450 SF.

CHRISTENSEN COURT

TOWNHOUSE LOTS

13
4703 SF.

6'0" SCREEN FE

12
4710 SF.

0393 SF.

11
4808 SF.

20'

10
6840 SF.

10

9
15685 SF.

8
571 SF.

5'

5'

10

10

O A D

Why is this being built in the neighboring property's easement? SHOULDN'T this AREA ALSO be A part of TRACT "A" with language ALLOWING the pump HOUSE AS the only APPROVED STRUCTURE IN TRACT "A".

VICINITY MAP: SCALE 1"IN = 2000'FT

LEGEND & NOTES

● BOUNDARY MONUMENTS TO BE SET IN CONCRETE NO. 5 RE-BAR W/CAP L.S. 16413

⊥ LOT CORNER

MESA COUNTY BRASS CAP

SET BACKS

BASIN A
4.4 ACRES

BASIN B
1.6 ACRES

BASIN C
2.0 ACRES

WASH TO BE FILLED AND COMPACTED TO 95% AASHTO T-99

423.0' OF 18" PVC PIPE SLOPE 1.23%

CATCH BASIN
FL. ELEV = 4717.50
INV OUT = 4714.50
N 11026.91
E 9383.56

12" CONC. PIPE CLASS V, MOUND OVER PIPE DURING CONSTRUCTION

Q_2 =0.91CFS Q_{100} =3.05CFS
Q_2 =2.15CFS Q_{100} =7.17CFS

PROPOSED STORM DRAIN MANHOLE
RIM ELEV = 4721.0
INV IN=4713.80 N W
INV OUT = 4713.60
N 10970.64
E 9464.84

100.0 18" PVC PIPE
SLOPE 1.20%
Q_2 =2.13CFS
Q_{100} =7.02CFS
OUTLET 4719.8

Q_2 =1.05CFS
Q_{100} =3.43CFS

PROPOSED PUMP HOUSE

98.9' 18" PVC PIPE
Q_2 =3.04CFS
Q_{100} =10.22CFS
SLOPE 0.59%

Q_2 =1.08CFS
Q_{100} =3.59CFS

CATCH BASIN
FL. ELEV = 4717.50
INV IN = 4714.38
INV OUT = 4714.38
N 11044.55
E 9358.08

NOTE:
DRAIN DITCH TO BE TILED AND FILLED FROM HERE NORTH

PROPOSED CATCH BASIN
FL ELEV = 4723.0
INV OUT = 4721.0
N 10982.26
E 9630.41

CONC. VALLEY PANS

BERM AND DITCH

BERM AND DITCH TO BE CONSTRUCTED PRIOR TO OTHER SUR

30.9' 24" RCP
1.29% SLOPE
PIPE INLET = 4713.6
OUTLET = 4713.2

50' DRAINAGE, IRRIGATION & UTILITY EASEMENT

65.4' 18" PVC
0.76% SLOPE
PIPE INLET = 4713.0
OUTLET = 4712.5

32.0 X 60.0 CONC.
POND - FLOOR 4" THICK
WITH 6" X 6" X #10 WIRE MESH
WALL TOP = 4715, FLOOR 4713 SW COR
FLOOR 0.5% SLOPE NE to SW

3.0 X 4.0 CONCRETE
OUTLET STRUCTURE
TOP = 4716
BTM = 4713
W/ 4714.5 OUTFLOW
SEE DETAIL

SPILLWAY SEE DETAIL
ELEV. 4717.1

PIPE OUTLET SEE DETAIL

SEE DETAILS FOR ADDITIONAL INFORMA

Ptarmigan North File

11 9 93

POSTMASTER

UNITED STATES
POSTAL SERVICE

July 20, 1995

Residents
Ptarmigan Ridge North

Dear Homeowners:

There has been some concern expressed by some of the residents of Ptarmigan Ridge North about mailbox locations. We want to listen to your concerns about the locations of these mailboxes and to discuss with you the agreement signed by the developer and the U.S. Postal Service. Vito Giorgio, Denver District, will be in attendance at this meeting as well as the local management. The developer, Bob Sumrall, will be invited also. At this meeting we want to listen and share some information with you and reach an understanding on the mailbox locations. The meeting with the homeowners and the U.S. Postal Service will be as follows:

DATE: Wednesday, August 9, 1995
TIME: 7:00 P.M.
LOCATION: Mail Handling Annex
602 E. Burkey (Foresight Industrial Park)
(Parking on north side of building in chain link fence area)

All homeowners are invited to attend this meeting.

Sincerely,

Leonard M. Polzine
Postmaster

cc: Bob Sumrall, Developer
[redacted] Dept
Cheryl Fiegel, Mgr., Customer Sales & Service
Vito Giorgio, Post Office Manager

RECEIVED GRAND JUNCTION
PLANNING DEPARTMENT
JUL 21 RECD

241 NORTH 4TH STREET
GRAND JUNCTION CO 81501-9998
970-244-3411
FAX: 970-244-3499

POSTMASTER

UNITED STATES
POSTAL SERVICE

DATE: July 11, 1995

SUBJ: Mailbox Placement

TO: Residents
Ptarmigan Ridge North

Enclosed is a copy of the agreement signed by the Postal Service and Bob Sumrall, the developer of Ptarmigan Ridge North on October 21, 1994, for the placement of mail receptacles in the development. It is the responsibility of the developer/builder to notify future residents of the required placement of mail receptacles. Larry Bennett as well as Bob Sumrall were sent copies of the map with the location of mailboxes with indicated placement prior to our agreement of October 21, 1994.

Residents were notified on May 19, 1995, and again on June 27, 1995, that mailboxes were not in the location mutually agreed upon by the developer and the U.S. Postal Service.

I have had requests for an extension of time to allow residents to move their mailboxes, and this extension is granted until August 15, 1995.

If you have any questions regarding this matter, please contact me at 244-3411.

Leonard M. Polzine
Postmaster

Enclosure

241 NORTH 4TH STREET
GRAND JUNCTION CO 81501-9998
970-244-3411
FAX: 970-244-3499

United States
Postal Service

Date: 10-21-94

Bob Sumerall
5479 E Mineral Cir
Littleton, CO 80122

Dear Mr Summerall :

I am writing to you concerning mail delivery for the Ptarmigan Ridge North Subdivision.

The options for mail delivery are curbside, sidewalk, and central (Section 155.23, Domestic Mail Manual). If curbside or sidewalk delivery is chosen, 50% of all lots in the subdivision must be improved with houses or businesses before delivery will be extended (Section 155.11a, Domestic Mail Manual).

Please contact me as soon as possible to finalize plans for mail delivery for your development.

Sincerely,

Cheryl Fiegel

Cheryl Fiegel
Manager, Customer Services
602 Burkey Street
Grand Junction, CO 81505-9997
(303) 244-3435
FAX 970-244-3489

Boxes will be paired on the lot lines.

Sumrall Corp
X Bob Sumrall, Pres

sent to Comp
recorded
6/14/94 by

AVIGATION EASEMENT

THIS EASEMENT is made and entered into by and between the WALKER FIELD, COLORADO, PUBLIC AIRPORT AUTHORITY, a body corporate and politic and constituting a political subdivision of the State of Colorado, hereinafter called GRANTEE, and SUMRALL CORP. hereinafter, GRANTOR;

WHEREAS, Grantee is the owner and operator of Walker Field Airport situated in the County of Mesa, State of Colorado, and in close proximity to the land of Grantor, and Grantee desires to obtain and preserve for the use and benefit of the public a right of free and unobstructed flight for aircraft landing upon, taking off from, or maneuvering about said airport; and

WHEREAS, Grantor is the owner in fee simple of that certain parcel of land situated in the County of Mesa, State of Colorado, to wit:

PTARMIGAN RIDGE NORTH SUBDIVISION

NOW, THEREFORE, in consideration of the sum of One Dollar ($1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, the Grantor, for himself, his heirs, administrators, executors, successors and assigns, does hereby grant, bargain, sell and convey unto the Grantee, its successors and assigns, for the use and benefit of the public, an easement and right of way appurtenant to Walker Field Airport, for the passage of all aircraft ("aircraft" being defined for the purposes of this instrument as any device known or hereafter invented, used or designed for navigation or flight in the air) by whomsoever owned and operated, in the navigable airspace above the surface of Grantor's Property to an infinite height above said Grantor's property, together with the right to cause in said airspace such noise and vibrations, smoke, fumes, glare, dust, fuel particles and all other effects that may be caused by the normal operation of aircraft landing at or taking off from or operating at or on said Walker Field Airport, and Grantor hereby waives, remises and releases any right or cause of action which Grantor now has or which Grantor may have in the future against Grantee, its successors and assigns, due to such noise, vibrations, smoke, fumes, glare, dust, fuel particles and all other effects caused by the normal operation of such aircraft.

FURTHER, Grantor hereby covenants, for and during the life of this easement, that Grantor:

(a) shall not hereafter construct, permit or suffer to maintain upon said land any obstruction that extends into navigable airspace required for use of said airport runway surfaces; (Navigable airspace is defined for the purpose of this instrument

as airspace at and above the minimum flight altitudes, including take off and landing, as prescribed in Federal Aviation Administration Federal Air Regulations Part 91, and as such regulations are amended.)

(b) shall not hereafter use or permit or suffer use of said land in such a manner as to create electrical or electronic interference with radio communication or radar operation between the installation upon Walker Field Airport and aircraft, or to make it difficult for flyers to distinguish between airport lights and others or to result in glare in the eyes of flyers using the said airport, or to impair visibility in the vicinity of the airport, or otherwise to endanger the landing, taking off or maneuvering of aircraft.

Grantor agrees the aforesaid covenants and agreements shall run with the land for the benefit of Grantee, its successors and assigns, until said airport shall be abandoned and shall cease to be used for public airport purposes.

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal on this 14 day of JUNE, A.D. 1994.

SUMRALL CORP.
Gary Hiltbrand, ATTORNEY IN FACT

~~BOB SUMRALL, PRESIDENT~~
(Title)

STATE OF COLORADO)
) ss.
COUNTY OF MESA)

The foregoing instrument was acknowledged before me this 14th day of June, A.D. 1994, by ~~Bob Sumrall, president Sumrall Corp.~~ GARY HILTBRAND ATTORNEY IN FACT FOR SUMRALL CORP.

My Commission expires: 9-20-97.

Rhonda S. Edwards
Notary Public

NOTARY PUBLIC
RHONDA S. EDWARDS
STATE OF COLORADO

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Sumrall Corp., A Colorado Corporation of the County of , State of Colorado , reposing special trust and confidence in Gary Hiltbrand of the County of Mesa , State of Colorado has made, constituted and appointed, and by these presents does make, constitute and appoint the said Gary Hiltbrand as its true and lawful attorney for it and in its name, place and stead, for its sole use and benefit to grant, bargain, sell, convey, encumber, purchase or contract for the purchase, sale, conveyance or encumbrance of, and to release or waive any homestead exemption I may have in the following described real estate situate in the County of Mesa , State of Colorado, to-wit:

Lot Twenty Five (25) of JAYNE SUBDIVISION, according to the official plat thereof recorded in Plat Book No. 2 at Page 12 EXCEPT Right-of-Way to Mesa County recorded May 8, 1953 in Book 732 at Page 115 and February 4, 1959 in Book 749 at Page 491, Official Records of Mesa County, Colorado.

TO BE KNOWN AS PTARMIGAN RIDGE NORTH SUBDIVISION

The said attorney-in-fact is hereby empowered to grant, bargain, sell, convey, encumber, or to contract for the purchase, sale, conveyance, or encumbrance of, and to release or waive my homestead exemption in, all of the above described real estate; and to collect such monies as may become due me for the sale, conveyance, encumbrance or purchase thereof; and to make execute, acknowledge, and deliver contracts of sale, assignments thereof, good and sufficient deeds of conveyance, promissory notes, deeds of trust, mortgages and other instruments in writing of every kind and nature, including but not limited to sale and loan closing statements; endorsements of checks and drafts, containing such terms and conditions and such warranties and covenants as my attorney-in-fact may deem necessary and convenient in connection with the sale, conveyance, purchase or encumbrance of said real estate.

Hereby giving and granting unto said attorney full power and authority to do and perform all and every act and thing whatsoever requisite and necessary to be done in and about the premises, as fully to all intent and purposes as it might or could do if personally present, including, but not limited to, the execution of Deeds conveying real estate, with full power of revocation hereby ratifying and confirming all that said attorney shall lawfully do or cause to be done by virtue hereof.

*This power of attorney shall not be affected by disability of the principal.

~~*This power of attorney shall become effective upon the disability of the principal.~~

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 26th day of May , 19 94 .

Sumrall Corp. [SEAL]

by: Robert L. Sumrall [SEAL]
Robert L. Sumrall, President

[SEAL]

SEAL

STATE OF COLORADO }
County of Mesa } ss.

The foregoing instrument was acknowledged before me this 26th day of May 19 94,
by Robert L. Sumrall, President Sumrall Corp., A Colorado Corporation
My commission expires August 12, , 19 97 . Witness my hand and official seal.

STATE OF COLORADO

Notary Public.

*Strike either or both according to fact.

PTARMIGAN RIDGE NORTH

DEDICATION

KNOW ALL MEN BY THESE PRESENTS:

That the undersigned, Sumrall Corp., a Colorado Corporation, is the owner of that real property situated in the City of Grand Junction, County of Mesa, State of Colorado, and is described in Book at Page of the Mesa County Clerk and Recorders Office, and being situated in the NW1/4 Section 1, Township 1 South, Range 1 West of the Ute Meridian, Mesa County, Colorado as shown on the accompanying plat, said property being additionally described as follows:

A parcel of land situated in the NW1/4 Section 1, Township 1 South, Range 1 West of the Ute Meridian, Grand Junction, Colorado being described as follows: Considering the East line of the NW1/4 Section 1, T1S, R1W, U.M. to bear S00°02'05"W and all bearings contained herein to be relative thereto: Commencing at the NE corner of the SE1/4 NW1/4 Section 1, Township 1 South, Range 1 West, Ute Meridian; thence N89°52'00"W 30.00 feet to the POINT OF BEGINNING; thence S00°02'05"W 440.05 feet along the West right-of-way line for 27 1/2 Road to the NE corner of Bell Ridge Subdivision; thence N89°51'18"W 1008.85 feet along the North line of Bell Ridge Sub., Ptarmigan Ridge Filing One, Ptarmigan Ridge Filing Five, and Ptarmigan Ridge Filing Three to the SE corner of Ptarmigan Ridge Filing Four; thence N00°02'34"E 439.85 feet along the East line of Ptarmigan Ridge Filings Four and Six to the NE corner of Lot 1 Block One, Ptarmigan Ridge Filing Six; thence S89°52'00"E 1008.78 feet to the POINT OF BEGINNING, containing 10.19 Acres as described.

That said owner has caused the said real property to be laid out and surveyed as PTARMIGAN RIDGE NORTH, a subdivision of a part of City of Grand Junction, County of Mesa, State of Colorado.

That said owner does hereby dedicate and set apart real property as shown and labeled on the accompanying plat as follows:

All streets and rights-of-way as shown on the accompanying plat to the City of Grand Junction, for the use of the public forever;

All Multi-purpose easements to the City of Grand Junction for the use of the public utilities as perpetual easements for the installation, operation, maintenance and repair of utilities and appurtenances thereto including, but not limited to electric lines, cable TV lines, natural gas pipelines, sanitary sewer lines, water lines, telephone lines, and also for the installation and maintenance of traffic control facilities, street lighting, street trees, and grade structures;

All Utility easements to the City of Grand Junction for the use of the public utilities as perpetual easements for the installation, operation, maintenance and repair of utilities and appurtenances thereto including, but not limited to electric lines, cable TV lines, natural gas pipelines, sanitary sewer lines, water lines, telephone lines

All irrigation Easements to the Property owners of the lots and tracts hereby platted as perpetual easements for the installation, operation, maintenance and repair of private irrigation systems;

All Drainage Easements to the Property owners of lots and tracts hereby platted as perpetual easements for the conveyance of runoff water which originates within the area hereby platted or from upstream areas, through natural or man-made facilities above or below ground;

TRACT "A" is hereby dedicated to the Ptarmigan Ridge North Home Owners Association as open space, detention/retention, drainage, irrigation, utility, and pedestrian easement. See easement notes regarding maintenance agreements.

All easements include the right of ingress and egress on, along, over, under, and through and across by the beneficiaries, their successors, or assigns, together with the right to trim or remove interfering trees and brush, and in Drainage and Detention/Retention easements, the right to dredge; provided, however, that the beneficiaries of said easements shall utilize the same in a reasonable and prudent manner. Furthermore, the owners of lots or tracts hereby platted not burden nor overburden said easements by erecting or placing any improvements thereon which may prevent reasonable ingress and egress to and from the easement.

That all expenses for street paving or improvements shall be furnished by the seller or purchaser, not the City of Grand Junction.

IN WITNESS WHEREOF said owner has caused his name to be hereunto subscribed this _____ day of _____ A.D., 199___.

_____
Sumrall Corp., a Colorado Corp.
Robert L. Sumrall, President

STATE OF COLORADO)
) S.S.
COUNTY OF MESA)

The foregoing instrument was acknowledged before me this _____ day of _____ A.D., 1994, by Robert L. Sumrall as president of Sumrall Corp., a Colorado Corporation.

My commission expires: _____

_____
Notary Public

_____
Address

CLERK AND RECORDERS CERTIFICATE

STATE OF COLORADO)
) S.S.
COUNTY OF MESA)

I hereby certify that this instrument was filed in my office at _____ o'clock ___ M. this _____ day of _____ A.D., 199__, and is duly recorded in Plat Book No. ___, Page _____

CITY APPROVAL

This plat of PTARMIGAN RIDGE NORTH, a subdivision of the City of Grand Junction, County of Mesa, and State of Colorado was approved and accepted this _____ day of _____ A.D. 199__.

_____
City Manager

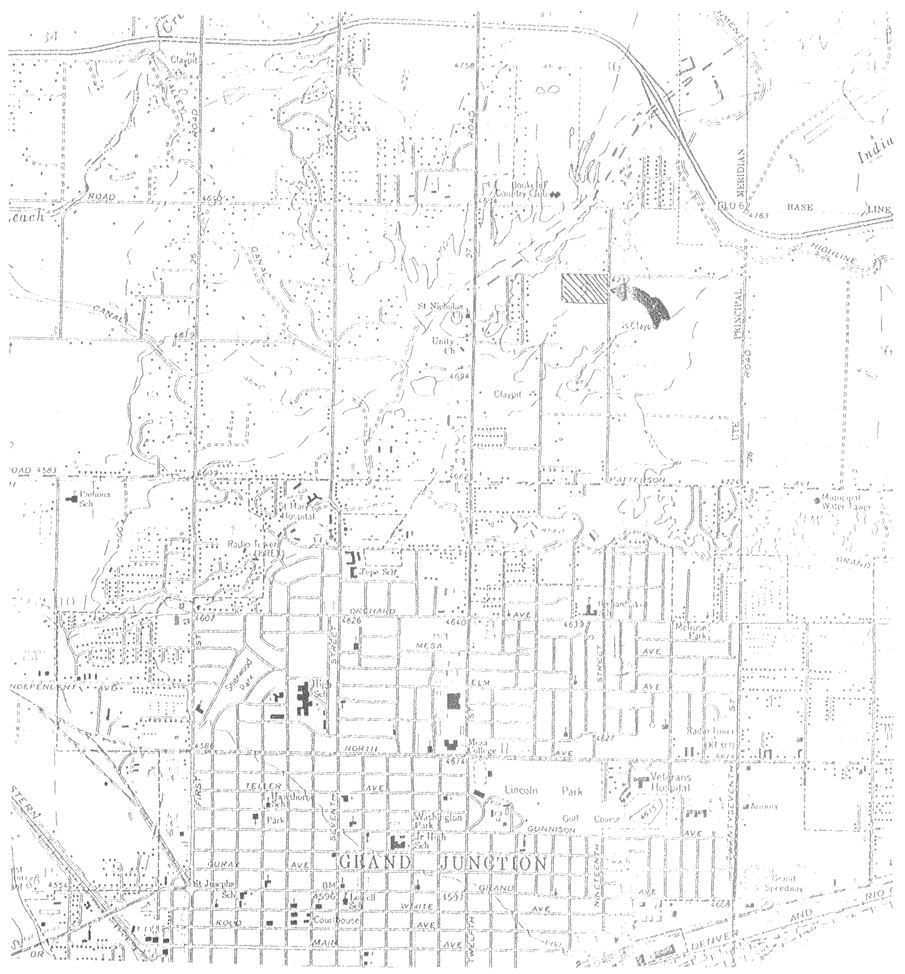
_____
President of Council

SURVEYOR'S CERTIFICATE

I, Max E. Morris, certify that the accompanying plat of PTARMIGAN RIDGE NORTH, a subdivision of a part of the City of Grand Junction, County of Mesa, State of Colorado has been prepared under my direct supervision and accurately represents a field survey of same. I further certify that this plat conforms to all applicable requirements of the Zoning and Development Code of the City of Grand Junction and all applicable state laws and regulations.

_____
Max E. Morris, Q.E.D. Surveying Systems Inc.
Colorado Registered Professional Land Surveyor L.S. 16413

_____
Date



INSERT: 1"IN = 2000'FT

N

EASEMENT NOTES:

TRACT "A"

No structures, EXCEPT approved pump house shall be constructed within this drainage easement.
No activity shall occur that would divert or change the City approved drainage facility.
The Ptarmigan Ridge North Homeowners Association shall be responsible for maintenance of the drainage facility.
Drainage within this tract shall be constructed and maintained so that all runoff within the tract is contained within the tract.
Pedestrian access along the 5.0 feet pedestrian path shall be maintained.
General maintenance of the pedestrian path such as snow removal, sidewalk sweeping, and keeping the path clear of obstructions and debris shall be the responsibility of the property owners. The City shall be responsible for concrete repairs.
Maintenance of the entire tract shall be the responsibility of the property owners.

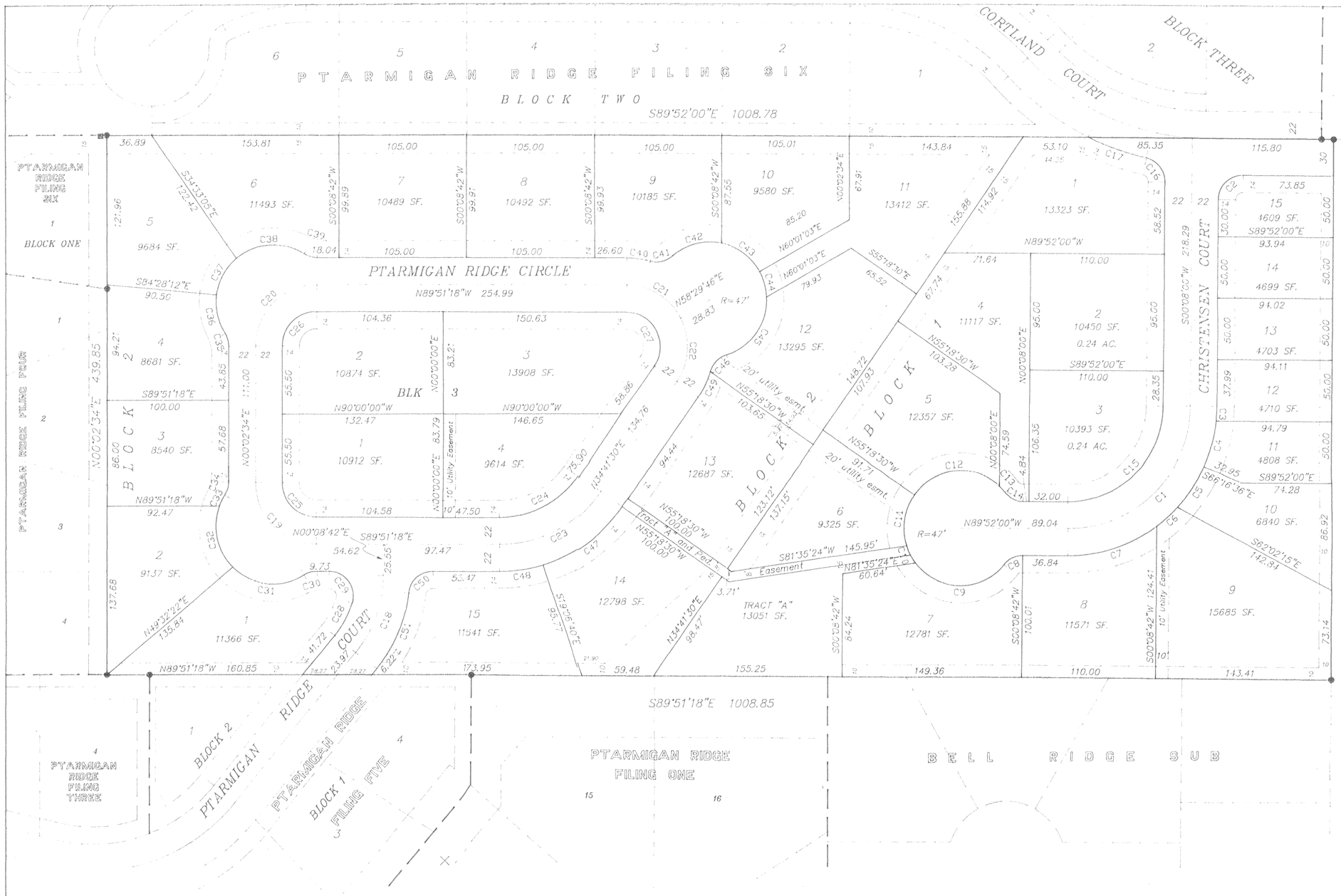
An 8' Pedestrian Easement is hereby dedicated to the City of Grand Junction over and across the following described property.
An 8 foot wide strip of land situated in Tract "A" of PTARMIGAN RIDGE NORTH Subdivision being described as follows:
Beginning at the Southwest corner of Lot 13, Block 2 of PTARMIGAN RIDGE NORTH Subdivision; thence S55°18'30"E 100.00 feet to the Southeast corner of said Lot 13; thence N81°35'24"E 145.95 feet along the North line of said Tract "A" to the Right-of-way line of Christensen Court; thence along said Right-of-way 8.28 feet along the arc of a curve to the left with a radius of 47.00 feet and whose chord Bears S23°07'21"E 8.27 feet to the corner common to Tract "A" and Lot 7, Block 1 of PTARMIGAN RIDGE NORTH Subdivision; thence S81°35'24"W 60.64 feet to the Northwest corner of said Lot 7; thence continuing S81°35'24"W 90.57 feet; thence N55°18'30"W 6.87 feet to the Northeast corner of Lot 14, Block 2 of PTARMIGAN RIDGE NORTH Subdivision; thence continuing N55°18'30"W 100.00 feet to the North corner of said lot 14; thence N34°41'30"E 8.00 feet to the Point of Beginning.

RECEIVED GRAND JUNCTION PLANNING DEPARTMENT
JAN 7 1994

RECEIVED GRAND JUNCTION PLANNING DEPARTMENT
JAN

PTARMIGAN RIDGE NORTH
FINAL PLAT
SITUATED IN THE NW1/4 SECTION 1, TOWNSHIP 1 SOUTH, RANGE 1 WEST, UTE MERIDIAN

FOR: SUMRALL	Q.E.D. SURVEYING SYSTEMS Inc. 1018 COLO. AVE. GRAND JUNCTION COLORADO 81501 (303) 241-2370 464-7568	SURVEYED BY: N/A
SCALE: FEET 0 15 30 45 60 / METERS 0 3 6 9 12 15 — 1"IN = 50'FT		DRAWN BY: MEM
DATE: 1/3/94		ACAD ID: PRNF
		SHEET NO. 1 OF 1G
		FILE: 93224.1



PTARMIGAN RIDGE NORTH

CURVE TABLE

CURVE#	RADIUS	LENGTH	CHORD	CHORD BEARING	DELTA ANGLE	TANGENT
C1	100.00	157.08	141.42	S45°08'00"W	90°00'00"	100.00
C2	20.00	31.42	28.28	N45°08'00"E	90°00'00"	20.00
C3	122.00	12.03	12.02	S02°57'28"W	05°38'55"	6.02
C4	122.00	38.20	38.05	S14°45'10"W	17°56'28"	19.26
C5	122.00	40.02	39.84	S33°07'16"W	18°47'44"	20.19
C6	122.00	22.92	22.89	S47°54'04"W	10°45'52"	11.49
C7	122.00	78.46	77.12	N71°42'30"E	36°51'00"	40.64
C8	20.00	17.87	17.28	N64°32'35"E	51°10'51"	9.58
C9	47.00	84.90	73.82	S89°18'04"E	103°29'32"	59.61
C10	47.00	15.98	15.90	N27°48'53"W	19°28'51"	8.07
C11	47.00	43.28	41.77	N08°18'31"E	52°45'58"	23.31
C12	47.00	80.73	71.17	N83°54'01"E	98°25'00"	54.47
C13	47.00	6.73	6.73	S42°47'19"E	08°12'20"	3.37
C14	20.00	17.87	17.28	S64°16'34"E	51°10'51"	9.58
C15	78.00	122.52	110.31	S45°08'00"W	90°00'00"	78.00
C16	20.00	27.00	25.00	S38°32'28"E	77°20'57"	16.01
C17	222.00	50.65	50.54	S70°40'46"E	13°04'21"	25.44
C18	100.00	67.89	66.59	S19°35'39"W	38°53'54"	35.31
C19	50.00	78.45	70.63	N44°54'22"W	89°53'52"	49.91
C20	50.00	78.63	70.77	N45°05'38"E	90°06'08"	50.05
C21	50.00	54.34	51.71	S58°43'06"E	62°16'24"	30.21
C22	50.00	54.34	51.71	S03°33'18"W	62°16'24"	30.21
C23	100.00	96.78	93.05	N62°25'06"E	55°27'12"	52.56
C24	78.00	75.49	72.58	N62°25'06"E	55°27'12"	41.00
C25	28.00	43.93	39.56	N44°54'22"W	89°53'52"	27.95
C26	28.00	44.03	39.63	N45°05'38"E	90°06'08"	28.05
C27	28.00	60.87	49.57	S27°34'54"E	124°32'48"	53.27
C28	78.00	30.52	30.33	S27°49'57"W	22°25'18"	15.46
C29	20.00	37.17	32.05	S36°37'00"E	106°28'36"	26.77
C30	20.00	11.29	11.14	N73°58'46"E	32°19'52"	5.80
C31	47.00	53.48	50.76	S83°29'34"E	77°23'11"	31.64
C32	47.00	53.26	50.46	N12°20'01"W	64°55'55"	29.90
C33	47.00	10.04	10.02	N26°15'11"E	12°14'29"	5.04
C34	20.00	11.29	11.14	S16°12'30"W	32°19'52"	5.80
C35	20.00	11.25	11.10	S16°04'20"E	32°13'48"	5.78
C36	47.00	32.61	31.96	N12°18'32"W	39°45'25"	16.99
C37	47.00	34.74	33.96	N28°44'42"E	42°21'03"	18.21
C38	47.00	59.57	55.66	N86°13'52"E	72°37'18"	34.54
C39	20.00	11.25	11.10	S73°44'24"E	32°13'48"	5.78
C40	72.00	19.43	19.37	S82°07'33"E	15°27'29"	9.77
C41	20.00	19.84	19.03	N77°11'23"E	56°49'36"	10.82
C42	47.00	43.60	42.06	N75°21'13"E	53°09'16"	23.51
C43	47.00	40.23	39.01	S53°32'49"E	49°02'38"	21.44
C44	47.00	21.67	21.48	S15°48'58"E	26°25'05"	11.03
C45	47.00	62.18	57.74	S35°17'32"W	75°47'56"	36.59
C46	20.00	19.84	19.03	N44°46'42"E	56°49'36"	10.82
C47	122.00	81.59	80.08	S53°51'05"W	38°19'09"	42.39
C48	122.00	36.48	36.35	N81°34'40"E	17°08'03"	18.38
C49	72.00	23.03	22.93	S25°31'42"W	18°19'36"	11.61
C50	20.00	29.09	26.60	N48°28'17"E	83°20'51"	17.80
C51	122.00	68.66	67.76	S22°55'13"W	32°14'45"	35.27

LEGEND & NOTES

- BOUNDARY MONUMENTS TO BE SET IN CONCRETE NO. 5 RE-BAR W/CAP L.S. 16413
- LOT CORNER
- MESA COUNTY BRASS CAP

THERE IS A 14' WIDE MULTI-PURPOSE & IRRIGATION EASEMENT ALONG THE FRONT OF ALL LOT LINE NEXT TO THE STREETS

THE EASEMENTS ALONG THE REAR OF THE LOTS ARE UTILITY, IRRIGATION AND DRAINAGE EASEMENTS AND ARE THE WIDTH AS SHOWN

SET BACKS

SINGLE FAMILY DETACHED

FRONT 20' FROM FRONT PROPERTY LINE

SIDE 5'

REAR 15'

TOWNHOMES

SIDE: 0' ON ADJOINING STRUCTURES - OTHERWISE 5'

FRONT OF MAIN STRUCTURE 20' FROM FRONT PROPERTY LINE

BUILDING SEPARATION 10 FEET

REAR 10'

AREA SUMMARY

LOT AREA = 7.93 ACRES = 78%

ROAD AREA = 1.96 ACRES = 19%

TRACT A = 0.30 ACRES = 3%

TOTAL AREA = 10.19 ACRES = 100%

NOTICE:

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 FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

PTARMIGAN RIDGE NORTH

FINAL PLAT

SITUATED IN THE NW1/4 SECTION 1, TOWNSHIP 1 SOUTH, RANGE 1 WEST, UTE MERIDIAN

FOR: ROBERT SUMRALL

SCALE: 1"IN = 50'FT

DATE: 1/3/94

Q.E.D. SURVEYING SYSTEMS Inc.
1018 COLO. AVE.
GRAND JUNCTION
COLORADO 81501
464-7568
241-2370

SURVEYED BY: MEM DRB

DRAWN BY: MEM,DMM

ACAD ID: PRNFIN1

SHEET NO. 2 OF 10

FILE: 93221.1

PTARMIGAN RIDGE FILING SIX

BLOCK TWO

sewer line

10' utility, irr. & drainage esmt.

open ditch on property line to be piped by others

existing conc. irrigation divider box

existing irrigation line

BLOCK ONE

LOT 1

8"

PTARMIGAN RIDGE CIRCLE W

R=47'

BLK 3

BLOCK 2

BLOCK 5

CHRISTENSEN COURT

TOWN-HOUSE LOTS

R=35' (eop)

irrigation drain pipe

PUMP HOUSE

TRACT "A" 13051 SF.

W COURT

PTARMIGAN RIDGE FILING FOUR

PTARMIGAN RIDGE

BLOCK 2

PTARMIGAN RIDGE FILING FIVE

BLOCK 1

EXISTING MANHOLE
RIM = 4717.21
INV OUT = 4711.71
N 10885.62
E 9153.53

PTARMIGAN RIDGE FILING ONE

ZONED R S F - 4

BELL RIDGE SUB

ZONED R S F - 4

EXISTING FIRE HYDRANT

EXISTING 8" WATER LINE

EXISTING 8" SEWER LINE

EXISTING MANHOLE
RIM = 4716.25
INV IN = 4710.52
INV OUT = 4710.42
N 10750.3200
E 9043.7900

EXISTING 8" SEWER LINE

EXISTING MANHOLE
RIM = 4727.51
INV IN = 4717.96
N 10652.1446
E 9990.4388

proposed pump house

NE CORNER
SE1/4 NW1/4
SECTION 1
T1S, R1W, U.M.

existing 18" Ute water line

CORTLAND AVE.

existing pavement

existing 8" Ute water line

PROPOSED MANHOLE
RIM = 4726.35
INV OUT = 4721.35

27 1/2 ROAD

EXISTING 18" UTE WATER LINE

existing overhead power line

EXISTING MANHOLE
RIM = 4730.27
INV IN = 4719.97
INV OUT = 4719.82

SE CORNER
SE1/4 NW1/4
SECTION 1
T1S, R1W, U.M.
T.B.M. = 4708.15

N

LEGEND & NOTES

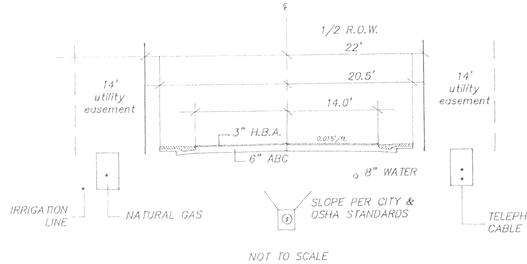
- FOUND SURVEY MONUMENTS SET BY OTHERS NO. 5 RE-BAR
- SET NO. 5 RE-BAR W/CAP L.S. 16413
- MESA COUNTY BRASS CAP

1. Elevation control bench = 4708.15
   on Mesa County Brass Cap
   SE corner NW1/4 Sec. 1
   At intersection of F 1/2 and 27 1/2 Roads
2. Also the rim elevation of the existing Manhole at the intersection of 15th Street and Ridge Drive is 4705.35
3. All materials and workmanship shall be subject to inspection by the City of Grand Junction.
   The City of Grand Junction reserve the right to accept or reject any materials and workmanship that does not conform to the standards and specifications of the City of Grand Junction.
4. The Contractor shall have one signed copy of the Plans, and a copy of the City of Grand Junction's standards and specifications at the job site at all times.

NOTES:

1. ALL CONSTRUCTION TO COMPLIY WITH THE CITY OF GRAND JUNCTIONS STANDARDS & SPECIFICATIONS
2. ALL IRRIGATION PIPE IS TO BE 100 PSI PIPE

- FIRE HYDRANT
- DOMESTIC WATER VALVE BOX
- THRUST BLOCK
- STREET LITE
- IRRIGATION RISER
- PROPOSED 8" SEWER LINE AND MANHOLE MANHOLES ON PLAN VIEW NOT TO SCALE
- W — 8" WATER LINE
- I — 3" PRESSURIZED IRRIGATION LINE
- ETC — ELECTRIC, TELEPHONE, CABLE TV
- G — GAS



NOT TO SCALE

TYPICAL ROADWAY CROSSECTION

PTRAMIGAN RIDGE NORTH

UTILITY PLAN

SITUATED IN THE NW1/4 SECTION 1, TOWNSHIP 1 SOUTH, RANGE 1 WEST, UTE MERIDIAN

FOR: ROBERT SUMRALL

SCALE: 1"IN = 50'FT

DATE: 11/17/93 2.5

Q.E.D. SURVEYING SYSTEMS Inc.
1018 COLO. AVE.
GRAND JUNCTION
COLORADO 81501
464-7568
241-2370

SURVEYED BY: MEM DKB

DRAWN BY: MEM

ACAD ID: PRNUTIL1

SHEET NO. 4 OF 10

FILE: 93224.1

Approved

APPROVED FOR CONSTRUCTION		INITIAL ACCEPTANCE	
CITY OF GRAND JUNCTION	DATE	CITY OF GRAND JUNCTION	DATE

Note: FLOWLINE IS .56' LOWER ELEV. THAN CENTERLINE
BACK OF WALK IS .06' LOWER ELEV. THAN CENTERLINE

PTARMIGAN RIDGE CIRCLE
N89°51'18"W
254.99'

APPLIES ONLY TO PTARMIGAN RIDGE CIRCLE
Note: FLOWLINE IS .56' LOWER ELEV. THAN CENTERLINE
BACK OF WALK IS .06' LOWER ELEV. THAN CENTERLINE

PTARMIGAN RIDGE COURT

TRACT "A"
13051 SF.

COURTLAND COURT

CHRISTENSEN COURT

Note: FLOWLINE IS .36' LOWER ELEV. THAN CENTERLINE
BACK OF WALK IS .14' HIGHER ELEV. THAN CENTERLINE

Note: FLOWLINE IS .36' LOWER ELEV. THAN CENTERLINE
BACK OF WALK IS .19 HIGHER ELEV. THAN CENTERLINE

NOTE: REMOVE EXISTING CONC.

CATCH BASIN FL.
N 11044.55
E 9358.08
STA. 7+07.94
FL ELEV. 4717.50
GRATE ELEV. 4717.42
(SEE DETAIL)

CATCH BASIN FL.
N 11026.91
E 9383.56
STA. 10+21.30
FL ELEV. 4717.50
GRATE ELEV. 4717.42
(SEE DETAIL)

CATCH BASIN
STA. 6+05.43 LEFT
STA. 5+61.23 RIGHT
N 10984.06
E 9629.40
FL ELEVATION 4723.00
GRATE ELEV. 4722.92
(SEE DETAIL)

VDL = VEHICLES / DAY / LANE

Rf = 1.00
R value = 15 (from soils test)

LEGEND & NOTES

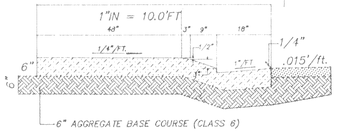
1. Elevation control bench = 4708.15
   on Mesa County Brass Cap
   SE corner NW1/4 Sec. 1

   Also the rim elevation of the
   existing Manhole South of the intersection of
   27 1/2 Road and Cortland Ave.is 4730.27
2. All work within the public right-of-way shall be
   in accordance with the City of Grand Junction
   specifications and standards.
3. All materials and workmanship shall be subject to inspection
   by the City of Grand Junction.
   The City of Grand Junction reserves the right to accept or reject
   any materials and workmanship that does not conform to the
   standards and specifications of the City of Grand Junction.
4. The Contractor shall have one signed copy of the Plans,
   and a copy of the City of Grand Junctions standards and
   specifications at the job site at all times.

4719.05 = FLOWLINE ELEVATIONS

PAVEMENT CALCULATIONS & DESIGN

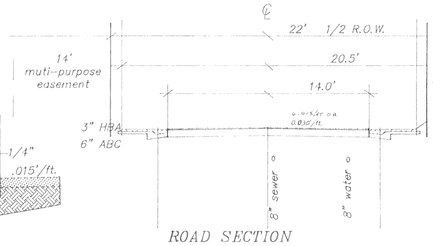
AXLE LOADS	TEF	ALL STREETS VDL	18 KIP EDLA
2,000	0.0003	110	.033
4,000	0.012	22	.264
10,000	0.12	4	0.48
18,000	1.245	1	1.245
24,000	0.485	1	0.485
			2.507
FROM NOMOGRAM		SN = 1.72 = WSN	
DESIGN STRUCTURE			
HBA @ 0.44		3" = 1.20	
-3/4 ABC @ 0.12		6" = 0.72	
		SN = 1.92	



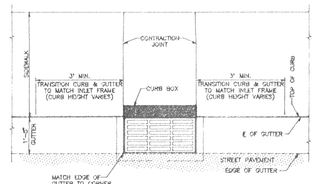
DRIVE OVER CURB, GUTTER & SIDEWALK
PER CITY OF GRAND JUNCTION SPECS.

(TYPICAL)

SCALE: 1"IN = 2.0'FT



ROAD SECTION
(TYPICAL)



INLET FRAME SHALL BE GROUTED TO TOP OF INLET BOX. SET CURB SIDE OF INLET FRAME 1" BELOW NORMAL GUTTER FLOWLINE ELEVATION. SET STREET SIDE OF INLET FRAME AT EDGE OF GUTTER ELEVATION.

GUTTER INLET DETAIL
PLAN VIEW

NOTE:

ALTERNATE PAVING PLAN IS 5" PAVEMENT ON COMPACTED SUB BASE

RECEIVED GRAND JUNCTION PLANNING DEPARTMENT
JAN 7 1994

PTARMIGAN RIDGE NORTH
ROAD PLANS

FOR: SUMRALL CORP.

SCALE: 1"IN = 30'FT

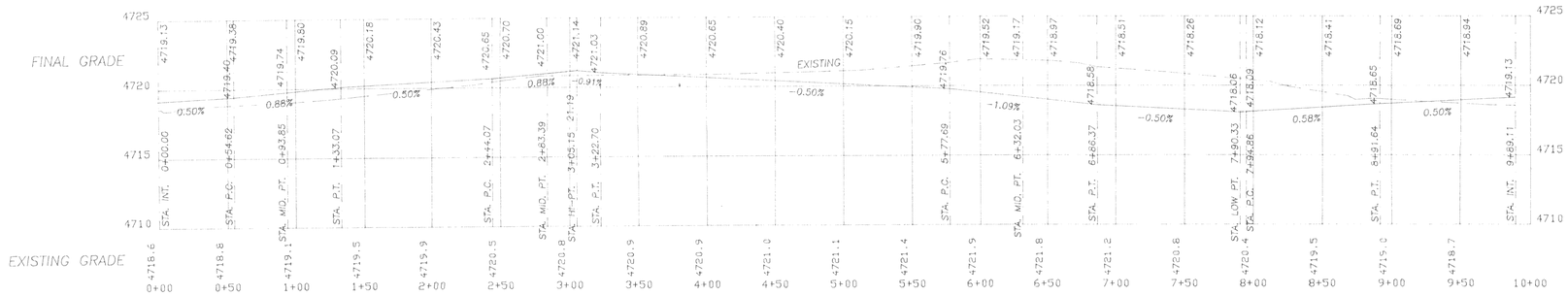
DATE: 12/7/93

Q.E.D. SURVEYING SYSTEMS Inc.
1018 COLO. AVE.
GRAND JUNCTION
COLORADO 81501
(303) 241-2370
464-7568

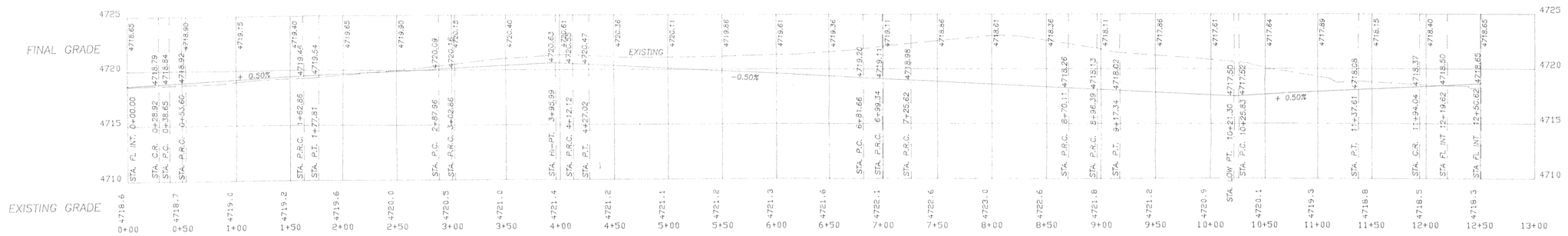
SURVEYED BY: DMM MF
DRAWN BY: DKB VAP
ACAD ID: PRNROAD
SHEET NO. 5 OF 10
FILE: 93224.1

Approved

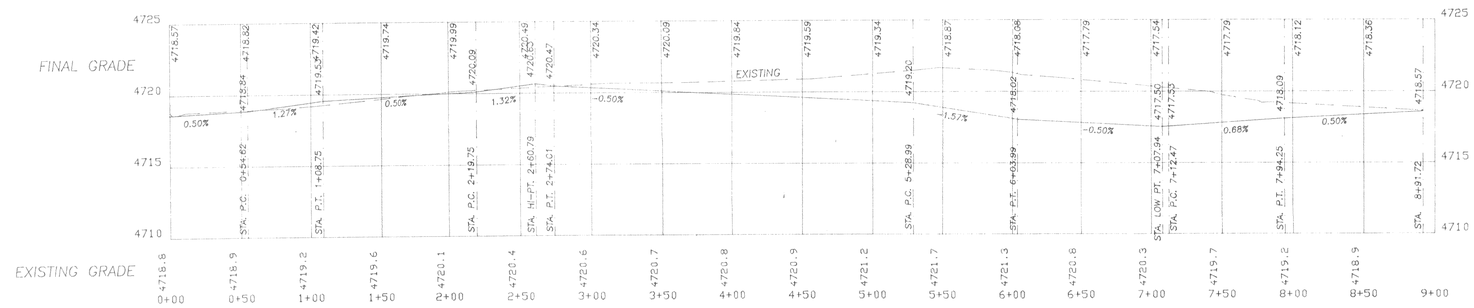
CENTERLINE PTARMIGAN RIDGE CIRCLE



LEFT FLOWLINE PTARMIGAN RIDGE CIRCLE



RIGHT FLOWLINE PTARMIGAN RIDGE CIRCLE



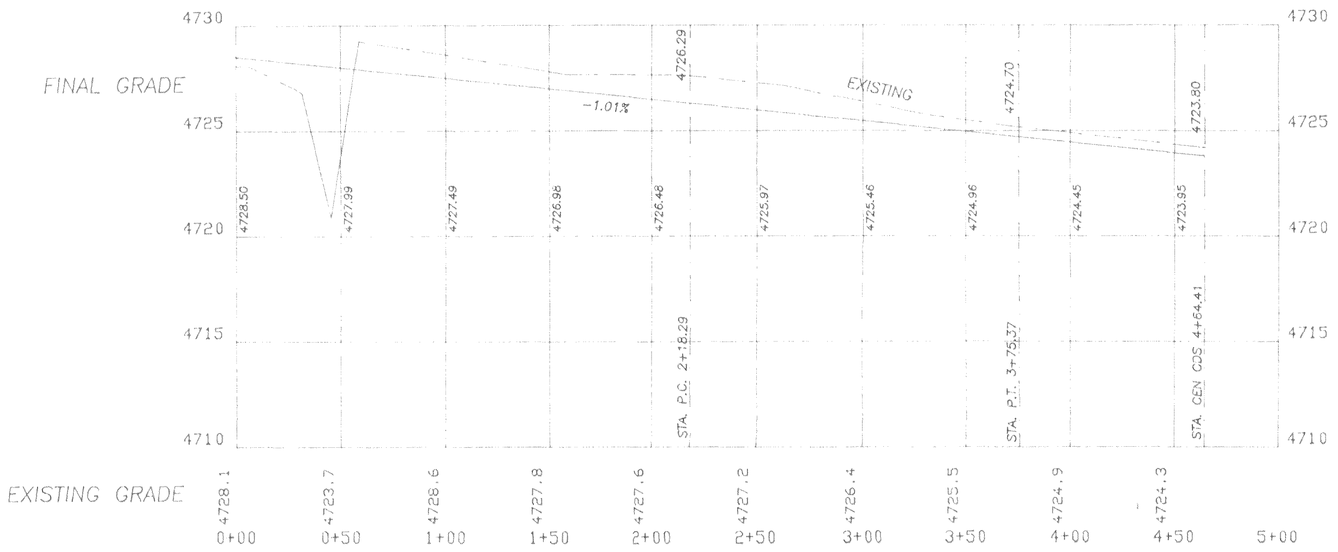
PTARMIGAN RIDGE NORTH

ROAD AND FLOWLINE PROFILES

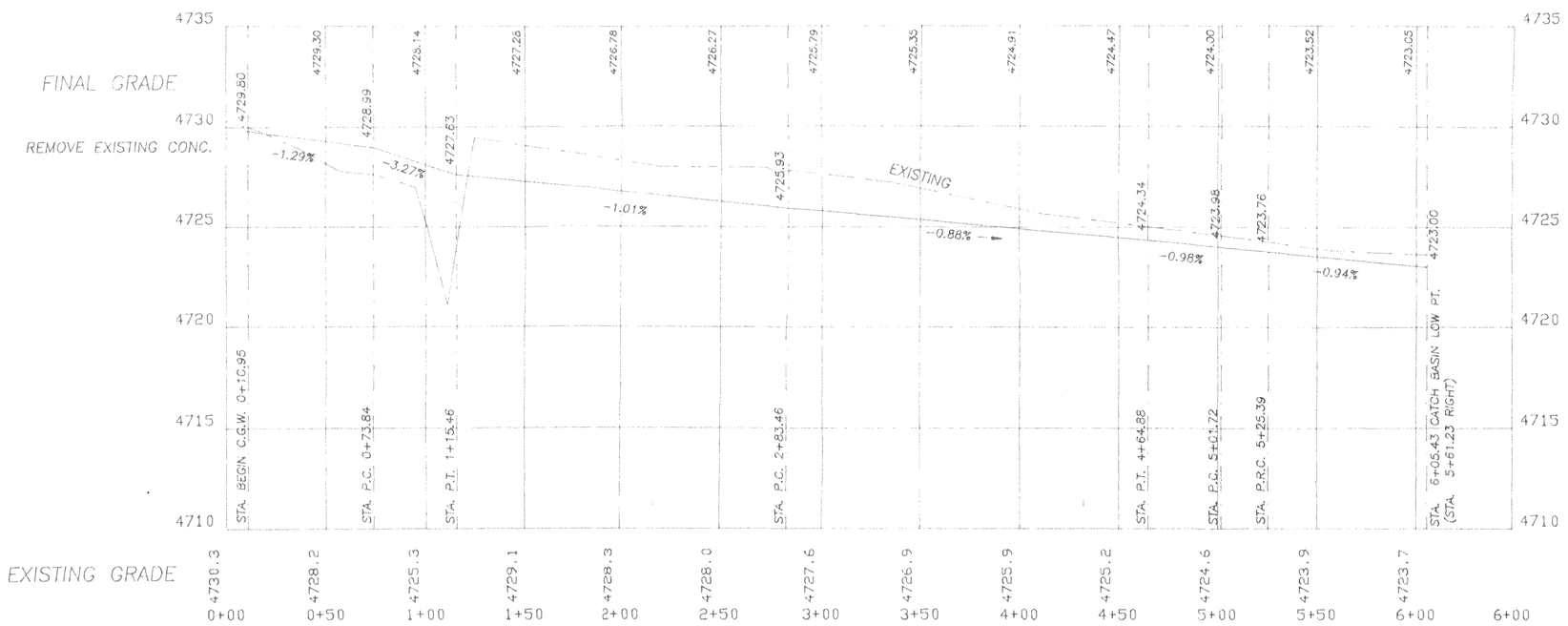
FOR: SUMRALL CORP.	Q.E.D. SURVEYING SYSTEMS Inc. 1018 COLO. AVE. GRAND JUNCTION COLORADO 81501 (303) 241-2370 464-7568	SURVEYED BY: N/A
SCALE: HORIZ. 1" = 50' VERT. 1" = 5'		DRAWN BY: VAP
DATE: 11/17/93 2.5"		ACAD ID: PRNRDPRO (VIEW 1)
		SHEET NO. 6 OF 10
		FILE: 93224.1

Approved

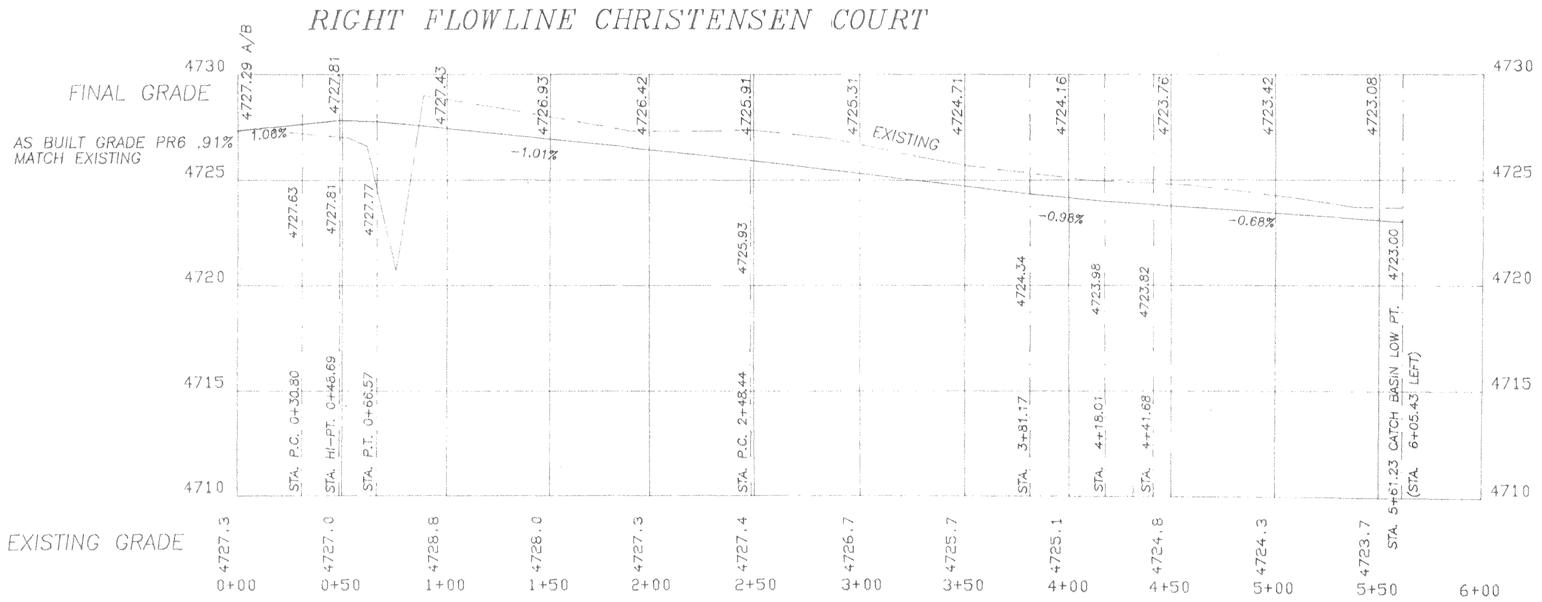
CENTERLINE CHRISTENSEN COURT



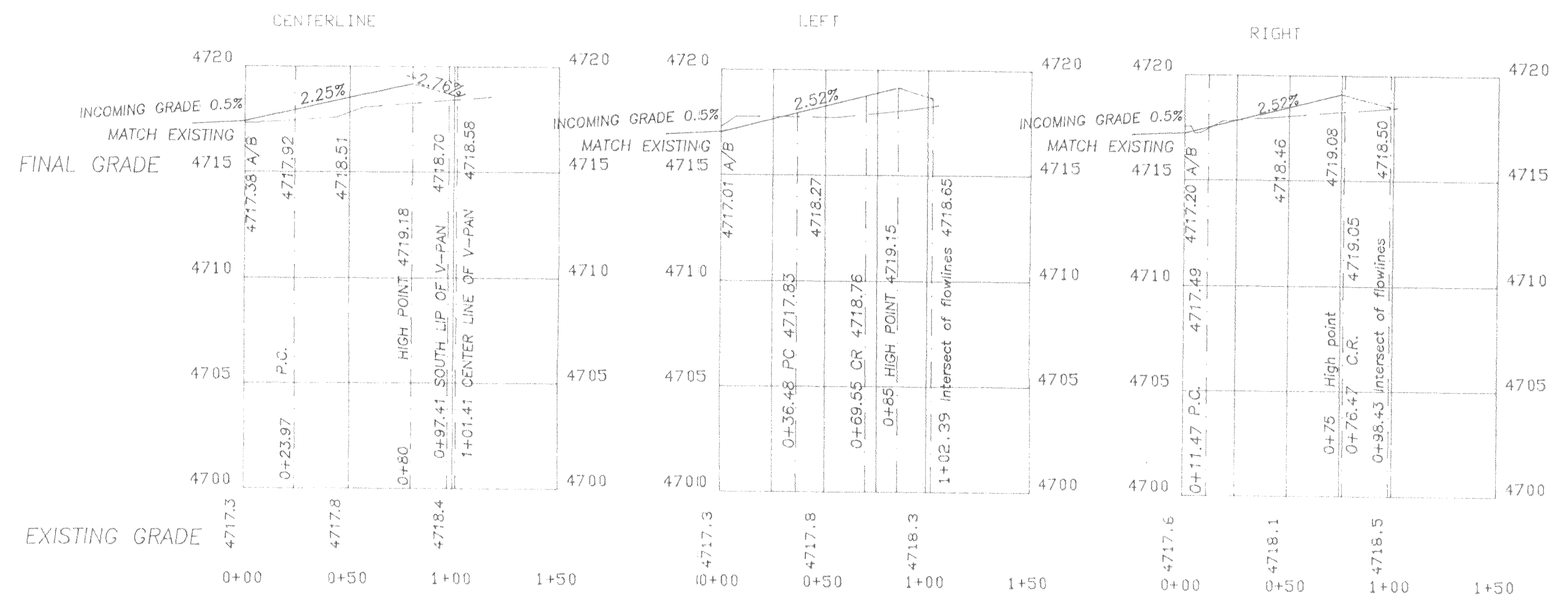
LEFT FLOWLINE CHRISTENSEN COURT



RIGHT FLOWLINE CHRISTENSEN COURT



PTARMIGAN RIDGE COURT



PTARMIGAN RIDGE NORTH
ROAD AND FLOWLINE PROFILES

FOR: SUMRALL CORP.	SURVEYED BY: N/A
SCALE: HORIZ. 1" = 50' VERT. 1" = 5'	DRAWN BY: VAP
DATE: 11/17/93	ACAD ID: PRNRDPRO (VIEW 2)
	SHEET NO. 7 OF 10
	FILE: 93224.1

Q.E.D. SURVEYING SYSTEMS Inc.
1018 COLO. AVE.
GRAND JUNCTION
COLORADO 81501
(303) 241-2370
464-7568

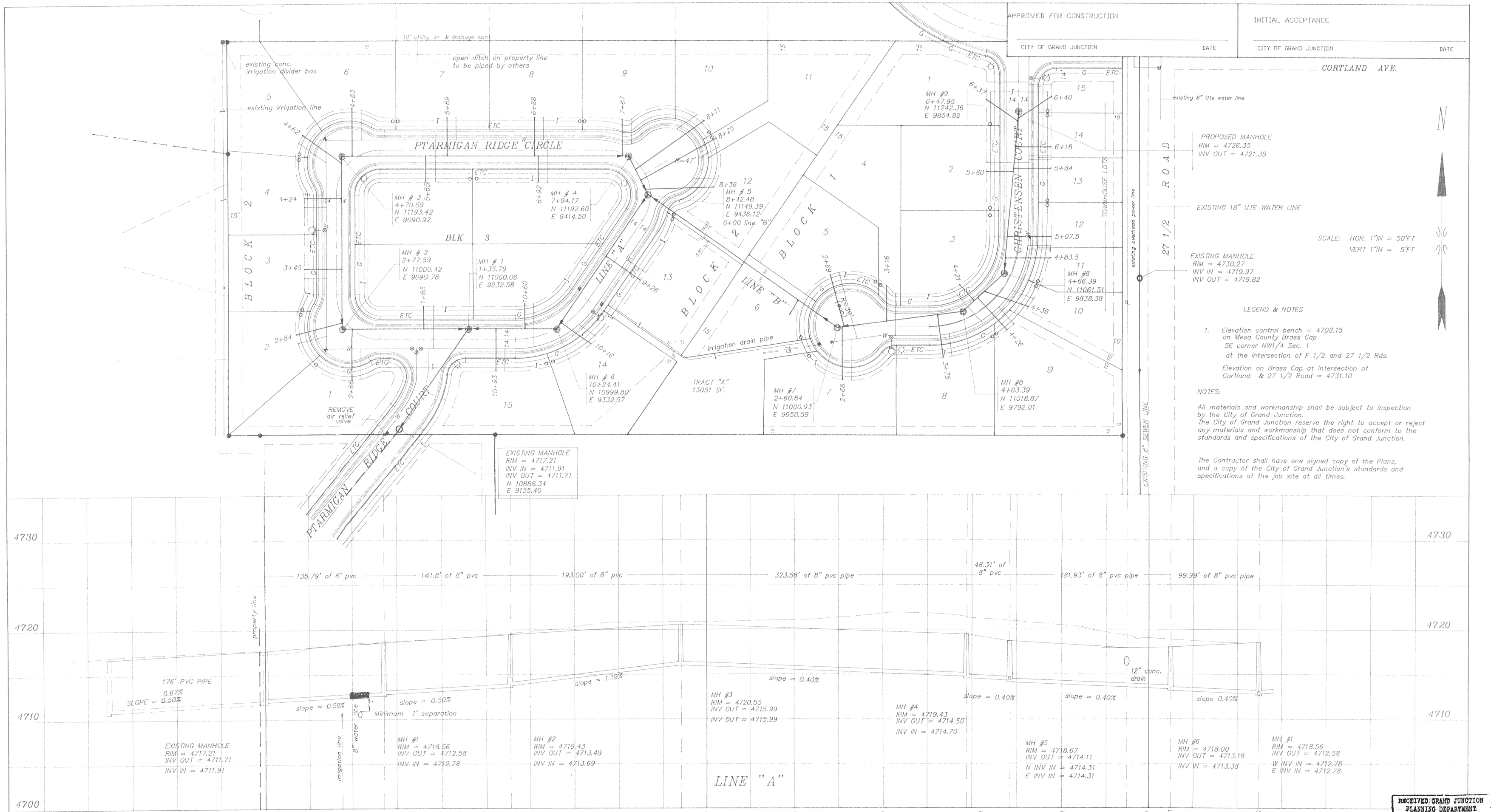
Approved

APPROVED FOR CONSTRUCTION

CITY OF GRAND JUNCTION DATE

INITIAL ACCEPTANCE

CITY OF GRAND JUNCTION DATE



LEGEND & NOTES

1. Elevation control bench = 4708.15 on Mesa County Brass Cap SE corner NW1/4 Sec. 1 at the intersection of F 1/2 and 27 1/2 Rds.

   Elevation on Brass Cap at intersection of Cortland & 27 1/2 Road = 4731.10

NOTES:

All materials and workmanship shall be subject to inspection by the City of Grand Junction. The City of Grand Junction reserve the right to accept or reject any materials and workmanship that does not conform to the standards and specifications of the City of Grand Junction.

The Contractor shall have one signed copy of the Plans, and a copy of the City of Grand Junction's standards and specifications at the job site at all times.

RECEIVED/GRAND JUNCTION PLANNING DEPARTMENT JAN 7 1994

SEWER NOTES

1. All construction & materials shall comply with the City of Grand Junction specifications & standard details
2. Extend laterals inside Lot lines 14 feet
3. Where sewerlines and water mains cross within 10 horizontal feet of each other, the sewer pipe shall be a minimum of 18 inches clear distance vertically below the water main; otherwise special sewerline construction is required which shall consist of: a) AWWA C-900 PVC sewer pipe with 6" thick concrete collars which shall extend at least 6 inches on either side of joints. If the sewer line crosses a water main, an 18 foot minimum length pipe section shall be centered with respect to the water main, having collared end joints; or b) 6" inch thick concrete encasement along the entire length of sewerline.
4. Leave Rim elevations 3" below finish grade -- road contractor to bring rims to grade after paving and grout per Grand Junction's specs.
5. Sewer service laterals shall be installed 14' inside property line (Roadway Right--of--way line) and capped with water--tight plugs. They shall be marked with a 4'x2"x4" buried vertically above the end of the pipe and extending 6" above the ground surface. The top 6" of the board shall be painted white.
6. Cover sewer a minimum of 42"
7. Pipe specifications: Main -- PVC--ASTM D 3034 -- SDR 35 8"
   PVC--AWWA C900 8"
   Laterals -- PVC--ASTM D 3034 -- SDR 35 4"

WATER NOTES:

1. All construction & materials shall comply with Ute Water and/or the City of Grand Junction specifications & standard details
2. All water services 3/4" copper Type K
3. Extend all water laterals 5' inside property lines
4. Water service locations shall be installed 5' beyond the property line (Roadway right--of--way line) and capped with corporation stop. They shall be marked with a 4'x2"x4" buried vertically above the end of the pipe and extending 8" above the ground surface. The top 8" of the board shall be painted blue.
5. Cover minimum of 57" Ute Water depth
6. Pipe specifications: 8" water -- C-900 Class 150 DR 18

Trenchs:

Trench backfill shall be compacted to 95% standard Proctor density in 12" lifts (max) in R.O.W.

PTARMICAN RIDGE NORTH

SEWER LINE "A"

FOR: SUMRALL CORP.	Q.E.D. SURVEYING SYSTEMS Inc. 1018 COLO. AVE. GRAND JUNCTION COLORADO 81501 (303) 241-2370 464-7568	SURVEYED BY: DMM MF
SCALE: 1"IN = 50'FT		DRAWN BY: MEM
DATE: 11/17/93 JS		ACAD ID: PRNSEW
		SHEET NO. 8 OF 10
		FILE: 93224.1

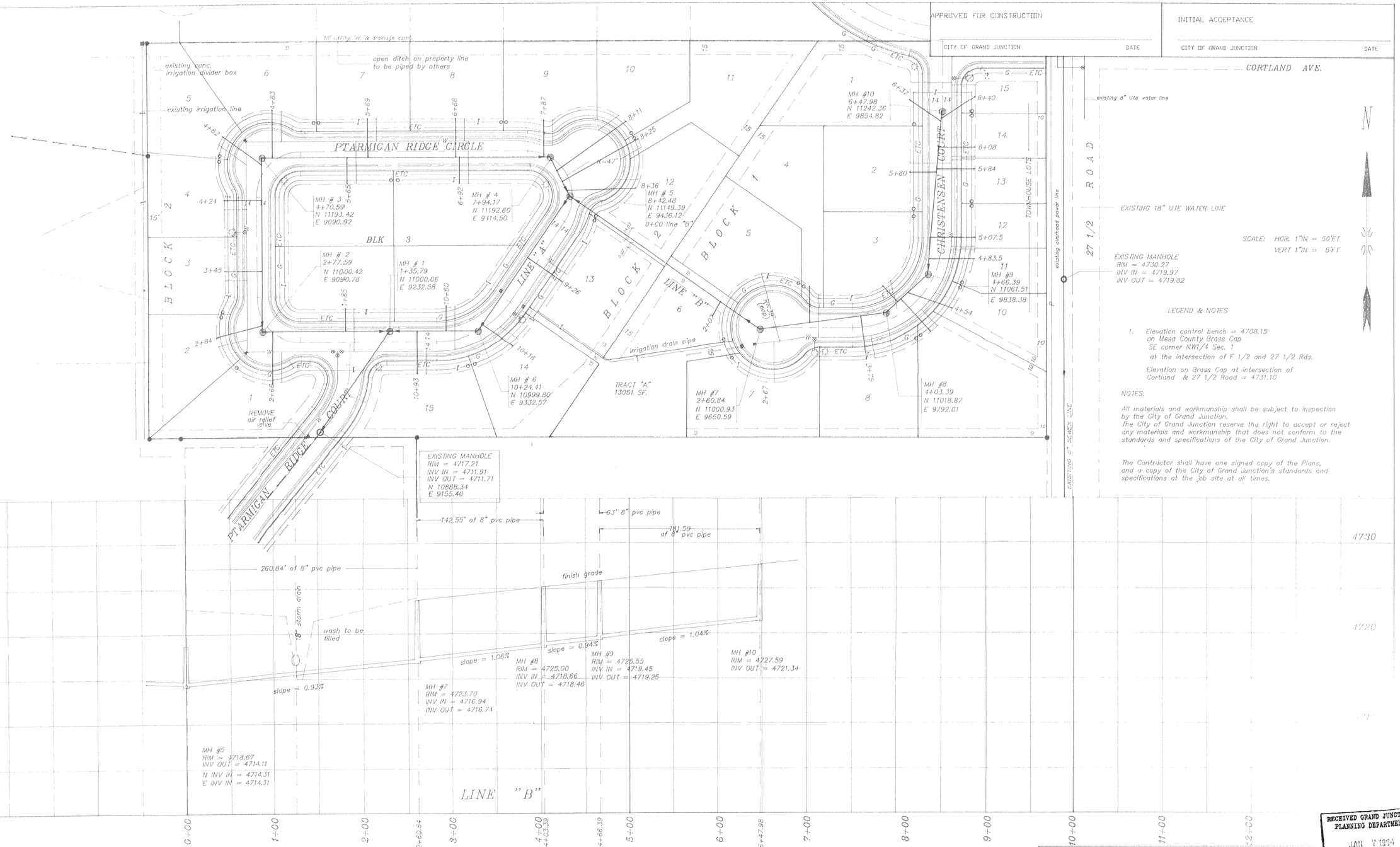
Approved

APPROVED FOR CONSTRUCTION

CITY OF GRAND JUNCTION DATE

INITIAL ACCEPTANCE

CITY OF GRAND JUNCTION DATE



SCALE: HOR. 1"IN = 50'FT
VERT 1"IN = 5'FT

N

LEGEND & NOTES

1. Elevation control bench = 4708.15
   on Mesa County Brass Cap
   SE corner NW1/4 Sec. 1
   at the intersection of F 1/2 and 27 1/2 Rds.

   Elevation on Brass Cap at intersection of
   Cortland & 27 1/2 Road = 4731.10

NOTES:

All materials and workmanship shall be subject to inspection by the City of Grand Junction.
The City of Grand Junction reserve the right to accept or reject any materials and workmanship that does not conform to the standards and specifications of the City of Grand Junction.

The Contractor shall have one signed copy of the Plans, and a copy of the City of Grand Junction's standards and specifications at the job site at all times.

SEWER NOTES

1. All construction & materials shall comply with the City of Grand Junction specifications & standard details
2. Extend laterals inside Lot lines 14 feet
3. Where sewerlines and water mains cross within 10 horizontal feet of each other, the sewer pipe shall be a minimum of 18 inches clear distance vertically below the water main; otherwise special sewerline construction is required which shall consist of: a) AWWA C-900 PVC sewer pipe with 6" thick concrete collars which shall extend at least 6 inches on either side of joints. If the sewer line crosses a water main, an 18 foot minimum length pipe section shall be centered with respect to the water main, having collared end joints; or b) 6" inch thick concrete encasement along the entire length of sewerline.
4. Leave Rim elevations 3" below finish grade – road contractor to bring rims to grade after paving and grout per Grand Junction's specs.
5. Sewer service laterals shall be installed 14' inside property line (Roadway Right-of-way line) and capped with water-tight plugs. They shall be marked with a 4'x2"x4" buried vertically above the end of the pipe and extending 6" above the ground surface. The top 6" of the board shall be painted white.
6. Cover sewer a minimum of 12"
7. Pipe specifications: Main – PVC-ASTM D 3034 – SDR 35 8"
   PVC-AWWA C900 8"
   Laterals – PVC-ASTM D 3034 – SDR 35 4"

WATER NOTES:

1. All construction & materials shall comply with Ute Water and/or the City of Grand Junction specifications & standard details
2. All water services 3/4" copper Type K
3. Extend all water laterals 5' inside property lines
4. Water service locations shall be installed 5' beyond the property line (Roadway right-of-way line) and capped with corporation stop. They shall be marked with a 4'x2"x4" buried vertically above the end of the pipe and extending 8" above the ground surface. The top 8" of the board shall be painted blue.
5. Cover minimum of 57" Ute Water depth
6. Pipe specifications: 8" water – C-900 Class 150 DR 18

Trenchs:

Trench backfill shall be compacted to 95% standard Proctor density in 12" lifts (max) in R.O.W.

PTARMIGAN RIDGE NORTH

SEWER LINE "B"

FOR: SUMRALL CORP.

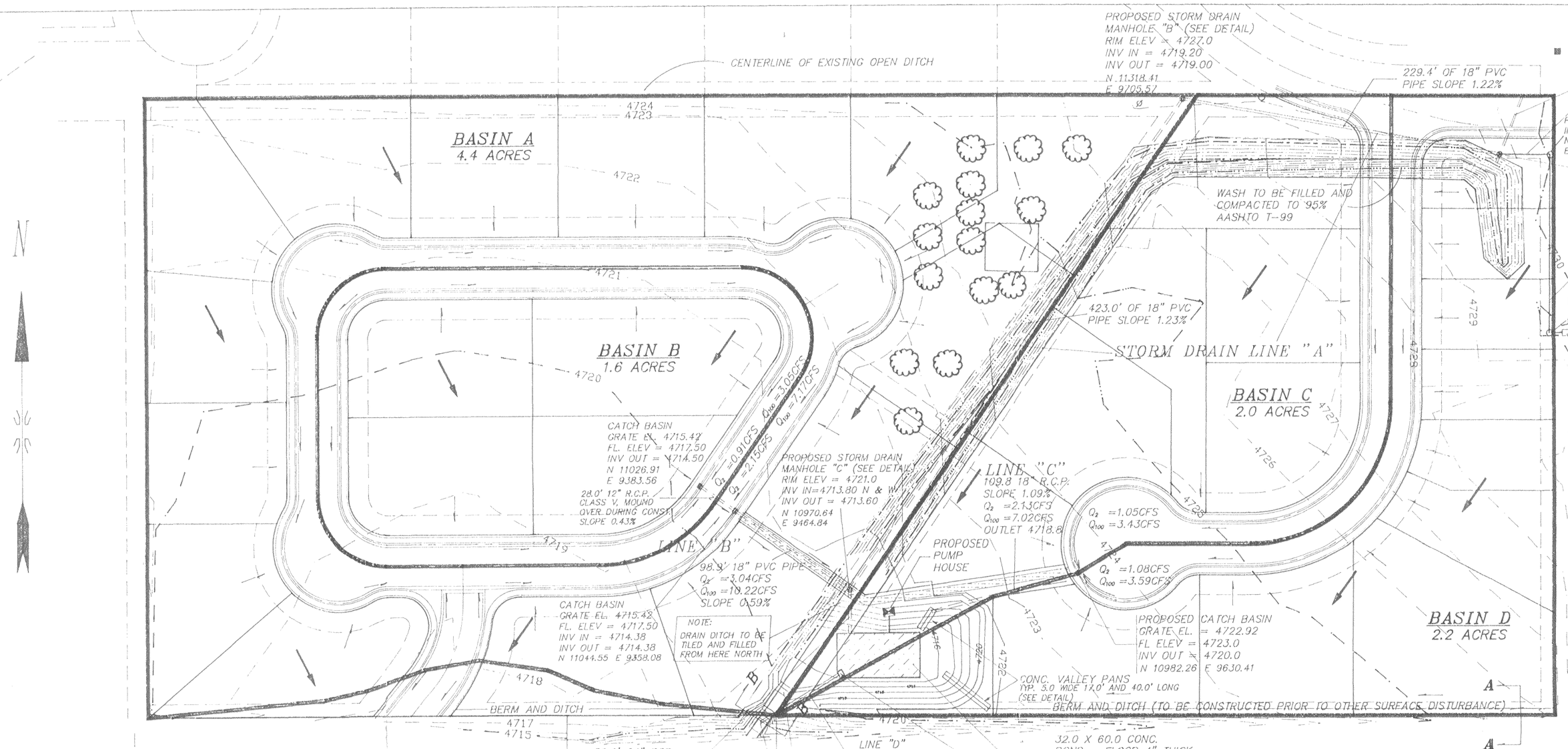
SCALE: 1"IN = 50'FT

DATE: 11/17/93

Q.E.D. SURVEYING SYSTEMS Inc.
1018 COLO. AVE.
GRAND JUNCTION
COLORADO 81501
(303) 241-2334
464-7568

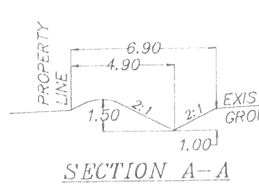
RECEIVED GRAND JUNCTION PLANNING DEPARTMENT
JAN 7 1994

Approved



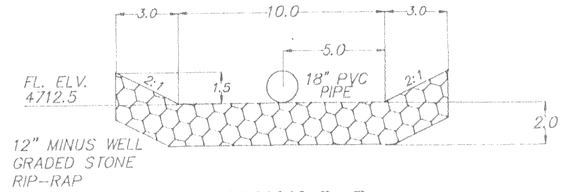
VALLEY PAN

SCALE 1" = 5'



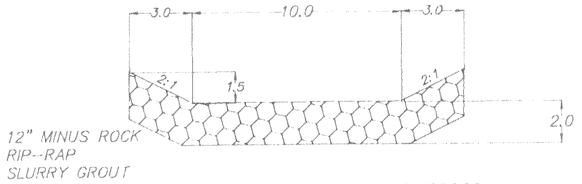
SECTION A-A

SCALE 1" = 5'



SECTION B-B

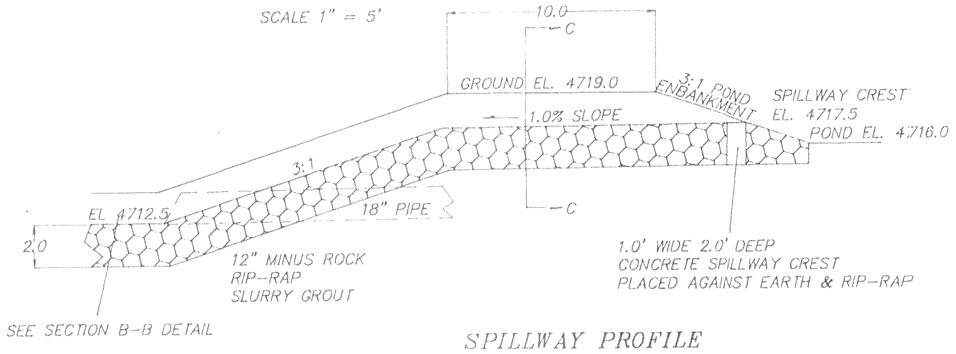
SCALE 1" = 5'



SPILLWAY CROSS SECTION

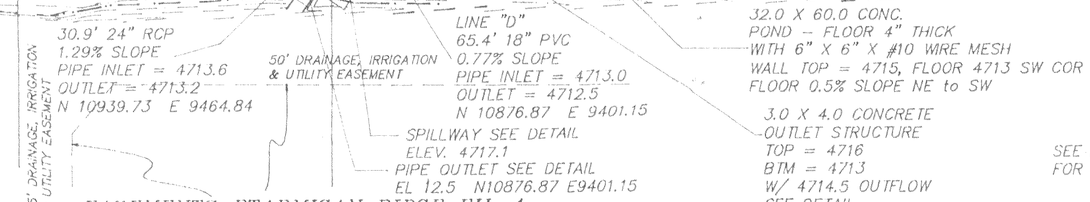
SECTION C-C

SCALE 1" = 5'

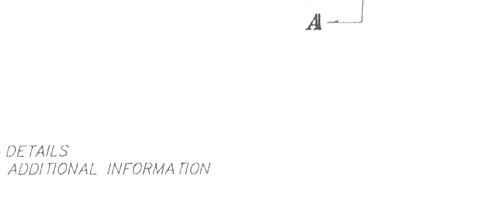


SPILLWAY PROFILE

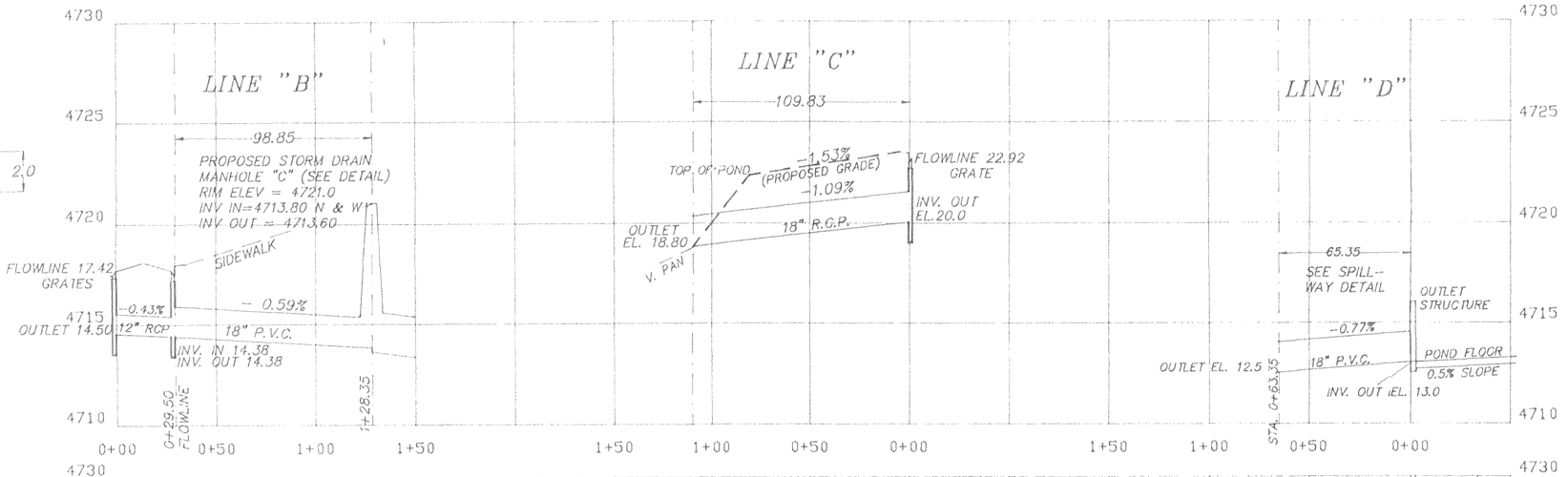
SCALE 1" = 5'

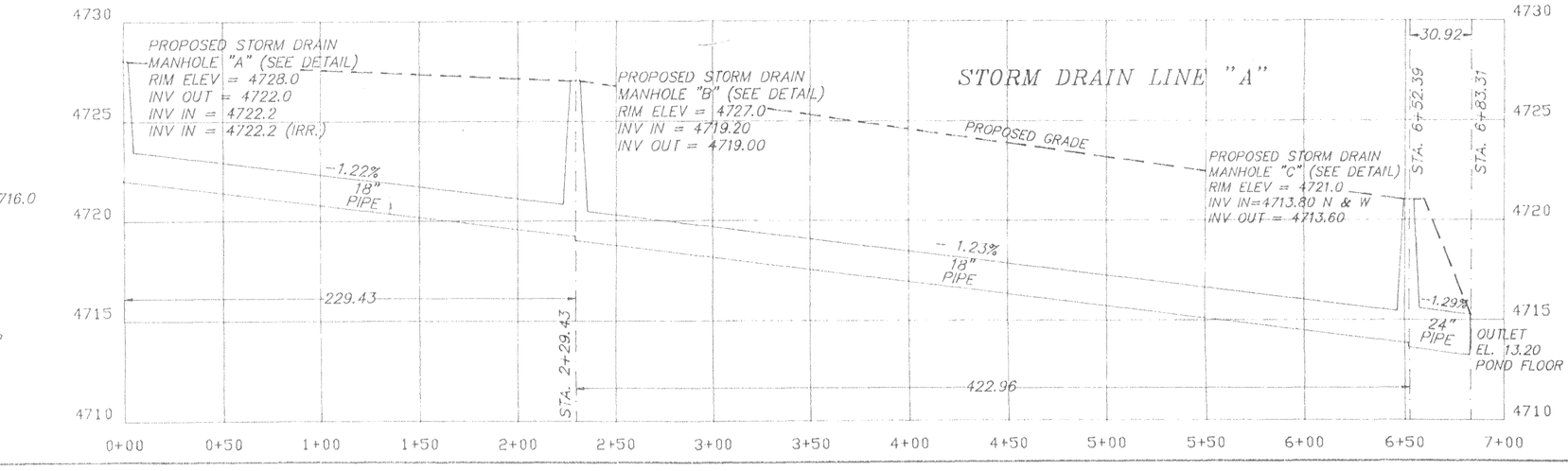


EASEMENTS PTARMICAN RIDGE FIL. 1



SEE DETAILS FOR ADDITIONAL INFORMATION

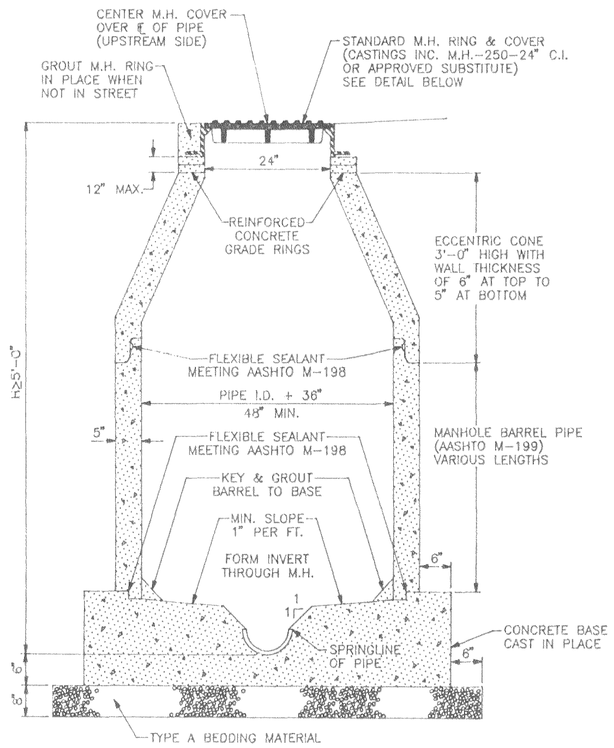




LEGEND AND NOTES:

- PROPOSED CATCH BASIN
- EXISTING CONTOURS
- PROPOSED CONTOURS
- DIRECTION OF STREET AND LOT DRAINAGE
- DIRECTION OF EXISTING DRAINAGE
- CONTOUR INTERVALS ARE 1.0 FT.
- ELEVATIONS ARE BASED ON 4908.15 ON MESA COUNTY BRASS CAP AT THE INTERSECTION OF 27 1/2 AND CORTLAND AVE. 4731.10

SEE SITE PLAN (3 of 10) FOR TRENCH DETAL

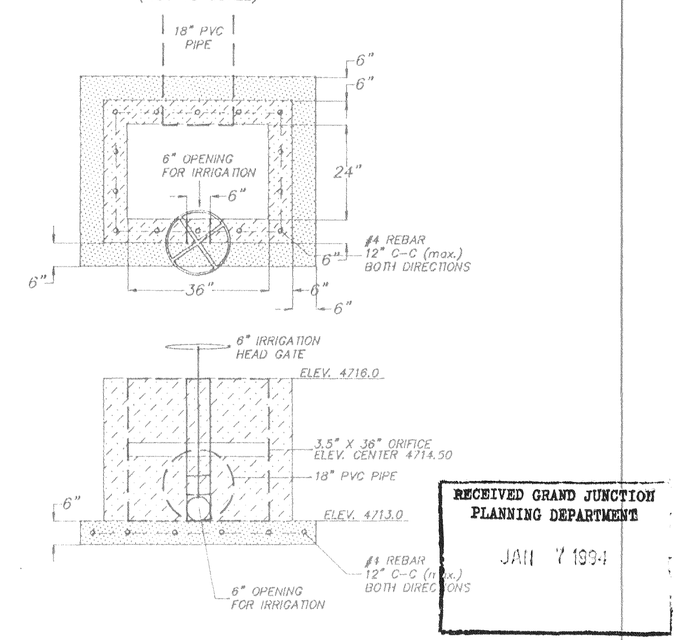


STANDARD MANHOLE

(NOT TO SCALE)

PTARMIGAN NORTH DETENTION POND OUTLET STRUCTURE

(NOT TO SCALE)



RECEIVED GRAND JUNCTION PLANNING DEPARTMENT

JAN 7 1994

PTARMICAN RIDGE NORTH

GRADING AND DRAINAGE PLAN

FOR:	SUMRALL
SCALE:	1"IN = 50'FT OR AS NOTED
DATE:	11/19/93

Q.E.D. SURVEYING SYSTEMS Inc.
1018 COLO. AVE.
GRAND JUNCTION
COLORADO 81501
(303) 241-2370
464-7568

SURVEYED BY:	MEM SB
DRAWN BY:	MEM VAP
ACAD ID:	PRNDRN1
SHEET NO.	10 OF 10
FILE:	9327.1.1

Approved 1-7-94