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File FP-1996-113 Name: Pheasant Meadows Subdivision – East side of 24 ¾ Rd. – N. of G Rd.-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.
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		***Review Sheet Summary**
X	X	***Application form**
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		Reduced copy of final plans or drawings
X		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	Correspondence	X		Subdivision Plat and Cover Sheet – GIS Historical Maps - **
X		E-mails	X		Street Plan and Profile
X	X	Project Diary			Utility Composite
X	X	Surficial Geology Investigation – 4/28/96	X	X	Grading and Drainage Plan-to be scanned
X		Policy of Title Ins. - Ticor Title Ins. – 3/23/92	X	X	Aerial Photograph – Project Location
X		Treasurer's Certificate of Taxes Due – 1/23/96	X		Planning Commission – Notice of Public Hearing-sent 5/31/96
X		Warranty Deed – 7/18/96 – not conveyed to City – not recorded	X		Standard Ute Water Details
X		Payoff Statement - Citicorp Mortgage - 6/28/96	X		Water and Sewer Details
X	X	Final Drainage Report – 5/1/96	X		Standard City Street Details – City Exhibits E,G,C,D,
X	X	Articles of Incorporation – 7/8/96	X		Standard City Storm Sewer Details – Exhibit F
X		Declarations of Covenants – 3/27/97 – Bk 2311 / Pg 935	X		Fountainhead Subdivision Plat / River Road Anx. Plat
X	X	Planning Commission Minutes – 6/11/96 - **	X	X	DIA - **
X	X	Certification of Plat – 3/27/97			
X	X	Application for Payment No. Two – 6/25/97			

DEVELOPMENT APPLICATION

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

Receipt _____
Date _____
Rec'd By _____

File No. _____

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 Final	☐ Minor ☒ Major ☐ Resub	3.82 Ac	720 24 3/4 ROAD	Mesa County PR	Residential
☐ Rezone				From: To:	
☐ Planned Development	☐ ODP ☐ Prelim ☐ Final				
☐ Conditional Use					
☐ Zone of Annex					
☐ Variance					
☐ Special Use					
☐ Vacation					☐ Right-of Way ☐ Easement
☐ Revocable Permit					

☒ PROPERTY OWNER	☒ DEVELOPER	☒ REPRESENTATIVE
George + Carrie Euler	same	Landesign
Name	Name	Name
720 24 3/4 Road		259 Grand Ave
Address	Address	Address
Grand Junction, CO 81501		Grand Junction, CO 81501
City/State/Zip	City/State/Zip	City/State/Zip
970-243-7600		970-245-4099
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 required 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 George Euler — 4/25/96
Signature of Person Completing Application — Date

X George Euler — 4/25/96
Signature of Property Owner(s) - attach additional sheets if necessary — Date

2701-334-08-001
FOUNTAINHEAD DEV CORP
PO BOX 7207
BOULDER, CO 80306-7207

George & Carrie Euler
720 24 3/4 Road
Grand Junction, CO 81505

2701-334-11-071
PAYTON ROBERSON
BARBARA A
717 24 3/4 RD
GRAND JUNCTION, CO 81505-9503

Mike Best
LANDesign, LLC
259 Grand Ave.
Grand Junction, CO 81501

2701-334-12-003
PHILLIP E HAGEN
MARCIE C
714 24 3/4 RD
GRAND JUNCTION, CO 81505-9504

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

2701-334-12-004
MARVIN A MEYERS
MARY N
2480 G RD
GRAND JUNCTION, CO 81505-9547

2701-334-12-006
DANNY L GILLESPIE
STARLYN R GILLESPIE
712 24 3/4 RD
GRAND JUNCTION, CO 81505-9504

2701-334-06-079
G ROAD LIMITED LIABILITY COMPANY
22 PYRAMID DR
ASPEN, CO 81611-1032

2701-334-18-001
MYRON G STANLEY
GLORIA N STANLEY
539 20 1/2 RD
GRAND JUNCTION, CO 81503-8743

2701-334-18-002
LESLIE LEON MILLER
THERESA MILLER
749 W WILSHIRE CT
GRAND JUNCTION, CO 81506-1826

2701-334-18-003
DANIEL P LOCKYER
MARIE E LOCKYER
2891 SUNRIDGE DR
GRAND JUNCTION, CO 81503-2427

2701-334-18-004
MIDWEST MOTOR LODGES INC
2692 G 1/2 RD
GRAND JUNCTION, CO 81506-1828

SUBMITTAL CHECKLIST

MAJOR SUBDIVISION: FINAL

Location: E Side 24 3/4 Road; N of G Road Project Name: PHEASANT MEADOWS SUBDIVISION

Date Received 5-1-96

Receipt # 3941

File # FPP-96-113

ITEMS		DISTRIBUTION																												
DESCRIPTION	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)	O City Downtown Dev. Auth.	● City Police	O County Planning	O County Building Department	County Surveyor	O Walker Field	● School Dist. #51	O Irrigation District	● Drainage District - GVWU	● Water District - UTE	O Sewer District	● U.S. West	● Public Service	● Xcel	O CDOT	O Corps of Engineers	● Colorado Geologic Survey	● U.S. Postal Service	Parks/Rec WWTF	● TCI Cable			TOTAL REQ'D.
● Application Fee $920	VII-1	1																													
● Submittal Checklist*	VII-3	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	1			1
● 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	1			1
● 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	1			1
● Evidence of Title	VII-2	1			1			1																								
O Appraisal of Raw Land	VII-1	1			1	1																										
● Names and Addresses*	VII-2	1																														
● Legal Description*	VII-2	1			1																											
O Deeds	VII-1	1			1			1																								
O Easements	VII-2	1	1	1	1			1													1	1	1						1			1
O Avigation Easement	VII-1	1			1			1							1																	
O ROW	VII-2	1	1	1	1			1													1	1	1						1			1
● Covenants, Conditions & Restrictions	VII-1	1	1					1																								
O Common Space Agreements	VII-1	1	1					1																								
● County Treasurer's Tax Cert.	VII-1	1																														
● Improvements Agreement/Guarantee*	VII-2	1	1	1				1																								
O CDOT Access Permit	VII-3	1	1																													
O 404 Permit	VII-3	1	1																													
O 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	1	2	1	1	1	1	1	1	1			1
● Composite Plan	IX-10	1	2	1	1																											
● 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	1			1
● Final Plat	IX-15	1	2	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	1			1
O 11"X17" Reduction of Final Plat	IX-15	1							8	1	1	1			1	1	1	1	1	1	1	1	1				1		1			1
● Cover Sheet	IX-11	1	2																													
● Grading & Stormwater Mgmt Plan	IX-17	1	2															1							1	1			1			1
O Storm Drainage Plan and Profile	IX-30	1	2															1			1	1	1						1			1
● Water and Sewer Plan and Profile	IX-34	1	2	1			1												1	1	1	1	1					1	1			1
● Roadway Plan and Profile	IX-28	1	2															1														
● Road Cross-sections - 24 3/4 Road	IX-27	1	2																													
● Detail Sheet	IX-12	1	2																													
O Landscape Plan	IX-20	2	1	1					8																							
● Geotechnical Report	X-8	1	1																							1						
O Phase I & II Environmental Report	X-10,11	1	1																													
● Final Drainage Report	X-5,6	1	2															1														
O Stormwater Management Plan	X-14	1	2															1							1							
O Sewer System Design Report	X-13	1	2	1																1												
O Water System Design Report	X-16	1	2	1															1													
O Traffic Impact Study	X-15	1	2																					1								
O Site Plan	IX-29	1	2	1	1		1		8																							

NOTES: * An asterisk in the item description column indicates that a form is supplied by the City.

PRE-APPLICATION CONFERENCE

Date: 3/26/96
Conference Attendance: M. Drollinger ; M. Best
Proposal: PHEASANT MEADOWS SUBDIVISION
Location: E of 24¾ ROAD ; N of G ROAD (720 24¾ ROAD)

Tax Parcel Number: 2701-334-00-115 MR
Review Fee $920
(Fee is due at the time of submittal. Make check payable to the City of Grand Junction.)

Additional ROW required? As per eng.
Adjacent road improvements required? Yes
Area identified as a need in the Master Plan of Parks and Recreation? No
Parks and Open Space fees required? $225/unit Estimated Amount: _____
Recording fees required? Yes Estimated Amount: _____
Half street improvement fees/TCP required? TCP / half-street as per eng. Estimated Amount: _____
Revocable Permit required? No
State Highway Access Permit required? No
On-site detention/retention or Drainage fee required? On-site required

Applicable Plans, Policies and Guidelines Devel. Code

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
● Drainage	O Landscaping	O Traffic Generation
O Floodplain/Wetlands Mitigation	O Availability of Utilities	O Geologic Hazards/Soils

O Other _____
Related Files: PP-96-46

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 George Ewl
Signature(s) of Petitioner(s)

x Charles M. Best
Signature(s) of Representative(s)

Lincoln DeVore, Inc.
Geotechnical Consultants
1441 Motor St.
Grand Junction, CO 81505
TEL: (970) 242-8968
FAX: (970) 242-1561

April 22, 1996

Mr. George Euller
720 24 3/4 Road
Grand Junction, CO 81505

Re: Pavement Section Analysis
Streets within proposed Pheasant Meadows Subdivision
Grand Junction, CO

At the request of Mr. Mike Best of LANDesign, Inc., the proposed road section at approximately 720 24 3/4 Road was sampled by personnel of LINCOLN-DeVORE, INC.. The samples were subjected to Laboratory Testing and appropriate road sections were computed. Following are our findings and recommendations.

Samples of the surficial native soils that may be required to support pavements have been evaluated using the Hveem-Carmany method (ASTM D-2844) to determine their support characteristics. The results of the laboratory testing are as follows:

AASHTO Classification - A-4(7) Unified Classification - ML
Soil Type #1

R = 17
Expansion @ 300 psi = 37 psf
Displacement @ 300 psi = 4.06

Displacement values higher than 4.00 generally indicate the soil is unstable and may require confinement for proper performance.

Traffic Counts or volumes have not been provided to Lincoln DeVore, Inc. Information available to Lincoln DeVore, Inc. indicates a calculated daily EAL of 5.0 for a normal mixture of passenger vehicles and single unit trucks would probably be appropriate.

Two methods of design were utilized for this project. First, the 1986 AASHTO procedure, recognized by the Colorado Department of Transportation and second, The Asphalt Institute (MS-1). A design life of 30 years was used, with an annual growth rate of 2.2%.

Based upon the existing topography, the anticipated final road grades and subsurface soils conditions encountered during the drilling program, a Drainage Factor of 0.7 (1986 AASHTO procedure) and a mean average annual air temperature (MAAT) of 60° Fahrenheit (Asphalt Institute Method) has been utilized for the section analysis.

Calculated Pavement Sections

18K EAL = 5 Soil "R" Value = 17

	1986 AASHTO Drainage Coefficient = 0.7	Asphalt Institute MAAT = 60° F	
AC	3"	3"	AC
ABC	8"	6"	ABC
Subgrade	8"	8"	Subgrade
FULL DEPTH AC	4"	4"	

PROPOSED PAVEMENT SECTIONS

SUBGRADE IMPROVEMENT, MECHANICALLY STABILIZED FILL

Due to the possibility of relatively high ground water conditions which may create soil instability, subgrade improvement may be required. Based on the soil support characteristics outlined above, We recommend the following Structural Fill Sections for areas of moderately unstable subgrade (pumping), due to permanent or seasonally soil moisture. Subgrade soils are assumed to be either fine grained sand (SM), Silt (ML), or Silty Clay (ML-CL). These sections assume the Subgrade Soils have an R Value >14.

Normal Asphalt

3" asphaltic concrete
on 6" of aggregate base course
on Biaxial Geogrid or Geotextile for reinforcement
on 8" of subbase/structural fill
on Geotextile for separation and reinforcement

Due to the probability of very high soil moisture in the subgrade soils, the use of a Geotextile Fabric for separation and minor reinforcement (such as Mirafi 500-X or 140-N), placed beneath the Structural Section, may be required in some areas along these road alignments. The upper layer of Biaxial Geogrid or Geotextile for reinforcement, placed beneath the Aggregate Base Course and above the subbase/structural fill, may not be required, depending upon the field conditions. It is also possible that the in-place conditions may not require the additional subbase structural fill but may require additional Biaxial Geogrid or Geotextile.

The additional materials and effort expended in subgrade stabilization is to provide a construction platform, so the actual Road Section can be placed and compacted. The specific areas which will require placement of either the Biaxial Geogrid or the Geotextile Fabric will depend on the actual conditions encountered during construction. The subgrade and road section construction should be monitored by representatives of the Geotechnical Engineer.

Geotextile Fabric for separation and minor reinforcement may be either woven with a minimum Grab Strength of 180 lb., in the weakest direction (such as Marafi 500-X) or non-woven/needle punched with a minimum Grab Strength of 110 lbs., in the weakest direction (such as Marafi 140-N).

Biaxial Geogrid for reinforcement shall have a minimum Tensile strength @ 5% Strain of 550 lb/ft., in the weakest direction (such as Tensar BX 1100).

The Imported structural Fill (Hveem-Carmany R<70 , swell not critical) is to be Granular, Medium to Coarse Grained, Very low plastic (PI<4), Non Freedraining, Compactable and within the following Gradation:

Maximum size, by screening	6"
Passing the #4 screen	20% - 85%
Passing the #40 screen	10% - 60%
Passing the #200 screen	3% - 15%

Imported Structural Fill and Aggregate Base Course (ABC) to be compacted to 90% of its maximum Modified Proctor dry density (ASTM-D-1557) at a moisture content within ± 2% of optimum moisture. The use of light weight tracked equipment will minimize subgrade degradation, vibratory compaction equipment is not recommended.

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.

Any areas of Fill or Subgrade instability encountered during construction are to be immediately brought to the attention of the Geotechnical Engineer, so recommendations for stabilization can be given.

The Subgrade Stabilization is normally considered effective if the imported structural fill materials are confined, if specified imported fill and specified asphalt densities are obtained and the final traffic surface is stable according to local practices. Some 'pumping and rolling' of the finish Base Course (ABC) surface is anticipated but, rutting should not occur.

PAVEMENT SECTION CONSTRUCTION

We recommend that the asphaltic concrete pavement meet the State of Colorado requirements for a Grade C mix. In addition, the asphaltic concrete pavement should be compacted to a minimum of 95% of its maximum Hveem density. The aggregate base coarse should meet the requirements of State of Colorado Class 5 or Class 6 material, and have a minimum R value of 78. We recommend that the base coarse be compacted to a minimum of 95% of its maximum Modified Proctor dry density (ASTM D-1557), at a moisture content within + or -2% of optimum moisture. The native subgrade shall be scarified and recompacted to a minimum of 90% of their maximum Modified Proctor day density (ASTM D-1557) at a moisture content within + or -2% of optimum moisture.

All pavement should be protected from moisture migrating beneath the pavement structure. If surface drainage is allowed to pond behind curbs, islands or other areas of the site and allowed to seep beneath pavement, premature deterioration or possibly pavement failure could result.

It is believed that all pertinent points have been addressed. If any further questions arise regarding this project or if we can be of any further assistance, please do not hesitate to contact this office at any time.

Respectfully Submitted,

LINCOLN DeVORE, Inc.

COLORADO REGISTERED
EDWARD M. MORRIS
30590
4-22-96
PROFESSIONAL ENGINEER

by: Edward M. Morris PE
Engineer/Western Slope Manager

LD Job No.:85065-J

AE AL PHOTOGRAPH
neasant Meadows
al Major Subdivision
FP-96-113

GPN GEO-CONSULTANTS
631 GLACIER DR.
GRAND JUNCTION, CO 81503
(970) 243-9602

Mr. Michael Best
LANDesign
259 Grand Avenue
Grand Junction, CO 81501

RE: Surficial Geology Investigation- Pheasant Meadows Subdivision

April 28, 1996

Dear Mr. Best,

According to your request, I have completed a ground investigation of the above mentioned site to determine the general geologic condition and identify any geologic hazards. A site evaluation was conducted on April 19, 1996.

SITE LOCATION & DESCRIPTION

The site lies in the Northwest Quarter of the Southeast Quarter of the Southeast Quarter (NW1/4 SE1/4 SE1/4) of Section 33, Township 1 North, Range 1 West, of the Ute Meridian, Mesa County, Colorado. The site is bounded by the 24 3/4 Road to the west, Golden Meadows Estates Subdivision to the south, vacant land to the north, and Fountainhead Subdivision to the east. The site contains 3.82 acres.

Topography of the site is predominantly flat (0-2% slope to the south). Average elevation is approximately 4590 feet above sea level, using the Grand Junction Quadrangle 7 1/2 minute series topographic map.

GENERAL GEOLOGY

The general geology of the area consists of thick deposits of shales, sands and silts of the Mancos Shale Formation, which gently dip in a northeasterly direction. Weathering of the Mancos is the origin of the soils that overlay the site. These soils are considered metastable and moderately low density.

Seismic events have occurred near, and possibly, in the Grand Valley area. These events occurred with no reported damage and having Richter Magnitudes up to and including 4.4. The Jacob's Ladder Fault Complex is approximately 6 miles to the south, and the Redlands Fault is approximately 5 miles southwest of the site.

SITE GEOLOGY

The bedrock that underlies the site is the Mancos Shale as mentioned above. The Mancos Shale consists of gray marine shales, and a few thin beds of sandstone and limestone. This shale has been known to exhibit swelling characteristics due to bentonitic layers within. The shale is light to medium gray in color.

The soil at the site is the Ravola Very Fine Sandy Loam, and is light brownish-gray to very pale-brown . The Ravola ranges from 4 to 20 feet deep and becomes sandier with depth according to the Soil Conservation Service survey. Disseminated lime may occur from the surface downward. The soil is usually slightly saline but may have a few strongly saline spots. This type of soil is commonly metastable and friable in nature and may be sensitive to changes in soil moisture content. Severity of the metastable soils should be determined by Geotechnical Testing.

GROUND WATER

The Mancos shale is impermeable, and a poor source of groundwater. However, fluctuation in free water levels is greatly affected by external environmental conditions such as seepage moisture from irrigation. No free standing surface water was observed, however the Ravola soil occasionally has a high water table. The true water table can be determined through Geotechnical Investigation.

SURFACE WATER

Regional drainage is in a southerly direction with termination at the Colorado River, located approximately 2 miles south of the site. The site is not within a mapped flood hazard area.

The Main Line Grand Valley Canal is approximately 1/4 mile north of the site. A 1 ft. lateral drainage runs just outside of the extent of the eastern boundary, and drains to the south. The drainage was dry at the time of this investigation.

ECONOMIC GEOLOGIC DEPOSITS

No extractable minerals, ores of deposits are believed to be present on or beneath this site. However, oil and gas fields, gravel deposits, coal deposits, uranium deposits and ornamental stone quarries exist in the surrounding areas. There may exist economic minerals deposits in this area that have not yet been investigated.

GEOLOGIC HAZARDS

Surface soils may exhibit a slight to moderate metastable condition. It is recommended that the severity be determined by Geotechnical Laboratory testing. The hazards of water erosion are high in soils with slopes of 5 percent or higher, moderate with 2-5 percent, and slight with 0-2 percent. Since the site is relatively flat, soil and / or slope instability is not expected to be a concern. The higher percentage slopes will have increased soil and / or slope instabilities, therefore, the Geotechnical Report should address the instability concern an make recommendations before any excavation work.

Ground water in the Grand Junction area normally contains sulfates in levels detrimental to a Type I cement. The cement type should be decided by Geotechnical Testing.

It is presumed that all relevant concerns have been addressed in this report. If any further questions arise or if I can be of additional service, please feel free to call.

In conclusion, there are no serious geologic limitations to hinder the approval of the proposed development. Again, engineering investigations should be made to determined surface and subsurface soil and rock characteristics, drainage patterns, location of water table and erosional hazards prior to development and construction. All statements and conclusions made herein are to my best knowledge of the investigator.

Respectfully submitted,

George P. Nichols, III
Geologist

cc: LANDesign
Geroge & Carrie Euler

General Project Report

Pheasant Meadows Subdivision

May 1, 1996

INTRODUCTION:

The accompanying narrative and maps will provide sufficient data to assess the merits of the requested Final Application for a Major Subdivision.

PROJECT DESCRIPTION:

Pheasant Meadows Subdivision is located north of G Road and a long the east side of 24 3/4 Road, directly across from North Valley Subdivision. The subject property contains approximately 3.82 acres. The Euler's are in the process of having their property annexed into the City of Grand Junction concurrent with this project submittal. The property is located with in the SE 1/4 of Section 33, Township 1 South, Range 1 West of the Ute Meridian. The Tax Parcel Number is 2701-334-00-115.

The proposed development calls for the ultimate development of 7 single family homes located on 7 lots. This will yield a density of 1.83 units per acre for the development. The accompanying final plans depict the relationship of each lot to the property boundary, roadway access and neighboring developments.

The following Final Land Use Chart breaks down the entire subject property into specific uses under developed conditions:

FINAL LAND USE SUMMARY CHART		
USE	ACRES	%
Single Family Lots	3.48	91.10
Public Streets	0.34	8.90
Total	3.82	100.00
Resulting Density = 1.83 units per acre		
Total units = 7 units		

EXISTING LAND USE:

The site is currently being used as a residence by the land owner. There are three existing structures on the property, one for single family home including a detached garage. The storage shed will be removed prior to development of the land. The site has an irrigation line located on the west boundary line of the property. The topography of the site is considered to be "flat" in nature, and historically drains from the north to the south ultimately conveying water into Leach Creek.

PUBLIC BENEFIT:

The proposed Pheasant Meadows Subdivision will provide the residents of the area to a quality land development product which will be designed, constructed and maintained in accordance with the City of Grand Junction Standards. The immediate area near the proposed subdivision is an area which has seen similar development in recent past. North Valley Subdivision, Fountainhead Subdivision and other developments to the south have been constructed in the recent past. This project is an in fill development that will enhance the area and provide a single family subdivision which coincides with the surrounding land use.

PROJECT COMPLIANCE, COMPATIBILITY AND IMPACT:

Zoning -- Currently the land is located within Mesa County and is zoned as Planed Residential. The City of Grand Junction has recommended a zoning for the subject property to RSF-4, which allows for single family developments within this area. This zoning allows for a density of no more than 4 units per acre. Pheasant Meadows is proposing a overall density of 1.83, but is requesting a zoning of RSF-4.

Surrounding Land Use -- The surrounding land use consists of a number of new subdivisions. This includes North Valley, Fountainhead, and Golden Meadows Estates Subdivisions, which all have similar densities.

Site Access and Traffic Patterns -- Primary site access will be gained from 24 3/4 Road, shown on the Final Plans. Access to the site will be by the proposed, Jakarlin Court.

Assuming an average trip generation rate of 10 trips per household per day, an average of 70 trips for the 7 lots would be created and routed through the primary access point.

Utilities -- With recent development of new subdivisions, all major utilities are located near the subject property.

Sanitary Sewer -- According to the City Utility Engineer, a 8 inch sewer line is located in the 24 3/4 Road right-of-way which should handle the impact from this development.

Domestic Water -- Water is available from Ute Water, which owns and maintains the 8 inch line located in 24 3/4 Road.

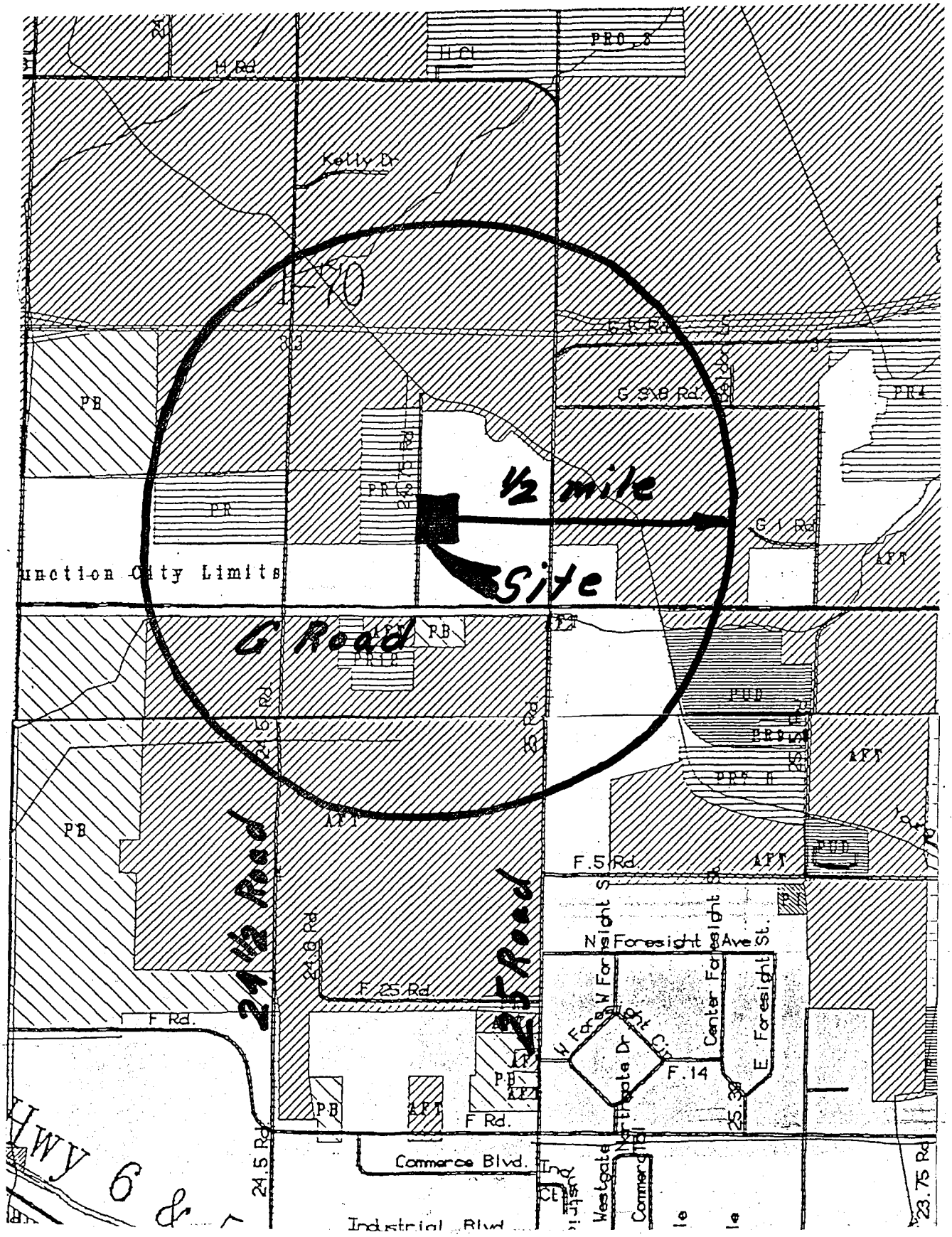
All other utilities such as, electric, gas, phone and CATV are expected to be extended from the surrounding developments.

Effects on Public Facilities -- No unusual effects are expected on public facilities such as fire, police, sanitation, roads, parks, schools, irrigation or other facilities.

Site Soils and Geology -- A map is provided at the end of this report, and shows the types of soil historically found on the property. According to the U.S. Department of Agriculture Soil Survey , 100% of the land contains Ravola very fine silty loam (Rf) at slopes of 0-2%. These soils are common to the Grand Junction area and are not expected to create any problem with drainage or construction.

DEVELOPMENT SCHEDULING AND PHASING:

The rate at which the development of Pheasant Meadows will occur is dependent upon the City of Grand Junction's future growth and housing needs. It is anticipated that site development will begin once the final approval from the City has been granted.


H Rd.
PRD 8
Kelly Dr.
1/2 mile
Site
G Road
PB
PR
AFT
PUD
F.5 Rd.
F.25 Rd.
F Rd.
24 Rd.
24.5 Rd.
23.75 Rd.
Commerce Blvd.
Industrial Blvd
Foresight Ave
N Foresight Cir
W Foresight Cir
Center Foresight Cir
E Foresight Cir
Westgate Dr
F.14
HWY 6 &


PREC. 35
APPLETON
R. 2 W.
R. 1 W.
KIEFER
Hollow
GRAND
Wash
APPLETON CEMETERY
Sleepy
Persego
Brethren Church
Appleton School
Bethel Church
CANAL
DITCH
Site
Racey Siding
BASE LINE
WESTERN
RIVER
PREC. 14
POMONA
Pamona School

comparatively sharp rises or undulations having slopes of more than 5 percent that extend 4 to 6 feet above the prevailing level or in small irregularly shaped bodies on relatively smooth topography. Wherever the areas of Chipeta soil occur, they are too small and too intricately associated with the Persayo soil to be mapped separately.

Use and management.—About 25 percent of this complex is cultivated, but practically all of it could be. The Chipeta soil is not difficult to level, but the expense of leveling and the isolated location of the areas have not favored development for irrigation and cropping. The kinds of crops grown, the management practiced, and the yields produced are approximately the same as for Persayo-Chipeta silty clay loams, 0 to 2 percent slopes.

Ravola clay loam, 0 to 2 percent slopes (RA).—This soil, the second most extensive in the area, has developed in material that consists largely of reworked Mancos shale but includes an appreciable amount of sandy alluvium from the higher Mesaverde formation. The surface of these deposits is relatively level, but the depth of the deposits ranges from 5 to 30 feet. The soil is associated with the Billings silty clay loams and the Ravola fine sandy loams. The most important areas are east, northeast, and southeast of Fruita, north and northwest of Palisade, and north and northwest of Clifton.

The soil is much like the Billings silty clay loams but more porous because it contains more fine sand, especially in the subsoil. Ordinarily, the 10- or 12-inch surface layer consists of light brownish-gray to very pale-brown light clay loam. The underlying layers vary from place to place in thickness and texture and become more sandy below depths of 4 to 5 feet. The range in the subsoil is from fine sandy loam to clay loam.

Small fragments of shale and sandstone are common from the surface downward and are especially noticeable in areas nearest the source of the soil material. The entire profile is calcareous and friable, so internal drainage is medium and development of plant roots is not restricted. The surface is smooth. Most areas are at slightly higher levels than the associated areas of Billings silty clay loams and therefore have better drainage and a lower content of salts. The soil, however, is slightly saline under native cover, and in places it has strongly saline spots and a high water table.

Use and management.—About 95 percent of this soil is cultivated. The chief crops are alfalfa, corn, pinto beans, small grains, and, where climate is favorable, orchard fruits. Practically all the acreage used for tree fruits is near Clifton and Palisade. The acreage used for field crops varies from year to year, but by rough estimate about 30 percent is cropped to corn, 25 percent to alfalfa, 15 percent to pinto beans, 13 percent to orchard fruits, 10 percent to small grains, and the rest to sugar beets, tame hay, tomatoes, and various vegetable crops.

In general, the tilth and workability of this soil are favorable. The content of organic matter is generally less than 1 percent, but many farmers are improving the supply by growing more alfalfa and by using other improved management.

Ravola clay loam, 2 to 5 percent slopes (RB).—This soil differs from Ravola clay loam, 0 to 2 percent slopes, mainly in having greater slopes. Although the combined areas total only seven-tenths of a square mile, this soil is important because the largest single area—approximately 300 acres—is located southeast of Palisade in the Vinelands and is used for peach growing. The remaining areas, widely scattered over the valley, total about 150 acres and are of minor importance.

The large area occupies a position intermediate between the Green River soils and the higher Mesa soils. Its underlying gravel and stone strata consist not only of sandstone but also of granite, schist, basalt, and lava. Much of the lava was deposited by drainage from the southeast. This large area was included with the soil unit largely because its color was similar to that of the other soil areas. Not many years ago subdrainage became inadequate for existing tree fruits and it was not until a number of tile drains were laid, as deep as 7 to 8 feet in places, that subdrainage was corrected in parts of this particular area.

Use and management.—All of the large soil area is in peaches. On it peach yields average as high as in any section of the valley, primarily because the danger of frost damage is negligible. Some of the orchards are now more than 50 years old but have produced steadily and still yield more than 400 bushels an acre according to reports from local growers. About half of the small scattered areas are cultivated. They are used largely for field crops because climatic conditions are not so favorable for peach growing. In building up the organic matter content, the growing of legumes, application of manure in large amounts, and use of commercial fertilizer generally are practiced.

Ravola very fine sandy loam, 0 to 2 percent slopes (RF).—This extensive and important soil occurs either along washes or arroyas extending from the north or on broad coalescing alluvial fans. The alluvial material from which the soil has developed was derived from sandstone and shale and ranges from 4 to 20 feet deep. The principal areas of the soil are north and northwest of Grand Junction and north, northwest, and southwest of Fruita.

This soil is much like Ravola fine sandy loam, 0 to 2 percent slopes, but is generally more uniformly level. The texture is prevailingly very fine sandy loam, but the percentage of silt is noticeably higher in some places. A few small areas that have a loam texture are included.

The 10- or 12-inch surface layer consists of light brownish-gray to very pale-brown very fine sandy loam. In some places the underlying thin depositional layers vary only slightly in color or texture. In other places, especially near drainage courses, the layers are more variable and may grade to loam, silt loam, or fine sandy loam. Nevertheless, layers of very fine sandy loam are more numerous. Below depths of 4 to 5 feet, the texture is sandier, and at depths of 8 to 12 feet strata of loamy fine sand, gravel, and scattered sandstone rock are common.

Disseminated lime occurs from the surface downward. Owing to the friable consistence of the successive layers, the tilth, internal drainage, available supply of moisture for plants, permeability to plant roots, and other physical properties are favorable and assure a wide suitability range for crops. The organic-matter content, however, is low. The soil is slightly saline under native cover and has a few strongly saline spots. Occasionally the water table is high.

Use and management.—More than 99 percent of this soil is cultivated. The chief crops are alfalfa, corn, pinto beans, small grains,

and truck crops. Corn is planted on an estimated 35 percent of the area, alfalfa on 20 percent, beans on 20 percent, small grains on 10 percent, and potatoes, tomatoes, sugar beets, and irrigated pasture on the rest. The percentage of land planted to the various crops fluctuates considerably. Yields have been increased by using improved soil management, such as application of barnyard manure; the growing of clovers and alfalfa frequently after corn, potatoes, sugar beets, and other crops; and the more liberal use of treble superphosphate and mixed commercial fertilizer.

Ravola very fine sandy loam, 2 to 5 percent slopes (Rc).—This soil, of minor importance because of its limited extent, occurs chiefly in the northwestern part of the county. Except for greater slope, it is very similar to Ravola very fine sandy loam, 0 to 2 percent slopes. Most of it is not cultivated. If it were leveled and cultivated, it would need about the same management as Ravola very fine sandy loam, 0 to 2 percent slopes, and should produce approximately the same yields.

Ravola fine sandy loam, 0 to 2 percent slopes (Rc).—This soil, fairly important agriculturally, occurs mostly east, northeast, and north of Fruita. The soil-forming material is derived largely from sandstone but has some admixture of silt or finer sediments of shale origin.

The 10- or 12-inch surface layer consists of light brownish-gray, pale-brown, or very pale-brown fine sandy loam. The underlying depositional layers generally range from 1 to 3 inches thick; they may have a fine sandy loam, fine sandy clay, very fine sandy loam, or loam texture. The gradation in texture from one layer to another is almost imperceptible in some places, but fairly distinct in others. In most places the material below 4 feet is more sandy and slightly lighter grayish brown than that above.

The soil is calcareous from the surface downward, but the lime is not visible. Because the successive layers are friable, deep-rooted crops are well suited. Internal drainage is medium to rapid, and moisture relations are favorable. Though the organic-matter content is low, other physical properties are favorable and allow good tilth, good drainage, and moderate permeability for deep-rooted crops. The soil is slightly saline under native cover and strongly saline in a few spots. It is subject to an occasional high water table.

Use and management.—About 98 percent of this soil is cultivated. The most important field crops are potatoes, corn, alfalfa, and pinto beans. Comparatively smaller acreages are in sugar beets, small grains, and tomatoes, cucumbers, and other truck crops. An estimated 30 percent of the cultivated acreage is cropped to corn, 25 percent to alfalfa, 20 percent to potatoes, 15 percent to pinto beans, 5 percent to small grains, and the rest to truck crops, largely tomatoes.

The trend in recent years has been toward larger acreages of potatoes, tomatoes, and pinto beans. In earlier days, a considerable acreage was used for tree fruits, mainly pears. Severe blight, excessive cost of growing and marketing the fruit, and unsuitable climate have caused gradual conversion to field crops.

With proper management, this soil should remain productive indefinitely. Definite rotations normally are not followed. Frequently, alfalfa is grown 4 or 5 years, corn 1 or 2 years, then oats or wheat, and finally pinto beans. Manure, if available, generally is applied to the corn crop. The most common fertilizer is treble superphosphate, applied at the rate of 100 to 150 pounds an acre for field crops and truck crops. Some potato growers use commercial fertilizer at the rate of about 150 pounds an acre.

Ravola fine sandy loam, 2 to 5 percent slopes (Rd).—Except for scattered areas totaling about 25 acres, most of this soil is in the Vinelands section east of Palisade. The soil-forming material is mostly local alluvium derived from shale and sandstone that has been brought down the drainage courses from the southeast. In areas east of Palisade a few scattered, rounded igneous gravel, cobbles, stones, and boulders in the lower subsoil indicate that there has been some admixture of sediments deposited in the past by the Colorado River.

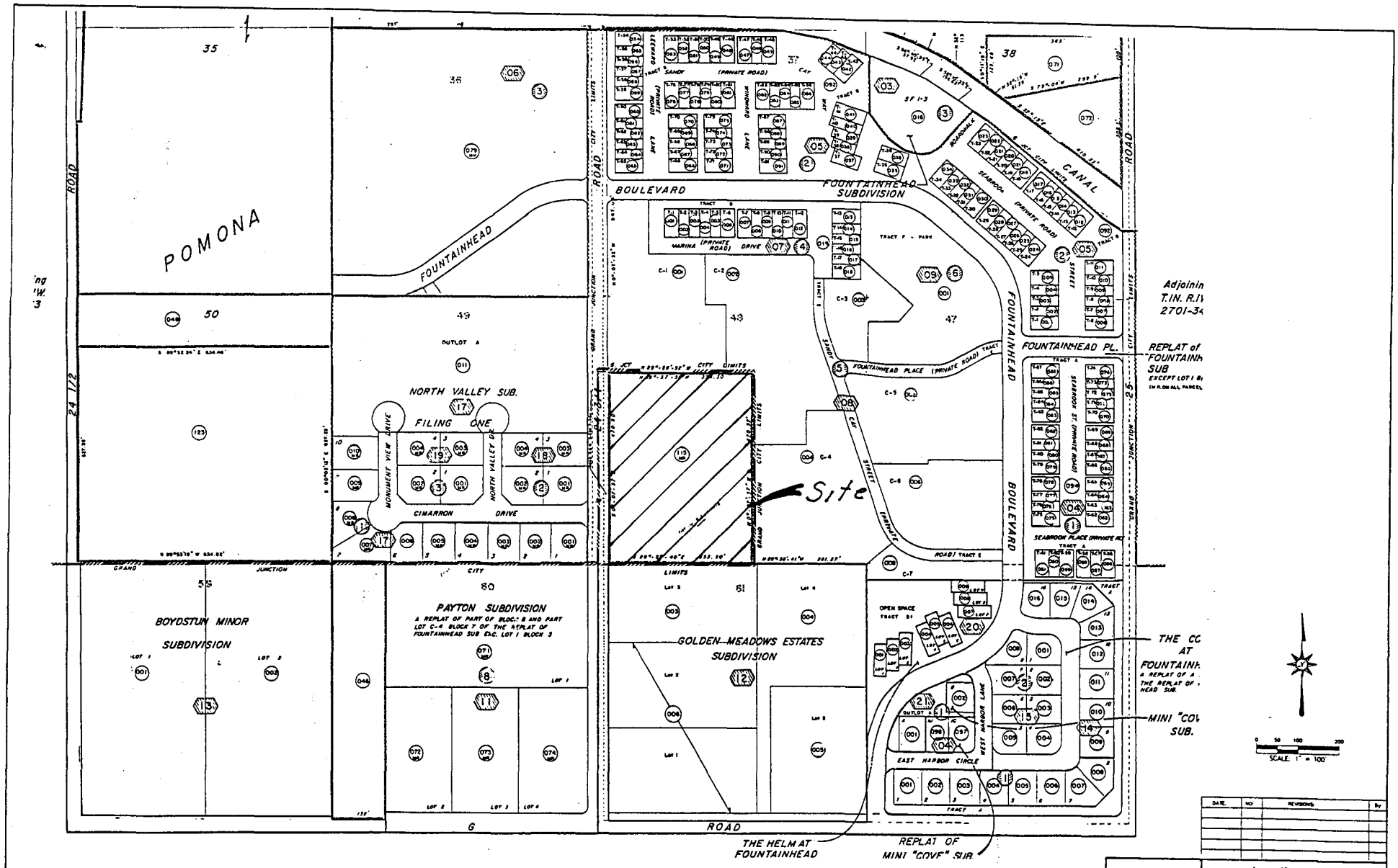
The 10- or 12-inch surface layer is light brownish-gray or very pale-brown loam. The subsoil layers are similarly colored and dominantly of a fine sandy loam texture. Nevertheless, in places fine sandy loam, loam, and clay loam textures are represented in the subsoil. The soil is calcareous throughout. Although the organic-matter content is low, other physical properties insure good tilth, drainage, and permeability to deep-rooted crops. The soil is slightly saline under native cover and includes some strongly saline spots. Occasionally the water table is high.

Use and management.—Practically all of this soil is cultivated; deep-rooted crops are well suited. The two areas east of Palisade are in peach orchards and produce yields comparing favorably with those on Ravola clay loam soils in the same area. These two areas are small but valuable because they are located where the climate is ideal for tree fruits. The productivity of this soil, especially for orchard fruits, is practically the same as that of Mesa clay loam soils.

Ravola loam, 0 to 2 percent slopes (Re).—This soil is not extensive, but it is important agriculturally. It occupies relatively broad alluvial fans and flood plains along streams. It is at a slightly higher elevation than the bordering areas of Billings silty clay loam soils. It has developed in an alluvial deposit derived largely from Mancos shale and to lesser extent from the fine-grained sandstone of the Mesaverde formation. The soil is very similar to Ravola very fine sandy loam, 0 to 2 percent slopes, but it contains less very fine sand and a definitely larger amount of silt. In a number of small areas the texture approaches, or may be, a silt loam. From the Ravola clay loam soils, this soil differs in being coarser textured and not so gritty.

In the larger areas near Clifton, the 10- or 12-inch surface layer consists of light brownish-gray to pale-yellow, calcareous, heavy loam. The subsoil, similar to the surface soil in color, invariably contains a higher percentage of silt than the subsoil of the Ravola very fine sandy loams. Differences among the thin alluvial layers in the subsoil are almost imperceptible to depths of 3 to 4 feet. At depths greater than this, however, 1- to 3-inch layers of either silt or very fine sandy loam commonly occur among the more numerous layers of loam. The thin layers of silt or very fine sandy loam are most noticeable in the larger and broader areas west of Palisade.

Northeast of Fruita, northwest of Mack, and southeast and northeast of Loma, this soil consists of pale-yellow to light-gray surface



Location Map

Pheasant Meadows SUBDIVISION

LANDesign

ENGINEERS • SURVEYORS • PLANNERS
559 GRAND AVENUE
GRAND JUNCTION, COLORADO 81501 (970) 245-4099

PROJECT NO. 59600 | DESIGNED | DRAWN | CHECKED | SHEET | OF

DATE: JAN 1996

DATE	NO	REVISIONS	By

PHILIP M HART
REGISTERED PROFESSIONAL ENGINEER
P.E. NO. 15345

REVIEW COMMENTS

FILE #FP-96-113 **TITLE HEADING:** Pheasant Meadows Subdivision

LOCATION: 720 24 3/4 Road

PETITIONER: George & Carrie Euler

PETITIONER'S ADDRESS/TELEPHONE: 720 24 3/4 Road
Grand Junction, CO 81505
243-7500

PETITIONER'S REPRESENTATIVE: Mike Best, LANDesign LLC

STAFF REPRESENTATIVE: Michael Drollinger

NOTE: THE PETITIONER IS REQUIRED TO SUBMIT FOUR (4) COPIES OF WRITTEN RESPONSE AND REVISED DRAWINGS ADDRESSING ALL REVIEW COMMENTS ON OR BEFORE 5:00 P.M., MAY 23, 1996.

UTE WATER **5/8/96**
Gary R. Mathews **242-7491**

1. An 8" water main is needed for Jakarlin Court up to the fire plug and then a 2" main to the end of the street. This project will participate in a contract protected water line and pay a per lot assessment.
2. Water mains shall be C-900, class 150. Installation of pipe fittings, valves and services including testing and disinfection shall be in accordance with Ute Water standard specifications and drawings. Developer is responsible for installing meter pits and yokes. Ute will furnish the meter pits and yokes.
3. Construction plans required before development begins.
4. Policies and fees in effect at the time of application will apply.

U.S. WEST **5/13/96**
Max Ward **244-4721**

U.S. West will bill developer to relocate pedestals on 24 3/4 Road. Please call Max Ward, Field Engineer at 244-4721.

For timely telephone service, as soon as you have a plat and power drawing for your housing development, please.....

MAIL COPY TO:
U.S. West Communications
Developer Contact Group
P.O. Box 1720
Denver, CO 80201

AND

CALL THE TOLL-FREE NUMBER FOR:
Developer Contact Group
1-800-526-3557

We need to hear from you at least 60 days prior to trenching.

PUBLIC SERVICE COMPANY **5/8/96**
Jon Price **244-2693**

Public Service company will need to relocate gas service line to existing house. This will be billed time, material and equipment to home owner. No other requirements.

CITY PROPERTY AGENT **5/13/96**
Steve Pace **256-4003**

1. The additional 1.00 feet of right-of-way for 27 3/4 Road needs to be dedicated to the city of Grand Junction.
2. Only address those easements that are platted in the dedication (example - irrigation & pedestrian easements not shown).
3. The 20' Grand Junction Drainage District easement can't be abandoned or vacated with this plat. A recorded release or recission agreement needs to be executed first and then noted on plat with book & page.
4. Building setbacks?
5. There are easements listed in the title commitment such as Pioneer Extension Ditch and Railroad easements that are not shown or noted on the plat.

CITY FIRE DEPARTMENT **5/13/96**
Hank Masterson **244-1414**

The nearest existing fire hydrant at Cimarron Drive and 24 3/4 Road is too far from lots 3 & 4 on Jakarlin Court. Therefore an additional fire hydrant will be required. Locate at intersection of Jakarlin Court and 24 3/4 Road.

CITY DEVELOPMENT ENGINEER **5/15/96**
Jody Kliska **244-1591**

See attached comments.

CITY COMMUNITY DEVELOPMENT **5/10/96**
Michael Drollinger **244-1439**

See attached comments.

CITY COMMUNITY DEVELOPMENT POLICE **5/16/96**
Dave Stassen **244-3587**

No comments.

CITY UTILITY ENGINEER **5/15/96**
Trent Prall **244-1590**

WATER: Ute

1. Provide a signoff block for Ute on all water related plans.
2. Please obtain Ute Water's standard specifications rather than the City of Grand Junction's Water specifications.

SEWER: City of Grand Junction

1. As previously mentioned in the preliminary plan, sewer paybacks are required to both Fountainhead and North Valley Subdivisions. Please contact Utility Billing at 244-1580 for details.

2. Please reconfigure sewer to utilize Ex manhole #2. Waterline will have to shift to south side of street.
3. Please reconfigure water and sewer connections to Lots 3 & 4 to eliminate unnecessary crossings.
4. Improvements agreement. Need to add 1 sewer manhole and 1 connection to existing manhole.
5. Please add the following notes to the sewer plan and profile.
   - A. Contractor shall have one signed copy of plans and a copy of the City of Grand Junction's Standard Specifications at the job site at all times.
   - B. All sewer mains shall be PVC SDR 35 (ASTM 3034) unless otherwise noted.
   - C. All sewer mains shall be laid to grade utilizing a pipe laser.
   - D. All service line connections to the new main shall be accomplished with full body wyes or tees. Tapping saddles will not be allowed.
   - E. No 4" services shall be connected directly into manholes.
   - F. The contractor shall notify the City inspection 48 hours prior to commencement of construction.
   - G. The Contractor is responsible for all required sewer line testing to be completed in the presence of the City Inspector. Pressure testing will be performed after all compaction of street subgrade and prior to street paving. Final lamping will also be accomplished after paving is completed. These tests shall be the basis of acceptance of the sewer line extension.
   - H. The Contractor shall obtain City of Grand Junction Street Cut Permit for all work within existing City road right-of-way prior to construction.
   - I. A clay cut-off wall shall be placed 10 feet upstream from all new manholes unless otherwise noted. The cut-off wall shall extend from 6 inches below to 6 inches above granular backfill material and shall be 2 feet wide. If native material is not suitable, the contractor shall import material approved by the engineer.
   - J. Benchmark _____

TO DATE, COMMENTS NOT RECEIVED FROM:

City Parks & Recreation
City Attorney
Mesa County School District #51
Grand Valley Water Users' Association
Grand Valley Rural Power
Colorado Geological Survey
U.S. Postal Service
TCI Cablevision

P.M. - MD

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   - J. Benchmark _____

GRAND VALLEY RURAL POWER **5/15/96**
Perry Rupp **242-0040**
No comments at this time.

CITY PARKS & RECREATION **5/17/96**
Shawn Cooper **244-3869**
Parks & Open Space fees - 7 units @ $225 = $1,575.

LATE COMMENTS

MESA COUNTY SCHOOL DISTRICT #51 **5/20/96**
Lou Grasso **242-8500**
SCHOOL - CURRENT ENROLLMENT / CAPACITY - IMPACT
Appleton Elementary - 277 / 250 - 2
Fruita Middle School - 622 / 750 - 1
Fruita Monument High School - 1337 / 1100 - 1

FILE

STAFF COMMENTS

FILE : #FPP-96-113
DATE: May 10, 1996
STAFF: Michael T. Drollinger
PROJECT: Pheasant Meadows
REQUEST: Major Subdivision - Final
LOCATION: E side of 24 3/4 Road; N of G Road
ZONING: RSF-4

COMMENTS:

1. If TCP credit for the 24 3/4 Road improvements is desired, the applicant is required to submit a formal request.

2. The detention facility must be on a separate lot which is maintained by the Homeowner's Association.

Please contact the Community Development Department (244-1430) if you have any questions or require further explanation of any item.

h:\cityfil\1996\96-113.rvc

LANDesign
ENGINEERING • SURVEYING • PLANNING

May 21, 1996

Mr. Michael T. Drollinger
Community Development Department
City of Grand Junction
250 N. 5th Street
Grand Junction, CO 81501

Re: Pheasant Meadows
Job File No. 96001.40

Dear Michael:

On behalf of our clients, the Eulers, we are requesting TCP credit for the 29 ¾ Road improvements required by this development.

If additional documentation is needed, please contact our office.

Very truly yours,

Charles M. Best

Charles M. Best
Project Manager

cc: George & Carrie Euler

CB/dg

Will send revised
letter &
fee breakdown

259 Grand Ave. • GRAND JUNCTI • FAX (970) 245-3076

LANDesign
ENGINEERING • SURVEYING • PLANNING

May 22, 1996

Mr. Michael Drollinger
Community Development
City of Grand Junction
250 N. 5th Street
Grand Junction, CO 81501

Re: Response to Review Comments for Pheasant Meadows
Job No. 96001.40

Dear Michael:

The following are the responses for the above referenced site:

Ute Water

Item 1. The 6" water line has been changed as required to an 8" water line. We have talked to Ed Toland of Ute Water for permission to move the line to the south side of Jakarlin Court. He saw no problem with this as it will help with the proposed sewer line construction.

The developers will participate in a contract protected water line and pay a per lot assessment.

Item 2. All water lines will be C-900, class 150 and installed to Ute Water standard specifications. The Developer will install the meter pits and yokes.

Item 3. Construction plans will be approved by Ute Water before development begins.

Item 4: The developer agrees to the policies and fees in effect at the time of application.

U.S. West

The developer sent a preliminary plat to U.S. West for contracts.

259 GRAND AVE. • GRAND JUNCTION, CO 81501 • (970) 245-4099 • FAX (970) 245-3076

Public Service Company

The developer agrees to have the present gas service relocated to the existing house and pay for the relocation.

City Property Agent

Item 1. The additional 1' of ROW for 24 ¾ Road will be dedicated on the plat.

Item 2. The plat has been revised to include only the easements required in the dedication.

Item 3. The 20' Grand Junction Drainage District easement will be abandoned through the District's meeting on May 23, 1996. The book and page will be noted on the plat.

Item 4. A table of building set backs has been included on the plat.

Item 5. The Pioneer Extension ditch is being checked on by the Grand Valley Irrigation Company. The railroad easement will be shown on the plat.

City Fire Department

There is a fire hydrant shown on the plans at Lot 5. This should meet the requirements for fire protection for the development.

City Utility Engineer

Item 1. Sign off blocks for Ute Water have been added to the Utility Plan 5.

Item 2. The required Ute Water specifications and notes have been added to the construction plans.

Item 3. Sewer and water connections have been reconfigured for Lots 3 and 4 to eliminate the unnecessary crossings.

Item 4. The Improvements Agreement has been revised to reflect the correct number of MH's and corrections.

Item 5. The notes have been added to the construction plans.

City Development Engineer

Item 1. A note has been added to the plans with the proposed section. We have contacted Lincoln-Devore for clarification on the paving section.

Item 2. The detention pond will be an out lot owned by the Home Owner's Association.

Item 3. The proposed drainage swales have been detailed on the construction plans. The use of rear and side yard swales for the conveyance of storm water is the standard practice for storm water conveyance in the City of Grand Junction. The swales will be grassed by the future lot owners. As shown on the attached calculation sheets the volume of water generated by this devleopment is very small. The two-year depths are 0.2' in the channels. The grass height may be 0.1 to 0.2'. In two-year events the center grass tops may not even be covered.

In 100-year events, the water will be a maximum of 0.41' or 5". The storm water surface will be approximately 6' wide at the top.

The velocities in the channels are below the 2 fps requirements of the SWMM Section VII-6-E-2-f. This is due to the very low volume of water generated by the site. There is no way to increase the velocities on the project. Also attached, channel analysis for the swale that slopes 61%. As shown, the channel slope of 0.61% would need a volume of 5.58 cfs to meet the 2 fps velocity required. This is 5 times the storm water generated for this basin.

The City of Grand Junction required that a homeowner get a planning clearance for the construction of any out buildings on an city lot. The homeowner cannot build a structure in any easement of record. This will prevent the construction of obstacles in the drainage easements for this project.

Item 4. The drainage structures have been detailed on the grading plans.

Item 5. The street plans have been edited to show the improvements alone 24 ¾ Road. 22' of asphalt will be extended to the north property line.

Item 6. The preliminary plan showed a drainage structure along 24 ¾ Road. At this time, no on-site water will be discharged into the street. This is the same condition for the subdivision to the west of Pheasant Meadows. No provisions of street runoff were required there. We feel that the requirement to mitigate storm water in the public ROW is not the developers responsibility.

Item 7. The dedication for irrigation easements is needed for the plat as there are irrigation liens in the subdivision. The plat has been changed to reflect this.

City Community Development

Item 1. A letter requesting TCP credit has been included with this response.

Item 2. The detention facility has been added to the Final Plat.

Sincerely,

Mike Best

Mike Best
Project Manager

MB/dg

Rectangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: Pheasent Meadows

Comment: Curb flow through at the end of Jakarlin Ct.

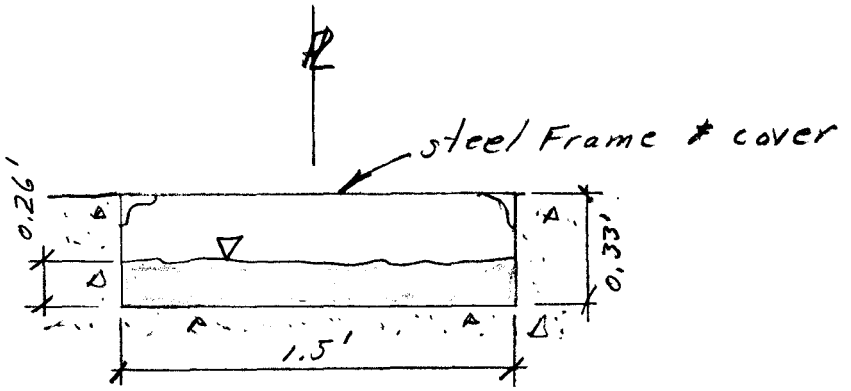
Solve For Depth

Given Input Data:

Bottom Width.....	1.50 ft
Manning's n.....	0.015
Channel Slope....	0.0075 ft/ft
Discharge.....	1.09 cfs

Computed Results:

Depth.....	0.26 ft
Velocity.....	2.84 fps
Flow Area.....	0.38 sf
Flow Top Width...	1.50 ft
Wetted Perimeter.	2.01 ft
Critical Depth...	0.25 ft
Critical Slope...	0.0076 ft/ft
Froude Number....	0.99 (flow is Subcritical)



Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: Pheasent Meadows

Comment: Sub Basin A1 2year

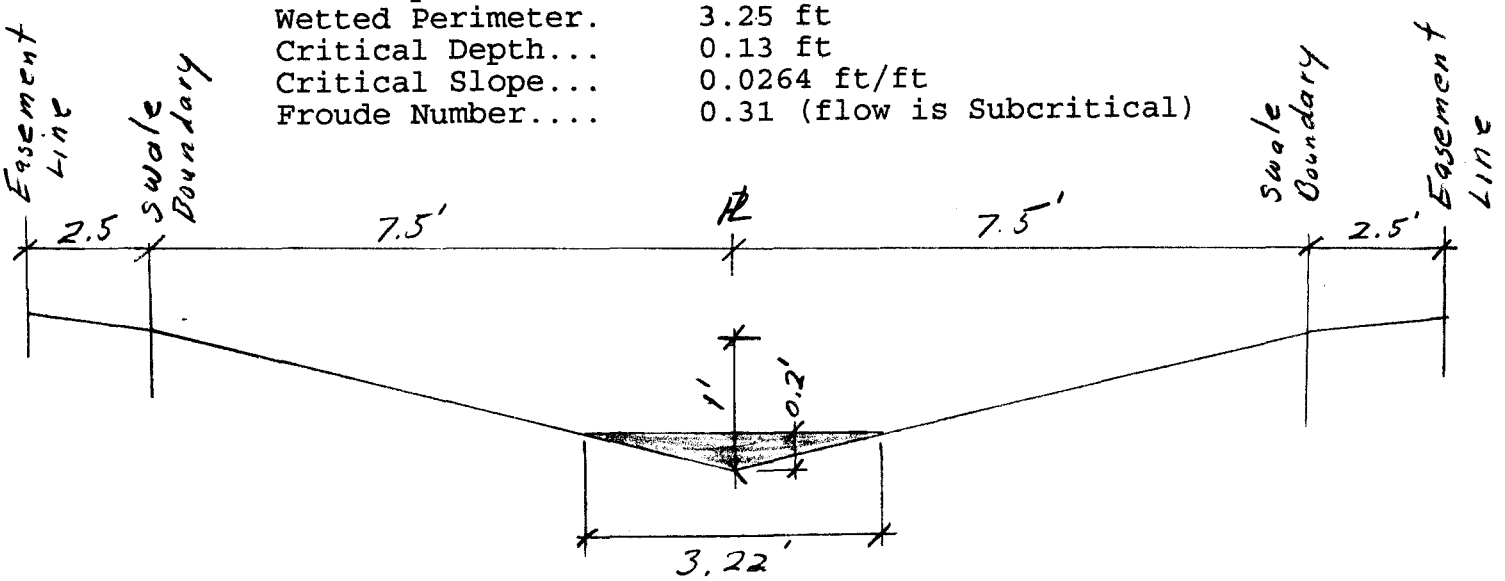
Solve For Depth

Given Input Data:

Left Side Slope..	7.50:1 (H:V)
Right Side Slope.	7.50:1 (H:V)
Manning's n.....	0.027
Channel Slope....	0.0022 ft/ft
Discharge.....	0.20 cfs

Computed Results:

Depth.....	0.21 ft
Velocity.....	0.58 fps
Flow Area.....	0.35 sf
Flow Top Width...	3.22 ft
Wetted Perimeter.	3.25 ft
Critical Depth...	0.13 ft
Critical Slope...	0.0264 ft/ft
Froude Number....	0.31 (flow is Subcritical)



Open Channel Flow Module, Version 3.16 (c) 1990
Haestad Methods, Inc. * 37 Brookside Rd * Waterbury, Ct 06708

Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: Pheasent Meadows

Comment: Sub Basin A1 100year

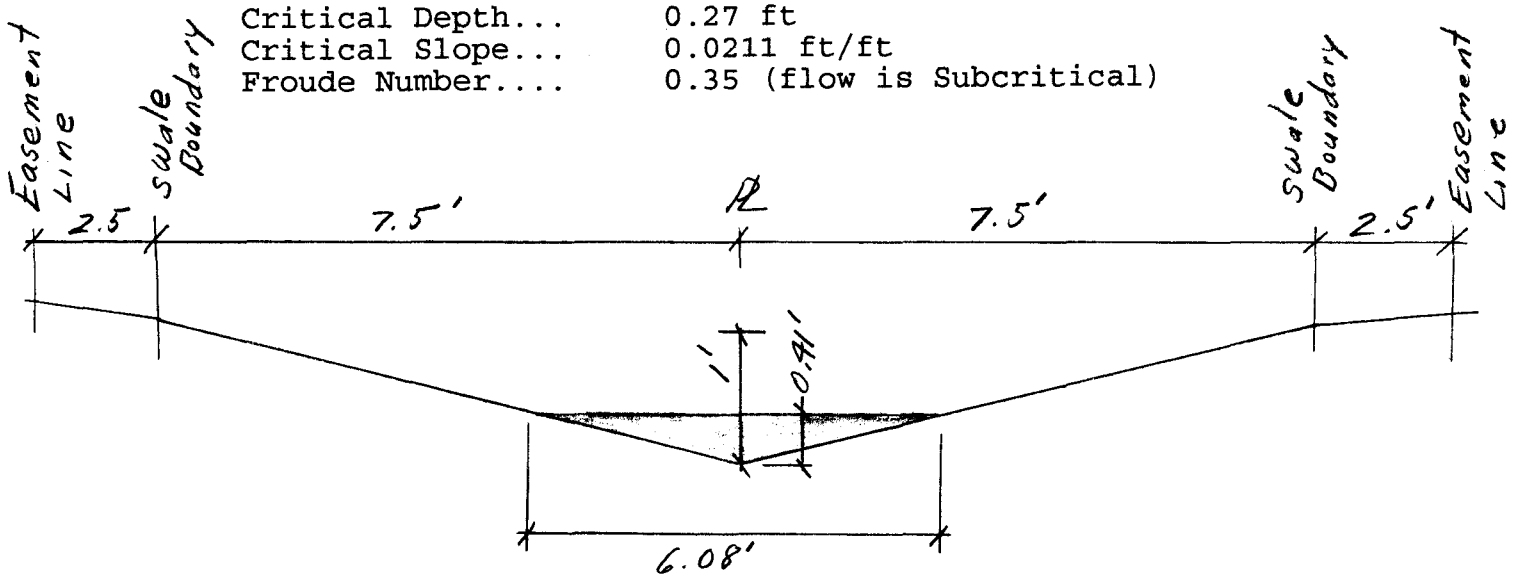
Solve For Depth

Given Input Data:

Left Side Slope..	7.50:1 (H:V)
Right Side Slope.	7.50:1 (H:V)
Manning's n.....	0.027
Channel Slope....	0.0022 ft/ft
Discharge.....	1.09 cfs

Computed Results:

Depth.....	0.41 ft
Velocity.....	0.89 fps
Flow Area.....	1.23 sf
Flow Top Width...	6.08 ft
Wetted Perimeter.	6.13 ft
Critical Depth...	0.27 ft
Critical Slope...	0.0211 ft/ft
Froude Number....	0.35 (flow is Subcritical)



Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: Pheasent Meadows

Comment: Sub Basin A2 2 year

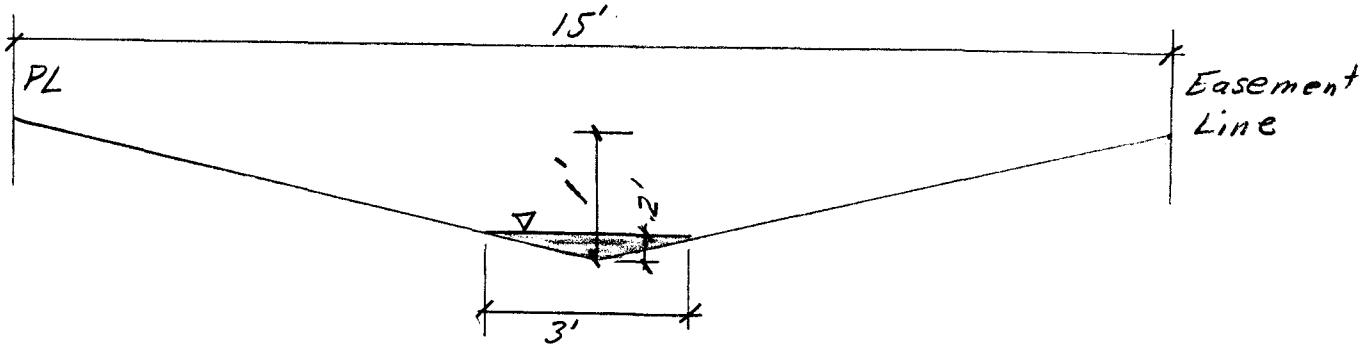
Solve For Depth

Given Input Data:

Left Side Slope..	7.50:1 (H:V)
Right Side Slope.	7.50:1 (H:V)
Manning's n.....	0.027
Channel Slope....	0.0068 ft/ft
Discharge.....	0.29 cfs

Computed Results:

Depth.....	0.20 ft
Velocity.....	0.97 fps
Flow Area.....	0.30 sf
Flow Top Width...	2.99 ft
Wetted Perimeter.	3.02 ft
Critical Depth...	0.16 ft
Critical Slope...	0.0252 ft/ft
Froude Number....	0.54 (flow is Subcritical)



Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: Pheasent Meadows

Comment: Sub Basin A2 100 year

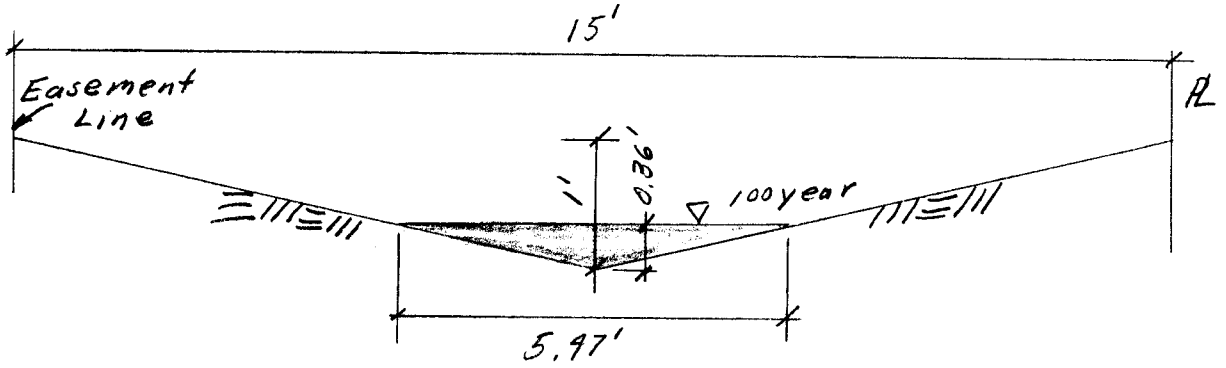
Solve For Depth

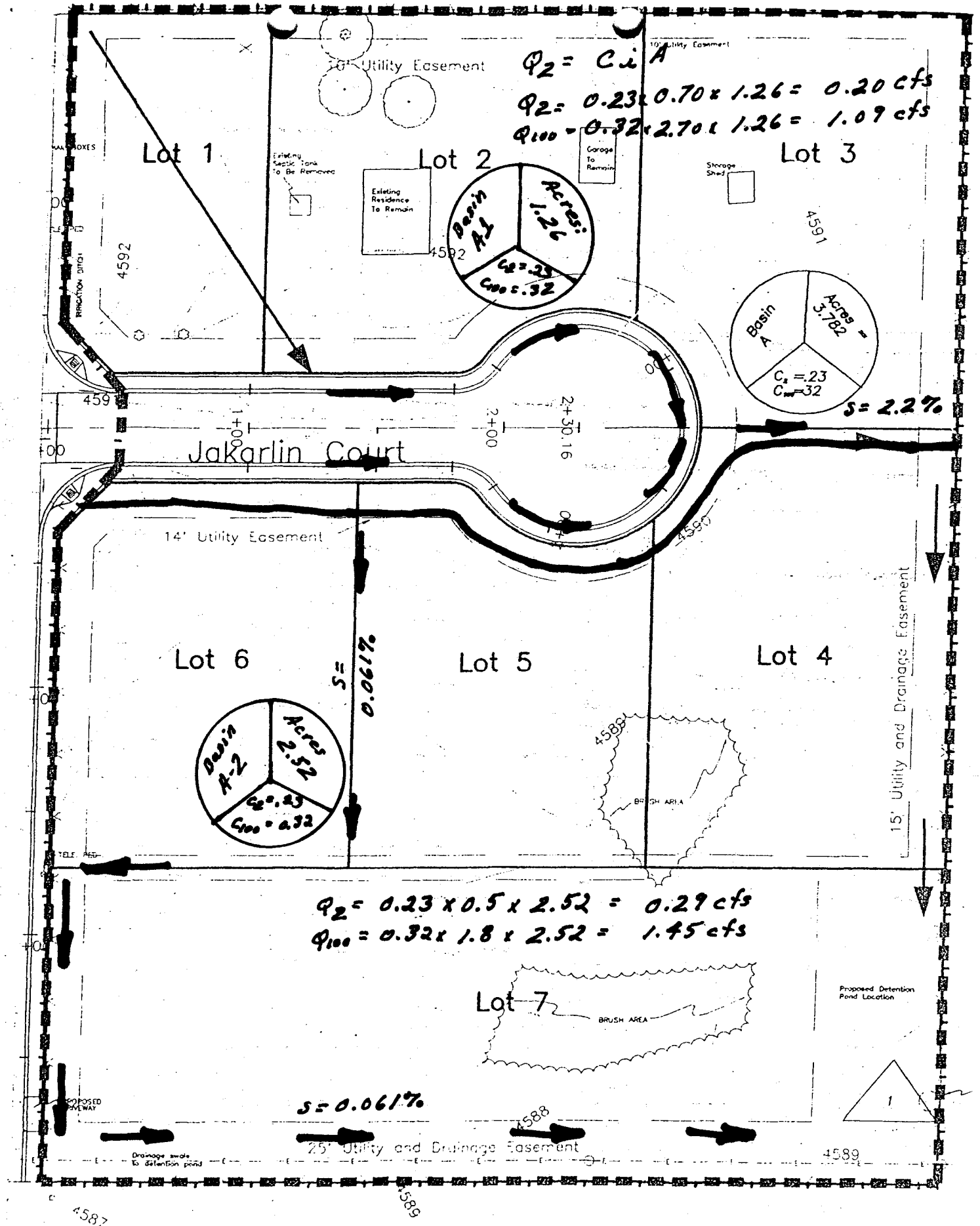
Given Input Data:

Left Side Slope..	7.50:1 (H:V)
Right Side Slope.	7.50:1 (H:V)
Manning's n.....	0.027
Channel Slope....	0.0068 ft/ft
Discharge.....	1.45 cfs

Computed Results:

Depth.....	0.36 ft
Velocity.....	1.45 fps
Flow Area.....	1.00 sf
Flow Top Width...	5.47 ft
Wetted Perimeter.	5.52 ft
Critical Depth...	0.30 ft
Critical Slope...	0.0203 ft/ft
Froude Number....	0.60 (flow is Subcritical)





Drain Sub Basin Map

Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: Pheasent Meadows

Description:

Solve For Discharge

Given Constant Data;

Z-Left.....	7.50
Z-Right.....	7.50
Mannings 'n'.....	0.025

Variable Input Data	Minimum	Maximum	Increment By
Channel Slope	0.0061	0.0220	0.0020
Channel Depth	0.20	0.80	0.10

Z-Left (H:V)	Z-Right (H:V)	Mannings 'n'	VARIABLE Channel Slope ft/ft	VARIABLE Channel Depth ft	COMPUTED Channel Discharge cfs	COMPUTED Velocity (fps)
7.50	7.50	0.025	0.0061	0.20	0.30	0.99
7.50	7.50	0.025	0.0081	0.20	0.34	1.15
7.50	7.50	0.025	0.0101	0.20	0.38	1.28
7.50	7.50	0.025	0.0121	0.20	0.42	1.40
7.50	7.50	0.025	0.0141	0.20	0.45	1.51
7.50	7.50	0.025	0.0161	0.20	0.48	1.62
7.50	7.50	0.025	0.0181	0.20	0.51	1.71
7.50	7.50	0.025	0.0201	0.20	0.54	1.80
7.50	7.50	0.025	0.0221	0.20	0.57	1.89
7.50	7.50	0.025	0.0061	0.30	0.88	1.30
7.50	7.50	0.025	0.0081	0.30	1.01	1.50
7.50	7.50	0.025	0.0101	0.30	1.13	1.68
7.50	7.50	0.025	0.0121	0.30	1.24	1.84
7.50	7.50	0.025	0.0141	0.30	1.34	1.98
7.50	7.50	0.025	0.0161	0.30	1.43	2.12
7.50	7.50	0.025	0.0181	0.30	1.51	2.24
7.50	7.50	0.025	0.0201	0.30	1.60	2.37
7.50	7.50	0.025	0.0221	0.30	1.67	2.48
7.50	7.50	0.025	0.0061	0.40	1.89	1.58
7.50	7.50	0.025	0.0081	0.40	2.18	1.82
7.50	7.50	0.025	0.0101	0.40	2.44	2.03
7.50	7.50	0.025	0.0121	0.40	2.67	2.22
7.50	7.50	0.025	0.0141	0.40	2.88	2.40
7.50	7.50	0.025	0.0161	0.40	3.08	2.56
7.50	7.50	0.025	0.0181	0.40	3.26	2.72
7.50	7.50	0.025	0.0201	0.40	3.44	2.87
7.50	7.50	0.025	0.0221	0.40	3.61	3.00
7.50	7.50	0.025	0.0061	0.50	3.43	1.83
7.50	7.50	0.025	0.0081	0.50	3.96	2.11
7.50	7.50	0.025	0.0101	0.50	4.42	2.36
7.50	7.50	0.025	0.0121	0.50	4.84	2.58
7.50	7.50	0.025	0.0141	0.50	5.22	2.78
7.50	7.50	0.025	0.0161	0.50	5.58	2.98
7.50	7.50	0.025	0.0181	0.50	5.92	3.15
7.50	7.50	0.025	0.0201	0.50	6.23	3.32
7.50	7.50	0.025	0.0221	0.50	6.54	3.49
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.50	7.50	0.025	0.0081	0.60	6.43	2.38
7.50	7.50	0.025	0.0101	0.60	7.19	2.66
7.50	7.50	0.025	0.0121	0.60	7.86	2.91

Z-Left (H:V)	Z-Right (H:V)	Mannings 'n'	VARIABLE Channel Slope ft/ft	VARIABLE Channel Depth ft	COMPUTED Channel Discharge cfs	COMPUTED Velocity (fps)
7.50	7.50	0.025	0.0141	0.60	8.49	3.14
7.50	7.50	0.025	0.0161	0.60	9.07	3.36
7.50	7.50	0.025	0.0181	0.60	9.62	3.56
7.50	7.50	0.025	0.0201	0.60	10.14	3.75
7.50	7.50	0.025	0.0221	0.60	10.63	3.94
7.50	7.50	0.025	0.0061	0.70	8.42	2.29
7.50	7.50	0.025	0.0081	0.70	9.71	2.64
7.50	7.50	0.025	0.0101	0.70	10.84	2.95
7.50	7.50	0.025	0.0121	0.70	11.86	3.23
7.50	7.50	0.025	0.0141	0.70	12.81	3.48
7.50	7.50	0.025	0.0161	0.70	13.68	3.72
7.50	7.50	0.025	0.0181	0.70	14.51	3.95
7.50	7.50	0.025	0.0201	0.70	15.29	4.16
7.50	7.50	0.025	0.0221	0.70	16.03	4.36
7.50	7.50	0.025	0.0061	0.80	12.03	2.51
7.50	7.50	0.025	0.0081	0.80	13.86	2.89
7.50	7.50	0.025	0.0101	0.80	15.48	3.22
7.50	7.50	0.025	0.0121	0.80	16.94	3.53
7.50	7.50	0.025	0.0141	0.80	18.28	3.81
7.50	7.50	0.025	0.0161	0.80	19.54	4.07
7.50	7.50	0.025	0.0181	0.80	20.72	4.32
7.50	7.50	0.025	0.0201	0.80	21.83	4.55
7.50	7.50	0.025	0.0221	0.80	22.89	4.77
7.50	7.50	0.025	0.0061	0.90	16.46	2.71
7.50	7.50	0.025	0.0081	0.90	18.97	3.12
7.50	7.50	0.025	0.0101	0.90	21.19	3.49
7.50	7.50	0.025	0.0121	0.90	23.19	3.82
7.50	7.50	0.025	0.0141	0.90	25.03	4.12
7.50	7.50	0.025	0.0161	0.90	26.75	4.40
7.50	7.50	0.025	0.0181	0.90	28.36	4.67
7.50	7.50	0.025	0.0201	0.90	29.89	4.92
7.50	7.50	0.025	0.0221	0.90	31.34	5.16

EXHIBIT "B"

IMPROVEMENTS LIST/DETAIL
(Page 1 of 3)

DATE: 5-23-96
NAME OF DEVELOPMENT: Pheasant Meadows Subdivision
LOCATION: 720 24 3/4 Road Jakarlin Court
PRINTED NAME OF PERSON PREPARING: Mike Best

		UNITS	TOTAL QTY	UNIT PRICE	TOTAL AMOUNT
I.	**SANITARY SEWER**				
1	Clearing and grubbing				
2	Cut and remove asphalt	LS		$300.00	$300.00
3	PVC sanitary sewer main (incl. trenching, bedding & backfill)	LF	247	$16.00	$3,952.00
4	Sewer service (incl. trenching bedding, & backfill)	EA	7	$400.00	$2,800.00
5	Sanitary sewer manhole(s)	EA	1	$1,700.00	$1,700.00
6	Connection to existing manhole(s)	EA	1	$500.00	$500.00
7	Aggregate Base Course				
8	Pavement Replacement	LS	1	$100.00	$100.00
9	Driveway restoration				
10	Utility adjustments	EA	1	$90.00	$90.00
II.	**DOMESTIC WATER**				
1	Clearing and grubbing				
2	Cut and remove asphalt	LS	1	$100.00	$100.00
3	Water main (incl. excavation, 8"	LF	305	$15.00	$4,575.00
	bedding, backfill, valves, and 2"	LF	62	$4.00	$248.00
	appurtenances)				
4	Water services (incl. excavation, bedding, backfill, valves, and appurtenances)	EA	7	$400.00	$2,800.00
5	Connect to existing water line	EA	1	$210.00	$210.00
6	Aggregate Base Course	CUYD	5	$18.00	$90.00
7	Pavement Replacement	CUYD	1	$200.00	$200.00
8	Utility adjustments	LS	1	$90.00	$90.00
III.	**STREETS**				
1	Clearing and grubbing	LS	1	$1,000.00	$1,000.00
2	Earthwork, including excavation and embankment construction	CUYD	470	$2.25	$1,057.50
3	Utility relocations	LS	1	$7,000.00	$7,000.00

4	Aggregate sub-base course (Square Yard)				
5	Aggregate base course (Cubic Yard)	CUYD	250	$18.00	$4,500.00
6	Sub-grade stabilization				
7	Asphalt or pavement (Ton)	TON	190	$27.50	$5,225.00
8	Curb, gutter & sidewalk 6' 6" (Linear Feet))	LF	510	$14.25	$7,267.50
9	Driveway sections (Square Feet)				
10	Crosspans & fillets				
11	Retaining walls/structures				
12	Storm drainage system	LS	1	$2,000.00	$2,000.00
13	Signs and other traffic control devices	EA	3	$100.00	$300.00
14	Construction staking				
15	Dust control				
16	Street lights (each)				
IV.	**LANDSCAPING**				
1	Design/Architecture				
2	Earthwork (incl. top soil, fine grading & berming)				
3	Hardscape features (incl. walls fencing, and paving)				
4	Plant material and planting				
5	Irrigation system				
6	Other features (incl. statues water displays, park equipment)				
7	Curbing				
8	Retaining walls & structures				
9	One year maintenance agmt.				
V.	**MISCELLANEOUS**				
1	Design/Engineering				$9,300.00
2	Surveying				$2,700.00
3	Developer's inspection costs				$2,700.00
4	Quality Control testing				$2,500.00
5	Construction traffic control				
6	Rights-of-way/Easements				

7	City inspection fees				$1,700.00
8	Permit fees				
9	Recording costs				$500.00
10	Bonds				
11	Newsletters				
12	General Construction Supervision				
13	Other				
14	Other	10%			$6,521.00

TOTAL ESTIMATED COST OF IMPROVEMENTS : **$72,026.00**

Signature of Developer Date
(If corporation, to be signed by President and attested to by Secretary together with the corporate seals)

I have reviewed the estimated costs and time schedule shown above and, based on the plan layouts submitted to date and the current costs of construction, I take no exception to the above.

CITY ENGINEER DATE

COMMUNITY DEVELOPMENT DATE

EXHIBIT "B"

IMPROVEMENTS LIST/DETAIL
(Page 1 of 3)

DATE: 5-23-96
NAME OF DEVELOPMENT: Pheasant Meadows Subdivision
LOCATION: 24 3/4 Road Improvements
PRINTED NAME OF PERSON PREPARING: Mike Best

	UNITS	TOTAL QTY	UNIT PRICE	TOTAL AMOUNT
I. SANITARY SEWER				
1 Clearing and grubbing				
2 Cut and remove asphalt				
3 PVC sanitary sewer main (incl. trenching, bedding & backfill)				
4 Sewer service (incl. trenching bedding, & backfill)				
5 Sanitary sewer manhole(s)				
6 Connection to existing manhole(s)				
7 Aggregate Base Course				
8 Pavement Replacement				
9 Driveway restoration				
10 Utility adjustments				
II. DOMESTIC WATER				
1 Clearing and grubbing				
2 Cut and remove asphalt				
3 Water main (incl. excavation, bedding, backfill, valves, and appurtenances)				
4 Water services (incl. excavation, bedding, backfill, valves, and appurtenances)				
5 Connect to existing water line				
6 Aggregate Base Course				
7 Pavement Replacement				
8 Utility adjustments				
III. STREETS				
1 Clearing and grubbing	LS		$250.00	$250.00
2 Earthwork, including excavation and embankment construction	CUYD	180	$2.25	$405.00
3 Utility relocations				

4	Aggregate sub-base course (Square Yard)				
5	Aggregate base course (Cubic Yard)	CUYD	325	$18.00	$5,850.00
6	Sub-grade stabilization				
7	Asphalt or pavement (Ton)	TON	138	$27.50	$3,795.00
8	Curb, gutter & sidewalk (Linear Feet))	LF	380	$15.00	$5,700.00
9	Driveway sections (Square Feet)				
10	Crosspans & fillets				
11	Retaining walls/structures	SF	2000	$4.00	$8,000.00
12	Storm drainage system				
13	Signs and other traffic control devices				
14	Construction staking				
15	Dust control				
16	Street lights (each)				
IV.	**LANDSCAPING**				
1	Design/Architecture				
2	Earthwork (incl. top soil, fine grading & berming)				
3	Hardscape features (incl. walls fencing, and paving)				
4	Plant material and planting				
5	Irrigation system				
6	Other features (incl. statues water displays, park equipment)				
7	Curbing				
8	Retaining walls & structures				
9	One year maintenance agmt.				
V.	**MISCELLANEOUS**				
1	Design/Engineering				$700.00
2	Surveying				$300.00
3	Developer's inspection costs				$300.00
4	Quality Control testing				$500.00
5	Construction traffic control				
6	Rights-of-way/Easements				

7	City inspection fees			$300.00
8	Permit fees			
9	Recording costs			
10	Bonds			
11	Newsletters			
12	General Construction Supervision			
13	Other			
14	Other			

TOTAL ESTIMATED COST OF IMPROVEMENTS : **$26,100.00**

Signature of Developer Date
(If corporation, to be signed by President and attested to by Secretary together with the corporate seals)

I have reviewed the estimated costs and time schedule shown above and, based on the plan layouts submitted to date and the current costs of construction, I take no exception to the above.

CITY ENGINEER DATE

COMMUNITY DEVELOPMENT DATE

FINAL DRAINAGE REPORT

FOR:

Pheasant Meadows Subdivision

May 1, 1996

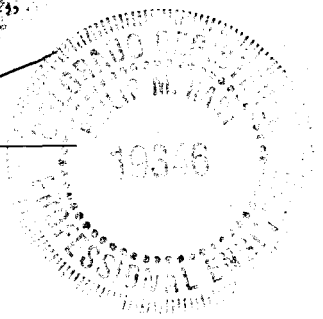
Prepared For:
George and Carrie Euler
720 24 3/4 Road
Grand Junction, CO 81505
(970) 241-4268

Prepared By:
***LAND*esign LLC.**
259 Grand Avenue, Grand Junction, CO 81501
(970) 245-4099

Prepared by:_____
Charles M. Best

"I hereby certify that this report for the preliminary drainage design of Pheasant Meadows Subdivision was prepared under my direct supervision."

Reviewed by:_____
Philip M. Hart, P.E.
State of Colorado, #19346



I. GENERAL LOCATION AND DESCRIPTION

A. Site and Major Basin Location

Pheasant Meadows Subdivision is located at 720 24 3/4 Road and contains approximately 3.82 acres. The property can otherwise be described as; a part of the SE1/4, Township 1 South, Range 1 West of the Ute Meridian. The property tax parcel number is 2701-334-00-115.

Developments in the area of the proposed Pheasant Meadows include Fountainhead Subdivision and North Valley Subdivision.

B. Site and Major Basin Description

The subject property is located in the Leach Creek major drainage basin. Leach Creek lies south of the property approximately 700 feet, at the intersection of G Road and 24 3/4 Road. Majors streets in the major basin around the property include; 24 3/4 Road which defines the west boundary of the basin and G Road that is approx. 660 feet to the south of the project.

Pheasant Meadows contains approximately 3.82 acres. The topography of the property can be described as "flat" in nature and historically slopes to the north west to the south east at an average rate of 1.0 to 1.5 percent. Ground cover on the property include sodded lawn, a grass hay field and areas of native grasses. The property is being used as a residence at this time.

As provided in Reference 3.0 and Exhibit 4.0, 100% of the land contains Ravola very fine silty loam, which is hydrologic soil type "B".

II. EXISTING DRAINAGE CONDITIONS

A. Major Basin

There are two major waterways within a short distance of the subject property. The Grand Valley Main Line Canal lies south of the property approximately one-eighth of a mile, and the Grand Valley High Line Canal lies approximately one-quarter mile to the northeast. Leach Creek lies approximately 660 feet to the south of the property. The only waterway which is effected by the drainage of Pheasant Meadows is Leach Creek which is where drainage water ultimately discharges.

The entire project in defined as being in Zone X and is not within the 100 year flood plain as shown on the, "Flood Insurance Rate Map, Mesa County Colorado" (Reference 4.0 and Exhibit 5.0).

B. Project Site

Historically the property drains in a sheet flow fashion from the north to the south at approximately 1.0 to 1.5 percent, eventually discharging storm water into Leach Creek.

The property is bounded to the north by vacant land which will not contribute flow to the site, as shown in Exhibit 3.0. This is due to the existing irrigation tailwater ditch that is located along the north property line of the project. There is also a dike approx. 1.5' high that is south of the tailwater ditch.

The discharge of runoff from the property is to the southeast via a low point in the natural topography, where the runoff sheet flows into the Fountainhead Subdivision. From here the runoff is conveyed to the south, ultimately discharging into the Leach Creek. The Grand Junction Drainage District has a drainage line that starts at the south east corner of the site. This will be used for storm water discharge.

The areas south, west, and east of the property drain away from the site and will not contribute runoff to the site.

III. PROPOSED DRAINAGE CONDITIONS

A. Changes in Drainage Patterns

Based on the proposed land use plan, significant changes in the existing drainage patterns are not anticipated, either to the site or the major basin.

B. Maintenance Issues

Storm drainage transfer items such as inlets, piping, and the roadway systems will be the publicly owned and maintained. The detention pond and outlet works will be owned and maintained by an established homeowners association for the development.

IV. DESIGN CRITERIA AND APPROACH

A. General Considerations

There has been a drainage study performed for area near the subject property by the Federal Emergency Management Agency, Reference 4.0. This study was revised July 15, 1992, and it's purpose was to establish the Flood Insurance Rate Maps for Mesa County, Colorado shown on Exhibit 5.0.

It is expected that the land to the north and east of the subject property will be developed in the future. At that time the developments will be responsible for the storm water that will be generated from their site.

The only constraint imposed by the proposed site will be the safe discharge of the 100 year storm runoff if the detention facilities fail to perform.

B. Hydrology

The "Stormwater Management Manual, City of Grand Junction, Colorado" (Reference 1) will be used and followed for the drainage report. As the project is a residential development encompassing approximately 3.82 acres, the "Rational Method" will be used for the final drainage report. The minor storm event is described as the 2 year storm and the major storm event is described as the 100 year event. Detention will be required for the 100 year storm event. The detention facilities will be sized to retain the 100 year event if the 2 year historic metering orifice is plugged and will not pass the storm water to the Grand Junction Drainage District facilities.

Historic runoff coefficients to be used in calculations are based on the most recent City of Grand Junction criteria as defined in Reference 1.0 and shown on Exhibit 6.0. An average pro-rated historic "C" values for the project site are; 0.22 for the 2 year event and 0.27 for the 100 year event, with a land surface characteristic of pasture.

Developed runoff coefficients to be used in calculations are based on the most recent City of Grand Junction criteria as defined in Reference 1.0 and shown on Exhibit 6.0. An average pro-rated developed "C" values for the project site are; 0.23 for the 2 year event and 0.32 for the 100 year event, with a land use of approx. 1/2 acre lots in the development.

The project is located within the Grand Junction Urbanized Area, the Intensity Duration Frequency Curves (IFDC) as provided in Reference 2.0 shown on Exhibit 7.0 will be used for design and analysis.

Times of Concentration are calculated using the formula on page E-8 Figure "E-2" (SWMM) 6/1994 City of Grand Junction.

C. Hydraulic

All site facilities and conveyance elements have been designed in accordance with the City of Grand Junction guidelines as provided in Reference 1.0 and are detailed as follows:

Historic: The storm drainage water flows from the north west corner of the property to a point approximately 140' to the south west. It then follows small gullies an tail water ditches to the south east corner of the property. Exhibit 3 shows the historic conditions for the project.

The historic discharge for the site ,2 year, 0.35 cfs. The 100 year discharge for the site is 1.71 cfs.

Developed: The developed storm drainage water follows the historic patterns until it intersects the street. The street curb and gutter system moves the water to the east and discharge it through a curb flow through at the low point in the cul-de-sac. It then travels to the east property line and then to the south ultimately into the detention pond. The detention pond is located in the south east corner of the site. From the detention pond the water is stored and released at the historic rate of 0.32 cfs.

As stated previously the detention pond will have the needed volume to contain the storm water generated from a 100 year event if the outlet facilities are rendered inoperatable. The following calculation sheets will show the capacities of the drainage swales, the detention pond, the outlet structures and the street gutter capacity. All of the information has been taken from the SWMM Manual previously referenced.

VI. CONCLUSION

The appendix of this report contains all of the needed documentation that was used to develop this drainage study.

The drainage facilities designed for this development meet the requirements as outlined by the City of Grand Junction.

VII. REFERENCES

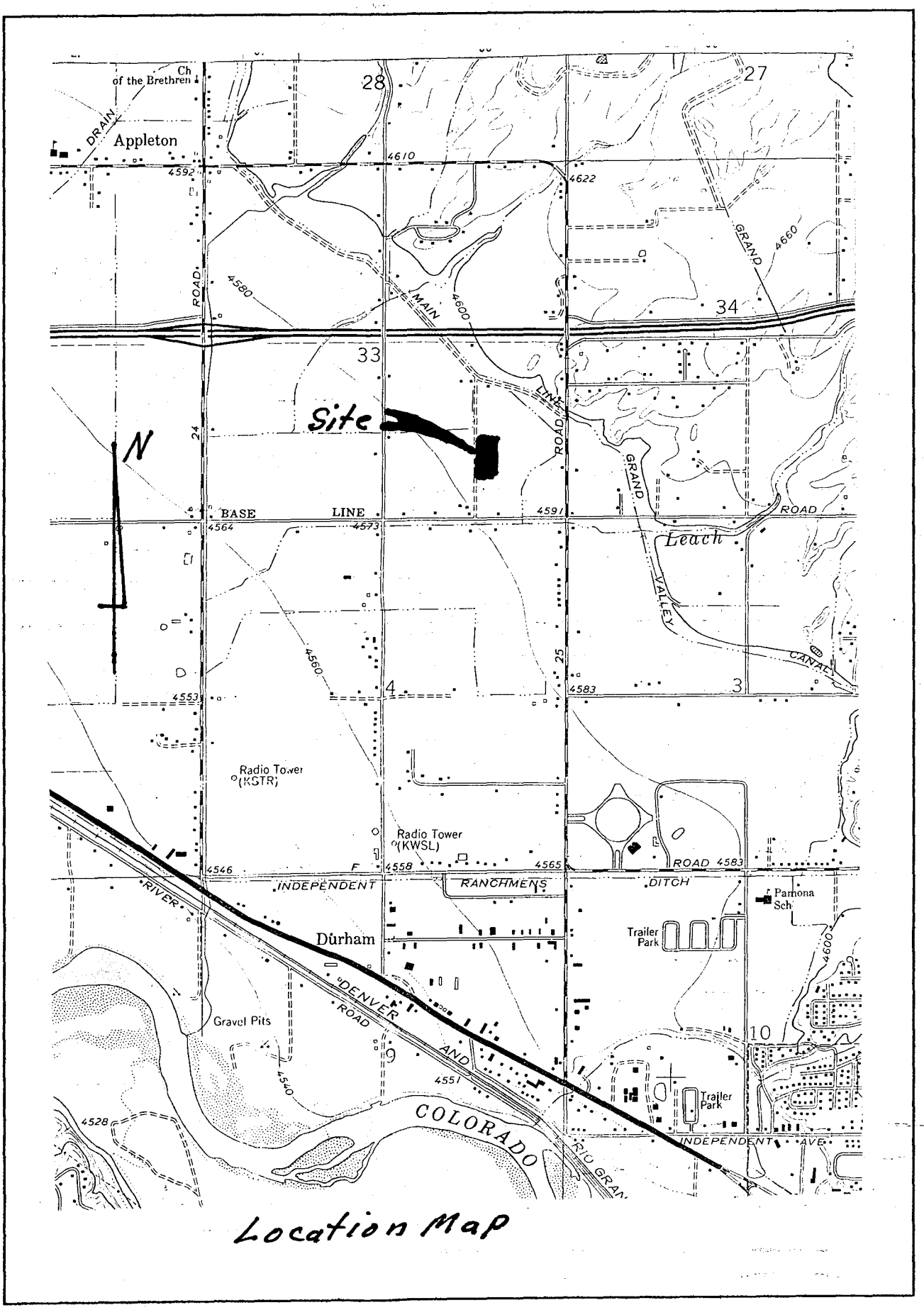
1. Stormwater Management Manual (SWMM), City of Grand Junction, Colorado, Department of Public Works, June 1994.

2. Mesa County Storm Drainage Criteria Manual, Final Draft, Mesa County Colorado, March 1992.

3. Soil Survey. Mesa County Area, Colorado, U.S. Department of Agriculture, issued November, 1955.

4. Flood Insurance Rate Map, Mesa County, Colorado, (Unincorporated Areas), Community Panel Number 080115 0460 B, Federal Emergency Management Agency, Map revised July 15, 1992.

Appendix



Location Map

Exhibit 1.0

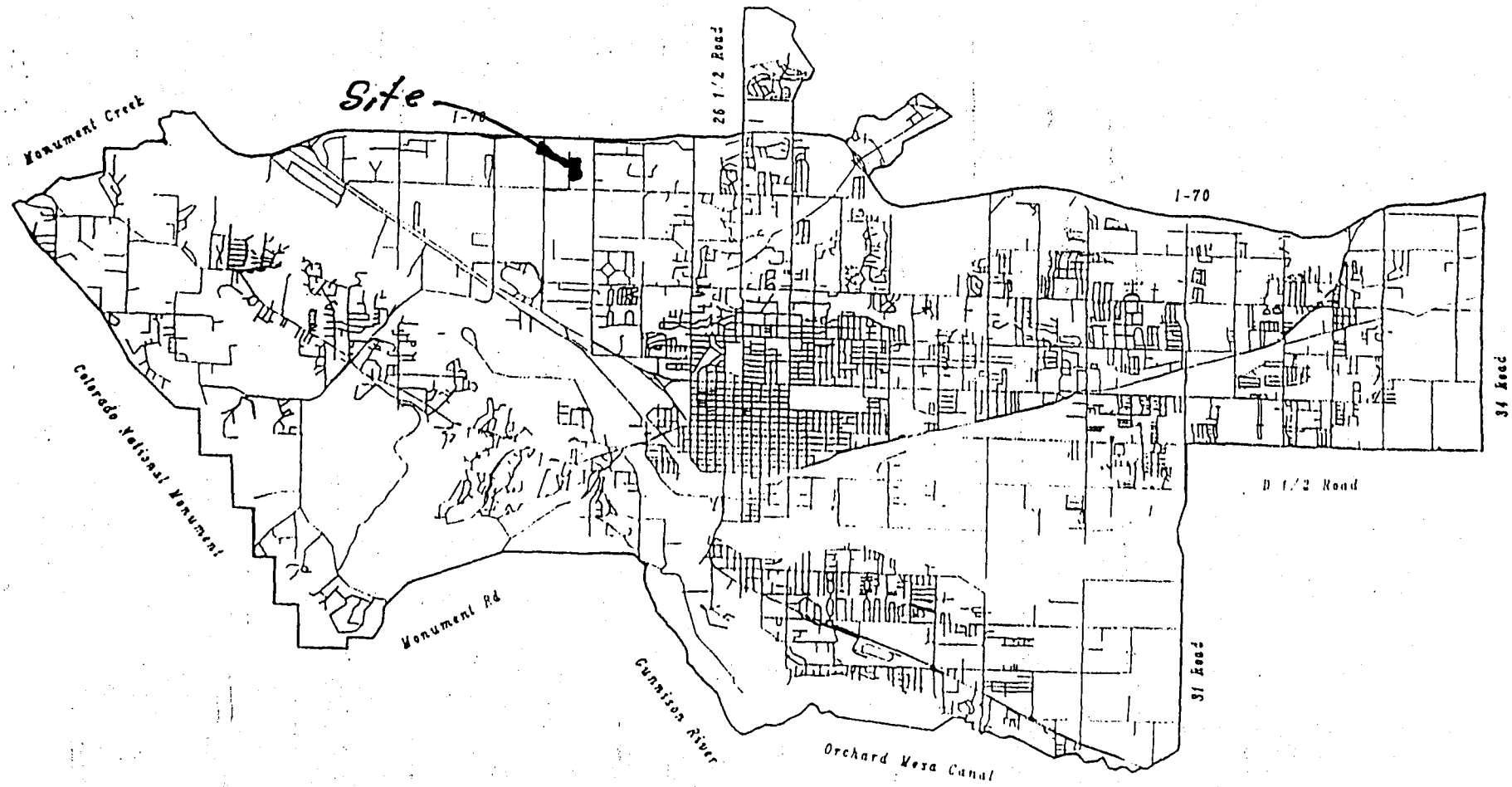
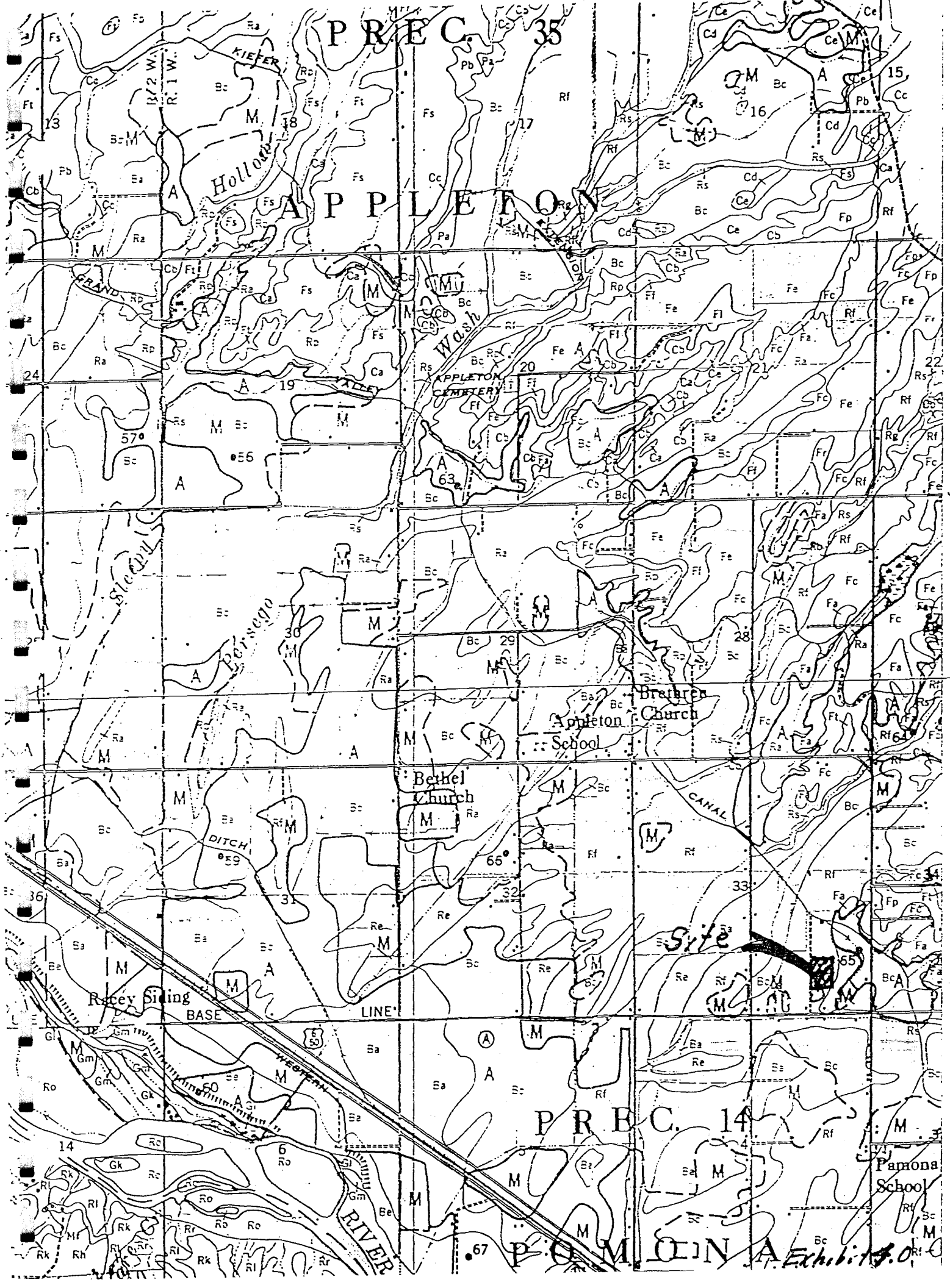


Exhibit 2.0

Mesa County Dept. of Public Works Division of Engineering and Design	1992 Grand Jct - Mesa Co. MPO Boundary			MPO/GIS Project

FIG 304

Exhibit 3.0


PREC. 35
APPLETON
KIEFER
Hollow
GRAND
Wash
APPLETON CEMETERY
VALLEY
Slough
Penegro
Brethren Church
Appleton School
Bethel Church
DITCH
CANAL
Site
Racey Siding
BASE LINE
WESTERN
RIVER
PREC. 14
Pamona School
POMONA
Exhibit 3.0

[illegible] ...ent that exte... to 6 feet above the prevailing level or in small ...larly shaped bodies on relatively smooth topography. Wherever ...eas of Chipeta soil occur, they are too small and too intricately ...ated with the Persayo soil to be mapped separately.

... and management.—About 25 percent of this complex is culti..., but practically all of it could be. The Chipeta soil is not ...ult to level, but the expense of leveling and the isolated location ... areas have not favored development for irrigation and cropping. ...kinds of crops grown, the management practiced, and the yields ...ceed are approximately the same as for Persayo-Chipeta silty ...oams, 0 to 2 percent slopes.

...vola clay loam, 0 to 2 percent slopes (Ra).—This soil, the ...d most extensive in the area, has developed in material that ...sts largely of reworked Mancos shale but includes an appreciable ...nt of sandy alluvium from the higher Mesaverde formation. ...surface of these deposits is relatively level, but the depth of the ...ils ranges from 5 to 30 feet. The soil is associated with the Bill... silty clay loams and the Ravola fine sandy loams. The most ...tant areas are east, northeast, and southeast of Fruita, north ...orthwest of Palisade, and north and northwest of Clifton.

...e soil is much like the Billings silty clay loams but more porous ...se it contains more fine sand, especially in the subsoil. Or...ily, the 10- or 12-inch surface layer consists of light brownish... to very pale-brown light clay loam. The underlying layers vary ...place to place in thickness and texture and become more sandy ...r depths of 4 to 5 feet. The range in the subsoil is from fine ...r loam to clay loam.

...all fragments of shale and sandstone are common from the ...ce downward and are especially noticeable in areas nearest the ...e of the soil material. The entire profile is calcareous and friable, ...ernal drainage is medium and development of plant roots is not ...cted. The surface is smooth. Most areas are at slightly higher ... than the associated areas of Billings silty clay loams and ...fore have better drainage and a lower content of salts. The ...however, is slightly saline under native cover, and in places it ...trongly saline spots and a high water table.

...e and management.—About 95 percent of this soil is cultivated. ...chief crops are alfalfa, corn, pinto beans, small grains, and, ... climate is favorable, orchard fruits. Practically all the acreage ...for tree fruits is near Clifton and Palisade. The acreage used ...ld crops varies from year to year, but by rough estimate about ...rcent is cropped to corn, 25 percent to alfalfa, 15 percent to ...beans, 13 percent to orchard fruits, 10 percent to small grains, ...he rest to sugar beets, tame hay, tomatoes, and various vegetable ...

...general, the tilth and workability of this soil are favorable. ...content of organic matter is generally less than 1 percent, but ...farmers are improving the supply by growing more alfalfa and by ...other improved management.

...vola clay loam, 2 to 5 percent slopes (Rb).—This soil differs from ...la clay loam, 0 to 2 percent slopes, mainly in having greater ...s. Although the combined areas total only seven-tenths of a ...e mile, this soil is important because the largest single area ...

...proximately 300 acres—is located southeast of Palisa... in the ...nelands and is used for peach growing. The remain... areas, ...widely scattered over the valley, total about 150 acres and are of ...minor importance.

The large area occupies a position intermediate between the Green River soils and the higher Mesa soils. Its underlying gravel and stone strata consist not only of sandstone but also of granite, schist, basalt, and lava. Much of the lava was deposited by drainage from the southeast. This large area was included with the soil unit largely because its color was similar to that of the other soil areas. Not many years ago subdrainage became inadequate for existing tree fruits and it was not until a number of tile drains were laid, as deep as 7 to 8 feet in places, that subdrainage was corrected in parts of this particular area.

Use and management.—All of the large soil area is in peaches. On it peach yields average as high as in any section of the valley, primarily because the danger of frost damage is negligible. Some of the orchards are now more than 50 years old but have produced steadily and still yield more than 400 bushels an acre according to reports from local growers. About half of the small scattered areas are cultivated. They are used largely for field crops because climatic conditions are not so favorable for peach growing. In building up the organic matter content, the growing of legumes, application of manure in large amounts, and use of commercial fertilizer generally are practiced.

Ravola very fine sandy loam, 0 to 2 percent slopes (Rv).—This extensive and important soil occurs either along washes or arroyas extending from the north or on broad coalescing alluvial fans. The alluvial material from which the soil has developed was derived from sandstone and shale and ranges from 4 to 20 feet deep. The principal areas of the soil are north and northwest of Grand Junction and north, northwest, and southwest of Fruita.

This soil is much like Ravola fine sandy loam, 0 to 2 percent slopes, but is generally more uniformly level. The texture is prevailingly very fine sandy loam, but the percentage of silt is noticeably higher in some places. A few small areas that have a loam texture are included.

The 10- or 12-inch surface layer consists of light brownish-gray to very pale-brown very fine sandy loam. In some places the underlying thin depositional layers vary only slightly in color or texture. In other places, especially near drainage courses, the layers are more variable and may grade to loam, silt loam, or fine sandy loam. Nevertheless, layers of very fine sandy loam are more numerous. Below depths of 4 to 5 feet, the texture is sandier, and at depths of 8 to 12 feet strata of loamy fine sand, gravel, and scattered sandstone rock are common.

Disseminated lime occurs from the surface downward. Owing to the friable consistence of the successive layers, the tilth, internal drainage, available supply of moisture for plants, permeability to plant roots, and other physical properties are favorable and assure a wide suitability range for crops. The organic-matter content, however, is low. The soil is slightly saline under native cover and has a few strongly saline spots. Occasionally the water table is high.

Use and management.—More than 99 percent of this soil is cultivated. The chief crops are alfalfa, corn, pinto beans, small grains,

[illegible]

truck crops. Corn is planted on an estimated 35 percent of the
, alfalfa on 2[illegible] percent, beans on 20 percent, small grains on 10
cent, and potatoes, tomatoes, sugar beets, and irrigated pasture
the rest. The percentage of land planted to the various crops
tinates considerably. Yields have been increased by using im-
ved soil management, such as application of barnyard manure;
growing of clovers and alfalfa frequently after corn, potatoes,
ar beets, and other crops; and the more liberal use of treble
erphosphate and mixed commercial fertilizer.

Ravola very fine sandy loam, 2 to 5 percent slopes (Rc). This
, of minor importance because of its limited extent, occurs chiefly
the northwestern part of the county. Except for greater slope, it
very similar to Ravola very fine sandy loam, 0 to 2 percent slopes.
st of it is not cultivated. If it were leveled and cultivated, it
uld need about the same management as Ravola very fine sandy
m, 0 to 2 percent slopes, and should produce approximately the
e yields.

Ravola fine sandy loam, 0 to 2 percent slopes (Rd). This soil,
ly important agriculturally, occurs mostly east, northeast, and
th of Fruita. The soil-forming material is derived largely from
dstone but has some admixture of silt or finer sediments of shale
gin.

The 10- or 12-inch surface layer consists of light brownish-gray,
e-brown, or very pale-brown fine sandy loam. The underlying
positional layers generally range from 4 to 3 inches thick; they may
ve a fine sandy loam, fine sandy clay, very fine sandy loam, or loam
ture. The gradation in texture from one layer to another is almost
perceptible in some places, but fairly distinct in others. In most
ces the material below 4 feet is more sandy and slightly lighter
yish brown than that above.

The soil is calcareous from the surface downward, but the lime is
t visible. Because the successive layers are friable, deep-rooted
ps are well suited. Internal drainage is medium to rapid, and
isture relations are favorable. Though the organic-matter content
low, other physical properties are favorable and allow good tilth,
od drainage, and moderate permeability for deep-rooted crops. The
l is slightly saline under native cover and strongly saline in a few
ts. It is subject to an occasional high water table.

Use and management.—About 98 percent of this soil is cultivated.
e most important field crops are potatoes, corn, alfalfa, and pinto
ns. Comparatively smaller acreages are in sugar beets, small
ins, and tomatoes, cucumbers, and other truck crops. An esti-
ted 30 percent of the cultivated acreage is cropped to corn, 25 per-
t to alfalfa, 20 percent to potatoes, 15 percent to pinto beans,
ercent to small grains, and the rest to truck crops, largely tomatoes.
The trend in recent years has been toward larger acreages of potatoes,
matoes, and pinto beans. In earlier days, a considerable acreage
s used for tree fruits, mainly pears. Severe blight, excessive cost
growing and marketing the fruit, and unsuitable climate have
used gradual conversion to field crops.

With proper management, this soil should remain productive in-
initely. Definite rotations formally are not followed. Frequently,
alfa is grown 4 or 5 years, corn 1 or 2 years, then oats or wheat, and
nally pinto beans. Manure, if available, generally is ap d to the
orn crop. The most common fertilizer is treble supe phosphate,
applied at the rate of 100 to 150 pounds an acre for field crops and
truck crops. Some potato growers use commercial fertilizer at the
rate of about 150 pounds an acre.

Ravola fine sandy loam, 2 to 5 percent slopes (Re).—Except for
scattered areas totaling about 25 acres, most of this soil is in the
Vinelands section east of Palisade. The soil-forming material is
mostly local alluvium derived from shale and sandstone that has been
brought down the drainage courses from the southeast. In areas
east of Palisade a few scattered, rounded igneous gravel, cobbles,
stones, and boulders in the lower subsoil indicate that there has been
some admixture of sediments deposited in the past by the Colorado
River.

The 10- or 12-inch surface layer is light brownish-gray or very pale-
brown loam. The subsoil layers are similarly colored and dominantly
of a fine sandy loam texture. Nevertheless, in places fine sandy loam,
loam, and clay loam textures are represented in the subsoil. The soil
is calcareous throughout. Although the organic-matter content is
low, other physical properties insure good tilth, drainage, and per-
meability to deep-rooted crops. The soil is slightly saline under
native cover and includes some strongly saline spots. Occasionally
the water table is high.

Use and management.—Practically all of this soil is cultivated;
deep-rooted crops are well suited. The two areas east of Palisade are
in peach orchards and produce yields comparing favorably with those
on Ravola clay loam soils in the same area. These two areas are
small but valuable because they are located where the climate is ideal
for tree fruits. The productivity of this soil, especially for orchard
fruits, is practically the same as that of Mesa clay loam soils.

Ravola loam, 0 to 2 percent slopes (Rf).—This soil is not extensive,
but it is important agriculturally. It occupies relatively broad
alluvial fans and flood plains along streams. It is at a slightly higher
elevation than the bordering areas of Billings silty clay loam soils.
It has developed in an alluvial deposit derived largely from Mancos
shale and to lesser extent from the fine-grained sandstone of the
Mesaverde formation. The soil is very similar to Ravola very fine
sandy loam, 0 to 2 percent slopes, but it contains less very fine sand
and a definitely larger amount of silt. In a number of small areas the
texture approaches, or may be, a silt loam. From the Ravola clay
loam soils, this soil differs in being coarser textured and not so gritty.

In the larger areas near Clifton, the 10- or 12-inch surface layer
consists of light brownish-gray to pale-yellow, calcareous, heavy loam.
The subsoil, similar to the surface soil in color, invariably contains a
higher percentage of silt than the subsoil of the Ravola very fine
sandy loams. Differences among the thin alluvial layers in the sub-
soil are almost imperceptible to depths of 3 to 4 feet. At depths
greater than this, however, 1- to 3-inch layers of either silt or very
fine sandy loam commonly occur among the more numerous layers of
loam. The thin layers of silt or very fine sandy loam are most notice-
able in the larger and broader areas west of Palisade.

Northeast of Fruita, northwest of Mack, and southeast and north-
east of Loma, this soil consists of pale-yellow to light-gray surface

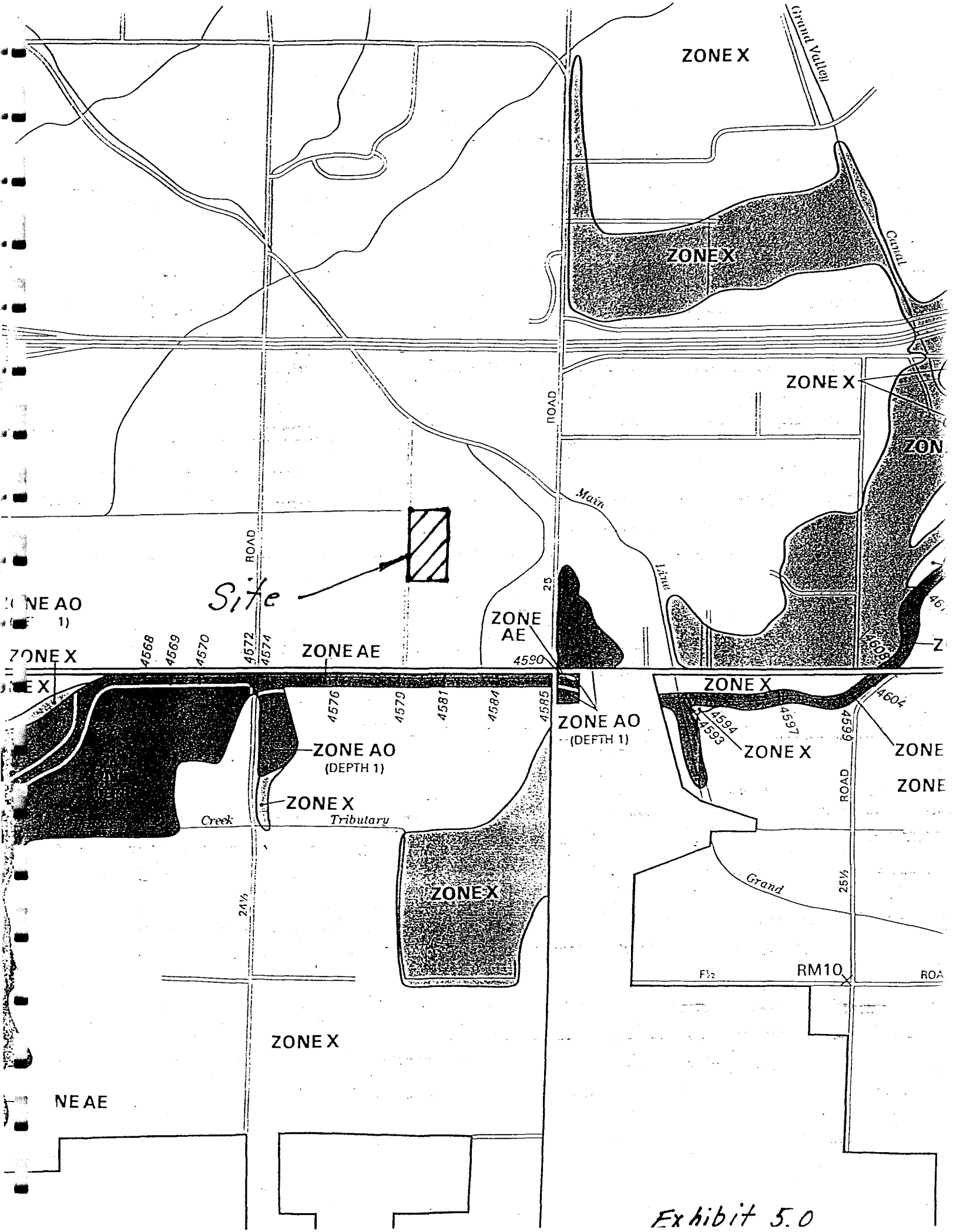
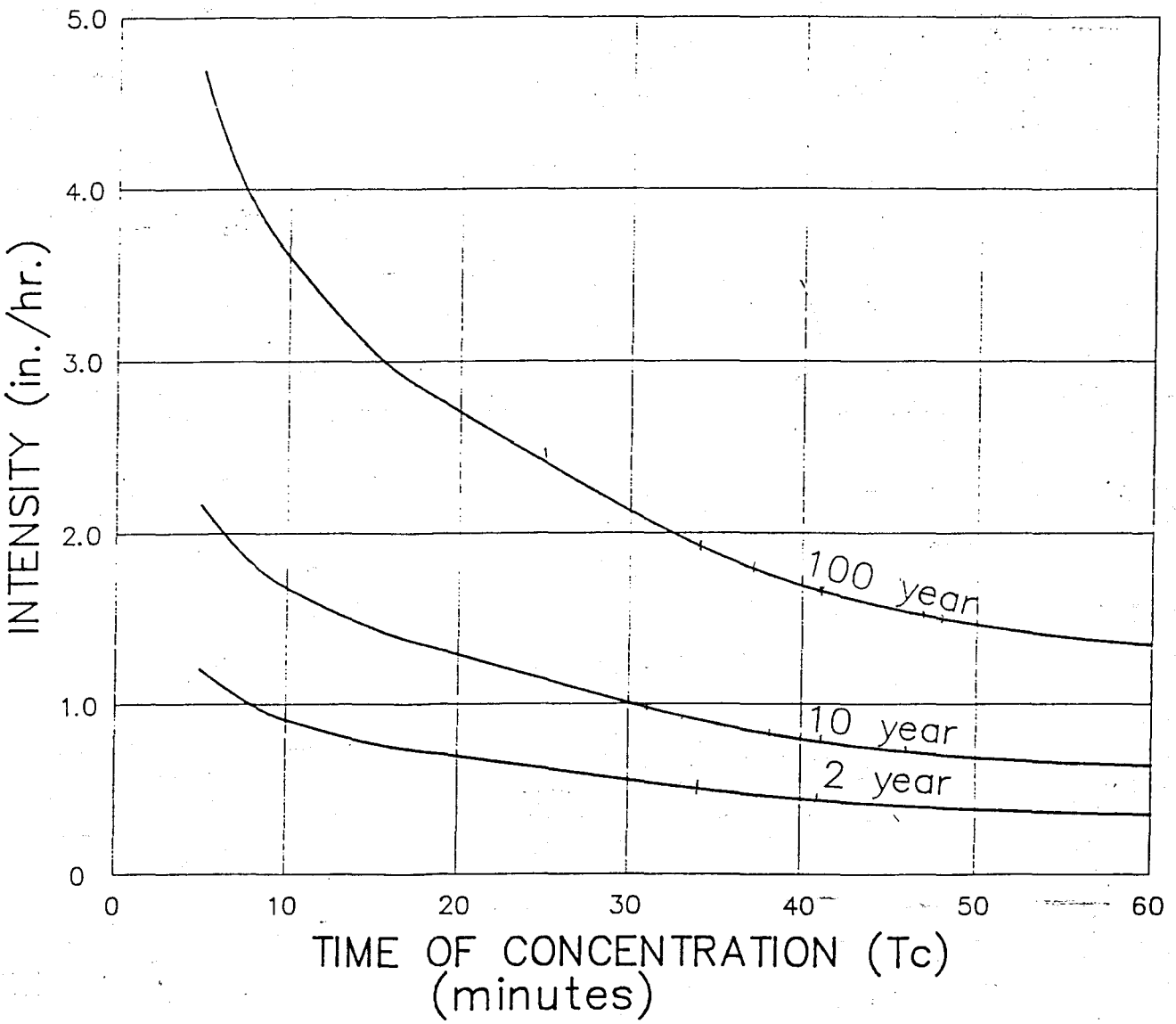

ZONE X
Grand Valley
Canal
ZONE X
ZONE X
ROAD
Main
Lane
25
Site
ZONE AO
1)
ZONE X
4568
4569
4570
4572
4574
ZONE AE
ROAD
ZONE AE
4590
4608
ZONE X
4576
4579
4581
4584
4585
ZONE AO
(DEPTH 1)
ZONE AO
(DEPTH 1)
ZONE X
Creek
Tributary
ZONE X
24½
ZONE X
4604
4594
4593
4597
4599
ZONE X
ROAD
ZONE
ZONE
Grand
25½
F½
RM10
ROA
ZONE X
NE AE

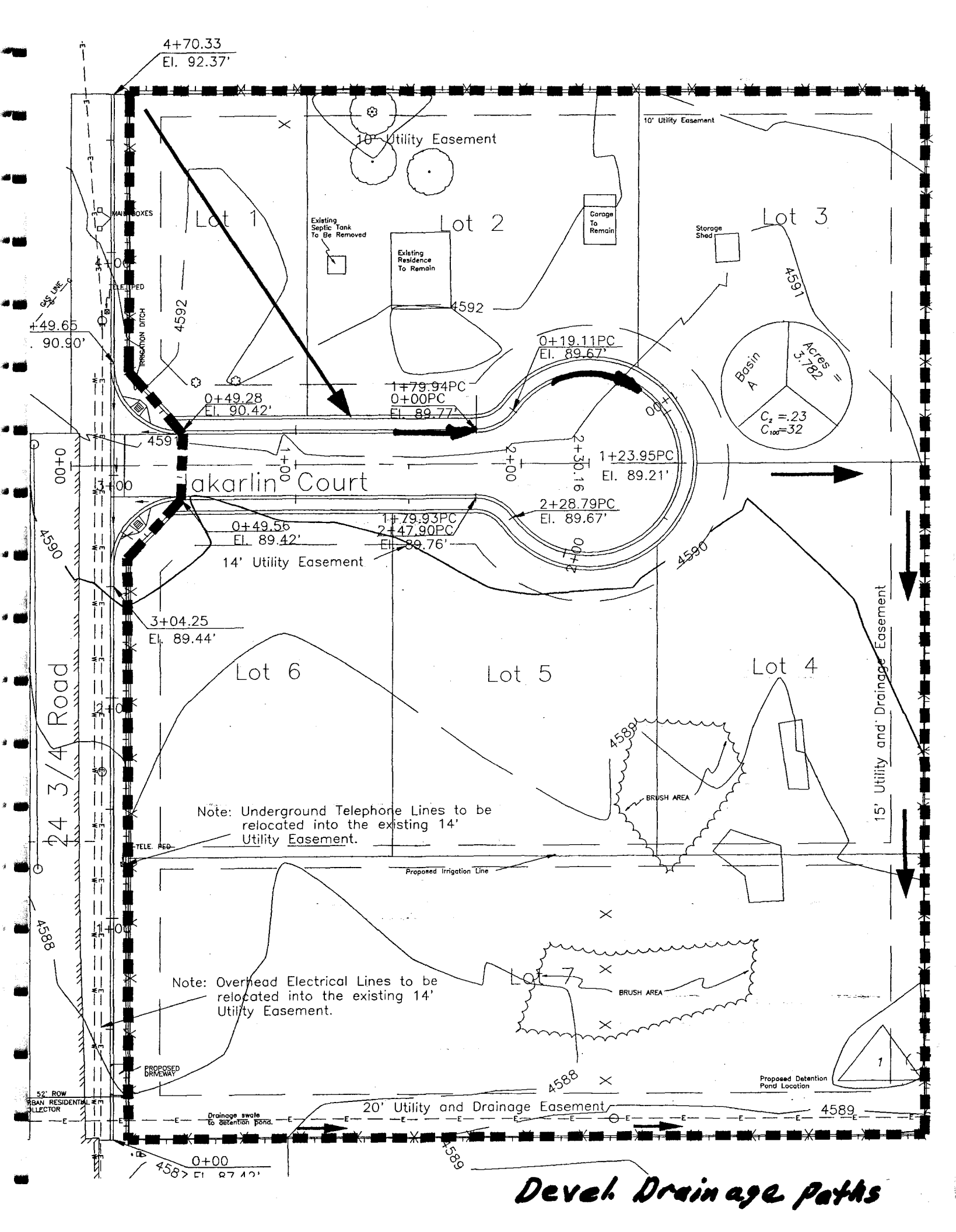
Exhibit 5.0

MESA COUNTY
STORM DRAINAGE CRITERIAL MANUAL

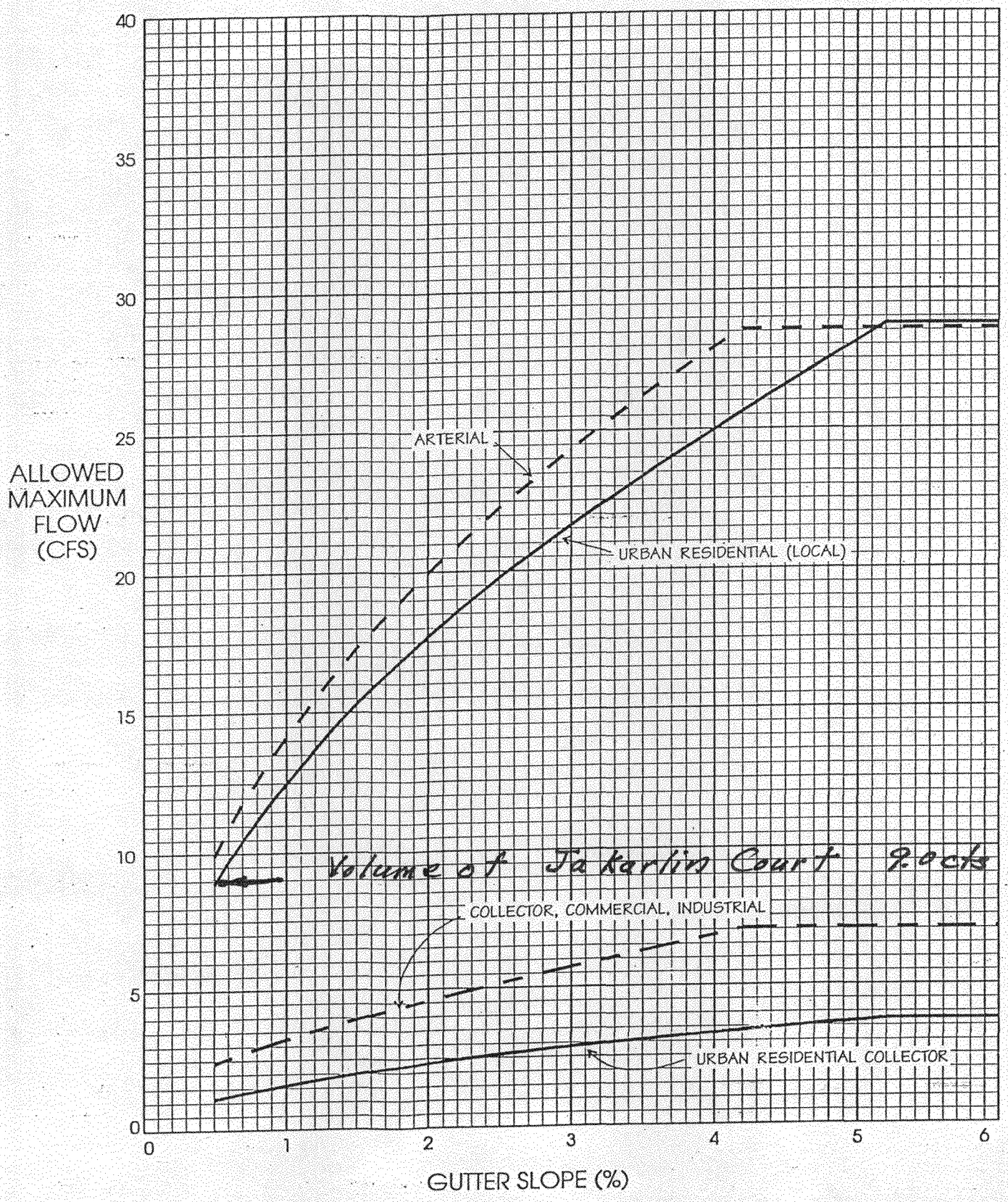
FIGURE 401b

INTENSITY DURATION FREQUENCY CURVES
GRAND JUNCTION, COLORADO





Devel. Drainage Paths



MAXIMUM HALF STREET FLOWS (Sx=2%, n=0.016)
(Based upon Figures G-3 and G-4)

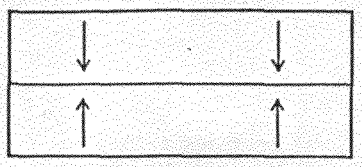
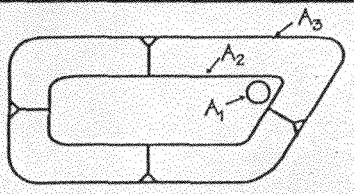
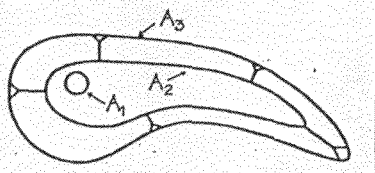
FIGURE "G-5"

STORMWATER DETENTION CALCULATIONS
released at historic flows

JOB NAME:		Pheasant Meadows					
JOB NUMBER:		95138.4		DATE:	29-Apr-96		
BASIN:				Basin A			
DESCRIPTION:		100-year developed flow to detention pond					
HISTORIC RELEASE RATE (CFS) =					0.35	2 year historic	
BASIN ACREAGE (ACRES) =					3.78		
ALLOWABLE RELEASE RATE (CFS) =					**0.35**	<1>	
DEVELOPED CONDITION							
C =	0.32		<2>				
A =	3.78	ACRES	<3>				
			<2>x<3>	<5>x<6>	<4>x<7>	<1>x<4>	<8>-<9>
	<4>	<5>	<6>	<7>	<8>	<9>	<10>

Duration (min)	Duration (seconds)	Intensity (in/hr)	C x A	Q (CFS)	VOLUMES (cu. ft.) Rainfall	Release	Detention
10	600	3.6	1.2096	4.35	2612.736	210	2402.74
15	900	3.04	1.2096	3.68	3309.4656	315	2994.47
20	1200	2.6	1.2096	3.14	3773.952	420	3353.95
25	1500	2.40	1.2096	2.90	4354.56	525	3829.56
30	1800	2.12	1.2096	2.56	4615.8336	630	3985.83
40	2400	1.7	1.2096	2.06	4935.168	840	4095.17
50	3000	1.48	1.2096	1.79	5370.624	1050	4320.62
60	3600	1.34	1.2096	1.62	5835.1104	1260	4575.11
90	5400	1.02	1.2096	1.23	6662.4768	1890	**4772.48**
100	6000	0.86	1.2096	1.04	6241.536	2100	4141.54
120	7200	0.7	1.2096	0.85	6096.384	2520	3576.38

← Detention Pond Volume with historic discharge

BASIN SHAPE		 
BASIN TYPE	VERTICAL WALLS AND/OR PRISMATIC BASINS	FAIRLY UNIFORM SHAPE AND SIDE SLOPES OR HIGHLY IRREGULAR SHAPE AND SIDE SLOPES
VOLUME CALCULATION METHOD	AVERAGE END AREA METHOD	CONIC METHOD
EQUATION	$V = \left(\frac{A_n + A_{n+1}}{2}\right) L$	$V = \Sigma V_{n \text{ to } n+1}$ $V_{n \text{ to } n+1} = [A_n + A_{n+1} + (A_n A_{n+1})^{.5}]\frac{h}{3}$

WHERE:
- V = Volume (ft)
- A_n = Horizontal area (ft^2) at elevation "n"
- A_{n+1} = Horizontal area (ft^2) at elevation "n+1"
- h = Vertical height (ft) between elevation "n" and "n+1"
- $V_{n \text{ to } n+1}$ = Volume between elevation "n" and "n+1"
- L = Length (ft) between two ends

NOTE: The above equations may be used in succession for incremental heights within a basin. An area should be selected at all significant changes in shape or side slope.

Pond Volume:

elev: 4585 = 1176 ft^2 > 4166.15 ft^3

4586 = 2426 ft^2 > 8372.47 ft^3

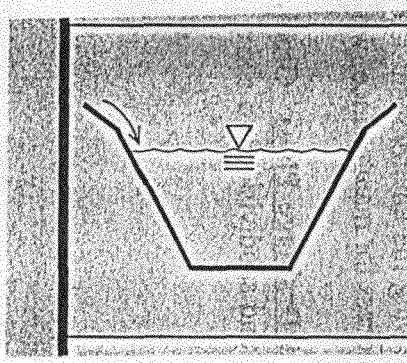
4587 = 4806 ft^2 > 12,538.62 ft^3

using the Conic Method

Volume per [illegible]

CALCULATING STORAGE VOLUME

FIGURE N-4



TOTAL RETENTION
(NO OVERFLOW)

$V(FT^3) = \frac{2.01"}{12} \times AREA(FT^2) \times C_{100d}$

Pond size with no outlet works

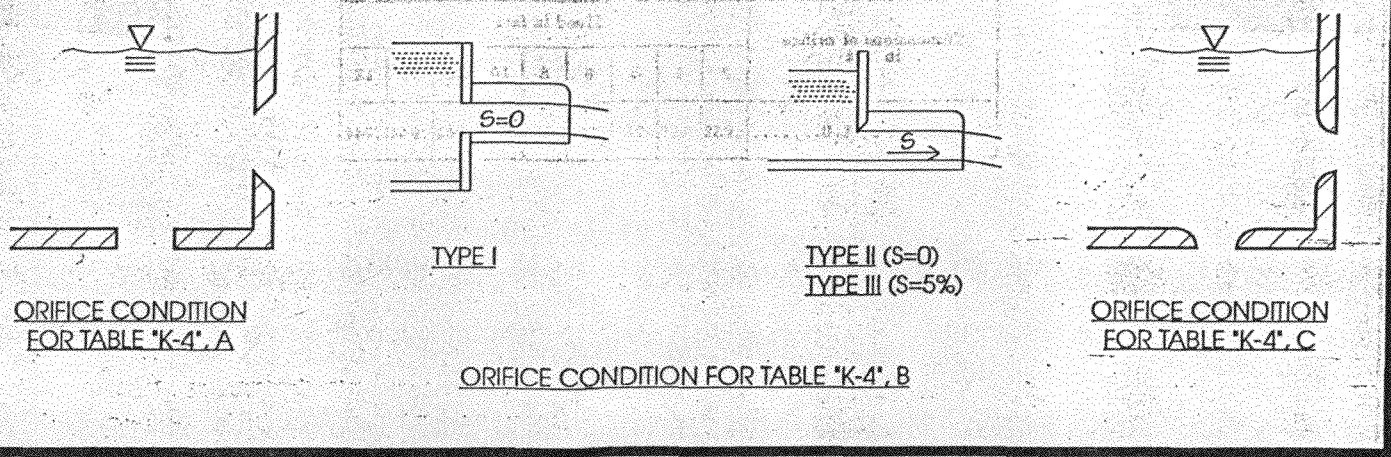
$V = \frac{2.01"}{12} \times 3.78\ Ac \times 43560 \times 0.32$

$V = 8825.6\ ft^3$

Pond Volume = $12,538.62\ ft^2 > 8825.6\ ft^3$ OK

water surface will be at 4586.6' this will provide 1.4' of free board at the east property line. OK

water surface with detention working = 4586.1' OK



ORIFICE "C" VALUE CONDITIONS | **FIGURE K-8**

Discharge orifice for pond

$Q = .62\ A\ (2gH)^{.5}$

$0.35 cfs = .62\ A\ (2\ 32.2\ 1.5)^{.5}$

$0.35 cfs = 6.09\ A$

$0.06 ft^2 = A$

$\pi r^2 = A$

$\pi r^2 = 0.06 ft^2$

$r = 1.66 in$

$d = 3.32 in$

use 3½" hole

Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: 96001

Comment: Swales

Solve For Discharge

Given Input Data:

Left Side Slope..	7.50:1 (H:V)
Right Side Slope.	7.50:1 (H:V)
Manning's n.....	0.250
Channel Slope....	0.0053 ft/ft
Depth.....	2.00 ft

Computed Results:

Discharge.....	12.91 cfs
Velocity.....	0.43 fps
Flow Area.....	30.00 sf
Flow Top Width...	30.00 ft
Wetted Perimeter.	30.27 ft
Critical Depth...	0.71 ft
Critical Slope...	1.3007 ft/ft
Froude Number....	0.08 (flow is Subcritical)

Historic Flows

Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: 96001

Comment: Swales

Solve For Discharge

Given Input Data:

Left Side Slope..	7.50:1 (H:V)
Right Side Slope.	7.50:1 (H:V)
Manning's n.....	0.250
Channel Slope....	0.0050 ft/ft
Depth.....	2.00 ft

Computed Results:

Discharge.....	12.54 cfs
Velocity.....	0.42 fps
Flow Area.....	30.00 sf
Flow Top Width...	30.00 ft
Wetted Perimeter.	30.27 ft
Critical Depth...	0.70 ft
Critical Slope...	1.3057 ft/ft
Froude Number....	0.07 (flow is Subcritical)

Developed Flows

PLANNING COMMISSION STAFF REPORT

FILE: #FP-96-113

DATE: June 5, 1996

STAFF: Michael T. Drollinger

REQUEST: Final Major Subdivision
PHEASANT MEADOWS

LOCATION: East Side 24 3/4 Road; North of G Road

APPLICANTS: George and Carrie Euler
720 24 3/4 Road
Grand Junction CO 81501

EXECUTIVE SUMMARY:

Petitioner is requesting final major subdivision approval for Pheasant Meadows located on the east side of 24 3/4 Road north of G Road. The proposed development consists of 7 single family lots on about 3.8 acres. Staff recommends approval of the application with conditions.

EXISTING LAND USE: Single Family Residential/Vacant

PROPOSED LAND USE: Single Family Residential

SURROUNDING LAND USE:

NORTH:	Vacant
SOUTH:	Single Family Residential
EAST:	Single Family Residential (Fountainhead Subdivision)
WEST:	Single Family Residential (North Valley Subdivision)

EXISTING ZONING: PR-12(County)

PROPOSED ZONING: RSF-4

SURROUNDING ZONING:

NORTH:	PR-12
SOUTH:	RSF-2
EAST:	PR-12

WEST: PR-4.1

RELATIONSHIP TO COMPREHENSIVE PLAN:

No comprehensive plan exists for this area. The draft Grand Junction Growth Plan classifies the subject parcel in the "Residential Medium (4-7.9 d.u.'s per acre)" land use category. The proposed density for this project is less than recommended in the Growth Plan.

STAFF ANALYSIS:

The site is located directly opposite North Valley Subdivision on the east side of 24 3/4 Road north of G Road and consists of approximately 3.8 acres. The property was recently annexed into the City as part of the Euler Annexation with a zoning of RSF-4. The petitioner is requesting final major subdivision approval for 7 single family lots to be developed in a single filing. Further details of the proposal are in the attached project narrative. Also, an aerial photograph of the site along with a copy of the subdivision plans are attached to this staff report for orientation and reference.

There are a number of items which are generally minor in nature that were not addressed in the revised final plan drawings. The items are summarized below as recommended conditions of approval:

1. The detention pond shall be designated as "Tract A", rather than "Outlot A" on the plat.

2. The drainage easement dedication language shall be modified to dedicate all easements to the City of Grand Junction for the use and benefit of the Pheasant Meadows HOA and the Grand Junction Drainage District rather than directly to those entities.

3. The "City of Grand Junction Planning Commission Certificate" shall be removed from the plat.

4. The drainage from the street to the detention facilility must either be conveyed by pipe or, as an alternative, the area dedicated as drainage easement be included as part of the outlot for the detention pond with maintenance responsibility for the entire facility by the HOA. We have had problems in the past with homeowners who fill in swales and ditches or they are not maintained and cease to function. If this option is selected, the grass slopes must be specificied on the plans as to the seed type or sod, and must be installed with the subdivision.

5. The curb, gutter and sidewalk along 24 3/4 Road may be of the driveover type to match what has been constructed on the west side of the street.

6. Drainage from 24 3/4 Road may be discharged in the right of way as long as there is a roadside ditch to convey the water.

STAFF RECOMMENDATION:

Staff recommends approval of the final major subdivision for Pheasant Meadows with the conditions #1- #6 listed above.

SUGGESTED PLANNING COMMISSION MOTION:

Mr. Chairman, on item #FP-96-113, a request for final major subdivision approval for Pheasant Meadows, I move that the subdivision be approved with the conditions #1 - #6 listed in the staff report dated June 5, 1996.

h:\cityfil\1999\96-115.srp

CITY OF GRAND JUNCTION
Department of Public Works
Engineering Division

PROJECT DIARY

DATE: Nov 14, 19 96

Project No. X09621 **Total days charged to date**

Hours worked **Approx. No. Men** **Weather** Cloudy **Temp. Range**

Time lost and reason:

Supt. Stan Gust

STAN GUST HAS PLACED THE TOP MAT OF -3/4 MIX ON JARVIS CT. SCHEDULED DENSITY MEASUREMENTS WERE TAKEN ON THE TOP MAT. MOST OF THE DENSITIES TAKEN FELL BELOW THE REQUIRED 92%.

THE BOTTOM MAT WAS PAVED ON NOV. 13, 1996. DURING PAVING OPERATIONS SEVERAL SOFT SPOTS WERE NOTICABLE DURING COMPACTION. THOSE AREAS RECORDED AN 88% COMPACTIVE EFFORT WHILE OTHER LOCATIONS OF THE BOTTOM MAT SHOWED COMPACTIVE EFFORTS BETWEEN 90 + 93%. THOSE SOFT SPOTS ARE REPRESENTED IN THE ATTACHED TEST RESULTS OF THE FINAL MAT AT THE LAST THREE TESTS CONDUCTED.

A SAMPLE WAS OBTAINED FOR VOIDS ANALYSIS WHICH RESULTED IN 4.3% VOIDS

No. of Men:

Equipment:

Signing and Barricading

Traveled Roadway Condition

Inspector RSB **Signed** R. Bailey **Title** QA Tech

Contractor **Signed** **Title**

WCT

ent: CLAM CONST | Test Locations Designated By: | Job No.: X09621

ject: PHEASANT MEADOWS | Authorized By: | Date:

cation: JACKLAND CT. | Tested/Calc'd By: RSO | Date: 11-14-96

pe of Material: 3/4" 1+BP | Reviewed By: | Date:

rce of Material: SWANKS

Test No.	Date	Location of Test	Elevation of Test Datum
	11-14-96	JAKARLIN - STA 0+40, 6' R OF ℄	
		- STA 1+00, ℄	
		- STA 1+30, 20' R OF ℄	
		- STA 1+15, 30' R OF ℄	
		- STA 1+10, 20' L OF ℄	
		- STA 0+80, 12' L OF ℄	

Test No.	Max. Unit Weight pcf	In-Place Characteristics Wet Density pcf	Relative Compaction %	Within Specs	Comments*
	151.1	136.1	90.1		
		137.4	90.9		
	151.2 OCT	142.2	94.0		
		136.0	90.0		
		138.3	91.6		
		135.3	89.5		

mments

vement Area
0% min. req'd
5% min. req'd

4. 95% min. req'd
5. 90% min. req'd
6. ___% min. req'd

7. Tested ASTM D-2922/D-3017
8. Tested ASTM D-2922/AASHTO T-217
9. Other _____

10. Tested Locations on Accompanying Site Plan
11. Specifications Unknown
12. 92-96% Compaction required

Datum _____

Note: Tests reported herein are not part of a continuous monitoring program of compaction operations and accordingly apply only to the actual location tested.

es to:

White - WCT • Yellow - Engineer • Pink - Contractor • Gold - WCT Field/Lab

ASPHALTIC CONCRETE
MARSHALL METHOD (LAB)

Job No. X09621

Client ELAM BUST Project PHEASANT MEADOWS Lab/Invoice No.

Type of Material -5/8" HBP Asphalt Type AC10 Supplier FRONTIER

Source of Material AUGER Sampled By RSB Date 11-13

Sample Location STA 1+00 Tested/Calc. By RJC Date 11-14

Test Procedure Reviewed By Date

	Asphalt Concrete Specimens Compacted by Marshall Method Blows/side 50				Asphalt Concrete Specimens Compacted By Marshall Method Blows/side			
Specimen No.	1	2	3	4	1	2	3	4
Specimen Size								
Thickness of Specimen, in.	2.525	2.532	2.499					
Asphalt by Wt of Mix, %								
BULK DENSITY DETERMINATION ASTM-D2726 ☐, AASHTO T-166 ☐ Method ☐								
(1) Wt. of Specimen in Air, (A), gm.	1185.0	1184.3	1175.3					
(2) Wt. of Specimen in Water, (C), gm.	676.0	676.8	671.5					
(3) Wt. of Specimen SSD, (B) gm.	1187.2	1186.9	1176.1					
(4) Bulk Sp.G., Marshall Specimens, (3) - (2)	2.318	2.322	2.329					
Bulk Density of Specimens (5) x 62.4	144.3	144.5	145.0					
(5) Avg. Bulk Sp.G. Marshall Specimens	2.323							
Avg. Bulk Density Marshall Specimens, (4) x 62.4	144.6				144.6			
MARSHALL EVALUATION DATA								
Air Voids in Total Mix, % 100	4.3							
Proving Ring dial Reading, in.								
Marshall Stability, lbs.								
Marshall Stability - Corr. for Volume, lbs.								
Avg. Marshall Stability - Corr. for Volume, lbs.								
Flow, .01 in.								
Avg. Flow, .01 in.								
Mat Temperature, °F								

Remarks:

Note: Calculate percent water absorbed by specimen as follows:

$$\textit{Percent water absorbed by volume} = \frac{B-A}{B-C} \times 100 =$$

If greater than 2 percent use AASHTO T-275.

MAXIMUM THEORETICAL SPECIFIC GRAVITY - GMM (RICE VALUE)

AASHTO T-209 ☐

ASTM D-2041 ☐

Client: CLAM CONST. Job No.: X09621

Project: PHEASANT MEADOWS Sampled By: RSB Date: 11-13

Location: STA 1+00 Submitted By: RSB Date: 11-13

Type of Material: Tested By: RSB Date: 11-14

Reviewed By: Date:

AC%: 5.8 Grade: AC10 Supplier: FLINTLOCK Additives:

Source of Material: ☐ Mix Design ☒ Plant Produced Grading: 9X

25 TON 15:20

	1	2	3
Wt. of Sample in Air (A)	1350.5	1458.3	
Wt. of Sample + Apparatus H_2O Filled (E)	7286.2	7350.1	
Wt. of Apparatus Filled with H_2O (D)	6492.1		
Gmm (g/cc)	2.427	2.429	
Unit Wt. (pcf)	151.1	151.2	

Average Gmm/Unit Wt. 2.428 / 151.1

151.7

Gmm = A/(A+D-E)

Unit Wt. = Gmm x 62.4

	1	2	3
TEMP (D)			
TEMP (E)			

Hercules Maximum Size Aggregate

Inches	kg
2"	
1-1/2"	
1"	
3/4"	
1/2"	
3/8"	
#4	

December 2, 1996

City of Grand Junction, Colorado
250 North Fifth Street
81501-2668
FAX: (970)244-1599

Mr. Stan Seligman
Great New Homes
3032 I-70 Business Loop
Grand Junction, CO 81504

RE: Asphalt Paving Compaction - Jakarlin Court

Dear Mr. Seligman:

The intent of this letter is to express concern regarding paving of Jakarlin Court. City inspection during paving noted several soft spots and density tests and a pavement sample were taken by our representative.

The City's Quality Assurance Technician ran 6 density tests on November 14, 1996. Of these, 4 resulted in failing tests. We also ran Marshall density tests, specific gravity and air voids on the sample taken and the results correlated with those run by Western Colorado Testing.

Because of these test results and our concern for pavement quality of a future city street, I am requiring submittal of your quality assurance testing and inspection records and your contractor's quality control records prior to a final inspection. In accordance with the City Standard Specifications, any work or materials that do not meet test requirements or specifications will need to be removed and replaced.

Please do not hesitate to call me if you have questions.

Sincerely,

Jody Kliska, P.E.
City Development Engineer

cc: Don Newton, City Engineer
Scott Baumgartner, Elam
Jim Fife, Western Colorado Testing
Richard Bailey, City Quality Assurance

Elam CONSTRUCTION, INC.
1225 South 7th Street
Grand Junction, Colorado 81501
(970) 242-5370 • FAX: (970) 245-7716

December 6, 1996

Jody Kliska, P.E.
City of Grand Junction
250 North Fifth Street
Grand Junction, Co 81501-2668

Re: Response to letter concerning asphalt paving collection

Dear Jody:

Enclosed are the test results from Western Colorado Testing and our own in house testing as per your request. In response to your concerns regarding the paving of Jakarlin Court. All of the subgrade tests taken by WCT had passed prior to paving. And we had also over excavated and repaired several soft spots in the subgrade the day before we paved.

As for the density tests on the asphalt WCT took 7 test which all passed, 3 of the test were on the bottom mat and 4 were on the top mat. Our in house tester also took 4 tests which all passed. The area tested covered 1050 square yards the City spec for compaction test are 1 per 500 square yards. Therefore there was an adequate number of passing test taken on the asphalt. The Marshall Density test, specific gravity and air voids taken by WCT all passed so I'm assuming that your results also passed.

All of these results are enclosed. If you have any questions please call me at 242-5370.

Sincerely,

Scott J. Baumgardner, Estimator

cc: Stan Seligman, Great New Homes
Don Newton, City Engineer
Jim Fife, Western Colorado Testing
Richard Bailey, City Quality Assurance

WESTERN COLORADO TESTING, INC.

REVIEW OF CONSTRUCTION

Job No.: 308896

Client: Elam Construction, Inc. Report No.: 1 Date: 10-16-96

Project: Pheasant Meadows Report By: D. Fife Date: 10-16-96

Prime Contractor: Elam Construction, Inc. Superintendent: Norm Lincoln

Subcontractor: Superintendent:

Work in progress and/or completed since last report: The contractor is compacting subgrade on Jacarlin Court.

Unexpected site conditions: N/A

Sampling and/or testing performed: Information only tests were taken, Norm Lincoln was informed that moisture content was too low.

Conformance of materials, operations and/or test results to project requirements: No tests recorded.

Person/persons notified of nonconformance to project requirements: Norm Lincoln

Nonconformance corrected: Moisture will be added and Norm Lincoln wants to test for conformance at 12:30 pm.

Instructions or information received(from): N/A

Weather: Partly cloudy/cool

Technicians time on project today: 2 hours No. of visits today: 1 of 2

Time and date of next visit: 10-16-96 at 12:30 pm Reviewed by:

WESTERN COLORADO TESTING, INC.

REVIEW OF CONSTRUCTION

Job No.: 308896

Client: Elam Construction, Inc. Report No.: 2 Date: 10-16-96

Project: Pheasant Meadows Report By: L. Sanchez Date: 10-16-96

Prime Contractor: Elam Construction, Inc. Superintendent: Norm Lincoln

Subcontractor: Superintendent:

Work in progress and/or completed since last report: The contractor is preparing subgrade for the street using native silty sand materials. The sidewalk has been trimmed to grade using the same native materials.

Unexpected site conditions: N/A

Sampling and/or testing performed: Density and moisture tests on native silty sand subgrade on sidewalks.

Conformance of materials, operations and/or test results to project requirements: All density and moisture results meet project specifications.

Person/persons notified of nonconformance to project requirements: N/A

Nonconformance corrected: N/A

Instructions or information received(from): Norm Lincoln instructed WCT technician to take 3 subgrade density tests on sidewalks only.

Weather: Cloudy/cool/rain

Technicians time on project today: 2 hours No. of visits today: 2 of 2

Time and date of next visit: 10-17-96 at 2:00 pm Reviewed by:

WESTERN COLORADO TESTING, INC.

SOIL/AGGREGATE FIELD DENSITY TESTS

Client: Elam Construction, Inc. | Test Locations Designed By: WCT | Job No.: 308896

Project: Pheasant Meadows | Authorized By: Client | Date: 10-16-96

Location: Grand Junction, Colorado | Tested/Calc'd By: L. Sanchez | Date: 10-16-96

Type of Material: Silty sand | Reviewed By: [signature] | Date: 11.6.96

Source of Material: Native | Moisture/Density Relationship: T-99 | Method: A

Test No.	Date	Location of Test Hole	Elevation of Test Datum
1	10-16-96	Jacarlin Street, north sidewalk, Sta. 0+40	0
2	10-16-96	Jacarlin Street, south sidewalk, Sta. 1+30	0
3	10-16-96	Jacarlin Street, sidewalk at the east end of cul-de-sac	0

Test No.	Moisture Density Lab No.	Optimum Moisture	Max. Dry Density pcf	In-Place Characteristics Moisture %	In-Place Characteristics Dry Density pcf	Relative Compaction %	Within Specs	Comments*
1		14.1	113.0	11.3	110.9	98	Y	1,5,10,13,15
2		14.1	113.0	13.6	110.9	98	Y	1,5,10,13,15
3		14.1	113.0	12.9	117.3	100+	Y	1,5,10,13,15

* Comments:

1. Subgrade
2. Subbase Fill
3. Base Course
4. Backfill
5. Pavement Area
6. Below Footing
7. Above Footing Bottom

Copies to:

8. 100% min. req'd
9. 98% min. req'd
10. 95% min. req'd
11. 90% min. req'd
12. ___% min. req'd
13. Moisture req'd +/- 3 % of optimum
14. Tested D-1556/AASHTO T-217
15. Tested ASTM D-2922/D-3017
16. Tested ASTM D-2922/AASHTO T-217
17. Rock correction applied to maximum dry density AASHTO T-224
18. Other:
19. Tested Locations on Accompanying Site Plan
20. Specifications Unknown
21. 92-96% Compaction required

Datum: Top of Subgrade

Note: Tests reported to herein are not part of a continuous monitoring program of compaction operations and accordingly apply only to the actual location tested.

WESTERN COLORADO TESTING, INC.

REVIEW OF CONSTRUCTION

Job No.: 308896

Client: Elam Construction, Inc. Report No.: 3 Date: 10-17-96

Project: Pheasant Meadows Report By: V. Allen Date: 10-17-96

Prime Contractor: Elam Construction, Inc. Superintendent: Norm Lincoln

Subcontractor: Superintendent:

Work in progress and/or completed since last report: The contractor finished compacting native subgrade material on sidewalk area on 24 3/4 Road.

Unexpected site conditions: N/A

Sampling and/or testing performed: Density moisture contents.

Conformance of materials, operations and/or test results to project requirements: All tests met project requirements.

Person/persons notified of nonconformance to project requirements: N/A

Nonconformance corrected: N/A

Instructions or information received(from): N/A

Weather: Warm

Technicians time on project today: 2 hours No. of visits today: 1

Time and date of next visit: 10-18-96 at 2:00 pm Reviewed by:

WESTERN COLORADO TESTING, INC.

SOIL/AGGREGATE FIELD DENSITY TESTS

Client: Elam Construction, Inc. | Test Locations Designed By: WCT | Job No.: 308896

Project: Pheasant Run | Authorized By: Norm Lincoln | Date: 10-17-96

Location: Grand Junction, Colorado | Tested/Calc'd By: V. Allen | Date: 10-17-96

Type of Material: Native | Reviewed By: [signature] | Date: 11-6-96

Source of Material: Native | Moisture/Density Relationship: T-99 | Method: A

Test No.	Date	Location of Test Hole	Elevation of Test Datum
4	10-17-96	Sta. 2+23, 2' Lt of curb	0
5	10-17-96	Sta. 0+50, 6' Lt of curb	0

Test No.	Moisture Density Lab No.	Optimum Moisture	Max. Dry Density pcf	In-Place Characteristics Moisture %	In-Place Characteristics Dry Density pcf	Relative Compaction %	Within Specs	Comments*
4		14.2	113.0	13.1	102.1	90	Y	1,11,13,15
5		14.2	113.0	15.8	112.9	100	Y	1,11,13,15

* Comments:

1. Subgrade
2. Subbase Fill
3. Base Course
4. Backfill
5. Pavement Area
6. Below Footing
7. Above Footing Bottom

Copies to:

8. 100% min. req'd
9. 98% min. req'd
10. 95% min. req'd
11. 90% min. req'd
12. __% min. req'd
13. Moisture req'd +/- 3 % of optimum
14. Tested D-1556/AASHTO T-217
15. Tested ASTM D-2922/D-3017
16. Tested ASTM D-2922/AASHTO T-217
17. Rock correction applied to maximum dry density AASHTO T-224
18. Other:_____
19. Tested Locations on Accompanying Site Plan
20. Specifications Unknown
21. 92-96% Compaction required

Datum: Top of Subgrade

Note: Tests reported to herein are not part of a continuous monitoring program of compaction operations and accordingly apply only to the actual location tested.

WESTERN COLORADO TESTING, INC.

REVIEW OF CONSTRUCTION

Job No.: 308896

Client: Elam Construction, Inc. Report No.: 4 Date: 10-18-96

Project: Pheasant Meadows Report By: V. Allen Date: 10-18-96

Prime Contractor: Elam Construction, Inc. Superintendent: Norm Lincoln

Subcontractor: Superintendent:

Work in progress and/or completed since last report: The contractor placed and compacted pit run and native soil for street along 24 3/4 Road. Also the contractor placed and compacted Class 6 base course from Snooks Pit for sidewalk on Jacarlin Court.

Unexpected site conditions: Changing soils conditions made obtaining accurate compaction data difficult.

Sampling and/or testing performed: Nuclear densities and moisture contents.

Conformance of materials, operations and/or test results to project requirements: All tests met project requirements.

Person/persons notified of nonconformance to project requirements: N/A

Nonconformance corrected: N/A

Instructions or information received(from): N/A

Weather: Warm

Technicians time on project today: 4 hours No. of visits today: 2

Time and date of next visit: 10-19-96 at 2:00 pm Reviewed by:

WESTERN COLORADO TESTING, INC.

SOIL/AGGREGATE FIELD DENSITY TESTS

Client: Elam Construction, Inc. | Test Locations Designed By: WCT | Job No.: 308896

Project: Pheasant Meadows | Authorized By: Norm Lincoln | Date: 10-18-96

Location: Grand Junction, Colorado | Tested/Calc'd By: V. Allen | Date: 10-18-96

Type of Material: Native base course & pit run | Reviewed By: | Date:

Source of Material: Native & Snooks Pit | Moisture/Density Relationship: D-698, D-1557 | Method: A & C

Test No.	Date	Location of Test Hole	Elevation of Test Datum
6	10-18-96	Pit run placed at 24 3/4 Road, Sta. 0+50, 15' west of curb	0
7	10-18-96	Pit run placed at 24 3/4 Road, Sta. 2+00, 18' west of curb	0
8	10-18-96	Native material placed at 24 3/4 Road, Sta. 2+50, 16' west of curb	0
9	10-18-96	Class 6 base course placed at Jacarlin Court sidewalk, Sta. 2+10, 43' south of manhole	0
10	10-18-96	Class 6 base course placed at Jacarlin Court sidewalk, Sta. 1+23, 45' east of manhole	0
11	10-18-96	Class 6 base course placed at Jacarlin Court sidewalk, Sta. 0+72, 45' north of manhole	0

Test No.	Moisture Density Lab No.	Optimum Moisture	Max. Dry Density pcf	In-Place Characteristics Moisture %	In-Place Characteristics Dry Density pcf	Relative Compaction %	Within Specs	Comments*
6		6.4	133.2	3.6	126.5	95	Y	1,5,10,13,15,17
7		6.4	133.2	3.9	130.1	98	Y	1,5,10,13,15,17
8		14.2	113.0	14.9	113.1	100	Y	1,5,10,13,15
9		6.5	137.5	5.4	123.5	90	Y	3,5,11,13,15
10		6.5	137.5	4.9	124.7	91	Y	3,5,11,13,15
11		6.5	137.5	5.8	126.3	92	Y	3,5,11,13,15

* Comments:

1. Subgrade
2. Subbase Fill
3. Base Course
4. Backfill
5. Pavement Area
6. Below Footing
7. Above Footing Bottom

8. 100% min. req'd
9. 98% min. req'd
10. 95% min. req'd
11. 90% min. req'd
12. ___% min. req'd
13. Moisture req'd +/- 3 % of optimum
14. Tested D-1556/AASHTO T-217
15. Tested ASTM D-2922/D-3017
16. Tested ASTM D-2922/AASHTO T-217
17. Rock correction applied to maximum dry density AASHTO T-224
18. Other:_____
19. Tested Locations on Accompanying Site Plan
20. Specifications Unknown
21. 92-96% Compaction required

Datum: 6-8: Top of Subgrade

9-11: Top of Basecourse

Note: Tests reported to herein are not part of a continuous monitoring program of compaction operations and accordingly apply only to the actual location tested.

Copies to:

WESTERN COLORADO TESTING, INC.

REVIEW OF CONSTRUCTION

Job No.: 308896

Client: Elam Construction, Inc. Report No.: 5 Date: 10-19-96

Project: Pheasant Meadows Report By: K. Alpha Date: 10-19-96

Prime Contractor: Elam Construction, Inc. Superintendent: Norm Lincoln

Subcontractor: Superintendent:

Work in progress and/or completed since last report: The contractor has placed and compacted Class 6 base course from Snooks Pit for sidewalks along 24 3/4 Road.

Unexpected site conditions: N/A

Sampling and/or testing performed: Nuclear densities and moisture contents.

Conformance of materials, operations and/or test results to project requirements: All tests met project requirements.

Person/persons notified of nonconformance to project requirements: Norm Lincoln

Nonconformance corrected: Test #14 failed to meet the project requirements on the first test; however, upon further rolling of the area retest #14A passed the project requirements.

Instructions or information received(from): Norm Lincoln indicated that this would be the final round of tests at this time. Elam Construction, Inc., has met the project requirements for sidewalks subgrade and base course. Elam Construction, Inc., has met the project requirements on roadways for subgrade only. Elam Construction, Inc., will call WCT back to test roadway base course at a later time if they are going to pave this year.

Weather: Cloudy/ windy/rain

Technicians time on project today: 2 hours No. of visits today: 1

Time and date of next visit: Will call Reviewed by:

WESTERN COLORADO TESTING, INC.

SOIL/AGGREGATE FIELD DENSITY TESTS

Client: Elam Construction, Inc. | Test Locations Designed By: WCT | Job No.: 308896

Project: Pheasant Meadows | Authorized By: Norm Lincoln | Date: 10-19-96

Location: Grand Junction, Colorado | Tested/Calc'd By: K. Alpha | Date: 10-19-96

Type of Material: Class 6 base course, silty clay | Reviewed By: [signature] | Date: 11-6-96

Source of Material: Snooks Pit, Native | Moisture/Density Relationship: T-180, T-99 | Method: C, A

Test No.	Date	Location of Test Hole	Elevation of Test Datum
12	10-19-96	24 3/4 Road sidewalk, 50' south of Jacarlin Court	0
13	10-19-96	24 3/4 Road sidewalk, 150' south of Jacarlin Court	0
14	10-19-96	24 3/4 Road sidewalk, Sta. 3+47, Jacarlin Court	0
15	10-19-96	24 3/4 Road sidewalk, Sta. 4+25, Jacarlin Court	-6"
14A	10-19-96	24 3/4 Road sidewalk, Sta. 3+47, Jacarlin Court	0

Test No.	Moisture Density Lab No.	Optimum Moisture	Max. Dry Density pcf	In-Place Characteristics Moisture %	In-Place Characteristics Dry Density pcf	Relative Compaction %	Within Specs	Comments*
12		6.5	137.5	5.5	133.0	97	Y	3,5,11,13,15
13		6.5	137.5	4.5	128.1	93	Y	3,5,11,13,15
14		6.5	137.5	7.8	118.7	86	N	3,5,11,13,15
15		14.1	113.0	11.4	116.4	100+	Y	3,5,11,13,15
14A		6.5	137.5	7.6	123.1	90	Y	3,5,11,13,15

* Comments:

1. Subgrade
2. Subbase Fill
3. Base Course
4. Backfill
5. Pavement Area
6. Below Footing
7. Above Footing Bottom

Copies to:

8. 100% min. req'd
9. 98% min. req'd
10. 95% min. req'd
11. 90% min. req'd
12. __% min. req'd
13. Moisture req'd +/- 3 % of optimum
14. Tested D-1556/AASHTO T-217
15. Tested ASTM D-2922/D-3017
16. Tested ASTM D-2922/AASHTO T-217
17. Rock correction applied to maximum dry density AASHTO T-224
18. Other:_____
19. Tested Locations on Accompanying Site Plan
20. Specifications Unknown
21. 92-96% Compaction required

Datum: Top of Base Course

Note: Tests reported to herein are not part of a continuous monitoring program of compaction operations and accordingly apply only to the actual location tested.

WESTERN COLORADO TESTING, INC.

REVIEW OF CONSTRUCTION

NOV 22 1996

Job No.: 308896

Client: Elam Construction, Inc. Report No.: 6 Date: 10/30/96

Project: Pheasant Meadows Report By: L. Sanchez Date: 10/30/96

Prime Contractor: Elam Construction, Inc. Superintendent: Norm Lincoln

Subcontractor: Mays Concrete, Inc. Superintendent: Joe

Work in progress and/or completed since last report: The subcontractor is placing concrete monolithic curb and gutter/sidewalk on the north side of Jacarlin Street.

Unexpected site conditions: N/A.

Sampling and/or testing performed: Sampled and tested concrete from United - Class B curb and gutter mix.

Conformance of materials, operations and/or test results to project requirements: Slump = 1½", air content = 5.0%, concrete temperature = 74°F, unit weight = 143.2 pcf, cylinder compressive strength to be determined on curing schedule.

Person/persons notified of nonconformance to project requirements: N/A.

Nonconformance corrected: N/A.

Instructions or information received(from): N/A.

Weather: Cloudy and warm.

Technicians time on project today: 2 hours No. of visits today: 1

Time and date of next visit: 10-31-96 - pick up cylinders Reviewed by:

WESTERN COLORADO TESTING, INC.

REVIEW OF CONSTRUCTION

Job No.: 308896

Client: Elam Construction, Inc. Report No.: 7 Date: 11-12-96

Project: Pheasant Meadows Subdivision Report By: D. Phipps Date: 11-12-96

Prime Contractor: Elam Construction, Inc. Superintendent: Norm Lincoln

Subcontractor: Superintendent:

Work in progress and/or completed since last report: The contractor completed compaction of the native silty sand subgrade on the street.

Unexpected site conditions: N/A

Sampling and/or testing performed: Density and moisture tests with rock corrections of street subgrade.

Conformance of materials, operations and/or test results to project requirements: Density and moisture test results met project specifications.

Person/persons notified of nonconformance to project requirements: N/A

Nonconformance corrected: N/A

Instructions or information received(from): Paving on Thursday, November 14, 1996

Weather: Sunny and warm

Technicians time on project today: 3.5 hours No. of visits today: 2

Time and date of next visit: Will call Reviewed by:

WESTERN COLORADO TESTING, INC.

SOIL/AGGREGATE FIELD DENSITY TESTS

Client: Elam Construction, Inc. | Test Locations Designed By: WCT | Job No. 308896

Project: Pheasant Meadows Subdivision | Authorized By: Client | Date: 11-12-96

Location: Grand Junction, Colorado | Tested/Calc'd By: D. Phipps | Date: 11-12-96

Type of Material: Pit run and silty sand | Reviewed By [signature] | Date: 12.6.96

Source of Material: Native/Native | Moisture/Density Relationship: T99,T180 | Method: A, C

Test No.	Date	Location of Test Hole	Elevation of Test Datum
16	11-12-96	40' east of 24 3/4 Road, 6' north of centerline	0
17	11-12-96	215' east of 24 3/4 Road, 20' south of centerline	0
18	11-12-96	112' east of 24 3/4 Road, 9' south of centerline	0

Test No.	Moisture Density Lab No.	Optimum Moisture	Max. Dry Density pcf	In-Place Characteristics Moisture %	In-Place Characteristics Dry Density pcf	Relative Compaction %	Within Specs	Comments*
16	0	12.8	116.5	12.6	119.3	100+	Y	1,5,10,13,17
17	0	8.2	129.5	8.6	123.2	95	Y	1,5,10,13,17
18	0	14.1	113.0	11.3	108.9	96	Y	1,5,10,13

* Comments:

1. Subgrade
2. Subbase Fill
3. Base Course
4. Backfill
5. Pavement Area
6. Below Footing
7. Above Footing Bottom

Copies to:

8. 100% min. req'd
9. 98% min. req'd
10. 95% min. req'd
11. 90% min. req'd
12. __% min. req'd
13. Moisture req'd +/- __3__% of optimum
14. Tested D-1556/AASHTO T-217
15. Tested ASTM D-2922/D-3017
16. Tested ASTM D-2922/AASHTO T-217
17. Rock correction applied to maximum dry density AASHTO T-224
18. Other:_____
19. Tested Locations on Accompanying Site Plan
20. Specifications Unknown
21. 92-96% Compaction required

Datum: Top of subgrade

Note: Tests reported to herein are not part of a continuous monitoring program of compaction operations and accordingly apply only to the actual location tested.

WESTERN COLORADO TESTING, INC.

REVIEW OF CONSTRUCTION

Job No.: 308896

Client: Elam Construction, Inc. Report No.: 8 Date: 11-13-96

Project: Pheasant Meadows Subdivision Report By: D. Phipps Date: 11-13-96

Prime Contractor: Elam Construction, Inc. Superintendent: Norm Lincoln

Subcontractor: Superintendent:

Work in progress and/or completed since last report: The contractor placed first lift of Snooks Pit (-)5/8" HBP on Jacarlin.

Unexpected site conditions: N/A

Sampling and/or testing performed: Density tests and sample for extraction gradation.

Conformance of materials, operations and/or test results to project requirements: Density test results met project specifications, asphalt materials to be tested for all oil content and gradation at a later date.

Person/persons notified of nonconformance to project requirements: N/A

Nonconformance corrected: N/A

Instructions or information received(from): N/A

Weather: Cloudy, 50's

Technicians time on project today: 2.5 hours No. of visits today: 1

Time and date of next visit: 11-14-96 9:00 a.m. Reviewed by:

WESTERN COLORADO TESTING, INC.

HOT BITUMINOUS PAVEMENT FIELD DENSITY TESTS

Client: Elam Construction, Inc. | Test Locations Designated By: WCT | Job No.: 308896

Project: Pheasant Meadows | Authorized By: Client | Date: 11-13-96

Location: Grand Junction, Colorado | Tested/Calc'd By: D. Phipps | Date: 11-13-96

Type of Material: (-)5/8" HBP | Reviewed By: [signature] | Date: 11-13-96

Source of Material: Snooks Pit

Test No.	Date	Location of Test	Elevation of Test Datum
1	11-13-96	115' west of 24 3/4 Road, 12' south of centerline	0
2	11-13-96	160' west of 24 3/4 Road, 13' south of centerline	0
3	11-13-96	80' west of 24 3/4 Road, 4' south of centerline	0

Test No.	Max. Unit Weight pcf	In-Place Characteristics Wet Density pcf	Relative Compaction %	Within Specs	Comments*
1	150.1	138.2	92	Y	1,7,12
2	150.1	137.8	92	Y	1,7,12
3	150.1	141.0	94	Y	1,7,12

*Comments:

1. Pavement Area
2. 100% min. req'd
3. 98% min. req'd
4. 95% min. req'd
5. 90% min. req'd
6. ___% min. req'd
7. Tested ASTM D-2922/D-3017
8. Tested ASTM D-2922/AASHTO T-217
9. Other:_____
10. Tested Locations on Accompanying Site Plan
11. Specifications Unknown
12. 92-96% Compaction required

Datum:_____

Note: Tests reported herein are not part of a continuous monitoring program of compaction operations and accordingly

Copies to:

WESTERN COLORADO TESTING, INC.

REVIEW OF CONSTRUCTION

Job No.: 308896

Client: Elam Construction, Inc. Report No.: 9 Date: 11-14-96

Project: Pheasant Meadows Subdivision Report By: D. Phipps Date: 11-14-96

Prime Contractor: Elam Construction, Inc. Superintendent: Scott Girodo

Subcontractor: Superintendent:

Work in progress and/or completed since last report: The contractor has placed the top lift of asphalt on the street. The contractor is using the 50 Blow Marshall Mix from Roland Hot Plant.

Unexpected site conditions: N/A

Sampling and/or testing performed: Densities for compaction and sampled HBP for lab testing.

Conformance of materials, operations and/or test results to project requirements: All density tests met project specifications. Materials conformance to be determined after laboratory analysis of sampled asphalt.

Person/persons notified of nonconformance to project requirements: N/A

Nonconformance corrected: N/A

Instructions or information received(from): N/A

Weather: Cloudy and cool

Technicians time on project today: 2 hours No. of visits today: 1

Time and date of next visit: Will call Reviewed by:

WESTERN COLORADO TESTING, INC.

HOT BITUMINOUS PAVEMENT FIELD DENSITY TESTS

Client: Elam Construction, Inc. | Test Locations Designated By: WCT | Job No.: 308896

Project: Pheasant Meadows Subdivision | Authorized By: Scott Girodo | Date: 11-14-96

Location: Grand Junction, Colorado | Tested/Calc'd By: A. Marquez | Date: 11-14-96

Type of Material: (-) 5/8" HBP | Reviewed By: [signature] | Date: 11.14.96

Source of Material: Roland Pit

Test No.	Date	Location of Test	Elevation of Test Datum
4	11-14-96	60' east of 24 3/4 Road, 4'south of centerline	0
5	11-14-96	135' east of 24 3/4 Road, 6'north of centerline	0
6	11-14-96	210' east of 24 3/4 Road, 27'south of centerline	0
7	11-14-96	228' east of 24 3/4 Road, 4'north of centerline	0

Test No.	Max. Unit Weight pcf	In-Place Characteristics Wet Density pcf	Relative Compaction %	Within Specs	Comments*
4	144.1	137.5	95	Y	1,4,7
5	144.1	141.5	98	Y	1,4,7
6	144.1	141.0	98	Y	1,4,7
7	144.1	138.0	96	Y	1,4,7

*Comments:

1. Pavement Area
2. 100% min. req'd
3. 98% min. req'd
4. 95% min. req'd
5. 90% min. req'd
6. __% min. req'd
7. Tested ASTM D-2922/D-3017
8. Tested ASTM D-2922/AASHTO T-217
9. Other:
10. Tested Locations on Accompanying Site Plan
11. Specifications Unknown
12. 92-96% Compaction required

Datum: Finished grade of asphalt

Note: Tests reported herein are not part of a continuous monitoring program of compaction operations and accordingly

Copies to:

WESTERN COLORADO TESTING, INC.

REVIEW OF CONSTRUCTION

Job No.: 308896

Client: Elam Construction, Inc. Report No.: 10 Date: 12-2-96

Project: Pheasant Meadows Subdivision Report By: D. Phipps Date: 12-2-96

Prime Contractor: Elam Construction, Inc. Superintendent: Norm Lincoln

Subcontractor: Superintendent:

Work in progress and/or completed since last report: The contractor has placed and compacted Class 6 base course from Snooks Pit for widening of 24 3/4 Road at Pheasant Meadows Subdivision.

Unexpected site conditions: N/A

Sampling and/or testing performed: Density and moisture tests on Class 6 base course.

Conformance of materials, operations and/or test results to project requirements: All density and moisture test results met project specifications.

Person/persons notified of nonconformance to project requirements: N/A

Nonconformance corrected: N/A

Instructions or information received(from): N/A

Weather: Sunny and cool

Technicians time on project today: 2 hours No. of visits today: 1

Time and date of next visit: Will call Reviewed by:

WESTERN COLORADO TESTING, INC.

SOIL/AGGREGATE FIELD DENSITY TESTS

Client: Elam Construction, Inc. | Test Locations Designed By: WCT | Job No. 309696

Project: Pheasant Meadows Subdivision | Authorized By: Norm Lincoln | Date: 12-2-96

Location: Grand Junction, Colorado | Tested/Calc'd By: D. Phipps | Date: 12-2-96

Type of Material: Class 6 base course | Reviewed By: [signature] | Date: 12.5.96

Source of Material: Snooks Pit | Moisture/Density Relationship T-180 | Method: D

Test No.	Date	Location of Test Hole	Elevation of Test Datum
26	12-2-96	120' south of entrance to Pheasant Meadows, 6' west of sidewalk	0
27	12-2-96	40' south of entrance to Pheasant Meadows, 11' west of sidewalk	0
28	12-2-96	50' north of entrance to Pheasant Meadows, 12' west of sidewalk	0

Test No.	Moisture Density Lab No.	Optimum Moisture	Max. Dry Density pcf	In-Place Characteristics Moisture %	In-Place Characteristics Dry Density pcf	Relative Compaction %	Within Specs	Comments*
26	0	6.5	137.5	5.8	130.1	95	Y	3,5,10,13,15
27	0	6.5	137.5	5.4	131.4	96	Y	3,5,10,13,15
28	0	6.5	137.5	5.3	130.8	95	Y	3,5,10,13,15

* Comments:

1. Subgrade
2. Subbase Fill
3. Base Course
4. Backfill
5. Pavement Area
6. Below Footing
7. Above Footing Bottom

Copies to:

8. 100% min. req'd
9. 98% min. req'd
10. 95% min. req'd
11. 90% min. req'd
12. ___% min. req'd
13. Moisture req'd +/- 3 % of optimum
14. Tested D-1556/AASHTO T-217
15. Tested ASTM D-2922/D-3017
16. Tested ASTM D-2922/AASHTO T-217
17. Rock correction applied to maximum dry density AASHTO T-224
18. Other:_____
19. Tested Locations on Accompanying Site Plan
20. Specifications Unknown
21. 92-96% Compaction required

Datum:_____

Note: Tests reported to herein are not part of a continuous monitoring program of compaction operations and accordingly apply only to the actual location tested.

WESTERN COLORADO TESTING, INC.

SOIL / AGGREGATE MOISTURE DENSITY RELATIONS

Client Elam Construction, Inc.

Project Pheasant Meadows

Job No. 308896

Lab / Invoice No. _____

Type of Material Pit Run

Source of Material Pit Run

Sampled By V. Allen Date 10-17-96

Submitted By V. Allen Date 10-17-96

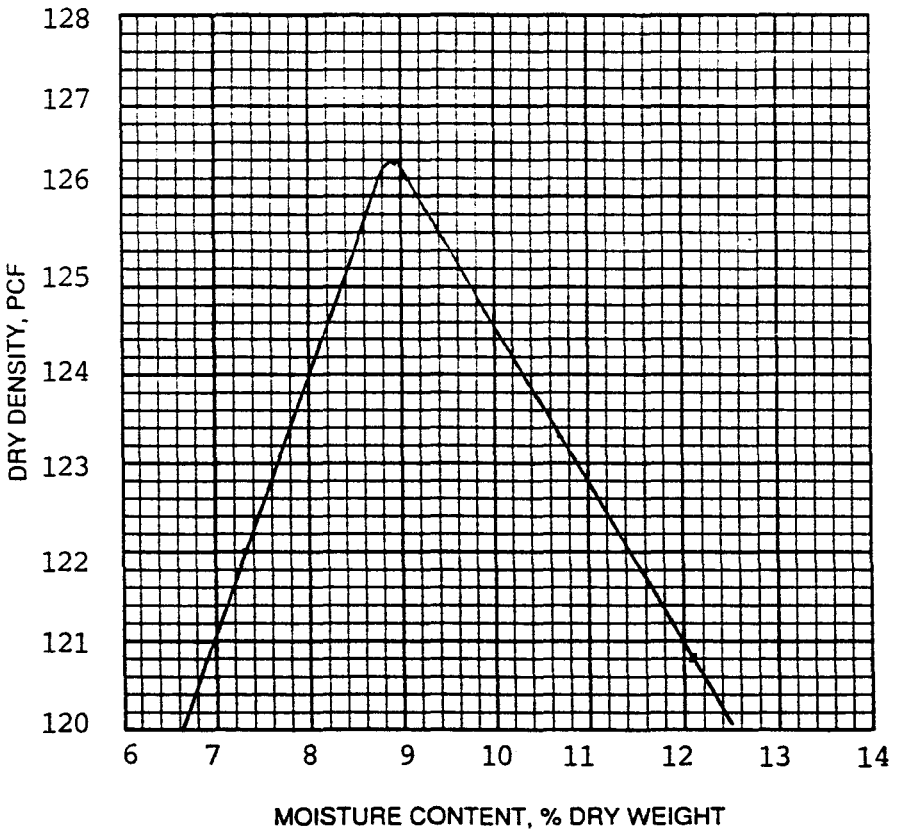
Reviewed By _____ Date 11-5-96

Test Procedure D-698 Method C

Max. Dry Density, pcf 126.4* / 133.2

Optimum Moisture Content, % 8.9* / 6.4

* Rock correction with 31% (+)3/4"



WESTERN COLORADO TESTING, INC.

COMPRESSIVE STRENGTH OF CYLINDER CONCRETE SPECIMENS

Job No.: 308896

Client: Elam Construction, Inc.

Date of Report: 10-30-96

Reviewed By: [signature]

Project: Pheasant Meadows

Location of Placement: Jacarlin Street, Sta. 2+00 north side monolithic curb. gutter and sidewalk

Contractor: Mays Concrete, Inc.

Architect/Engineer: -

Source of Sample: Truck discharge chute

Concrete Supplier: United Companies, Inc.

Measured Slump, in. (C143): 1 1/2

Ticket Number: 2822

Measured Air Content, % (C231): 5.0

Batch Size, cu. yds.: 10

Concrete Temperature, °F: 74

Mix Identification: Class B, C & G

Ambient Air Temperature, °F: 46

Design Strength, psi: 4000 / 28 days

Plastic Unit Weight, pcf: 143.2

Max. Size Aggregate, in.: 3/4

No. Cylinders Molded: 4

Time in Mixer: - hrs. 45 min.

Sampled By: L. Sanchez Date: 10-30-96

Water Added on Job, gal.: +5

Submitted By: L. Sanchez Date: 10-31-96

Test Procedure ASTM C39- -

Authorized By: Client Date: 10-30-96

Remarks:

Specimen Number	Specimen Age In Days	Date Tested	Compressive Strength Maximum Load		Type of Fracture	Unit Weight of Cylinder (pcf)	Tested By
			Pounds Force	psi			
3088-1	7	11-6-96	90,000	3160	D	143.4	MK
3088-2	28	11-27-96				143.1	
3088-3	28	11-27-96				142.6	
3088-4	Hold	Hold				142.8	

Specimen Diameter, in.: 6.024

Specimen Area, sq. in.: 28.50

Test results will automatically be sent to the concrete supplier.

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WESTERN COLORADO TESTING, INC.

COMPRESSIVE STRENGTH OF CYLINDER CONCRETE SPECIMENS

Job No.: 308896

Client: Elam Construction, Inc.

Date of Report: 10-30-96

Reviewed By:

Project: Pheasant Meadows

Location of Placement: Jacarlin Street, Sta. 2+00 north side monolithic curb and gutter and sidewalk

Contractor: Mays Concrete, Inc.

Architect/Engineer: -

Source of Sample: Truck discharge chute

Concrete Supplier: United Companies, Inc.

Measured Slump, in. (C143): 1 1/2

Ticket Number: 2822

Measured Air Content, % (C231): 5.0

Batch Size, cu. yds.: 10

Concrete Temperature, °F: 74

Mix Identification: Class B curb and gutter

Ambient Air Temperature, °F: 46

Design Strength, psi: 4000 / 28 days

Plastic Unit Weight, pcf: 143.2

Max. Size Aggregate, in.: 3/4

No. Cylinders Molded: 4

Time in Mixer: - hrs. 45 min.

Sampled By: L. Sanchez Date: 10-30-96

Water Added on Job, gal.: +5

Submitted By: L. Sanchez Date: 10-31-96

Test Procedure ASTM C39- -

Authorized By: Client Date: 10-30-96

Remarks:

Specimen Number	Specimen Age In Days	Date Tested	Compressive Strength Maximum Load		Type of Fracture	Unit Weight of Cylinder (pcf)	Tested By
			Pounds Force	psi			
3088-1	7	11-6-96	90,000	3160	D	143.4	MK
3088-2	28	11-27-96	132,500	4650	D	143.1	MK
3088-3	28	11-27-96	128,500	4510	D/E	142.6	MK
3088-4	28	11-27-96	133,000	4670	D/E	142.8	MK

Specimen Diameter, in.: 6.024

Specimen Area, sq. in.: 28.50

Test results will automatically be sent to the concrete supplier.

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WESTERN COLORADO TESTING, INC.

PHYSICAL PROPERTIES OF ASPHALTIC CONCRETE
Marshall Method Mix Design

Job No.: 308896
Date of Report: 11-13-96
Reviewed By:

Client: Elam Construction, Inc.
Project: Pheasant Meadows Subdivision — Sampled By: D. Phipps — Date: 11-13-96
Location: Grand Junction, Colorado — Submitted By: D. Phipps — Date: 11-13-96
Type of Material: (-) 5/8" HBP — Authorized By: Client — Date: 11-13-96
Sample Location: Laydown machine — Source of Sample: Auger
Sample No. 1 — Ticket No.: — Tons: 75 — Time Sampled:
Bitumen Temp °F — Mixing Temp °F — Windrow Temp °F

Sieve Analysis ASTM C136

Sieve Size	% Passing - Cumulative	Specification
1 1/4"		
1"		
3/4"	100	100
1/2"	96	90-100
3/8"	83	74-89
No. 4	61	50-78
No. 8	44	32-64
No. 16	34	-
No. 30	27	12-38
No. 50	18	-
No. 100	10	-
Finer than 200 ASTM C117	6.0	3-7

Cold Feed Moisture _____ Asphalt Moisture _____

Test	Results	Specifications	ASTM Test Std.
Bitumen Content, %**	5.78	4.9-5.9	D 2172
Marshall Specific Gr. g/cc	2.324		D 2726
Marshall Unit Weight lbs/ft^3	144.6		
Maximum Specific Gr. g/cc	2.438		D 2041
No. Of Blows	50 / 250°F		
Stability, lbs	-		D 1559
Flow, .01, in.	-		D 1559
Air Voids, %	4.7	3-5	
VMA, %	15.2	13 min.	
Voids Filled, %	69		

* Indicates non-compliance with project requirements. ** By weight of total sample

WESTERN COLORADO TESTING, INC.

PHYSICAL PROPERTIES OF ASPHALTIC CONCRETE
Marshall Method Mix Design

Job No.: 308896
Date of Report: 12-5-96
Reviewed By:

Client: Elam Construction, Inc.
Project: Pheasant Meadows Subdivision — Sampled By: A. Marquez — Date: 12-3-96
Location: Grand Junction, Colorado — Submitted By: A. Marquez — Date: 12-3-96
Type of Material: (-) 5/8" HBP — Authorized By: Client — Date: 12-3-96
Sample Location: Laydown machine — Source of Sample: Auger
Sample No. ____ Ticket No.: ____ Tons: ____ Time Sampled: ____
Bitumen Temp °F ____ Mixing Temp °F ____ Windrow Temp °F ____

Sieve Analysis ASTM C136

Sieve Size	% Passing - Cumulative	Specification
1 1/4"		
1"		
3/4"	100	100
1/2"	96	90-100
3/8"	83	74-89
No. 4	59	50-78
No. 8	40	32-64
No. 16	30	-
No. 30	24	12-38
No. 50	17	-
No. 100	10	-
Finer than 200 ASTM C117	6.4	3-7

Cold Feed Moisture ____ Asphalt Moisture ____

Test	Results	Specifications	ASTM Test Std.
Bitumen Content, %**	5.58	4.9-5.9	D 2172
Marshall Specific Gr. g/cc	2.361		D 2726
Marshall Unit Weight lbs/ft^3	147.0		
Maximum Specific Gr. g/cc	2.443		D 2041
No. Of Blows	50 / 250°F		
Stability, lbs	-		D 1559
Flow, .01, in.	-		D 1559
Air Voids, %	3.4	3-5	
VMA, %	13.7	13 min.	
Voids Filled, %	75		

* Indicates non-compliance with project requirements. ** By weight of total sample

ELAM CONSTRUCTION, INC.
BITUMINOUS MIX
FIELD CONTROL TEST

Hot Plant No. V-955
Location GRAND JCT, CO
Date 11-13-96
Time Sample Taken 2:20pm
Location AUGER

Work Order No. _____
Project PLEASANT MEADOWS
Thimble Setting 5.4 t · 5
Gate Setting:
#4 + _____
#4 - _____

EXTRACTION DATA

Sample & Container Wt. 3739.8
Container Tare Wt. 2145.7
Net Wt. Agg. & Bit. 1594.1
Gross Wt. Back ~~1508.~~
Total Tare 481.1
Extracted Agg. Weight 1508.0
Extracted Bit. Weight 86.1
% Extracted Bit. 5.40%
+ Retention Factor _____
% Bit. in Mix. _____

TARE WEIGHTS

Filter Weight 11.5
Drying Pan Wt. ~~469.9~~ 469.6
Total Tare 481.1

% Extracted Bit. = Extracted Bit. Wt. x 100 / Net Wt. Agg. & Bit

Sampled By P. Russell
Tested By P. Russell

SIEVE ANALYSIS

DRY SAMPLE WT. 1508.0
TARE WT. _____

SIEVE SIZE	~~CUMULATIVE WT. RETAINED PLUS TARE TARGET~~	CUMULATIVE WEIGHT RETAINED	PERCENT RETAINED	PERCENT PASSING	SPECS.
5/8	100	0	0	100	100
1/2	96	48.6	3.2	97	90-100
3/8	82	266.1	17.6	82	76-88
#4	56	590.3	39.1	61	51-61
#8	38	846.1	56.1	* 44	33-43
#16	27	994.7	66.0	34	—
#30	21	1097.6	72.3	* 27	17-25
#50	14	1225.6	81.3	19	—
#100	9	1339.2	88.8	11	—
#200	5.8	1398.0	92.7	7.3	3.8-7.8

13.3 Page 1
1506.2

↓ COLL with WCT & City of GJ

COLORADO PRINTING CO., GRAND JUNCTION, COLO.

NUCLEAR COMPACTION TEST DATA

Soil Type 5/8 N.B. P
Project See Remarks
Date 11-12-96
Taken By P. Russell
Guage 3440

Test Number	1	2	3	4	5	6	7	8	9	10
Station	9+50	9+15	8+95	East	East	East	East	East	West	West
Offset	Cul-de-sac	Cul-de-sac	Cul-de-sac	Parking Lot	Parking Lot	Parking Lot	Parking Lot	Parking Lot	Parking Lot	Parking Lot
Elevation	0	0	0	0	0	0	0	0	0	0
Mode and Depth	B.S.	B.S.	B.S.	B.S.	B.S.	B.S.	B.S.	B.S.	B.S.	B.S.
Density Count	867	859	852	839	851	878	875	852	840	854
Wet Density Guage	139.0	138.9	139.7	141.2	139.8	137.0	137.2	139.7	141.1	139.5
Wet Density Core										
Moisture Count										
Moisture										
Dry Density										
% Moisture										
% Compaction Guage	92.0	92.6	93.1	98.0	97.0	95.0	95.2	97.0	97.9	96.8
% Compaction Core										

Test Number	11	12	13	14	15	16	17	18	19	20
Station	West	West	West	Middle	Middle	Middle	Pheasant	Pheasant	Pheasant	Pheasant
Offset	Parking Lot	Parking Lot	Parking Lot	Parking Lot	Parking Lot	Parking Lot	Meadow -2"	Meadow -2"	Meadow -2"	Meadow -2"
Elevation	0	0	0	0	0	0				
Mode and Depth	B.S.	B.S.	B.S.	B.S.	B.S.	B.S.	B.S	B.S	B.S	B.S
Density Count	850	840	875	879	841	864	866	856	857	856
Wet Density Guage	139.9	141.1	137.0	136.8	140.9	138.4	138.1	139.3	139.1	139.0
Wet Density Core										
Moisture Count										
Moisture										
Dry Density										
% Moisture										
% Compaction Guage	97.1	97.9	95.0	95.0	97.8	96.0	92.0	92.8	92.6	92.7
% Compaction Core										

Density	Moisture
3382	645

Remarks: P.C.F 150+
TESTS 1-3 ARE AT GRACE PROJECT
TESTS 3-16 ARE AT 7TH & BELFORD P.C.F = 144.1 BULK 95 min
16-20 ARE TEST FROM PHEASANT MEADOWS P.C.F 150.1

Form 231-0294

January 3, 1997

City of Grand Junction, Colorado
250 North Fifth Street
81501-2668
FAX: (970)244-1599

Scott Baumgardner, Estimator
Elam Construction
1225 S. 7th Street
Grand Junction, CO 81501

RE: Jakarlin Court

Dear Scott:

Thank you for sending me all the pertinent data for the paving of Jakarlin Court. We have reviewed this material and find it is acceptable. However, we are requiring the areas tested by Richard Bailey which were in question be retested and if questions still exist, be cored, prior to final acceptance of the pavement.

Please contact Richard Bailey in the spring to arrange for this additional testing. We will also need to schedule a final walkthrough of the project with the developer when all work has been completed.

If you have any questions, please call me or Richard.

Sincerely,

Jody Kliska
City Development Engineer

cc: Richard Bailey, City Quality Assurance
Stan Seligman, Great New Homes
Jim Fife, Western Colorado Testing
Don Newton, City Engineer

M E M O R A N D U M

DATE: March 20, 1997

TO: John Shaver

FROM: Michael T. Drollinger

RE: Pheasant Meadows CC&Rs

Attached please find a copy of the covenants for Pheasant Meadows for your review and comments. The petitioner is anxious to record so if possible a review at your earliest convenience would be appreciated. If you have any questions please feel free to contact me at x1439.

26 MARCH 1997

MICHAEL I COMPLETED REVIEW OF THE PROPOSED COVENANTS FOR PHEASANT MEADOWS SUBDIVISION. THE COVENANTS AS PROPOSED PROVIDE FOR THE FORMATION OF AN ASSOCIATION IN ACCORDANCE WITH AND PURSUANT TO COLORADO LAW. AS PROPOSED THE COVENANTS SATISFY SECTION 7-5-4C.6. OF THE GRAND JUNCTION ZONING AND DEVELOPMENT CODE.

MY REVIEW AND LEGAL OPINION DOES NOT INCLUDE QUESTIONS OF ENFORCEABILITY OR OTHER LEGAL SUFFICIENCIES OF THE COVENANTS OR THE ASSOCIATION.

JOHN P. SHAVER

M E M O R A N D U M

DATE: March 28, 1997

TO: Bobbie Paulson

FROM: Michael T. Drollinger

RE: Pheasant Meadows (Our File #FP-96-113)

sent to BP 3/28/97

Attached please find two checks totaling $385.00 to guarantee landscaping and other site improvements at the subject site located at 24 3/4 Road and Jackarlin Court. Please deposit the check in the appropriate account. I have also attached the DIA for reference; please return the DIA to me when finished.

LANDesign
ENGINEERING • SURVEYING • PLANNING

May 23, 1996

Mr. Michael T. Drollinger
Community Development Department
City of Grand Junction
250 N. 5th Street
Grand Junction, CO 81501

Re: Pheasant Meadows
Job File No. 96001.40

Dear Michael:

On behalf of our clients, the Eulers, we are requesting TCP credit for the 24 ¾ Road improvements required by this development.

The cost estimate, Exhibit B, for 24 ¾ Road has been included with this letter.

If additional documentation is needed, please contact our office.

Very truly yours,

Charles M. Best

Charles M. Best
Project Manager

cc: George & Carrie Euler

CB/dg

259 GRAND AVE. • GRAND JUNCTION, CO 81501 • (970) 245-4099 • FAX (970) 245-3076

EXHIBIT "B"

IMPROVEMENTS LIST/DETAIL
(Page 1 of 3)

DATE: 5-23-96
NAME OF DEVELOPMENT: Pheasant Meadows Subdivision
LOCATION: 24 3/4 Road Improvements
PRINTED NAME OF PERSON PREPARING: Mike Best

	UNITS	TOTAL QTY	UNIT PRICE	TOTAL AMOUNT
I. SANITARY SEWER				
1 Clearing and grubbing				
2 Cut and remove asphalt				
3 PVC sanitary sewer main (incl. trenching, bedding & backfill)				
4 Sewer service (incl. trenching bedding, & backfill)				
5 Sanitary sewer manhole(s)				
6 Connection to existing manhole(s)				
7 Aggregate Base Course				
8 Pavement Replacement				
9 Driveway restoration				
10 Utility adjustments				
II. DOMESTIC WATER				
1 Clearing and grubbing				
2 Cut and remove asphalt				
3 Water main (incl. excavation, bedding, backfill, valves, and appurtenances)				
4 Water services (incl. excavation, bedding, backfill, valves, and appurtenances)				
5 Connect to existing water line				
6 Aggregate Base Course				
7 Pavement Replacement				
8 Utility adjustments				
III. STREETS				
1 Clearing and grubbing	LS		$250.00	$250.00
2 Earthwork, including excavation and embankment construction	CUYD	180	$2.25	$405.00
3 Utility relocations				

4	Aggregate sub-base course (Square Yard)				
5	Aggregate base course (Cubic Yard)	CUYD	325	$18.00	$5,850.00
6	Sub-grade stabilization				
7	Asphalt or pavement (Ton)	TON	138	$27.50	$3,795.00
8	Curb, gutter & sidewalk (Linear Feet))	LF	380	$15.00	$5,700.00
9	Driveway sections (Square Feet)				
10	Crosspans & fillets				
11	Retaining walls/structures	SF	2000	$4.00	$8,000.00
12	Storm drainage system				
13	Signs and other traffic control devices				
14	Construction staking				
15	Dust control				
16	Street lights (each)				
IV.	**LANDSCAPING**				
1	Design/Architecture				
2	Earthwork (incl. top soil, fine grading & berming)				
3	Hardscape features (incl. walls fencing, and paving)				
4	Plant material and planting				
5	Irrigation system				
6	Other features (incl. statues water displays, park equipment)				
7	Curbing				
8	Retaining walls & structures				
9	One year maintenance agmt.				
V.	**MISCELLANEOUS**				
1	Design/Engineering				$700.00
2	Surveying				$300.00
3	Developer's inspection costs				$300.00
4	Quality Control testing				$500.00
5	Construction traffic control				
6	Rights-of-way/Easements				

7	City inspection fees				$300.00
8	Permit fees				
9	Recording costs				
10	Bonds				
11	Newsletters				
12	General Construction Supervision				
13	Other				
14	Other				

TOTAL ESTIMATED COST OF IMPROVEMENTS : **$26,100.00**

Signature of Developer Date
(If corporation, to be signed by President and attested to by Secretary together with the corporate seals)

I have reviewed the estimated costs and time schedule shown above and, based on the plan layouts submitted to date and the current costs of construction, I take no exception to the above.

CITY ENGINEER DATE

COMMUNITY DEVELOPMENT DATE

CITY OF GRAND JUNCTION
DEPARTMENT OF PUBLIC WORKS & UTILITIES
250 NORTH 5TH STREET
GRAND JUNCTION, CO 81501
(970) 244-4003

TO THE MESA COUNTY CLERK & RECORDER:

THIS IS TO CERTIFY that the herein named Subdivision Plat,

PHEASANT MEADOWS SUBDIVISION,

Situated in the SE 1/4 of Section 33,

Township 1 NORTH, Range 1 WEST,

of the UTE Meridian in the City of Grand Junction, County of Mesa, State of Colorado, has been reviewed under my direction and, to the best of my knowledge, satisfies the requirements pursuant to C.R.S. 38-51-106 and the Zoning and Development Code of the City of Grand Junction for the recording of subdivision plats in the office of the Mesa County Clerk and Recorder.

This certification makes no warranties to any person for any purpose. It is prepared to establish for the County Clerk and Recorder that City review has been obtained. This certification does not warrant: 1) title or legal ownership to the land hereby platted nor the title or legal ownership of adjoiners; 2) errors and/or omissions, including, but not limited to, the omission(s) of rights-of-ways and/or easements, whether or not of record; 3) liens and encumbrances, whether or not of record; 4) the qualifications, licensing status and/or any statement(s) or representation(s) made by the surveyor who prepared the above-named subdivision plat.

Dated this 3 day of March, 1997.

City of Grand Junction,
Department of Public Works & Utilities

By: James L Shanks

James L. Shanks, P.E., P.L.S.
Director of Public Works & Utilities

1792799 1027AM 03/27/97
MONIKA TODD CLK&REC MESA COUNTY CO

Recorded in Mesa County
Date:
Plat Book: 15 Page: 304
Drawer: DD27
g:\special\platcert.doc

10 sh / 0 at

SUBDIVISION

NW cor. SE1/4 SE1/4
Sec 33, T1N, R1W, U.M.
MCSM # 1366

FOUNTAINHEAD SUBDIVISION
BOOK 13 PAGE 177-178

Additional 1' of right of way to be dedicated to Mesa County

1'

S 89°56'52" E 353.46'

79.00' | 147.17' | 126.29'

10' Utility Easement

10' | 15'

15' Utility and Drainage Easement

26.00'

25.00'

123.99'

Lot 1
11182 SF.
0.257 AC.

N 00°07'32" W 144.11'

Lot 2
19860 SF.
0.456 AC.

S 00°00'00" E 123.25'

Lot 3
20200 SF.
0.464 AC.

166.11'

2478

2482

2486

S 45°01'37" E
28.49'

14' Multipurpose Easement

C2

58.89' | 75.00'

C1

R=48.0'

C3

42.08'

Jakarlin Court
S 89°56'52" E 156.05'

10'

100.31'

S 89°56'52" E

(BASIS OF BEARINGS)

S 00°07'32" E 1317.64'

24 3/4 ROAD

N 00°07'32" W 470.33'

42.13'

96.74' | 37.03'

C6

C4

10' | 20' Utility and Drainage Easement | 15'

N 44°58'23" E
28.37'

C5

2477

2481

2485

134.70'

14' Multipurpose Easement

14'

Lot 6
17883 SF.
0.411 AC.

S 00°07'32" E 154.79'

Lot 5
16746 SF.
0.384 AC.

S 00°07'32" E 139.81'

Lot 4
20381 SF.
0.468 AC.

176.79'

15' Utility and Drainage Easement

S 00°07'32" E 470.44'

Block 1

116.84' | 117.80' | 5' | 117.82'

N 89°56'52" W 352.46' 10' Utility and Drainage Easement

5'

50'

50' Utility and Drainage Easement

127.54'

127.43'

720

Lot 1
Block 2
44932 SF.
1.031 AC.

20' GRAND JUNCTION DRAINAGE DISTRICT EASEMENT
BOOK 1507 PAGE 633, TO BE ABANDONED HEREON

25'

25' Utility and Drainage Easement

352.46'

P.O.B.

N 89°55'44" W 353.46'

S 89°55'44" E
25.00'

658.82'

GOLDEN MEADOWS SUBDIVISION
BOOK 13 PAGE 433

Project Benchmark:
Found Pin/Cap: Rolland
Engrs. Elev. 4587.71

NORTH VALLEY SUBDIVISION
FILING ONE
BOOK 2056 PAGE 287

FOUNTAINHEAD SUBDIVISION

Pheasant Meadows

1. continue Ct.

2701-334-00-115

CURVE TABLE

CURVE#	DELTA ANGLE	RADIUS	LENGTH	TANGENT	CHORD BEARING	CHORD
C1	54°44'38"	13.50'	12.90'	6.99'	N 62°40'49" E	12.41'
C2	81°30'29"	48.00'	68.29'	41.37'	N 76°03'48" E	62.67'
					S 31°33'54" E	50.33'

FP-1996-113

APPLICATION FOR PAYMENT NO. **TWO**

To: **Donada, INC.**, Work Agreement: **GRAND VIEW FILING TWO**, For Work accomplished through the date of: **JUNE 25, 1997** by **Elam Construction, Inc.**

ATTACH ITEMIZED LIST

Accompanying Documentation:

Invoice #333938

Original Proposal Amount	$ N/A
Net Channge By Change Order	$ N/A
Contract Sum To Date	$275,391.75
Total Complete & Stored To Date	$275,391.75
Retainage	
5 % of Completed Work	$ 0.00
5 % of Stored Materials	$ 0.00
Total Earned Plus Retainage	$275,391.75
Less Previous Certificates For Payment	$109,548.50
Current Payment Due	$165,843.25
Balance To Finish Plus Retention	$ N/A

CONTRACTORS Certification:

Elam Construction, Inc. certifies that all progress payments received from OWNERS on account of Work done under the Work Agreement referred to above have been applied to discharge in full all obligations of **Elam Construction, Inc.** incurred in connection with the Work covered by this Application For Payment Number (One) inclusive; AND title to all materials and equipment incorporated in said Work or otherwise listed in or covered by this Application For Payment will pass to OWNERS at time of final acceptance of project free and clear of all liens, claims, security interests and encumbrances.

Dated _____, 1997

Elam Construction, Inc.

By: _____

Title: _____

PROJECT MANAGERS Recommendation:

This Application (with accompanying documentation) meets the requirements of the Contract Documents and payment of the above Current Payment Due is recommended.

Dated July 3, 1997

Monty D. Stroup

By: _____

Monty D. Stroup, Project Manager

CITY OF GRAND JUNCTION Recommendation:

This Application (with accompanying documentation) meets the requirements of the Development Improvements Agreement and payment of the above Current Payment Due is recommended.

Dated July 3, 1997

CITY OF GRAND JUNCTION

By: _____

Title: City Dev. Engr.

OWNER'S Acceptance:

This Application (with accompanying documentation) is accepted and payment of the above Current Payment Due is recommended.

Dated _____, 1997

Donada, Inc.

By: _____

Title: _____

Elam CONSTRUCTION, INC.
1225 South 7th St.
Grand Junction, Colorado 81501
(303) 242-5370 • FAX (303) 245-7716

INVOICE

Nº 33938

DONADA, INC.

634 AVALON DRIVE

GRAND JUNCTION, CO 81501

Invoice Date	6/25/97
Customer Number	4200
Job Number	360436
Customer Order Number	
Location of Work	GRAND VIEW SUBD.
Date of Work	THRU JUNE 12, 1997

TERMS: DUE 10TH OF MONTH FOLLOWING INVOICE DATE. 1.5% per month (18% annual rate) charged on past due accounts. Buyer agrees to pay reasonable attorney fees and costs in the event of default.

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1600 CY	EXCAVATION	$ 1.40	$ 2,240.00
10100 SY	SUBGRADE PREP.	$ 0.70	$ 7,070.00
2973 TONS	ROAD BASE	$ 7.50	$ 22,297.50
2105 TONS	HOT BITUMINOUS ASPHALT	$ 28.00	$ 58,940.00
11 EA	ADJUST MANHOLES & WATER VALVES	$ 90.00	$ 990.00
5 EA	SIGHS	$ 125.00	$ 625.00
6 EA	END OF ROAD	$ 50.00	$ 300.00
1 LS	TRAFFIC CONTROL		$ 1,500.00
1 LS	TESTING		$ 1,000.00
1 LS	ADDITIONAL TESTING		$ 2,528.00
691 LF	30" C&G (rollover)	$ 7.50	$ 5,182.50
1759 LF	7'-0" VERTICAL CURB, GUTTER & SIDEWALK	$ 12.25	$ 21,547.75
1736 LF	6'-6" MOUNTABLE CURB, GUTTER, & SIDEWALK	$ 13.00	$ 22,568.00
3776 SF	HANDICAP RAMPS	$ 2.75	$ 10,384.00
224 SF	6' X 7' DRIVEWAYS + B11	$ 2.75	$ 616.00
1 LS	CATCH BASIN - GRATE & FRAME		$ 1,500.00
330 SF	5' SIDEWALK	$ 2.75	$ 907.50
23 HR	SUBEXCAVATION	$ 164.00	$ 3,772.00
250 TONS	ROAD BASE (to fix soft spots)	$ 7.50	$ 1,875.00
	Total Amount Due		$ 165,843.25

Please pay from invoice. THANK YOU

Form 125-0391

THE BANK
OF GRAND JUNCTION

P.O. Box 55365
Grand Junction, Colorado 81505
(303) 241-9000

FP-1996-113

file

August 28, 1997

City of Grand Junction
Planning and Development Department
250 North 5th Street
Grand Junction, Co. 81501

RE: Great New Homes, Inc.
Disbursement Agreement
PHEASANT MEADOWS SUBDIVISION

To Whom It May Concern:

The Bank of Grand Junction signed a Disbursement Agreement for **PHEASANT MEADOWS SUBDIVISION** on 7/12/96 in the amount of $98,912.05.

It is our understanding that all improvements have been completed and paid for and no draws were needed on this agreement. The Bank of Grand Junction is requesting a release from the City of it's right to draw on this agreement.

We would appreciate a written response as soon as possible and we thank you for your prompt consideration of our request.

Sincerely,

Marlene M. Haase

Marlene M. Haase
Vice President

MMH/pe

Darry your Copies

DISBURSEMENT AGREEMENT
(Improvements Guarantee)

DEVELOPER: Great New Homes, Inc.
3032 I-70 Business Loop
Grand Junction, CO 81504

BANK: BANK OF GRAND JUNCTION
2415 F ROAD
GRAND JUNCTION, CO. 81505

PROPERTY: Pheasant Meadows Subdivision

DISBURSEMENT AMOUNT: For the construction of improvements to the Property in an amount not to exceed $ 98,912.05 .

This Agreement is entered into by and between Great New Homes, Inc. ("Developer"), BANK OF GRAND JUNCTION ("Bank") and the City of Grand Junction, Colorado ("City").

RECITALS

Developer has been required by the City to construct certain improvements to Pheasant Meadows Subdivision ("Improvements") in accordance with the Zoning and Development Code, Improvements Agreement and subdivision approval.

The Bank has agreed to loan funds to the Developer for construction of the Improvements.

The City Engineer has approved an estimate of the costs of the Improvements and that amount or an amount not to exceed $98,912.05, whichever is greater, shall be referred to as the "Funds."

The parties desire to secure the full and complete performance of the Developer's obligations and to secure that the Funds are disbursed only to pay for the Improvements.

NOW, THEREFORE, THE PARTIES AGREE:

1. BANK PROMISES. Bank shall dedicate or set aside the Funds on behalf of Developer and for the City's benefit within twenty-four hours of execution of this Disbursement Agreement.

Bank warrants: that the Funds are to be held in trust solely to secure Developer's obligations under the Improvements Agreement; that the Bank shall act as agent of the City in holding the Funds; that the Funds will not be paid out or disbursed to, or on behalf of, the Developer except as set forth in this document and/or as set forth in the Improvements Agreement; and that the Bank may not modify or revoke its obligation to disburse funds to or on behalf of the Developer or the City. The Bank warrants that the Funds are and will be available exclusively for payment of the costs of satisfactory completion of the Improvements.

2. **DISBURSEMENT PROCEDURES.** The Funds shall be advanced for payment of costs incurred for the construction of Improvements on the Property in accordance with the Improvements List/Detail attached to the Improvements Agreement, the terms of which are incorporated by this reference. All disbursements must comply with the following procedures:

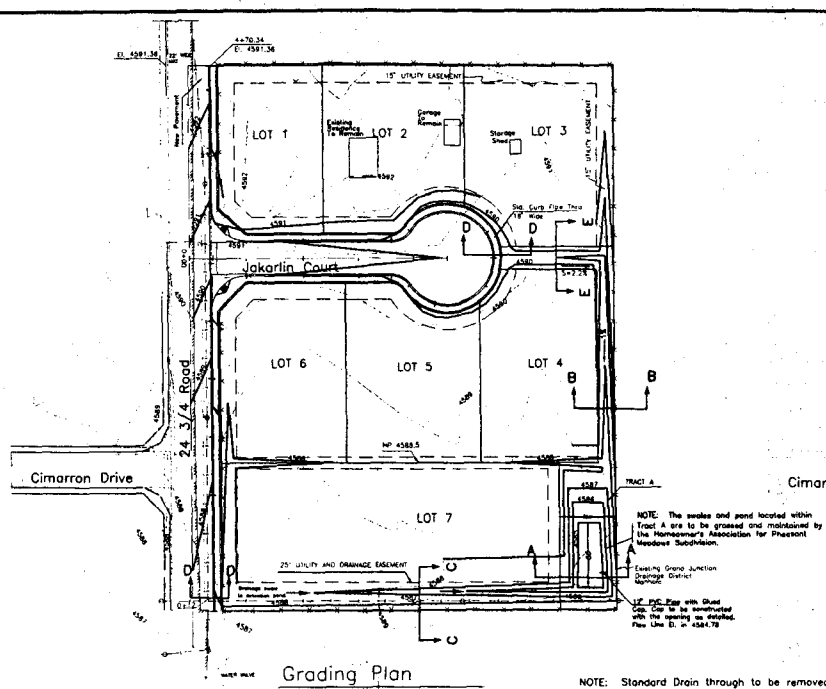
(a) **Request for Advance.** Developer shall deliver to the Bank a written request for the disbursement of funds on forms acceptable to the Bank. Such requests shall be signed by Developer, Developer's General Contractor, Project Engineer and Architect, if applicable, and the City Engineer. By signing the request for disbursement the Developer is certifying: that all costs for which the advance is being requested have been incurred in connection with the construction of the Improvements on the Property; that all work performed and materials supplied are in accordance with the plans and specifications submitted to and approved by the City; that the work has been performed in a workmanlike manner; that no funds are being requested for work not completed, nor for material not installed; the Project Engineer has inspected the Improvements for which payment is requested; and that such improvements have been completed in accordance with all terms, specifications and conditions of the approved plans. Attached hereto is the list of those individuals, and their respective signatures, required to sign the above described request(s) for disbursement of funds.

(b) **Documentation, Waivers and Checks.** Each request for disbursement of funds shall be accompanied by: (*i*) one original and one copy of each invoice to be paid; (*ii*) checks drawn on Developer's construction loan account with the Bank, made payable to the payee(s) and for the amount of each invoice presented for payment; (*iii*) lien waivers in a form approved by the Bank prepared for signature by each payee; and (*iv*) postage paid envelopes addressed to each payee for the mailing of checks presented to the Bank.

TYPE LEGAL DESCRIPTION(S) BELOW, USING ADDITIONAL SHEETS AS NECESSARY. USE SINGLE SPACING WITH A ONE INCH MARGIN ON EACH SIDE.

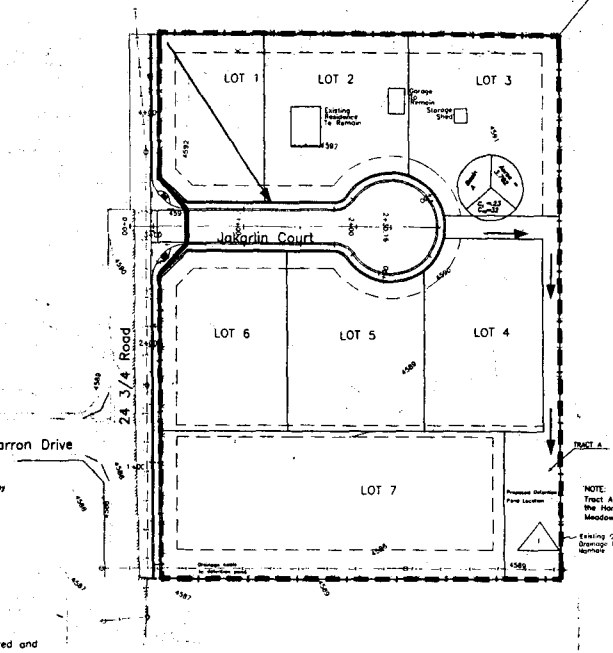
****

Commencing at the Southwest corner of Lot 48, Pomona Park Subdivision, thence along the South line thereof, South 89°57'40" East 10.00 feet to the True Point of Beginning, thence continuing South 89°57'40" East along the South line of said Lot 48 a distance of 353.50 feet, thence North 00°07'37" West 470.52 feet, thence North 89°57'50" West, 353.50 feet, thence South 00°07'37" East along the East right of way of 24 3/4 Road, a distance of 470.50 feet to the True Point of Beginning,
Mesa County, Colorado.



Grading Plan
Scale 1" = 50'

NOTE: Standard Drain through to be removed and replaced with like curb and gutter when the street improvements are complete to the south of the site along 24 3/4 Road.

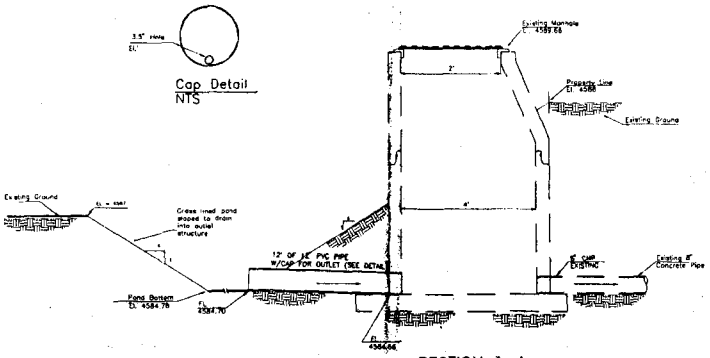


Developed Drainage Plan
Scale 1" = 50'

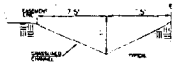
Drainage Legend

- Boundary Information
- Sub - Basin Boundary
- Origin of flow
- Design Point

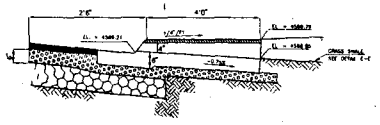
Historic C Values:
2 Year 0.22
100 Year 0.27



SECTION A-A
POND CROSS SECTION
NTS

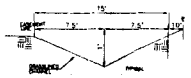


SECTION B-B

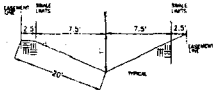


DRIVE-OVER CURB AND GUTTER

SECTION D-D



SECTION C-C



SECTION E-E

SCALE 1" = 50'
50' 0' 50' 100'

FINAL FOR CONSTRUCTION

DATE	NO:	REVISIONS:	By:
5/24/96	1	REVIEW COMMENTS	DP
06/28/96	2	REVIEW COMMENTS	DP
07/24/96	3	REVISE LOT LINES	DP
08/07/96	4	REVISE TEXT	JDS

CITY OF GRAND JUNCTION DEPT OF PUBLIC WORKS
APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.
BY: DATE: 8-29-96
ACCEPTED AS CONSTRUCTED
BY: DATE:

PHILIP M. HART
REGISTERED PROFESSIONAL ENGINEER
P.E. NO. 19346

GRADING AND DRAINAGE PLAN
PHEASANT MEADOWS SUBDIVISION

LANDesign
ENGINEERS • SURVEYORS • PLANNERS
756 GRAND AVENUE
GRAND JUNCTION, COLORADO 81501 (970) 245-4099

PROJECT NO. 19601	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: MAY 1996	BCST	BCST		5	10

FP-1996-113