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File FPP-1996-052 Name: South Rim – Filing 5 – NE of Filing #1/N of Filing #3

Present	Scanned	
		A few items are denoted with an asterisk (*), which means they are to be scanned for permanent record on the ISYS retrieval system. In some instances, items are found on the list but are not present in the scanned electronic development file because they are already scanned elsewhere on the system. These scanned documents are denoted with (**) and will be found on the ISYS query system in their designated categories. Documents specific to certain files, not found in the standard checklist materials, are listed at the bottom of the page. Remaining items, (not selected for scanning), will be listed and marked present. This index can serve as a quick guide for the contents of each file.
X	X	**Table of Contents**
		***Review Sheet Summary**
X	X	***Application form**
		Review Sheets
		Receipts for fees paid for anything
X	X	***Submittal checklist**
X	X	***General project report**
		Reduced copy of final plans or drawings
		Reduction of assessor's map.
		Evidence of title, deeds, easements
X	X	***Mailing list to adjacent property owners**
		Public notice cards
		Record of certified mail
		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		***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		Posting of Public Notice Signs – 2/20/96	X	X	Site Plan
X	X	Subsurface Soils Exploration – 8/3/93	X	X	Utility Composite
X		Insurance Policy – First American Title Co.	X	X	Plat
X	X	General Project Report	X	X	Street Plan & Profile
X	X	Stormwater Management Plan – 3/1/96	X	X	Water and Sanitary Sewer Plan and Profile
X	X	Correspondence	X	X	Grading and Drainage Plan
X	X	Planning Commission Minutes - ** - 4/2/96	X	X	Irrigation Plan
X		Certification of Plat – 5/17/96	X	X	Landscape Details
X		Fax Transmittals			
X		Amendment and Fourth Supplement to the Declaration of Covenants – Bk 2239 / Pg 916			
X		Articles of Incorporation – Bk 2057			
X	X	Development Improvements Agreement – Bk 2239 / Pg 901-** to be scanned			

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	☐ Minor ☒ Major ☐ Resub	10.57 AC.	CITY OF GRAND JUNCTION, MESA COUNTY, COLORADO	PR-3.5	SINGLE FAMILY 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
LOWE DEVELOPMENT CORP. DAVID G. BEHRHORST, V.P.	SEE PROPERTY OWNER	MONTY STROUP LANDESIGN, LLC
Name	Name	Name
1280 UTE AVE., SUITE 32		259 GRAND AVE.
Address	Address	Address
ASPEN, CO 81611		GRAND JUNCTION, CO 81501
City/State/Zip	City/State/Zip	City/State/Zip
(970) 925-4497		(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 Monty Stroup — 02/26/96
Signature of Person Completing Application — Date

X David G Behrhorst — 2/26/96
Signature of Property Owner(s) - attach additional sheets if necessary — Date

Troy Caroline Topper
2323 E 1/2 Rd.
Grand Junction, CO 81503

Paul Jones
Sylvia M Jones
2328 S Rim Dr.
Grand Junction, CO 81503

Lucia Cabot Cipolla
2325 E. 1/2 Rd.
Grand Junction, CO 81503

Dept. of Parks & Outdoor
Recreation
1313 Sherman St.
Denver, CO 80203-2236

E A Williams
Anzaletta
2312 Hacienda Dr.
Grand Junction, CO 81503

David G. Behrhorst
Lowe Development Corp.
1280 Ute Ave, Suite 32
Aspen, CO 81611

Joseph D Steinkirchner
Kelli D Steinkirchner
2322 1/2 South Rim Dr.
Grand Junction, CO 81503

Monty Stroup
LANDesign, LLC
259 Grand Ave.
Grand Junction, CO 81501

Dick Olsen
Dorris Jean Olsen
3510 Ponderosa Way
Grand Junction, CO 81506

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

Lowe Development Copr.
11777 San Vicente Blvd
Ste. 900
Los Angeles, CA 90049

Norman L. Franke
Lisa Jo Franke
452 Tiara Vista Dr.
Grand Junction, CO 81503

Jerry D Burau
Colleen M Burau
2324 S Rim Dr
Grand Junction, CO 81503

Boyd James Bair
Coy Michelle Bair
537 Kirby Dr.
Grand Junction, CO 81504

SUBMITTAL CHECKLIST

PLANNED DEVELOPMENT / MAJOR SUBDIVISION: FINAL (PLAN & PLAT)

Location: S. Rim Drive Project Name: SOUTH RIM FILING

Date Received 3-1-96

Receipt # 3609

File # FPP-96-52

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	● Irrigation District - REDLANDS	O Drainage District	● Water District - UTE	O Sewer District	● U.S. West	● Public Service	O GVRP	O CDOT	O Corps of Engineers	O Colorado Geologic Survey	● U.S. Postal Service	[illegible]	● TCI Cable			TOTAL REQ'D.
● Application Fee	VII-1	1																												1
● Submittal Checklist*	VII-3	1																												1
● Review Agency Cover Sheet*	VII-3	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19
● 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	19
● 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	19
● Evidence of Title	VII-2	1			1			1																						3
O Appraisal of Raw Land	VII-1	1			1	1																								3
● Names and Addresses*	VII-2	1																												1
● Legal Description*	VII-2	1			1																									2
O Deeds	VII-1	1			1			1																						3
O Easements	VII-2	1	1	1	1			1													1	1	1						1	8
O Avigation Easement	VII-1	1			1			1							1															4
O ROW - SUPPLEMENT	VII-2	1	1	1	1			1													1	1	1						1	8
Covenants, Conditions & Restrictions	VII-1	1	1					1																						3
O Common Space Agreements	VII-1	1	1					1																						3
● County Treasurer's Tax Cert.	VII-1	1																												1
● Improvements Agreement/Guarantee*	VII-2	1	1	1				1																						4
O CDOT Access Permit	VII-3	1	1																											2
O 404 Permit	VII-3	1	1																											2
O Floodplain Permit*	VII-4	1	1																											2
● 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	26
● Composite Plan UTILITY	IX-10	1	2	1	1																									5
● 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	19
● 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	26
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	15
● Cover Sheet	IX-11	1	2																											3
● Grading & Stormwater Mgmt Plan	IX-17	1	2															1							1	1			1	7
O Storm Drainage Plan and Profile	IX-30	1	2															1			1	1	1						1	8
● Water and Sewer Plan and Profile	IX-34	1	2	1			1												1	1	1	1	1					1	1	11
● Roadway Plan and Profile	IX-28	1	2															1												4
O Road Cross-sections	IX-27	1	2																											3
O Detail Sheet	IX-12	1	2																											3
● Landscape Plan (SEE SITE PLAN)	IX-20	2	1	1					8																					12
● Geotechnical Report (Pavement Design Info)	8	1	1																						1					3
O Phase I & II Environmental Report	X-10,11	1	1																											2
● Final Drainage Report	X-5,6	1	2															1												4
O Stormwater Management Plan	X-14	1	2															1							1					4
O Sewer System Design Report	X-13	1	2	1																1										5
O Water System Design Report	X-16	1	2	1															1											5
O Traffic Impact Study	X-15	1	2																					1						4
Site Plan	IX-29	1	2	1	1		1		8																					14

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

POSTING OF PUBLIC NOTICE SIGNS

The posting of the Public Notice Sign is to make the public aware of development proposals. The requirement and procedure for public notice sign posting are required by the City of Grand Junction Zoning and Development Code.

To expedite the posting of public notice signs the following procedure list has been prepared to help the petitioner in posting the required signs on their properties.

1. All petitioners/representatives will receive a copy of the Development Review Schedule for the month advising them of the date by which the sign needs to be posted. **IF THE SIGN HAS NOT BEEN PICKED UP AND POSTED BY THE REQUIRED DATE, THE PROJECT WILL NOT BE SCHEDULED FOR THE PUBLIC HEARING.**
2. A deposit of $50.00 per sign is required at the time the sign is picked up.
3. You must call for utility locates before posting the sign. Mark the location where you wish to place the sign and call 1-800-922-1987. You must allow two (2) full working days after the call is placed for the locates to be performed.
4. Sign(s) shall be posted in a location, position and direction so that:
   a. It is accessible and readable, and
   b. It may be easily seen by passing motorists and pedestrians.
5. Sign(s) MUST be posted at least **10 days** before the Planning Commission hearing date and, if applicable, shall stay posted until after the City Council Hearing(s).
6. **After the Public Hearing(s) the sign(s) must be taken down and returned to the Community Development Department within FIVE (5) working days to receive a full refund of the sign deposit.** For each working day thereafter the petitioner will be charged a $5.00 late fee. After eight working days Community Development Department staff will retrieve the sign and the sign deposit will be forfeited in its' entirety.

The Community Development Department staff will field check the property to ensure proper posting of the sign. If the sign is not posted, or is not in an appropriate place, the item will be pulled from the public hearing agenda.

I have read the above information and agree to its terms and conditions.

Mary Folb — 2-20-96

SIGNATURE — DATE

FILE #/NAME South Rim Fil #5 VR-96-22 — RECEIPT #

PETITIONER/REPRESENTATIVE: Landesign — PHONE # 245-4099

DATE OF HEARING: 3-5-96 — POST SIGN(S) BY: 2-23-96

DATE SIGN(S) PICKED-UP 2/20/96 — RETURN SIGN(S) BY: 3-12-96 4-10-96

DATE SIGN(S) RETURNED 4-8-96 — RECEIVED BY: MP

Also for FPP-96-52 Rim #5 Filing 4-2-96 hearing date.

√ #40003605

GENERAL PROJECT REPORT

FINAL PLAN

SOUTH RIM SUBDIVISION, FILING NO. FIVE

February 29, 1996

Prepared For:

LOWE DEVELOPMENT, CORP.
c/o David "Skip" Behrhorst
1280 Ute Avenue, Suite 32
Aspen, Colorado 81611
(970) 925-4497

Prepared By:

LANDesign LLC
259 Grand Avenue
Grand Junction, Colorado 81501
(970) 245-4099

INTRODUCTION

The purpose of this narrative is to describe the subject property, define the proposed plan for development of the property and assess the merits of the request for Final Plat and Plan approvals.

LOCATION AND DESCRIPTION

The South Rim Development is located in the City of Grand Junction, County of Mesa, State of Colorado in an area commonly referred to as the "Redlands". More particularly South Rim Subdivision, Filing No. Five is located in the NW1/4, NE1/4, SW1/4 of Section 8, T.1 S., R.1 W. of the Ute Meridian, (Tax I.D. #2945-083-00-119).

The South Rim Development as a whole contains approximately 91.5 acres including 38.9 acres of previously dedicated as open-space. The fifth and final phase of development, South Rim Subdivision, Filing No. Five contains approximately 10.57 acres and is located north and east of South Rim Subdivision, Filing No. One and north of South Rim Subdivision, Filing No. Three.

EXISTING LAND USE

The site is currently vacant of any structures and is in fallow state. Recent agricultural production has not occurred on the property.

Topography of the site varies with location. The northwest one-half of the site is best described as a natural mesa or plateau overlooking the Colorado River and lower valley. This plateau area slopes generally from the west to the east at rates of 1 to 2 percent. The northeast and southeast areas of the site slope away from the plateau at rates averaging 20 percent towards the Tailrace Redlands Power Canal and associated tributaries.

Existing ground cover includes sparse native grasses, isolated pockets of brush and Russian Olive trees.

The property is currently zoned PR-3.5 as part of the South Rim Outline Development Plan. A revised Preliminary Plan for Filing No. Five was approved by the City of Grand Junction on June 6, 1995. The Preliminary Plan was approved for 15 single family home sites.

SURROUNDING LAND USE

Surrounding land uses west, south and southeast of the property are considered to be of moderate intensity. Land use northeast of the property is considered to be of low intensity. The surrounding land uses are tabulated as follows:

WEST
2 Acre (Plus) Single Family Residential Parcels Zoned PR-3.5

SOUTH
South Rim Subdivision, Filing No. One (Single Family Residential)
South Rim Subdivision, Filing No. Two (Single Family Residential)

SOUTHEAST
Public Open-Space
South Rim Subdivision, Filing No. Three (Single Family Residential)

NORTHEAST
Public Open-Space
Tailrace Redlands Power Canal
Colorado River

A Location Map at the end of this report illustrates the location of South Rim Subdivision, Filing No. Five in relation to surrounding land ownerships.

PROPOSED LAND USE

The proposal calls for the development of 15 single family residential home sites on 10.57 acres. The resultant density is 1.42 dwelling units per acre. The Site Plan depicts the relationship of each home site to the property boundary, roadway access, open-space and other related features of the development.

Covenants, Conditions and Restrictions (C.C.&R.s) for the South Rim Development as recorded in Book 2055 at page 317 of the Mesa County Clerk and Recorders Office shall be applied to this phase of development. These C.C.&R.s define the minimum development standards for architectural control, landscaping, fencing and permitted uses for individual lots.

The proposed land use is further defined as follows:

USE	AREA IN AC.	% OF TOTAL
Streets	0.86	8.14
Open Space	0.68	6.46
Lots	9.03	85.4
TOTAL	10.57	100

ACCESS

Primary access to the entrance of South Rim Subdivision, Filing No. Five shall be from South Rim Drive. South Rim Drive is a fully improved roadway section and was constructed as part of South Rim, Filing No. One. South Rim Drive provides direct access to 23 Road and the Redlands Parkway to the west.

Proposed roadway improvements call for the construction of approximately 708 lineal feet of 44 feet wide "public" street, from the intersection of South Teal Court and South Rim Drive north into the site. The street shall terminate with a 50 foot radius cul-de-sac near the north one-third of the project site. The roadway section shall be improved to current City standards with monolithic curb, gutter and sidewalk.

UTILITY SERVICE

DOMESTIC WATER - All lots shall be served by a domestic water distribution system. An existing 8-inch diameter water main at the intersection of S. Teal Court and South Rim Drive shall be extended north into the project site. A new 8-inch main is to be constructed along with fire protection and individual service laterals. The existing water mains are owned and maintained by the Ute Water Conservancy District. Based on field pressure and flow tests of the existing infrastructure system, sufficient flows and pressures exist to adequately serve this phase of development.

In addition to those site specific improvements listed above the existing infrastructure water system within the South Rim Development shall be connected to an existing 2-inch diameter water system serving Palace Verdes Estates, Filing No. Three. The connection is to occur at the easterly end of Palace Verdes Drive. This connection has been recommended and approved by both The City of Grand Junction Fire Department and the Ute Water Conservancy District. A copy of these recommendations is included at the end of this report.

SANITARY SEWER - All lots shall be served by a gravity flow sanitary sewer collection system. An existing 8-inch diameter sanitary sewer main at the intersection of S. Teal Court and South Rim Drive shall be extended north into the project site. A new 8-inch main is to be constructed along with and individual service laterals. The existing sanitary sewer mains are owned and maintained by the City of Grand Junction.

ELECTRIC, GAS, PHONE AND C.T.V. - Electric, gas and communication lines are to be extended north into the project site from existing lines at the intersection of S. Teal Court and South Rim Drive.

DRAINAGE IMPROVEMENTS - Existing drainage improvements completed with the construction of South Rim Subdivision, Filing No. One are to be upgraded and used to convey stormwater runoff from the site. These improvements include an existing 24-inch diameter RCP storm sewer located at the intersection of S. Teal Court and

South Rim Drive. This storm sewer shall receive developed runoff from the site and direct it to downstream conveyance elements. An analysis of the proposed upgrade to the existing storm sewer has been prepared and submitted to the City Development Engineer and the Community Development Department under separate cover.

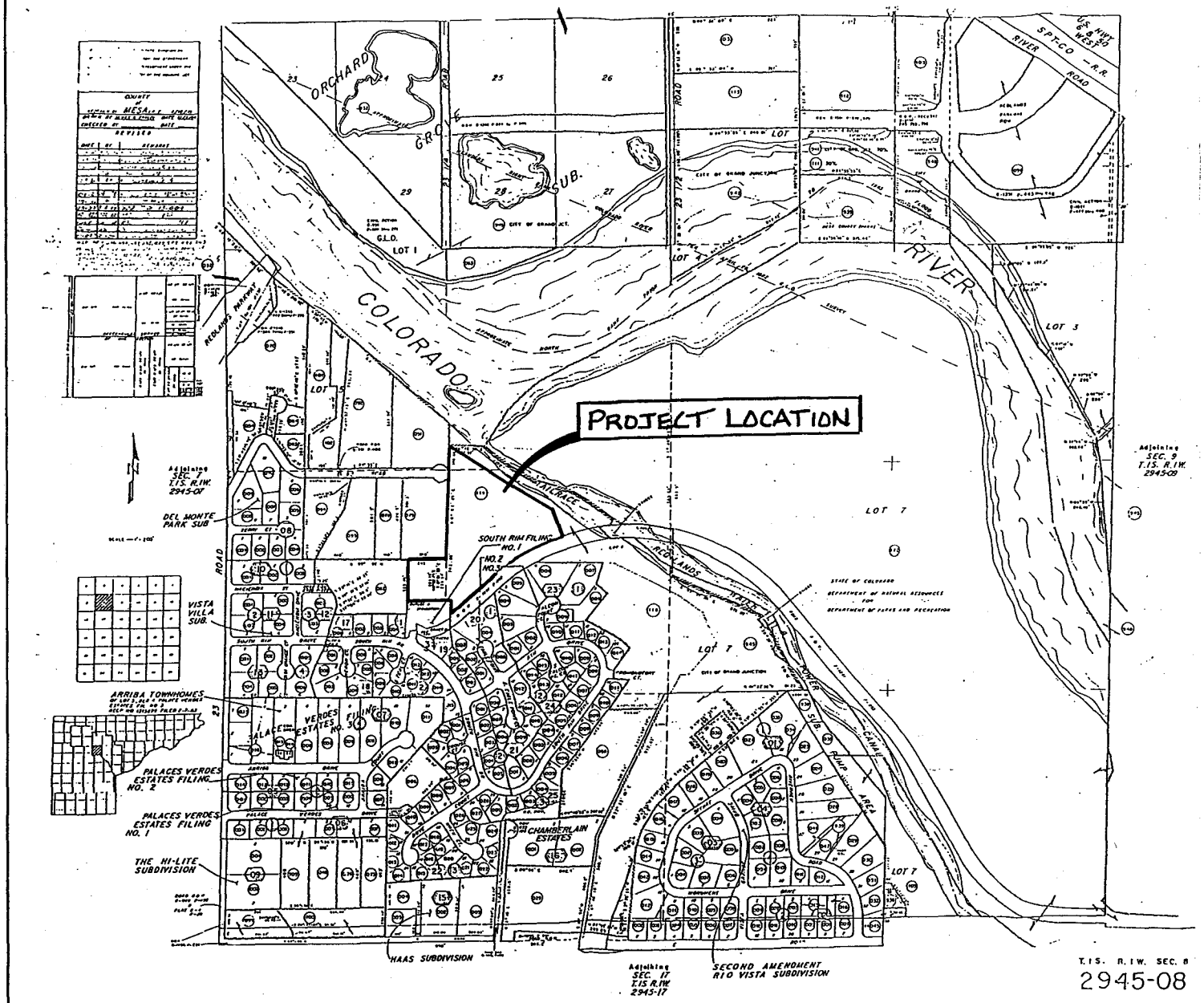
IRRIGATION - Each lot shall be served by a pressurized irrigation tap. The existing pressurized irrigation system shall be extended north from the northeast corner of Lot 4, Block 1, South Rim Subdivision, Filing No. One into the project site. The irrigation system is owned and maintained by the South Rim Homeowner's Association, Inc..

DEVELOPMENT SCHEDULE

Based on current market demand it is anticipated that construction of the proposed subdivision improvements shall begin upon the City's acceptance of the Final Plat and Plans.

CONCLUSION

The development plans as presented complement surrounding land uses and follows the development philosophy established with previous phases of the South Rim Development. The developer respectfully requests approval of South Rim Subdivision, Filing No. Five.



LOCATION MAP

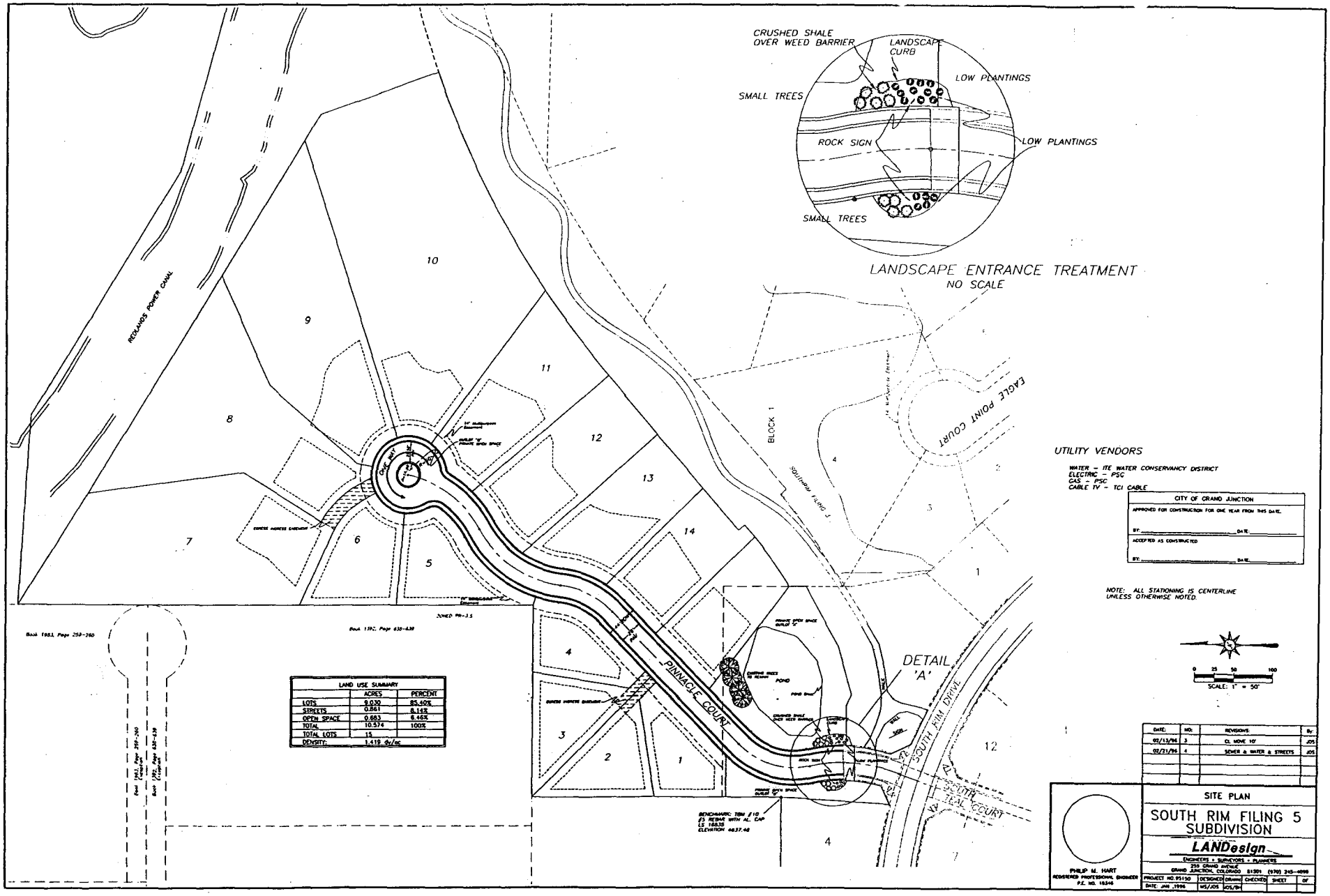
SOUTH RIM FILING 5 SUBDIVISION

LANDesign

ENGINEERS SURVEYORS PLANNERS

PHILIP M. HART
REGISTERED PROFESSIONAL ENGINEER
P.E. NO. 19348

PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN. 1996					



LAND USE SUMMARY		
	ACRES	PERCENT
LOTS	9.030	85.40%
STREETS	0.861	8.14%
OPEN SPACE	0.683	6.46%
TOTAL	10.574	100%
TOTAL LOTS	15	
DENSITY:	1.419 dv/ac	

UTILITY VENDORS

WATER – ITE WATER CONSERVANCY DISTRICT
ELECTRIC – PSC
GAS – PSC
CABLE TV – TCI CABLE

CITY OF GRAND JUNCTION
APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.
BY: _____ DATE: _____
ACCEPTED AS CONSTRUCTED
BY: _____ DATE: _____

NOTE: ALL STATIONING IS CENTERLINE UNLESS OTHERWISE NOTED.

0 25 50 100
SCALE: 1" = 50'

DATE:	NO:	REVISIONS:	By
02/13/96	3	CL MOVE 10'	JDS
02/21/96	4	SEWER & WATER & STREETS	JDS

PHILIP M. HART
REGISTERED PROFESSIONAL ENGINEER
P.E. NO. 16346

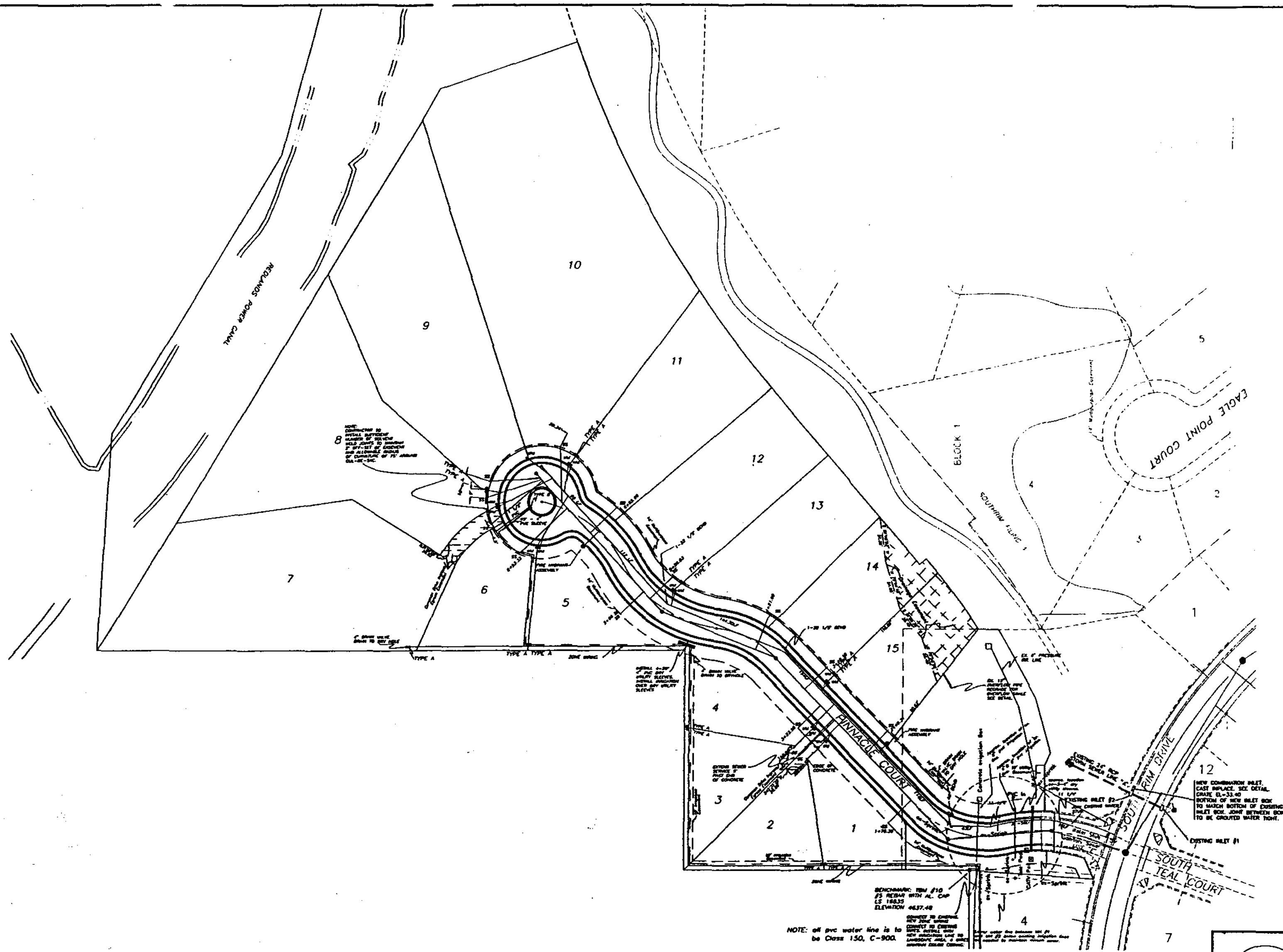
SITE PLAN

SOUTH RIM FILING 5 SUBDIVISION

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

PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN. 1996	MS/JDS	JDS/BH			

C:\SCI2\WORK\95150\95150P Thu Feb 29 15:42:34 1996



CITY OF GRAND JUNCTION
APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.
BY:______________ DATE:______
ACCEPTED AS CONSTRUCTED
BY:______________ DATE:______

DATE:	NO:	REVISIONS:	BY:
02/13/96	3	CL MOVE 10'	JOS
02/21/96	4	SEWER & WATER & STREETS	JOS

UTILITY COMPOSITE

SOUTH RIM FILING 5 SUBDIVISION

LANDesign

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

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

PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN. 1996	WS/JOS	JOS/BH			

C:\BC12\WORK\95150\95150FPS Thu Feb 29 15:48:09 1996

EXHIBIT C

SUBSURFACE SOILS EXPLORATION

SOUTH RIM SUBDIVISION

GRAND JUNCTION, COLORADO

Prepared For:

LOWE DEVELOPMENT CORPORATION
c/o Skip Behrhorst
c/o Thomas A. Logue
227 South 9th St.
Grand Junction, Colorado, 81501

Prepared By:

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

August 3, 1993

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

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

August 3, 1993

LOWE DEVELOPMENT CORPORATION
c/o Skip Behrhorst
c/o Mr. Thomas Logue
227 South 9th Street
Grand Junction, Colorado

Re: SUBSURFACE SOILS EXPLORATION

SOUTH RIM SUBDIVISION

Grand Junction, Colorado

Dear Sir:

Transmitted herein are the results of a Subsurface Soils Exploration for the proposed SOUTH RIM residential Subdivision, to be located on the Redlands, west of the City of Grand Junction, Colorado.

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

Respectfully submitted,

LINCOLN-DeVORE, INC.

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

Reviewed by: _____ 2/22/94
George D. Morris, P.E.
Colorado Springs Office

GEORGE D. MORRIS REGISTERED 2051 PROFESSIONAL ENGINEER STATE OF COLORADO

EMM/ss

LDTL Job No. 78619-J

TABLE OF CONTENTS

PAVEMENTS

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

Soil Type I Reddish Silty Sands, some clayey zones

R =	14
Expansion @ 300 psi =	4.5
Displacement @ 300 psi =	3.85

Soil Type II Coarse Gravel and Cobble Terrace Deposit

R =	54
Expansion @ 300 psi =	1.5
Displacement @ 300 psi =	3.38

No estimates of traffic volumes have been provided to Lincoln DeVore. However, we assume that the roads will be classified as low volume, residential. The design procedures utilized are those recognized by the Colorado Department of Highways and the 1986 AASHTO design procedure. The terminal Serviceability Index of 2.0, a Reliability of 70 and a design life of 20 years have been utilized, based on recommendations by the Highway Department. An 18 kip ESAL of 5, also recommended by the Highway Department, was used for the analysis.

Based on the soil support characteristics outlined above, the following pavement sections are recommended:.LS1

Residential Roadway:

3 inches of asphaltic concrete pavement
on 6 inches of aggregate base course
on 8 inches of recompacted native material

Full Depth Asphalt:

5 inches of asphaltic concrete pavement
on 12 inches of recompacted native material

Rigid Concrete:

6 inches of portland cement pavement
on 4 inches of aggregate base course (for Soil Type I, only)
on 8 inches of recompacted native material

We recommend that the asphaltic concrete pavement have a minimum R_t value of 95, and 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 course 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 course 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 dry density (ASTM D-1557) at a moisture content within + or -2% of optimum moisture.

We recommend that the rigid concrete pavement have a minimum flexural strength (F_t) of 650 psi at 28 days. This strength requirement can be met using Class P or AX or A or B Concrete as defined in Section 600 of the Standard Specifications for Road and Bridge Construction, Colorado DOT. It is

recommended that field control of the concrete mix be made utilizing compressive strength criteria. Flexural Strength should only be used for the design process. Control joints should be placed at a minimum distance of 12 feet in all directions. If it is desired to increase the spacing of control joints, then 66-66 welded wire fabric should be placed in the mid-point of the slab. If the welded wire fabric is used, the control joint spacing can be increased to 40 feet. Construction joints designed so that positive joint transfer is maintained by the use of dowels is recommended.

Concrete with a lower flexural strength may be allowed by the agency having jurisdiction however, the design section thicknesses should be confirmed. In addition, the final durability of the pavement should be carefully considered.

Control joints should be placed at a minimum distance of 12 feet along the slab/road lane length or to match curb and gutter jointing and 15 feet in width. If it is desired to increase the spacing of control joints, then 66-66 welded wire fabric should be placed in the mid-point of the slab. If the welded wire fabric is used, the control joint spacing can be increased to a maximum of 40 feet.

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.

FINAL DRAINAGE REPORT

FOR

SOUTH RIM, FILING NO. 5

February 29, 1996

Prepared For:

LOWE DEVELOPMENT CO.
c/o David "Skip" Behrhorst
1280 Ute Avenue, Suite 32
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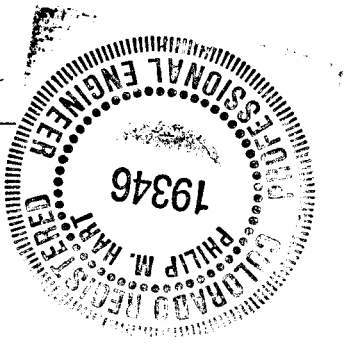
Prepared By:

LANDesign LLC.
259 Grand Avenue
Grand Junction, CO. 81501
(970) 245-4099

Prepared by:_____
Monty D. Stroup

" I hereby certify that this report for the final drainage design of South Rim, Filing No. 5 was prepared under my direct supervision."

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



I. Location and Description of Property

A. Property Location:

South Rim on the Redlands is located in the City of Grand Junction, County of Mesa, State of Colorado, more particularly being located in the SW 1/4 of Section 8, T.1 S., R.1 W. of the Ute Meridian.

Existing streets within the area of the project include 23 Road to the west and South Rim Drive (aka Greenbelt Drive) which runs west to east and is to be used as primary access to the site.

The South Rim development is bounded to the northeast by the Tailrace Redlands Power Canal. To the west lies Vista Villa Subdivision and Palace Verdes Estates, best described as medium density residential developments. To the south lies Haas Subdivision, Chamberlain Estates and undeveloped pasture lands. To the southeast lies Rio Vista Subdivision a medium density residential development.

B. Description of Property:

The overall South Rim Development contains approximately 91.5 acres including 38.9 acres of area designated for open-space. The fifth and final phase of development, South Rim Filing Five contains approximately 10.57 acres planned for 15 single family residential lots and is located in the northwest portion of the South Rim development.

The site is currently vacant of any structures and is in fallow state. Recent agricultural production has not occurred on the property.

Topography of the site varies with location. The northwest one-half of the site is best described as a natural mesa or plateau overlooking the Tailrace Redlands Power Canal, Colorado River and lower Grand Valley. This plateau area slopes generally from the west to the east at rates of 2 to 3 percent. The northeast and southeast areas of the site slope away from the plateau at rates averaging 20 percent towards the Tailrace Redlands Power Canal and associated tributaries.

Existing ground cover includes sparse native grasses, isolated pockets of brush and Russian Olive trees.

Ground cover on upland areas includes native grasses and isolated pockets of trees and brush. Lowland areas, gullies and washes are host to a variety of ground covers including thick brush, dense willows, native grasses and trees.

The site soils are classified as (Hc) Hinman clay loam, 2 to 5 percent slopes and falls within the hydrological soil group "C".

Soils along gullies and washes are classified as (Rr) Rough broken land, Mesa, Chipeta and Persayo soils materials and falls within the hydrological soils group "D" (Reference 4, Exhibit 2.0).

Irrigation facilities shall include a pressurized under ground system supplied by an existing storage pond located northeast of and adjacent to Filing One.

II. Drainage Basins and Sub-Basins

A. Major Basin Description:

The South Rim Development is bounded to the northeast by the Tailrace Redlands Power canal flowing from the southeast to the northwest towards the Colorado River.

The canal serves to convey return irrigation water and storm water runoff from areas southeast of the site. All areas within the South Rim Development drain towards the canal.

As defined in the detailed drainage study entitled "Flood Hazard Information, Colorado River and Tributaries" (Reference 2, Exhibit 1.0) South Rim, Filing Five is not within the 100 and 500 year floodplains of the Tailrace Redlands Power Canal.

B. Sub-Basin Description:

South Rim, Filing No. Five is located in the northwest portion of the overall South Rim Development. As indicated previously the topography of this phase is best described as a mesa or plateau overlooking the Tailrace Redlands Power Canal, Colorado River and the lower Grand Valley.

Historically the south two-thirds of the property drains in a overland sheetflow fashion from the northwest to the southeast at slopes of 2 to 3 percent towards an existing natural gully know as the Trail Channel. Drainage within the Trail Channel is ultimately conveyed and discharged to the Tailrace Redlands Power Canal near the northeast corner of this site. The north one-third of the site drains in a overland sheetflow fashion from the southwest to the northeast directly to the Tailrace Redlands Power Canal.

III. Drainage Design Criteria

A. Regulations:

The City of Grand Junction's (SWMM), (Reference 1) was used as the basis for analysis and facility design.

B. Development Criteria Reference and Constraints:

The drainage studies prepared for South Rim, Filings No. One and Two, previous phases of the overall development, are listed herein as References 8 and 9 and are on file with the City of Grand Junction's Department of Public Works.

The primary design constraints for the project site are the routing and conveyance of developed flows along the proposed roadway to the existing 24-inch diameter storm sewer located at the intersection of South Rim Drive and South Teal Court. This storm sewer was constructed with Filing No. One and was designed to convey the (minor storm) 10 Year Event per Mesa County Standards. South Rim Filing No. One was designed and constructed prior to City Annexation, therefore Mesa County Drainage guidelines were used.

Due to the projects proximity to the Tailrace Redlands Power Canal and the Colorado River, developed flows will have a insignificant affect on the peak hydrograph for the regional basin and resultant flows in the canal. Therefore onsite detention requirements are considered mitigated. Historic flow rates are not calculated.

C. Hydrological Criteria:

Since the project is a single family residential development containing approximately 10.57 acres the "Rational Method" was used to calculate developed flow rates. The minor storm is not calculated as the major storm (the 100 year frequency rainfall event) was used to analyze all conveyance elements.

Runoff Coefficients used in the computations are based on the most recent City of Grand Junction criteria as defined in Reference 1 and shown on Exhibit 3.0. Coefficients used in the calculations were assigned based on land use and hydrological soils groups "C".

The Intensity Duration Frequency Table (IDF) shown on Exhibit 4.0 was used for design and analysis.

Times of Concentration were calculated based on the Average Velocities For Overland Flow and the Overland Flow Graph as provided in Reference 1 and shown on Exhibit 5.0.

D. Hydraulic Criteria:

Minimum standards for analysis and design of drainage facilities are based on the City of Grand Junction criteria (Reference 1).

The computer program "Flowmaster" (Reference 7) was used to aid in the determination of pipe capacities and minimum pipe slopes.

IV. Drainage Facility Design:

A. General Concept:

Based on the proposed land use plan, significant changes to the existing drainage patterns are not anticipated. The proposed roadway alignment and lot grading divides the site into 2 sub-basins A1 and A2. The proposed drainage patterns shall continue to direct runoff from the sub-basins to the Trail Channel and the Tailrace Redlands Power Canal.

Based on review of the South Rim, Filing No. One drainage study and discussions with the City Development Engineer the goal of this study is to analyze the existing 24-inch diameter storm sewer and recommend inlet improvements needed if any to maximize the quantity of surface runoff delivered to the pipe.

Times of concentration and calculated flow rates at select design points are presented on Exhibits 7.0 and 8.0 respectively. Facility design including storm sewers, inlets, street capacities and minimum pipe slopes are presented on Exhibits 9.0 thru 20.0. Proposed drainage patterns, roadway alignments and drainage facilities are presented on the "Developed Basin Map", Exhibit 6.0.

Specific Details:

Runoff from sub-basin A1 (3.09 Ac.) shall be directed by overlot grading and roadway improvements to the existing 24-inch diameter storm sewer at the intersection of Teal Court and South Rim Drive. The existing sewer consists of single combination sump inlets on each side of South Rim Drive. Runoff from sub-basin A1 shall combine with runoff from sub-basin C1 (26.38 Ac.) and B1 (5.93 Ac.) at the storm sewer where it is routed directly to the Trail Channel. The runoff from sub-basins C1 and B1 was analyzed in the final drainage study for South Rim, Filing No. 1 (Reference 8).

Runoff from sub-basin A2 will be directed overland by proposed lot grading to natural conveyance elements towards the Trail Channel and the Tailrace Redlands Power canal.

IV. Conclusion

The capacity of the existing 24-inch diameter storm sewer in South Rim Drive is governed by the two existing combination Inlets (#1 and #2). The maximum capacity of these inlets is 26 CFS. It is recommended that 1 additional combination inlet be constructed adjacent to inlet #2 along the northeast side of South Rim Drive. The new maximum capacity of the storm sewer will be approximately 32 CFS or equal to the capacity of the 24-inch RCP operating under inlet control conditions. The calculated 100 year storm event at this location is approximately 61.96 CSF. That portion of the 100 year storm not collected and conveyed by the storm sewer (29.96 CSF) will

overtop the back of walk along the northeast side of South Rim Drive and discharge directly to the Trail Channel.

This Final Drainage Report has been prepared to address site specific drainage concerns in accordance with the requirements of the City of Grand Junction, Colorado. The Appendix of this report includes criteria, exhibits, tables and design nomographs used in the analysis and design.

V. References

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

2. Flood Hazard Information, Colorado River and Tributaries, Grand Junction, Colorado, prepared for the City of Grand Junction and Mesa County, by The Department Of The Army, Sacramento District, Corps Of Engineers, Sacramento, California, November, 1976.

3. Flood Insurance Rate Map, Mesa County, Colorado, (Unincorporated Areas), Community Panel Number 080115 0480 C, Federal Emergency Management Agency, Map Revised July 15th, 1992.

4. Soil Survey, Grand Junction Area, Colorado, Series 1940, No. 19, U.S. Department of Agriculture, issued November, 1955.

5. Urban Storm Drainage Criteria Manual, Urban Drainage and Flood Control District, prepared by Wright-McLaughlin Engineers, March 1969, Revised May, 1984.

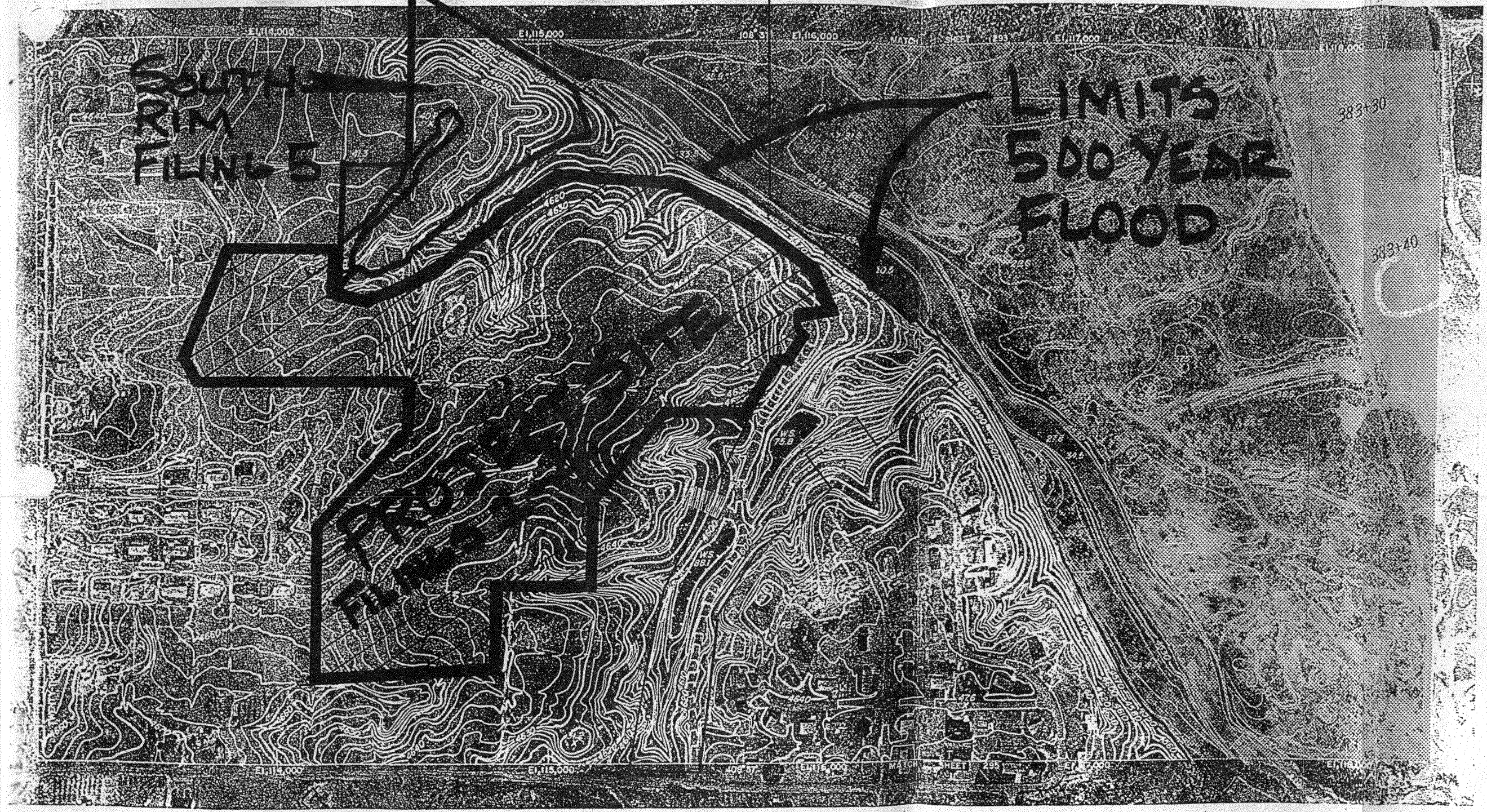
6. Concrete Pipe Design Manual, American Concrete Pipe Association, Fifth Printing (revised) June, 1980.

7. Flowmaster I, Version 3.16, Haestad Methods, Inc., Copyright 1990.

8. Final Drainage Report for South Rim of The Redlands, Filing No. One, Prepared by LANDesign LTD., December 10, 1993.

9. Final Drainage Report for South Rim of The Redlands, Filing No. Two, Prepared by LANDesign LTD., April 1, 1994.

APPENDIX



LEGEND

Overflow Limits

100 Year Flood

500 Year Flood

N

383+40 Distance in miles upstream from Lees Ferry along the Colorado River, or from mouth along the Gunnison River.

NOTES

Map based on April 1975 orthophoto map provided by the U.S. Bureau of Reclamation. Minor additions and adjustments made by Corps of Engineers.

Sheet number agrees with sheet number shown on Bureau of Reclamation maps.

Limits of overflow shown may vary from actual locations on the ground because of accuracy of available topography.

Areas outside the overflow limits shown may be subject to flooding from local runoff.

SCALE IN FEET

200 0 200 400 600

CONTOUR INTERVAL 2 FEET
MEAN SEA LEVEL DATUM

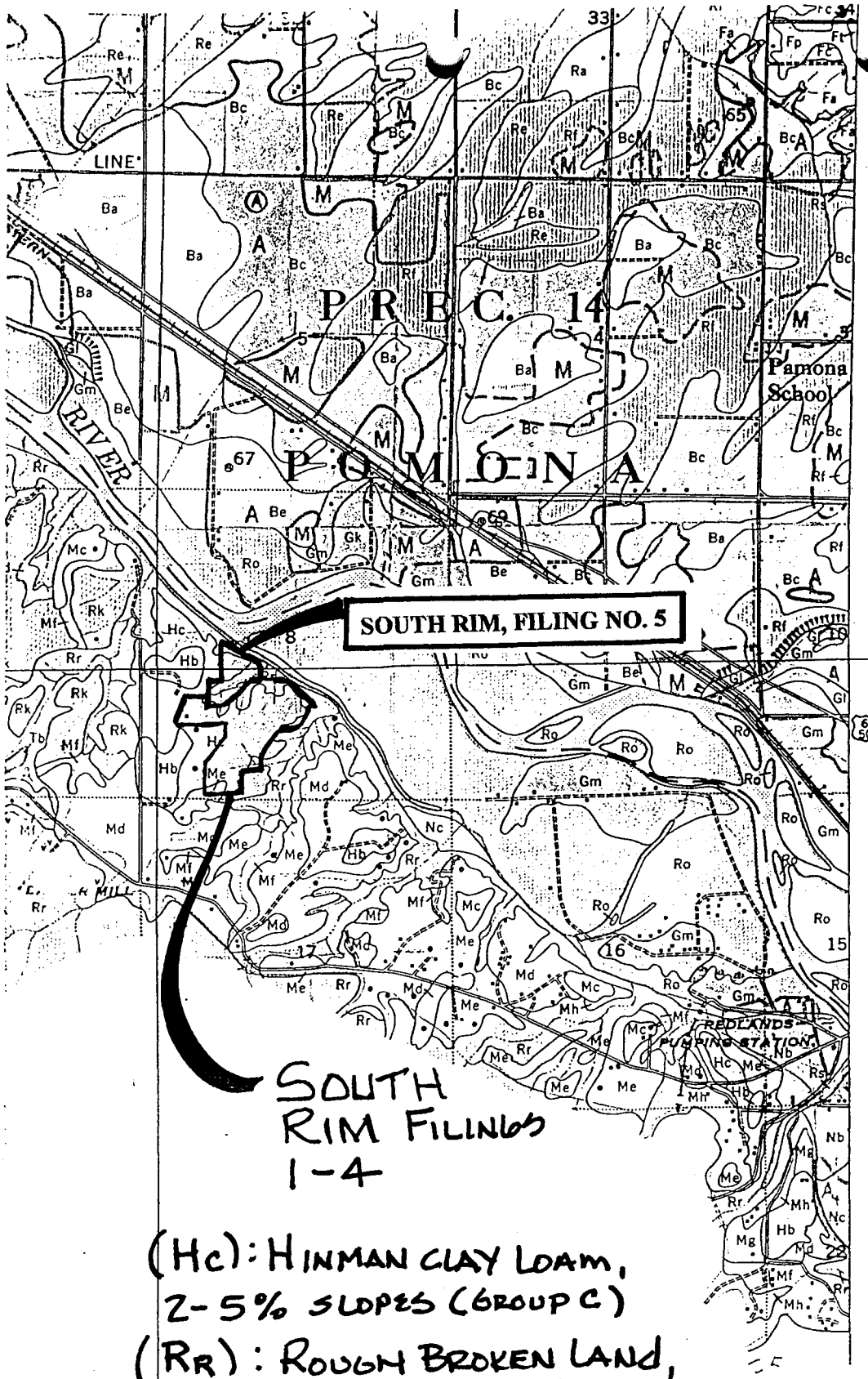
DEPARTMENT OF THE ARMY
SACRAMENTO DISTRICT, CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

FLOOD HAZARD INFORMATION
COLORADO RIVER AND TRIBUTARIES
GRAND JUNCTION, COLORADO

FLOODED AREAS
NOVEMBER 1976

SHEET 294 PLATE 8

EXHIBIT 1.0



SOUTH RIM, FILING NO. 5

SITE SOILS MAP

NOTE:
See sheet No. 1 for Alphabetical Legend and Conventional Signs; sheet No. 3 for Color Grouping.

Map compilation by Division of Cartography, Soil Conservation Service, from controlled 1939 aerial mosaics.
Polyconic projection, 1927 North American datum.

EXHIBIT 2.0

SOUTH RIM, FILING No. 5

LAND USE OR SURFACE CHARACTERISTICS	SCS HYDROLOGIC SOIL GROUP (SEE APPENDIX "C" FOR DESCRIPTIONS)											
	A			B			C			D		
	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+
UNDEVELOPED AREAS Bare ground	.10 - .20 .14 - .24	.16 - .26 .22 - .32	.25 - .35 .30 - .40	.14 - .22 .20 - .28	.22 - .30 .28 - .36	.30 - .38 .37 - .45	.20 - .28 .26 - .34	.28 - .36 .35 - .43	.36 - .44 .40 - .48	.24 - .32 .30 - .38	.30 - .38 .40 - .48	.40 - .48 .50 - .58
Cultivated/Agricultural	.08 - .18 .14 - .24	.13 - .23 .18 - .28	.16 - .26 .22 - .32	.11 - .19 .16 - .24	.15 - .23 .21 - .29	.21 - .29 .28 - .36	.14 - .22 .20 - .28	.19 - .27 .25 - .33	.26 - .34 .34 - .42	.18 - .26 .24 - .32	.23 - .31 .29 - .37	.31 - .39 .41 - .49
Pasture	.12 - .22 .15 - .25	.20 - .30 .25 - .35	.30 - .40 .37 - .47	.18 - .26 .23 - .31	.28 - .36 .34 - .42	.37 - .45 .45 - .53	.24 - .32 .30 - .38	.34 - .42 .42 - .50	.44 - .52 .52 - .60	.30 - .38 .37 - .45	.40 - .48 .50 - .58	.50 - .58 .62 - .70
Meadow	.10 - .20 .14 - .24	.16 - .26 .22 - .32	.25 - .35 .30 - .40	.14 - .22 .20 - .28	.22 - .30 .28 - .36	.30 - .38 .37 - .45	.20 - .28 .26 - .34	.28 - .36 .35 - .43	.36 - .44 .44 - .52	.24 - .32 .30 - .38	.30 - .38 .40 - .48	.40 - .48 .50 - .58
Forest	.05 - .15 .08 - .18	.08 - .18 .11 - .21	.11 - .21 .14 - .24	.08 - .16 .10 - .18	.11 - .19 .14 - .22	.14 - .22 .18 - .26	.10 - .18 .12 - .20	.13 - .21 .16 - .24	.16 - .24 .20 - .28	.12 - .20 .15 - .23	.16 - .24 .20 - .28	.20 - .28 .25 - .33
RESIDENTIAL AREAS 1/8 acre per unit	.40 - .50 .48 - .58	.43 - .53 .52 - .62	.46 - .56 .55 - .65	.42 - .50 .50 - .58	.45 - .53 .54 - .62	.50 - .58 .59 - .67	.45 - .53 .53 - .61	.48 - .56 .57 - .65	.53 - .61 .64 - .72	.48 - .56 .56 - .64	.51 - .59 .60 - .68	.57 - .65 .69 - .77
1/4 acre per unit	.27 - .37 .35 - .45	.31 - .41 .39 - .49	.34 - .44 .42 - .52	.29 - .37 .38 - .46	.34 - .42 .42 - .50	.38 - .46 .47 - .55	.32 - .40 .41 - .49	.36 - .44 .45 - .53	.41 - .49 .52 - .60	.35 - .43 .43 - .51	.39 - .47 .47 - .55	.45 - .53 .57 - .65
1/3 acre per unit	.22 - .32 .31 - .41	.26 - .36 .35 - .45	.29 - .39 .38 - .48	.25 - .33 .33 - .41	.29 - .37 .38 - .46	.33 - .41 .42 - .50	.28 - .36 .36 - .44	.32 - .40 .41 - .49	.37 - .45 .48 - .56	.31 - .39 .39 - .47	.35 - .43 .43 - .51	.42 - .50 .53 - .61
1/2 acre per unit	.16 - .26 .25 - .35	.20 - .30 .29 - .39	.24 - .34 .32 - .42	.19 - .27 .28 - .36	.23 - .31 .32 - .40	.28 - .36 .36 - .44	.22 - .30 .31 - .39	.27 - .35 .35 - .43	.32 - .40 .42 - .50	.26 - .34 .34 - .42	.30 - .38 .38 - .46	.37 - .45 .48 - .56
1 acre per unit	.14 - .24 .22 - .32	.19 - .29 .26 - .36	.22 - .32 .29 - .39	.17 - .25 .24 - .32	.21 - .29 .28 - .36	.26 - .34 .34 - .42	.20 - .28 .28 - .36	.25 - .33 .32 - .40	.31 - .39 .40 - .48	.24 - .32 .31 - .39	.29 - .37 .35 - .43	.35 - .43 .46 - .54
MISC. SURFACES Pavement and roofs	.93 .95	.94 .96	.95 .97	.93 .95	.94 .96	.95 .97	.93 .95	.94 .96	.95 .97	.93 .95	.94 .96	.95 .97
Traffic areas (soil and gravel)	.55 - .65 .65 - .70	.60 - .70 .70 - .75	.64 - .74 .74 - .79	.60 - .68 .68 - .76	.64 - .72 .72 - .80	.67 - .75 .75 - .83	.64 - .72 .72 - .80	.67 - .75 .75 - .83	.69 - .77 .77 - .85	.72 - .80 .79 - .87	.75 - .83 .82 - .90	.77 - .85 .84 - .92
Green landscaping (lawns, parks)	.10 - .20 .14 - .24	.16 - .26 .22 - .32	.25 - .35 .30 - .40	.14 - .22 .20 - .28	.22 - .30 .28 - .36	.30 - .38 .37 - .45	.20 - .28 .26 - .34	.28 - .36 .35 - .43	.36 - .44 .42 - .52	.24 - .32 .30 - .38	.30 - .38 .40 - .48	.40 - .48 .50 - .58
Non-green and gravel landscaping	.30 - .40 .34 - .44	.36 - .46 .42 - .52	.45 - .55 .50 - .60	.45 - .55 .50 - .60	.42 - .50 .48 - .56	.50 - .58 .57 - .65	.40 - .48 .46 - .54	.48 - .56 .55 - .63	.56 - .64 .64 - .72	.44 - .52 .50 - .58	.50 - .58 .60 - .68	.60 - .68 .70 - .78
Cemeteries, playgrounds	.20 - .30 .24 - .34	.26 - .36 .32 - .42	.35 - .45 .40 - .50	.35 - .45 .40 - .50	.32 - .40 .38 - .46	.40 - .48 .47 - .55	.30 - .38 .36 - .44	.38 - .44 .45 - .53	.46 - .54 .54 - .62	.34 - .42 .40 - .48	.40 - .48 .50 - .58	.50 - .58 .60 - .68

NOTES:
1. Values above and below pertain to the 2-year and 100-year storms, respectively.
2. The range of values provided allows for engineering judgement of site conditions such as basic shape, homogeneity of surface type, surface depression storage, and storm duration. In general, during shorter duration storms (Tc ≤ 10 minutes), infiltration capacity is higher, allowing use of a "C" value in the low range. Conversely, for longer duration storms (Tc) 30 minutes), use a ""C value in the higher range.
3. For residential development at less than 1/8 acre per unit or greater than 1 acre per unit, and also for commercial and industrial areas, use values under MISC SURFACES to estimate "C" value ranges for use.

RATIONAL METHOD RUNOFF COEFFICIENTS
(Modified from Table 4, UC-Davis, which appears to be a modification of work done by Rawls)

TABLE "B-1"

JUNE 1994

EXHIBIT 3.0

SOUTH RIM, FILING NO. 5

LAND USE OR SURFACE CHARACTERISTICS	SCS HYDROLOGIC SOIL GROUP (SEE APPENDIX "C" FOR DESCRIPTIONS)											
	A			B			C			D		
	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+
UNDEVELOPED AREAS Bare ground	.10 - .20 .14 - .24	.16 - .26 .22 - .32	.25 - .35 .30 - .40	.14 - .22 .20 - .28	.22 - .30 .28 - .36	.30 - .38 .37 - .45	.20 - .28 .26 - .34	.28 - .36 .35 - .43	.36 - .44 .40 - .48	.24 - .32 .30 - .38	.30 - .38 .40 - .48	.40 - .48 .50 - .58
Cultivated/Agricultural	.08 - .18 .14 - .24	.13 - .23 .18 - .28	.16 - .26 .22 - .32	.11 - .19 .16 - .24	.15 - .23 .21 - .29	.21 - .29 .28 - .36	.14 - .22 .20 - .28	.19 - .27 .25 - .33	.26 - .34 .34 - .42	.18 - .26 .24 - .32	.23 - .31 .29 - .37	.31 - .39 .41 - .49
Pasture	.12 - .22 .15 - .25	.20 - .30 .25 - .35	.30 - .40 .37 - .47	.18 - .26 .23 - .31	.28 - .36 .34 - .42	.37 - .45 .45 - .53	.24 - .32 .30 - .38	.34 - .42 .42 - .50	.44 - .52 .52 - .60	.30 - .38 .37 - .45	.40 - .48 .50 - .58	.50 - .58 .62 - .70
Meadow	.10 - .20 .14 - .24	.16 - .26 .22 - .32	.25 - .35 .30 - .40	.14 - .22 .20 - .28	.22 - .30 .28 - .36	.30 - .38 .37 - .45	.20 - .28 .26 - .34	.28 - .36 .35 - .43	.36 - .44 .44 - .52	.24 - .32 .30 - .38	.30 - .38 .40 - .48	.40 - .48 .50 - .58
Forest	.05 - .15 .08 - .18	.08 - .18 .11 - .21	.11 - .21 .14 - .24	.08 - .16 .10 - .18	.11 - .19 .14 - .22	.14 - .22 .18 - .26	.10 - .18 .12 - .20	.13 - .21 .16 - .24	.16 - .24 .20 - .28	.12 - .20 .15 - .23	.16 - .24 .20 - .28	.20 - .28 .25 - .33
RESIDENTIAL AREAS 1/8 acre per unit	.40 - .50 .48 - .58	.43 - .53 .52 - .62	.46 - .56 .55 - .65	.42 - .50 .50 - .58	.45 - .53 .54 - .62	.50 - .58 .59 - .67	.45 - .53 .53 - .61	.48 - .56 .57 - .65	.53 - .61 .64 - .72	.48 - .56 .56 - .64	.51 - .59 .60 - .68	.57 - .65 .69 - .77
1/4 acre per unit	.27 - .37 .35 - .45	.31 - .41 .39 - .49	.34 - .44 .42 - .52	.29 - .37 .38 - .46	.34 - .42 .42 - .50	.38 - .46 .47 - .55	.32 - .40 .41 - .49	.36 - .44 .45 - .53	.41 - .49 .52 - .60	.35 - .43 .43 - .51	.39 - .47 .47 - .55	.45 - .53 .57 - .65
1/3 acre per unit	.22 - .32 .31 - .41	.26 - .36 .35 - .45	.29 - .39 .38 - .48	.25 - .33 .33 - .41	.29 - .37 .38 - .46	.33 - .41 .42 - .50	.28 - .36 .36 - .44	.32 - .40 .41 - .49	.37 - .45 .48 - .56	.31 - .39 .39 - .47	.35 - .43 .43 - .51	.42 - .50 .53 - .61
1/2 acre per unit	.16 - .26 .25 - .35	.20 - .30 .29 - .39	.24 - .34 .32 - .42	.19 - .27 .28 - .36	.23 - .31 .32 - .40	.28 - .36 .36 - .44	.22 - .30 .31 - .39	.27 - .35 .35 - .43	.32 - .40 .42 - .50	.26 - .34 .34 - .42	.30 - .38 .38 - .46	.37 - .45 .48 - .56
1 acre per unit	.14 - .24 .22 - .32	.19 - .29 .26 - .36	.22 - .32 .29 - .39	.17 - .25 .24 - .32	.21 - .29 .28 - .36	.26 - .34 .34 - .42	.20 - .28 .28 - .36	.25 - .33 .32 - .40	.31 - .39 .40 - .48	.24 - .32 .31 - .39	.29 - .37 .35 - .43	.35 - .43 .46 - .54
MISC. SURFACES Pavement and roofs	.93 .95	.94 .96	.95 .97	.93 .95	.94 .96	.95 .97	.93 .95	.94 .96	.95 .97	.93 .95	.94 .96	.95 .97
Traffic areas (soil and gravel)	.55 - .65 .65 - .70	.60 - .70 .70 - .75	.64 - .74 .74 - .79	.60 - .68 .68 - .76	.64 - .72 .72 - .80	.67 - .75 .75 - .83	.64 - .72 .72 - .80	.67 - .75 .75 - .83	.69 - .77 .77 - .85	.72 - .80 .79 - .87	.75 - .83 .82 - .90	.77 - .85 .84 - .92
Green landscaping (lawns, parks)	.10 - .20 .14 - .24	.16 - .26 .22 - .32	.25 - .35 .30 - .40	.14 - .22 .20 - .28	.22 - .30 .28 - .36	.30 - .38 .37 - .45	.20 - .28 .26 - .34	.28 - .36 .35 - .43	.36 - .44 .42 - .52	.24 - .32 .30 - .38	.30 - .38 .40 - .48	.40 - .48 .50 - .58
Non-green and gravel landscaping	.30 - .40 .34 - .44	.36 - .46 .42 - .52	.45 - .55 .50 - .60	.45 - .55 .50 - .60	.42 - .50 .48 - .56	.50 - .58 .57 - .65	.40 - .48 .46 - .54	.48 - .56 .55 - .63	.56 - .64 .64 - .72	.44 - .52 .50 - .58	.50 - .58 .60 - .68	.60 - .68 .70 - .78
Cemeteries, playgrounds	.20 - .30 .24 - .34	.26 - .36 .32 - .42	.35 - .45 .40 - .50	.35 - .45 .40 - .50	.32 - .40 .38 - .46	.40 - .48 .47 - .55	.30 - .38 .36 - .44	.38 - .44 .45 - .53	.46 - .54 .54 - .62	.34 - .42 .40 - .48	.40 - .48 .50 - .58	.50 - .58 .60 - .68

NOTES:
1. Values above and below pertain to the 2-year and 100-year storms, respectively.
2. The range of values provided allows for engineering judgement of site conditions such as basic shape, homogeneity of surface type, surface depression storage, and storm duration. In general, during shorter duration storms (Tc ≤ 10 minutes), infiltration capacity is higher, allowing use of a "C" value in the low range. Conversely, for longer duration storms (Tc) 30 minutes), use a ""C value in the higher range.
3. For residential development at less than 1/8 acre per unit or greater than 1 acre per unit, and also for commercial and industrial areas, use values under MISC SURFACES to estimate "C" value ranges for use.

RATIONAL METHOD RUNOFF COEFFICIENTS
(Modified from Table 4, UC-Davis, which appears to be a modification of work done by Rawls)

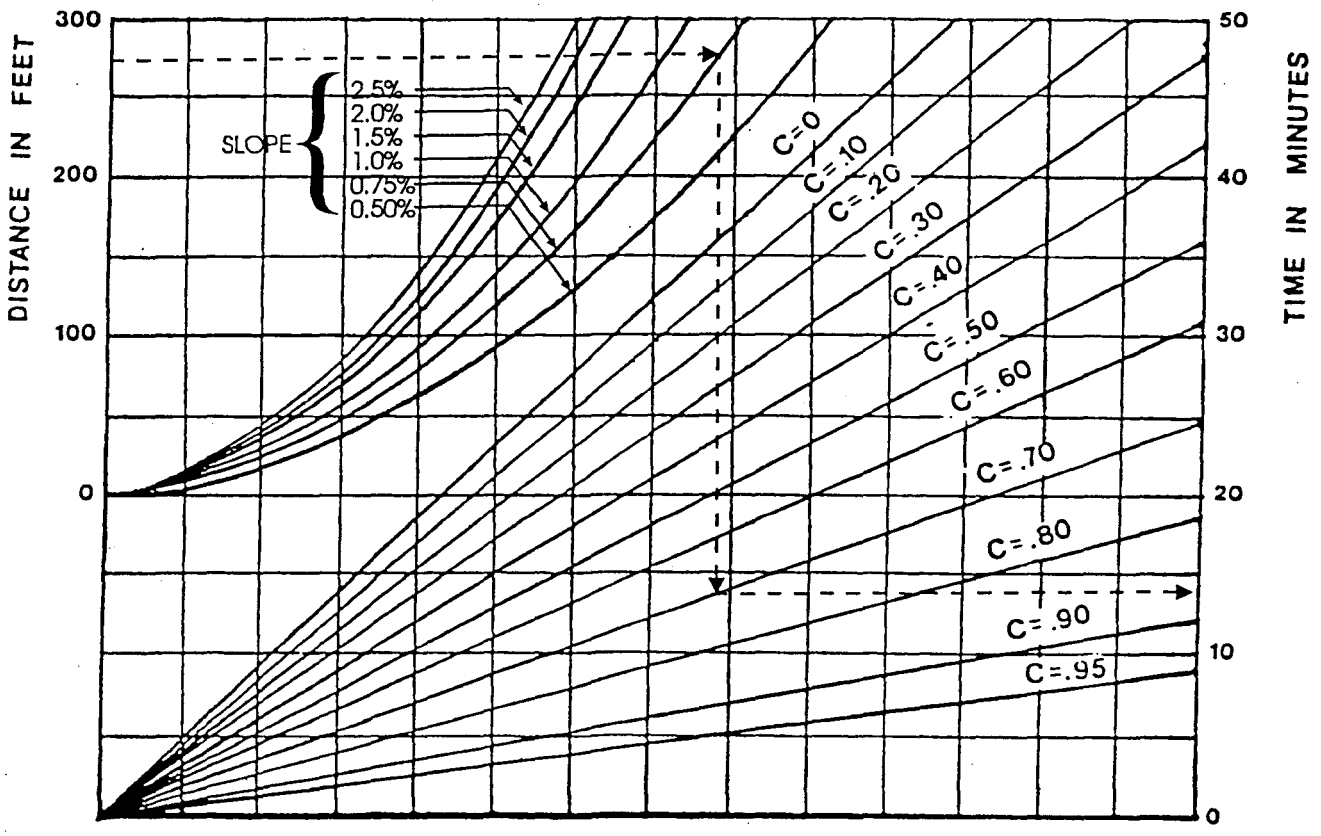
TABLE "B-1"

EXHIBIT 3.0

TABLE "A-1" INTENSITY-DURATION-FREQUENCY (IDF) TABLE					
Time (min)	2-Year Intensity (in/hr)	100-Year Intensity (in/hr)	Time (min)	2-Year Intensity (in/hr)	100-Year Intensity (in/hr)
5	1.95	4.95	33	0.83	2.15
6	1.83	4.65	34	0.82	2.12
7	1.74	4.40	35	0.81	2.09
8	1.66	4.19	36	0.80	2.06
9	1.59	3.99	37	0.79	2.03
10	1.52	3.80	38	0.78	2.00
11	1.46	3.66	39	0.77	1.97
12	1.41	3.54	40	0.76	1.94
13	1.36	3.43	41	0.75	1.91
14	1.32	3.33	42	0.74	1.88
15	1.28	3.24	43	0.73	1.85
16	1.24	3.15	44	0.72	1.82
17	1.21	3.07	45	0.71	1.79
18	1.17	2.99	46	0.70	1.76
19	1.14	2.91	47	0.69	1.73
20	1.11	2.84	48	0.68	1.70
21	1.08	2.77	49	0.67	1.67
22	1.05	2.70	50	0.66	1.64
23	1.02	2.63	51	0.65	1.61
24	1.00	2.57	52	0.64	1.59
25	0.98	2.51	53	0.63	1.57
26	0.96	2.46	54	0.62	1.55
27	0.94	2.41	55	0.61	1.53
28	0.92	2.36	56	0.60	1.51
29	0.90	2.31	57	0.59	1.49
30	0.88	2.27	58	0.58	1.47
31	0.86	2.23	59	0.57	1.45
32	0.84	2.19	60	0.56	1.43
Source: Mesa County 1991					

EXHIBIT 4.0

MODIFIED FROM FIGURE 403, MESA COUNTY



THE ABOVE CURVES ARE A SOLUTION OF THE FOLLOWING EQUATION:

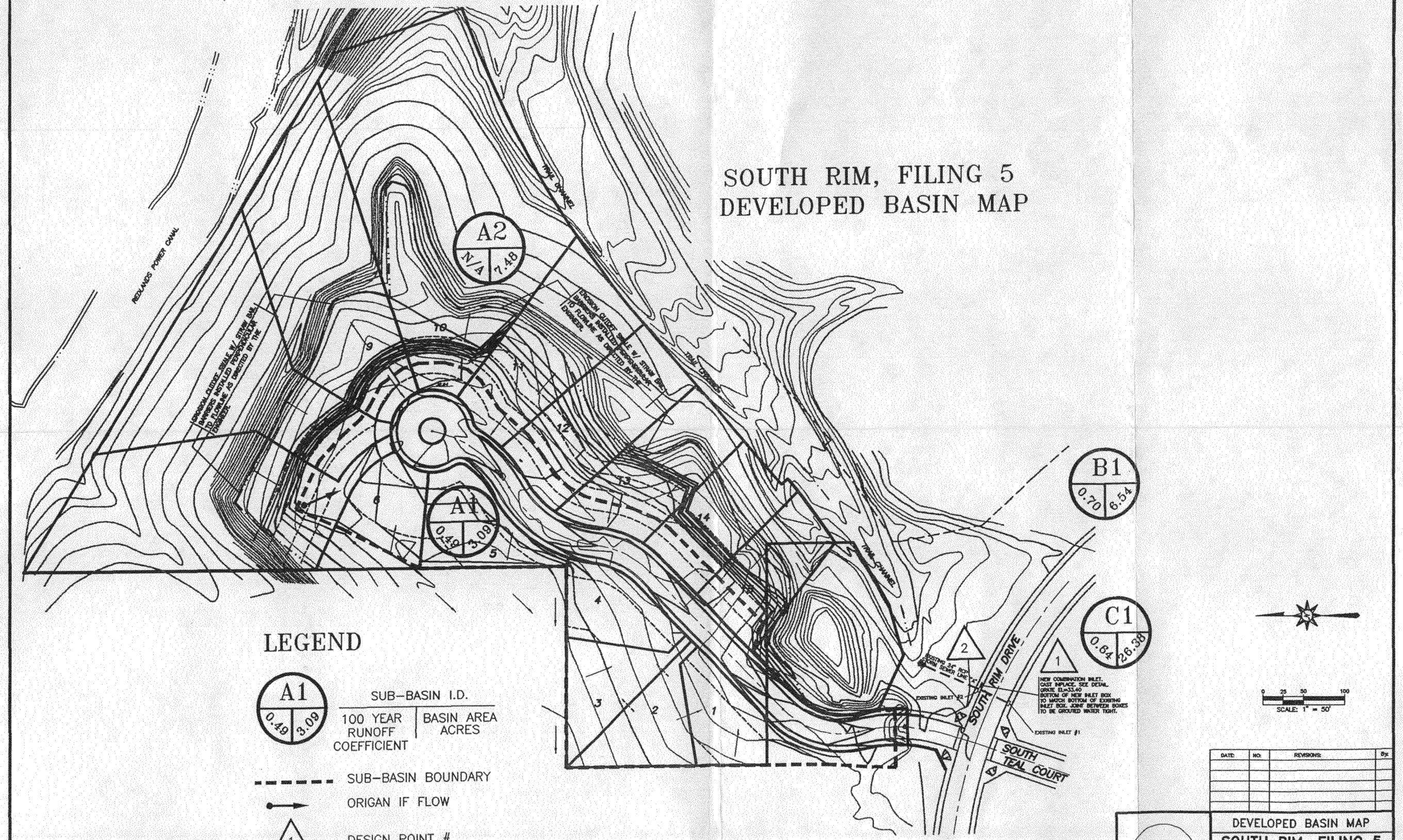
$$To = \frac{1.8\ (1.1 - C)\sqrt{L}}{\sqrt[3]{S}}$$

WHERE: To = OVERLAND FLOW TIME (MIN.)
S = SLOPE OF BASIN (%)
C = RUNOFF COEFFICIENT (SEE TABLE "B-1" IN APPENDIX "B")
L = LENGTH OF BASIN (ft)

EXHIBIT 5.0

GRAPHICAL DETERMINATION OF "To:" FAA METHOD	FIGURE "E-2"

SOUTH RIM, FILING 5
DEVELOPED BASIN MAP



LEGEND

A1 (0.49 / 3.09) — SUB–BASIN I.D.; 100 YEAR RUNOFF COEFFICIENT | BASIN AREA ACRES

SUB–BASIN BOUNDARY

ORIGAN IF FLOW

1 — DESIGN POINT #

CITY OF GRAND JUNCTION

APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.

BY: _____ DATE: _____

ACCEPTED AS CONSTRUCTED

BY: _____ DATE: _____

PHILIP M. HART
REGISTERED PROFESSIONAL ENGINEER
P.E. NO. 19348

DATE:	NO:	REVISIONS:	BY:

DEVELOPED BASIN MAP

SOUTH RIM, FILING 5 SUBDIVISION

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

PROJECT NO. 95150.40	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: FEB, 1996	MDS			1	1

EXHIBIT 6.0

D:\SC12\WORK\95150\95150R4 Thu Feb 29 18:24:18 1996

TIME OF CONCENTRATION CALCULATIONS **(100 YEAR STORM EVENT)**

PROJECT: SOUTH RIM FILING NO. 5 (OVERLAND FLOW) DATE:
JOB # 95150.40 **DEVELOPED CONDITION** 29-Feb-96
LANDesign LTD.

SUB-BASIN DATA			INITIAL / OVERLAND TIME (Ti)			TRAVEL TIME TIME (Tt)				INITIAL	Tc CHECK (URBANIZED BASINS)		FINAL	REMARKS
BASIN	C 100	AREA AC.	LENGTH FT.	SLOPE %	Ti MIN.	LENGTH FT.	SLOPE %	VEL F.P.S.	Tt MIN.	Tc MIN.	TOTAL LENGTH FT.	Tc = (L/180)+10 MIN.	Tc MIN.	
A1	0.49	3.09	140.0	0.70	14.63									OVERLAND SHEETFLOW RESIDENTIAL LOTS
						921.0	0.70	3.06	5.02	19.65	1061.00	15.89	19.65	FLOW IN PINNICAL COURT TO SUMP INLET#2 / 24" STORM SEWER
--	--	--	--	--	--	--	--	--	--	--	--	--	--	---
B1	0.70	6.54	110.0	3.70	4.88									SEE FINAL DRAINAGE STUDY FOR SOUTH RIM, FILING NO. 1
						1133.0	0.86	2.23	8.47	13.35	1243.00	16.91	13.35	OFFSITE FLOW IN S. RIM DRIVE TO SUMP INLET#2 / 24" STORM SE
--	--	--	--	--	--	--	--	--	--	--	--	--	--	---
C1	0.64	26.38	———	———	———	Tc PREVIOUSLY CALCULATED WITH FILING, NO. 1								SEE FINAL DRAINAGE STUDY FOR SOUTH RIM, FILING NO. 1
						———	———	———	———	21.97	———	———	21.97	OFFSITE FLOW IN S. RIM DRIVE TO SUMP INLET#1 / 24" STORM SE

FORMULAS

$$Ti = \frac{1.8(1.1-C)(L)^{1/2}}{S^{1/3}} \qquad Tt = \frac{(L)}{60 \text{ SEC/MIN. } (V \text{ F.P.S.})}$$

EXHIBIT 20

STORM DRAINAGE SYSTEM DESIGN DATA

(100 YEAR STORM EVENT)
DEVELOPED CONDITION - CITY OF GRAND JUNCTION, COLORADO

PROJECT: SOUTH RIM FILING NO. 5
JOB # 95150.40
LANDesign LTD.

DATE: 29-Feb-96

													INLET		PIPE or CHANNEL			STREET		PIPE or CHANNEL		
LOCATION OR NODE	BASINS	LENGTH FEET	INLET TIME min.	FLOW STREET	FLOW PIPE	TIME Tc min.	COEFF. "C"	INTENSITY "I"	AREA "A" AC.	DIRECT RUNOFF C.F.S.	OTHER RUNOFF C.F.S.	SUM RUNOFF C.F.S.	SLOPE %	CAPACITY ALLOWED C.F.S.	SLOPE %	SIZE IN.	CAPACITY ALLOWED C.F.S.	DESIGN F.P.S.	VELOC. F.P.S.	DESIGN F.P.S.	VELOC. F.P.S.	REMARKS
1	C1					21.97	0.64	2.70	26.38	45.58		45.58	SUMP	13.00		24	27.00					FLOW IN S. RIM DRIVE TO A SINGLE SUMP INLET #1, 24" SEWER
2	A1					19.65	0.49	2.86	3.09	4.33		4.33										FLOW IN PINNACLE COURT TO SUMP INLET #2, 24" SEWER.
" "	B1					21.97	0.70	2.70	6.54	12.36		12.36										FLOW IN S. RIM DRIVE TO SUMP INLET #2, 24" SEWER.
" "	A1						0.49		3.09													FLOW IN PINNACLE COURT TO SUMP INLET #2, 24" SEWER.
	B1					21.97	0.70		6.54													FLOW IN S. RIM DRIVE TO SUMP INLET #2, 24" SEWER.
							0.63	2.70	9.63	16.38	32.58	48.96	SUMP	13.00		24	32.00	SEWER CAPACITY / INLET CONTROL				SUM OF FLOW TO SINGLE INLET #2 INCLUDING 32.58 CFS FLOW BY FROM INLET #1.
												COMMENT: RECOMMEND ADDITION OF NEW SINGLE COMBINATION INLET AT INLET #2.										

EXHIBIT 8.0

STREET CARRING CAPACITY (2 YEAR)

PROJECT: SOUTH RIM FILING NO. 5
LOCATION: CITY OF GRAND JUNCTION, COLORADO
DATE: Feb-96

Street Information:				
	R.O.W. Width =	44.00	FT.	Flow Area = 3.76 SF.
	Flowline Width =	31.00	FT.	
	Classification =	URBAN		
	Mannings =	0.015		
	Max. Depth =	0.42	FT.	Above Gutter Flowline
	Str/ X-Slope =	1.00	%	
	Gutter Slope =	8.33	%	Drive Over Curb, Gutter and Walk
	Sidewalk Slope =	2.08	%	1/4" / FT.
	Roadside Slope =	2.08	%	1/4" / FT.

SLOPE OF STREET %	** REDUCTION FACTOR FOR SLOPE	ALLOWABLE CAPACITY C.F.S.	VELOCITY F.P.S.
0.70	1.00	11.50	3.06

Formula: $Qa = F \times (1.49/N) \times R^{2/3} \times S^{1/2} \times A$

F = Reduction Factor For Slope
N = Mannings Coefficient = 0.0150
R = Hydraulic Radius = A/WP = 0.2234
A = Cross Sectional Area Sq.Ft. = 3.760
WP = Wetted Perimeter Ft. = 16.83
S = Street Slope FT./FT.

** APPLY REDUCTION FACTOR WHEN APPROACHING AN INTERSECTION.

EXHIBIT 9.0

SOUTH RIM FILING #5

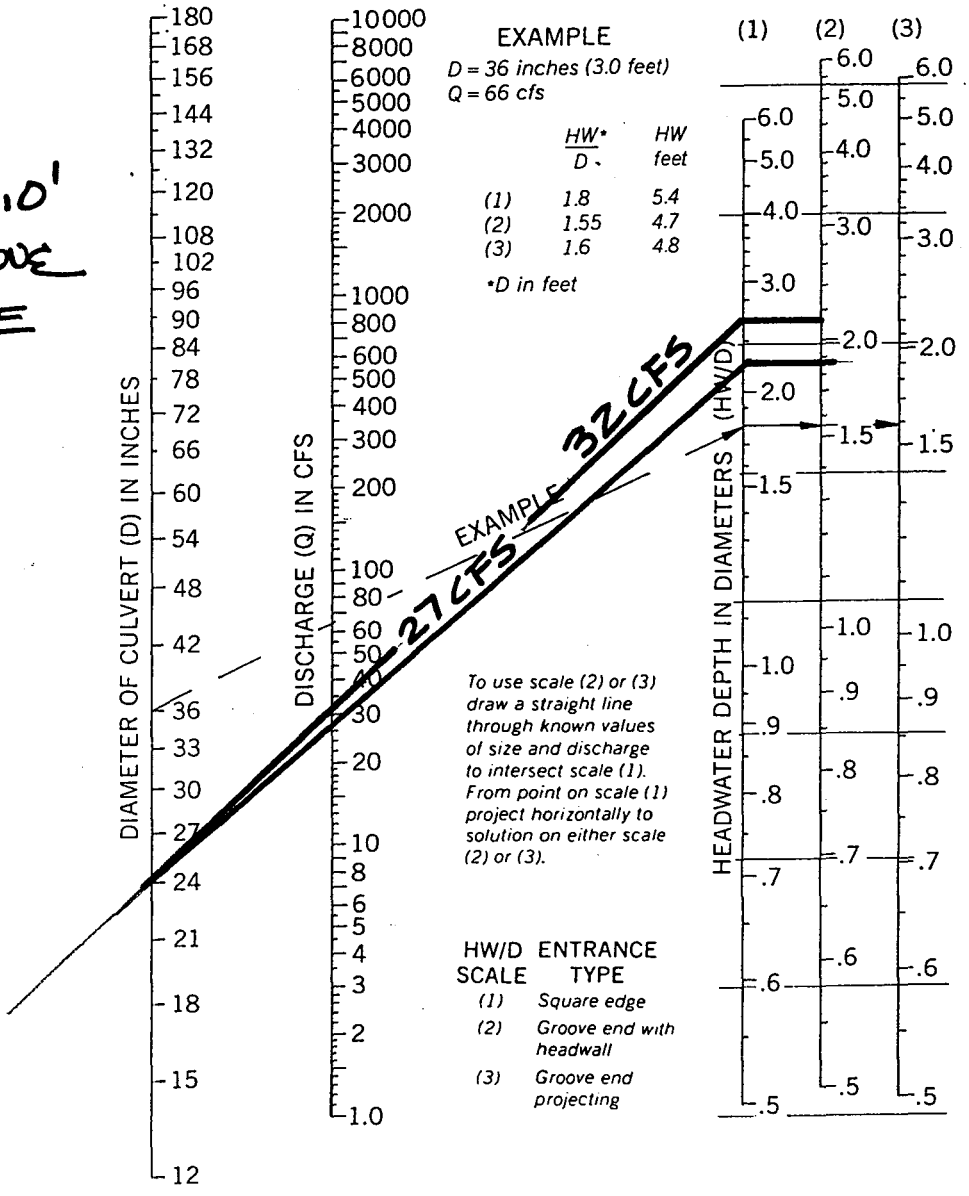
EX. 24" RCP STORM SEWER 30

	HWD	HW/D
INLET #1	3.73'	1.86
INLET #2	4.24	2.12

FIGURE 33

HEADWATER DEPTH FOR CIRCULAR CONCRETE PIPE CULVERTS WITH INLET CONTROL

MAX. CAPACITY @ 1.0' PONDING DEPTH ABOVE FL OF INLET GRATE = 32 CFS



BUREAU OF PUBLIC ROADS JAN. 1963

HEADWATER SCALES 2&3
REVISED MAY 1964

EXHIBIT 10.0

ROAD TYPE	COMBINATION INLET CAPACITY (CFS)					
	SINGLE		DOUBLE		TRIPLE	
	2-YR	100-YR	2-YR	100-YR	2-YR	100-YR
Urban Residential (local)	6.4	13	9.5	22	12.7	31
Residential Collector, Commercial and Industrial Streets	3.2	13	4.9	22	6.5	31
Collector Streets (3000 - 8000 ADT)	2.7	13	4.0	22	5.3	31
Principal and Minor Arterials	6.0	13	9.0	22	12.0	31

Inlet capacities shown above are based upon: 1) use of non-curved vane grates (similar to HEC-12 P-1⅞-4 grates; 2) HEC-12 procedures; 3) clogging factors per Section VI; and 4) City/County standard inlets with 2-inch radius on curb face and type C grates. Capacities shown for 2-year storms are based upon depths allowed by maximum street inundation per Figure "G-3". The 100-year capacities are based upon a ponded depth of 1.0 foot. Note that only combination inlets are allowed in sag or sump conditions.

MAXIMUM INLET CAPACITIES: SUMP OR SAG CONDITION — **TABLE "G-1"**

EXISTING CAPACITY: 2 - SINGLES @ 13 CFS = 26 CFS

PROPOSED CAPACITY: 1 - SINGLE @ 13 CFS
1 - DOUBLE @ 22 CFS
35 CFS

EXHIBIT 11.0

STORMWATER MANAGEMENT PLAN

FOR

SOUTH RIM ON THE REDLANDS FILING 5

March 1, 1996

Prepared for:

LOWE DEVELOPMENT CO.
c/o David "Skip" Behrhorst
1280 Ute Avenue, Suite 32
Aspen, CO. 81611
303-925-4497

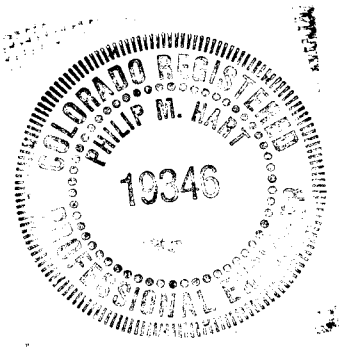
Prepared by:

LANDesign LTD.
259 Grand Avenue, Grand Junction, CO. 81501

Stormwater Management Plan For South Rim On The Redlands Filing 5.

Prepared by:_____
Monty D. Stroup

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



A. Site and Project Description

1. Site Location:

South Rim on the Redlands is located in the City of Grand Junction, County of Mesa, State of Colorado, more particularly being located in the SW 1/4 of Section 8, T.1 S., R.1 W. of the Ute Meridian, (Tax I.D. #2945-083-00-119). The project is located at 39-05-01 Latitude and 108-37-16 Longitude. A Location Map (Exhibit 1.0) is provided in this report , as well as a copy of the General Permit Application for Stormwater Discharges Associated With Construction Activity (Exhibit 2.0 and 3.0).

Existing streets within the area of the project include 23 Road to the west and South Rim Drive which runs west to east and is to be used as primary access to the site.

The South Rim development is bounded to the northeast by the Tailrace Redlands Power Canal and to the northwest by undeveloped lands. To the west lies Vista Villa Subdivision and Palace Verdes Estates, best described as medium density residential developments. To the south lies Haas Subdivision and Chamberlain Estates, undeveloped pasture lands. To the southeast lies Rio Vista Subdivision a medium density residential development.

South Rim Filing Five is located northeast of and is contiguous with South Rim Filing No. Two which currently holds a "Certification CDPS General Permit, Stormwater Discharges Associated With Construction, Permit No. COR-030000, Facility No. COR-030921".

2. Description of Property:

The entire South Rim Development contains approximately 91.5 acres including 38.9 acres of area designated for open-space. The fifth phase of the development, South Rim Filing Five contains approximately 10.57 acres. Filing No. Five is planned for 15 single family residential lots

3. Description of Proposed Construction Activity:

Activity shall include the construction of roadway, water, sanitary sewer, storm sewer, irrigation, dry utility infrastructures followed by the construction of 15 single family residential structures and associated landscaping.

4. Proposed Sequence of Major Construction Activities:

Phase I Clearing and grubbing of Filing Five. Disposal of construction debris to County approved facility.

Phase II Installation of erosion cutoff swale and Overlot (mass) grading of site to form individual site building pads per the "Grading and Drainage Plan".

Phase III Construction of roadways to proposed subgrade elevations including cut and fill activities as required.

Phase IV Utility infrastructures to be installed including storm sewers and culverts, swales and permanent erosion control features.

Phase V Curb, gutter and sidewalks installed for Filing No. Five.

Phase VI Construction of single or multiple building structures as sales and market conditions allow.

Phase VII Final landscaping of individual lots as required by the project Covenants, Conditions and Restrictions (Reference 14).

5. Estimate of Areas Subject to Clearing, Grubbing and Excavation:

South Rim on The Redlands Filing Five contain a total of 10.57 acres.

6. Preconstruction and Postconstruction Runoff Coefficients:

As defined in the Final Drainage Report For South Rim Filing No. 5 (Reference 11) the historic runoff coefficients for the 2 year and 100 year storm events respectively are 0.36 and 0.43.

With the construction of proposed roadways and building structures coefficients are expected to increase to 0.40 and 0.53 respectively.

7. Soil Erosion Potential:

The site soils are classified as (Hc) Hinman clay loam, 0 to 6 percent slopes and falls within the hydrological soil group "C" (Reference 4).

Soils along gullies and washes are classified as (Rr) Rough broken land, Mesa, Chipeta and Persayo soils materials and falls within the hydrological soils group "D" (Reference 4). The soils report for the development (Reference 12) characterizes the potential for erosion as significant in areas where drainage and vegetation are not carefully controlled.

8. Existing Vegetation:

Ground cover on upland areas includes native grasses and isolated pockets of trees and brush. Lowland areas, gullies and washes are host to a variety of ground covers

including thick brush, dense willows, native grasses and trees. The estimated ground cover for Filing No. Five is 25-30 percent.

9. Storage of Fuel Oils, Chemicals, Fertilizers or Other Potential Pollution Sources:

The storage of fuel oils, chemicals, fertilizers or other potential pollutants is prohibited without prior written notice to the owner by the contractor, subcontractor or other persons doing work on the site. In the event in becomes necessary to store such items, storage areas shall be designated. Storage areas shall be located above and away from drainages, waterways and other apparent conveyance elements. Appropriate measures shall be taken to protect such areas from spills or vandalism including but not limited to spill control berms and fencing.

10. Anticipated Non-Stormwater Components of Discharge:

Irrigation facilities include a pressurized under ground system supplied by a storage pond located northeast of and adjacent to Filing One. Offsite residual irrigation runoff is collected and routed underground to the storage pond upon entering the site.

11. Name and Location of Receiving Waters:

The project site is bounded to the northeast by the Tailrace Redlands Power canal flowing from the southeast to the northwest.

The canal serves to convey return irrigation water and storm water runoff from areas southeast of the site.

As defined in the detailed drainage study entitled "Flood Hazard Information, Colorado River and Tributaries" (Reference 2), South Rim Filing No. 5 are not within the 100 and 500 year floodplains.

B. Management During Construction

1. Anticipated Problems and Corrective (BMPs) Best Management Practices:

Structural Erosion Control Areas below the toe of fill slopes shall be isolated from fill areas by the installation of erosion cutoff swale as shown on the Developed Basin Map (Exhibit 4.0) and as detailed on the Erosion Control Details. The erosion cutoff swale will be installed along the bottom of fill slopes and below areas projected to be disturbed. Straw bales shall be placed perpendicular to the flowline of the swale in areas determined to need such protection by field inspection.

Non-Structural Erosion Control Disturbed areas not designated for immediate construction or permanent landscaping shall be temporarily re-vegetated. In the event

construction activity ceases for a period of 60 calendar days disturbed areas including cut and fill slopes shall be re-vegetated with a annual and perennial seed mixture as indicated on the Erosion Control Plan.

Dust Abatement The contractor shall be required to provide a consistent and reliable source of construction water. Watering to prevent dust shall be ongoing for the duration of the project. In the event high winds and heavy traffic loads create a situation where watering by itself is not sufficient the contractor is to apply an approved dust palliative other than or in addition to water.

Soil Tracking Access to Filing No. Five shall be from South Rim Drive which was constructed with Filing No. One. Where construction traffic enters or exits unimproved areas onto asphalted public roadways a crushed rock construction staging pad shall be installed to minimize soil tracking.

Waste Disposal Construction debris shall be stockpiled in a central location. Debris shall be removed from the site and disposed of at appropriate locations secured by the contractor.

Sedimentation Control The contractor shall be responsible for inspecting the entire site on a weekly basis to ensure compliance and identify existing or potential sedimentation problems. The Final Drainage Report For South Rim On The Redlands Filing No. 5 (Reference 11) identify two major drainageways which receive stormwater runoff from the site. Each of these natural drainages is heavily vegetated with dense pockets of brush, willows, trees and native grasses. Based on field investigations the Manning's (N) value for each approaches 0.08. These drainages will provide an excellent sediment control and filtering effect and are to be maintained in their natural state.

C. Final Stabilization and Long Term Management

The project's Covenants Conditions and Restrictions (Reference 14) obligate each lot owner to fully landscape front yard within 60 days and the rear yard within 1 year from the issuance of a Certificate of Occupancy. Other areas including open-space are to be landscaped by the developer and maintained by the Homeowners Association.

Permanent structural BMP's shall include erosion blankets as needed based on field inspection.

D. Inspection and Maintenance

The Contractor shall be ultimately responsible for compliance and maintenance during construction. The owners representative and the contractor shall make weekly inspections of the site to assure compliance and implementation of the proposed BMPs.

E. Conclusion

The information contained herein is augmented by the information, calculations and requirements as presented in the Final Drainage Study For South Rim Filing No. 5 (Reference 11). A copy of this report shall accompany the General Permit Application for Stormwater Discharges Associated With Construction Activity.

F. References

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

2. Flood Hazard Information, Colorado River and Tributaries, Grand Junction, Colorado, prepared for the City of Grand Junction and Mesa County, by The Department Of The Army, Sacramento District, Corps Of Engineers, Sacramento, California, November, 1976.

3. Flood Insurance Rate Map, Mesa County, Colorado, (Unincorporated Areas), Community Panel Number 080115 0480 C, Federal Emergency Management Agency, Map Revised July 15th, 1992.

4. Soil Survey, Grand Junction Area, Colorado, Series 1940, No. 19, U.S. Department of Agriculture, issued November, 1955.

5. Urban Storm Drainage Criteria Manual, Urban Drainage and Flood Control District, prepared by Wright-McLaughlin Engineers, March 1969, Revised May, 1984.

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

7. Douglas County Storm Drainage Design and Technical Criteria, Addendum A, Erosion Control Criteria, prepared by HydroDynamics Incorporated, Parker, Colorado, October, 1992.

8. Final Drainage Report For South Rim On The Redlands, Filing No. One, prepared by Philip M. Hart, P.E., December 10, 1993.

9. Final Drainage Report For South Rim On The Redlands, Filing No. Two, prepared by HART GROUP, PC, Engineers Designers Planners, A Division Of LANDesign, Grand Junction, Colorado, April 1, 1994.

10. Final Drainage Report For South Rim On The Redlands, Filings No. Three & Four, prepared by LANDesign LTD., Engineering Surveying Planning, Grand Junction, Colorado, May 1995.

11. Final Drainage Report For South Rim On The Redlands, Filing No. Five, prepared by LANDesign LLC., Engineering Surveying Planning, Grand Junction, Colorado, February 26, 1996.

12. Subsurface Soils Exploration, South Rim Subdivision, Grand Junction, Colorado, prepared by Lincoln-DeVore, Inc., Grand Junction, Colorado, August 3, 1993.

13. Colorado Department of Transportation, Erosion Control and Stormwater Quality Guide, Draft version, November 27, 1992.

14. Declaration Of Covenants, Conditions, And Restrictions Of South Rim Subdivision, Recorded in Book 2055, Pages 317 to 414 of the Mesa County Clerk and Recorders Office.

APPENDIX

Seeding

Planting of temporary or permanent vegetation on all disturbed area.

I. Application

Disturbed areas not designated for immediate construction or permanent landscaping shall be temporarily re-vegetated. In the event construction activity ceases for a period of sixty (60) calendar days, disturbed areas including cut and fill slopes shall be re-vegetated with an annual and perennial seed mixture as indicated on the Erosion Control Plan.

II. Site Seed Mixture

15% Annual Rye Grass
25% Perennial Rye Grass
12% Nordan Crested Wheatgrass
12% Fairway Crested Wheatgrass
12% Blue Gramma
12% Red Fescue
12% Buffalo Grass

A minimum of 5 lbs/acre shall be used and planted using drill seeding methods and 10 lbs/acre when using a broadcast method.

III. Construction Guidelines

Seeding in areas that are not irrigated or that are not provided with sprinkling or watering systems, shall be restricted to the seasons described in Table S-1.

Table S-1
Seeding Seasons

ZONE	SPRING SEEDING	FALL SEEDING
Below 6000'	Spring thaw - June 15th	Sept. 1st - Consistent ground freeze
6000' - 7000'	Spring thaw - July 1st	Aug. 15th - Consistent ground freeze
7000' - 8000'	Spring thaw - July 15th	Aug. 1st - Consistent ground freeze
Above 8000'	Spring thaw (starts)	Consistent ground freeze (ends)

For the purpose of Table S-1 "spring thaw" is the earliest date when seed can be buried 1/2 inch into the soil through normal drill seeding methods. "Consistent ground freeze" is that latest date when seed can no longer be buried 1/2 into the soil through

normal drill seeding methods. During permanent seeding, apply topsoil prior to applying seed.

When use of fertilizers and herbicides is required, apply according to the manufacturer's recommended rates.

All seeding operations shall be performed at right angles to the slope.

When needed to improve germination of seeds, apply mulching immediately after seeding. Use soil retention blankets on steep slopes (2:1 and steeper). Some locations with 3:1 slopes facing south or west or 20 feet or more high may also require soil retention blankets.

Seeded areas shall be inspected frequently. Areas with failures shall be repaired and reseeded within the planting season.

Mulching

Application of plant residues or other suitable material to the soil surface. Typical mulching material includes straw, hay, and wood cellulose fiber.

I. Application

Used to provide temporary protection for exposed soils against erosion where temporary or permanent seeding operations are not feasible, especially during adverse growing seasons.

Used as part of seeding practices to protect newly seeded areas.

Used to protect soil stockpiles.

II. Use Limitations

Use only on disturbed areas as a temporary cover.

Hydraulic mulching with wood cellulose fibers shall be limited to slopes steeper than 3:1 or where access is limited.

III. Construction Guidelines

Material

Hay shall consist of native grasses free of noxious weed seeds.

Straw shall consist of clean cereal grain.

Wood cellulose fiber shall consist of virgin wood cellulose processed into a uniform fibrous physical state.

Tackifiers (for anchoring) shall consist of a free flowing non-corrosive powder produced from the natural plant gum of Plantago Insularis (Desert Indianwheat). This material shall not contain any mineral filler, recycled cellulose fiber, clays, or other substances which may inhibit germination or growth of plants.

Spreading Procedure

Hay and straw mulch shall be spread at a rate of two tons per acre.

At a minimum, 50% of the mulch, by weight, shall be 10 inches or more than two inches.

Applied mulch shall reach a uniform distribution so that no more than 10% of the soil surface shall be exposed.

Hay and straw mulch shall be anchored to the soil surface using Tackifiers, blankets, or nets, or with a mulch crimping machine., Mechanical anchoring is preferred and recommended for slopes flatter than 3:1. When using blankets or nets, these may need to be anchored to the soil with staples, or as required by the manufacturer's specifications.

Wood cellulose fiber mulch shall be mixed with water (maximum 50 lbs. of wood cellulose per 100 gallons of water) and a tackifying agent. Application shall be at a rate of 1500 pounds per acre with a hydraulic seeder or mulcher.

Tackifiers (for anchoring) shall be applied in a slurry with water and wood fiber (100 lbs. of powder and 150 lbs. of fiber per 700 gallons of water). Application rate of the powder shall be 100 lbs. per acre.

Erosion Bale

A temporary sediment barrier consisting of a row of entrenched and anchored straw, or hay bales.

I. Application

Use as filters along the toe of fills.

Use as erosion checks in ditches.

Use for diversions and filters in unfinished drop inlets, culvert inlets, and outlets.

II. Use Limitations

Do not use if size of the drainage area is greater than 1/4 acre per 100 feet of barrier length.

Maximum slope length behind the barrier is 100 feet.

Maximum slope gradient behind the barrier is 50%.

In minor swales or ditch lines where the maximum contributing drainage area is no greater than one acre.

Where effectiveness is required for less than 3 months.

Under no circumstances should erosion bale barriers be constructed in active streams or in swales where there is the possibility of a washout.

Should be used only in areas of sheet flow or very low flow.

Not to be used where the control of sediment is critical or in high risk areas.

Not to be used where it cannot be entrenched as required and firmly anchored. Useful life of erosion bale barriers is relatively short; the barrier may have to be replaced one or more times during construction.

III. Construction Guidelines

All bales shall be either wire-bound or string-tied. Erosion bales shall be installed so that bindings are oriented around the sides rather than along the tops and bottoms of the bales (in order to prevent deterioration of bindings).

The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. After the bales are staked, the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill side and shall be built up to 4 inches against the uphill side of the barrier.

Each base shall be securely anchored by at least two 2"X2" stakes or #4 rebars driven toward the previously laid bale to force the bales together. Stakes or rebars shall be driven 12 inches minimum into the ground to securely anchor the bales.

The gaps between bales shall be filled by wedging with straw to prevent water from escaping between the bales. The main consideration is to obtain tight joints. Erosion bales will not filter sediment out of the water if the water is allowed to flow between,

around, or under the bales. Loose straw or hay scattered over the area immediately uphill from an erosion bale barrier tends to increase barrier efficiency.

Since erosion bales deteriorate quickly, the inspection during construction shall be frequent and repair or replacement shall be made promptly as needed.

Erosion bales shall be removed when they have served their usefulness, but not before the upslope areas have been permanently stabilized.

Trenches where erosion bales were located shall be graded and stabilized.

Sheet Flow Applications

Bales shall be placed in a single row, lengthwise on the contour with ends of adjacent bales tightly abutting.

Channel Flow Applications

Bales shall be placed in a single row, lengthwise, oriented perpendicular to the contour, with ends of adjacent bales tightly abutting one another.

The barrier shall be extended to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest middle bale to assure that sediment-laden runoff will flow either through or over the barrier but not around it.

Silt Fence

A temporary vertical barrier of filter fabric attached and supported by posts and entrenched to the ground.

I. Application

Used to intercept and detain small amounts of sediment from disturbed areas during construction operations to prevent sediment from leaving the site.

Used to decrease the velocity of sheet flows and low-to-moderate level channel flows.

Typically used along the toe of fills, in transition areas between cut and fills, adjacent to streams and along private property.

Also used around median and yard inlets as applicable, and behind curb and gutter to prevent silting of the pavement.

II. Use Limitations

Where the size of the drainage areas is no more than 1/4 acre per 100 feet of silt fence length; the maximum slope length behind the barrier is 100 feet; and the maximum gradient behind the barrier is 50% (2:1).

On steep slopes care should be given to placing alignment of fence perpendicular to the general direction of the flow.

Should not be used in areas where rocky soils will prevent keying in the filter fabric.

III. Construction Guidelines

Materials

The synthetic filter fabric shall conform to the requirements described in CDOT's Standard Specifications for Road and Bridge Construction.

The Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0 to 120 degrees F.

If a burlap is used, it shall be purchased in a continuous roll and cut to the length of the barrier to avoid than use of joints and thus improve the strength and efficiency of the barrier.

Posts for silt fences shall be metal or hardwood with a minimum length of 42 inches. Pine wood shall not be used. Wood posts shall have a minimum diameter or cross section of 1.25 inches. Metal posts shall be "studded tee" or "U" type with minimum weight of 1.33 lbs/lin. ft., and they shall be protected against corrosion. Metal posts should also have projections for fastening wire to them.

Wire fence reinforcement for silt fences using standard strength filter cloth shall be a minimum of 42 inches in height, a minimum of 14 gauge and shall have a maximum mesh spacing of 6 inches.

Installation

Silt fences must be located along a terrain contour and the area below the fence must be undisturbed or stabilized.

The posts shall be driven vertically into the ground to a minimum depth of 18 inches.

A trench shall be excavated approximately 6 inches wide and 6 inches deep along the line of posts and upslope from the barrier; the bottom one foot of the filter fabric shall be buried into this trench.

The trench shall be backfield and the soil compacted.

The filter materials shall be fastened securely to metal or wood posts using wire ties, or to the wood posts with 3/4 inches long #9 heavy duty staples. Filter material shall not be stapled to existing trees.

If a filter barrier is to be constructed across a ditch line or swale, the barrier shall be of sufficient length to eliminate end flow, and the plan configuration shall resemble an arc or horseshoe with the ends oriented upslope.

When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum 6-inch overlap, and securely sealed.

When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least 3/4 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 2 inches and shall not extend more than 36 inches above the original ground surface.

When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of the above item applying.

Silt fences shall be periodically maintained to prevent sediment from passing over or under the fence. Sediments shall be removed from behind the silt fence when it accumulates to one-half the exposed fabric height.

Filter barriers shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.

Sheet Flow Applications

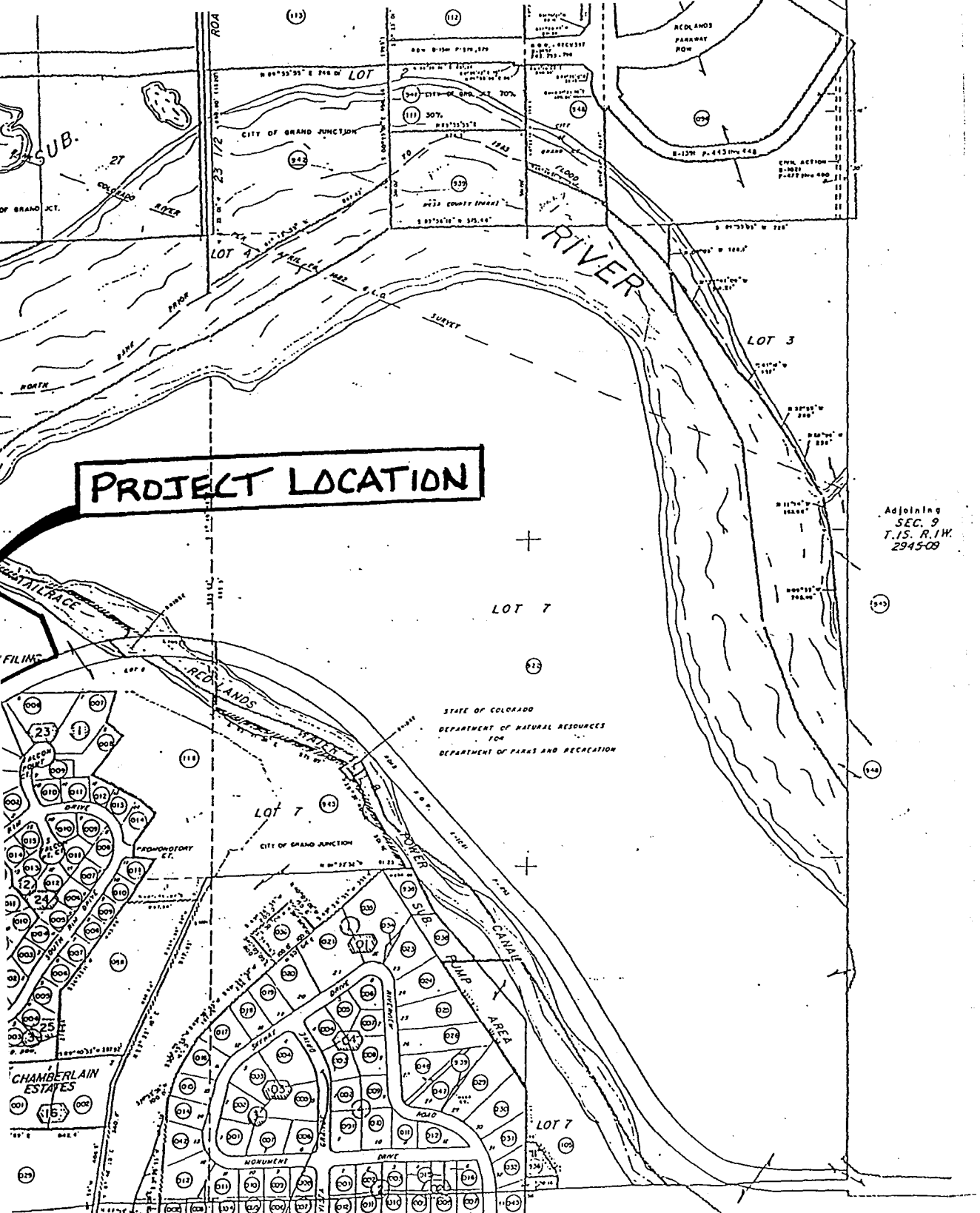
The height of the silt fence shall be minimum 22 inches and shall not exceed 36 inches; higher fences may impound volumes of water sufficient to cause failure of the structure.

Posts shall be spaced a maximum of 10 feet apart. If an extra strength filter fabric without the wire support fence is used, maximum space shall not exceed 6 feet.

Channel Flow Applications

The height of the silt fence shall be a minimum of 15 inches and shall not exceed 18 inches.

Posts shall be spaced a maximum of 3 feet apart.



SCALE 1"= 200'

EXHIBIT 1.0

LOCATION MAP

SOUTH RIM FILING 5

GENERAL PERMIT APPLICATION

STORMWATER DISCHARGES ASSOCIATED WITH:

CONSTRUCTION ACTIVITY

(Permit No. COR-030000)

FOR AGENCY USE ONLY									
Certification Number									
C	O	R	-	0	3				
Date Received						Fee Category			
Year		Month		Day					

Please print or type. All items must be completed accurately and in their entirety or the application will be deemed incomplete and processing of the permit will not begin until all information is received. Please refer to the instructions for information about the required items. An original signature of the applicant is **required.**

1. Name and address of the permit applicant:

Name LOWE DEVELOPMENT CORP., C/O

Mailing Address 1280 UTE AVE., SUITE 32

City, State and Zip Code ASPEN, CO 81611

Phone Number (970) 925-4497 Taxpayer (or Employer) ID 95-2788746

Who is applying? Owner ☒ Developer ☐ Contractor ☐

Entity Type: Private ☒ Federal ☐ State ☐ County ☐ City ☐ Other: _____

Local Contact LANDESIGN, LLC

Title PROJECT ENGINEERS Phone Number (970) 245-4099

2. Location of the construction site:

Street Address SOUTH RIM DRIVE AND PINNACLE COURT

City, State and Zip Code GRAND JUNCTION, CO. 81503

County MESA Name of plan of development SOUTH RIM, FILING NO. 5

Township, Range, section, 1/4 section PORTIONS OF THE NW 1/4 AND THE SW 1/4, SEC. 8, ~~T.1S., R.1W., UTE MERIDIAN.~~

Latitude and Longitude 39°05'01", 108°37'16"

3. Briefly describe the nature of the construction activity:

OVERLOT GRADING, STREET, UTILITY, STORM SEWER, WATER AND SANITARY SEWER CONSTRUCTION ASSOCIATED WITH RESIDENTIAL DEVELOPMENT.

EXHIBIT 2.0

4. Anticipated construction schedule:

Commencement date: APRIL 15, 1996 Completion date: JULY 15, 1996

5. Area of the construction site: Total area 10.57 AC.

Area to undergo excavation or grading: 5.12 AC.

6. The name of the receiving stream(s). (If discharge is to a ditch or storm sewer, also include the name of the ultimate receiving water): TAILRACE REDLANDS POWER CANAL TO COLORADO RIVER.

7. Other environmental permits held for this construction activity (include permit number):

NONE

8. Stormwater Management Plan Certification:

I certify under penalty of law that a complete Stormwater Management Plan, as described in Appendix A of this application, has been prepared for my facility. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the Stormwater Management Plan is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for falsely certifying the completion of said SWMP, including the possibility of fine and imprisonment for knowing violations.

X [signature] X 2/20/96

Signature of Applicant Date Signed

DAVID G. BEHRHORST VICE PRESIDENT

Name (printed) Title

9. Signature of applicant:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

X [signature] X 2/20/96

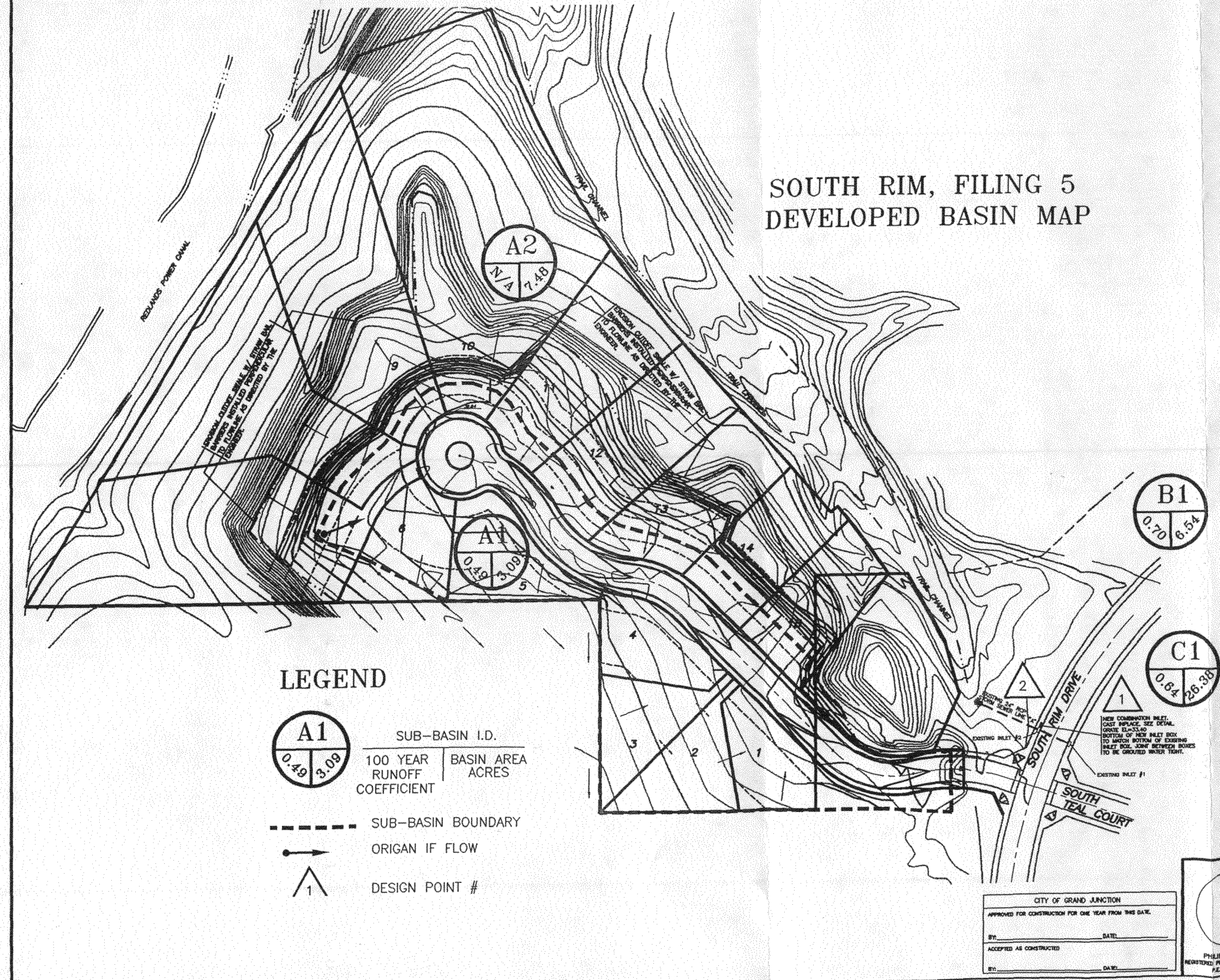
Signature of Applicant Date Signed

DAVID G. BEHRHORST VICE PRESIDENT

Name (printed) Title

EXHIBIT 3.0

SOUTH RIM, FILING 5
DEVELOPED BASIN MAP



LEGEND

A1 (0.49 / 3.09) — SUB–BASIN I.D.; 100 YEAR RUNOFF COEFFICIENT | BASIN AREA ACRES

SUB–BASIN BOUNDARY

ORIGAN IF FLOW

1 — DESIGN POINT #

CITY OF GRAND JUNCTION

APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.

BY: _____ DATE: _____

ACCEPTED AS CONSTRUCTED

BY: _____ DATE: _____

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

DATE:	NO:	REVISIONS:	BY:

DEVELOPED BASIN MAP
SOUTH RIM, FILING 5
SUBDIVISION

LANDesign
ENGINEERS + SURVEYORS + PLANNERS
740 ROUND VALLEY
GRAND JUNCTION, COLORADO 81501 (970) 245-4099

PROJECT NO. 95150.40	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: FEB, 1995	MDS			1	1

EXHIBIT 4.0

D:\SC12\WORK\95150\95150R4 Thu Feb 29 18:24:18 1996

REVIEW COMMENTS

FILE #FPP-96-52 **TITLE HEADING:** South Rim, Filing #5

LOCATION: N & E of Filing #1; N of Filing #3

PETITIONER: Lowe Development Corp.

PETITIONER'S ADDRESS/TELEPHONE: 1280 Ute Avenue
Suite 32
Aspen, CO 81611
925-4497

PETITIONER'S REPRESENTATIVE: 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., MARCH 22, 1996.

U.S. WEST **3/5/96**
Max Ward **244-4721**

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

MAIL COPY TO: AND CALL THE TOLL-FREE NUMBER FOR:
U.S. West Communications Developer Contact Group
Developer Contact Group 1-800-526-3557
P.O. Box 1720
Denver, CO 80201

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

PUBLIC SERVICE COMPANY **3/6/96**
Gary Lewis **244-2698**

14' multi-purpose easements adjacent to all street rights-of-way, per City of Grand Junction specifications, will be sufficient for installation of gas and electric facilities to most of this subdivision. Request additional 5' utility easement along the southeast lot line of Lot 4 and a 5' utility easement along the northwest lot line of Lot 1, adjacent to concrete common drive for Lot 2 and 3.

U.S. POSTAL SERVICE **3/11/96**
Mary Barnett **244-3434**

Mail delivery is centralized.

REDLANDS WATER & POWER **3/7/96**
Gregg Strong **243-2173**

Refer to previous comments on Filing #1 through Filing #4 for Filing #5.

CITY PROPERTY AGENT **3/11/96**
Steve Pace **256-4003**

1. Lien holder approval certificate - if needed.
2. In the legal description, along the southerly line of said public open space, the 7th course seems to be mis-labeled.
3. On the west boundary, could the 2 consecutive courses - N00°00'00"E, 75.17 & N00°00'00"E, 247.52' be combined to form one course.
4. On the south boundary, the course of S90°00'00"W, 44.14' is platted - the description reads N90°00'00"W, 44.14'.

CITY POLICE DEPARTMENT **3/12/96**
Dave Stassen **244-3587**

No concerns. The limited access of this design follows current crime prevention (C.P.T.E.D.) standards.

TCI CABLEVISION **3/11/96**
Glen Vancil **245-8777**

See attached comments.

CITY FIRE DEPARTMENT **3/14/96**
Hank Masterson **244-1414**

The cul-de-sac design with the landscape island will not allow our large fire trucks to turn around. A full 40' radius paved cul-de-sac is required to allow trucks to maneuver. If a center island is required, the maximum radius allowed for the island is 25' and the outside radius of the cul-de-sac must be at least 50'.

CITY DEVELOPMENT ENGINEER **3/15/96**
Jody Kliska **244-1591**

1. Cul-de-sac pavement width shall be 28 feet. There is no need for one-way signing.
2. Please locate all existing improvements (e.g. trail, landscape planter) on Grading and Drainage Plan.
3. Provide Development Improvements Agreement with estimated costs and quantities as required by SSID Manual. No approval was given to omit Exhibit "B". Quantities and costs are checked by this office at the time of submittal, and quantity changes due to plans changes should be minimal at final plan stage.
4. The drainage report indicates approximately 29 cfs will spill over the sidewalk in the 100 year event. Please look at a design of a relief drain such as a sidewalk trough upstream of the existing catch basin. This will also include looking at either a conveyance under the trail or erosion control/ protection of the trail and slopes. An alternative to consider may also be to direct the runoff rom the new cul-de-sac to a new catch basin rather than the existing. It appears the proposal to construct a double inlet structure at the existing inlet is necessary to maximize the existing pipe capacity.

UTE WATER **3/14/96**
Gary. R. Mathews **242-7491**

1. 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.
2. Developer will install the meter pits and yokes. Ute Water will furnish the meter pits and yokes.
3. POLICIES AND FEES IN EFFECT AT TIME OF APPLICATION WILL APPLY.

CITY COMMUNITY DEVELOPMENT **3/15/96**
Michael Drollinger **244-1439**

1. Landscape Plan for cul-de-sac required prior to approval of construction drawings.

You are urged to contact the Community Development Department if you require clarification or further explanation of any items.

CITY UTILITY ENGINEER **3/15/96**
Trent Prall **244-1590**

1. Professional Engineer's signature is a stamp. This is a violation of the Colorado State Board of Registration for Professional Engineers and Professional Land Surveyors. State Board will be notified if this practice is continued.
2. Sewer is too close to Outlot B which is dedicated to homeowner association. Sewer needs to be a minimum of 10' away from Outlot B in order to provide space for maintenance of sewer line.
3. Please reconfigure water and sewer service lines to lots 5 and 6 so they don't cross.

MESA COUNTY SCHOOL DISTRICT **3/14/96**
Lou Grasso **242-8500**

SCHOOL - CURRENT ENROLLMENT / CAPACITY - IMPACT
Scenic Elementary - 298 / 325 - 4
Redlands Middle School - 552 / 650 - 2
Fruita Monument High School - 1337 / 1100 - 2

CITY PARKS & RECREATION DEPARTMENT **3/15/96**
Shawn Cooper **244-3869**

Parks & Open Space Fees - 15 dwelling units @ $225 = $3,375.00.

March 22, 1996

City of Grand Junction
Community Development Department
250 North 5th Street
Grand Junction, Colorado 81501

Attn.: Mr. Michael Drollinger

Re: Response to review comments, South Rim Filing No. Five, File #FPP-96-52, Job #95150.40.

Dear Michael;

In response to the review comments for the above referenced project we present the following:

U.S. West

The comment is acknowledged.

Public Service Company

Additional 5'- foot utility easements for Lots 1 and 4 have been added to the Final Plat and construction plans as requested.

U.S. Postal Service

A centralized mail facility has been added to the construction plans. The facility is to be located along Pinnacle Court adjacent to the south west corner of Lot 15.

Redlands Water and Power

The comment is acknowledged.

City Property Agent

1. A Lien Holder approval certificate is not required. A statement is provided in the dedication.

2. The label for the 7th. course has been corrected.

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

3. The 2 consecutive courses along the west boundary are combined and revised on the plat.

4. The platted course label on the south boundary has been corrected to read N90-00-00W, 44.14'.

City Police Department

The comment indicating approval is acknowledged.

TCI Cablevision

The comments presented of the form letter are acknowledged.

Grand Junction Fire Department

The Developer, Fire Department and Planning Department are jointly reviewing minimum acceptable requirements for fire truck turning movements within cul-de-sacs. A solution will be presented to staff prior to the scheduled public hearing date.

City Development Engineer

1. The one-way street sign has been removed from the plans.

2. The existing improvements at the intersection of Pinnacle Court and South Rim Drive have been added to all construction drawings.

3. "Exhibit B" of the Improvements Agreement estimating the cost of construction has been prepared and is attached for review.

4. The Developer, City Development Engineer and Landesign performed a detailed field inspection of existing drainage basins, storm sewer and other related improvements. Based on the field inspection it is determined that the existing storm sewer in combination with the proposed storm sewer improvements are adequate.

Ute Water

The statements of policy are acknowledged.

Community Development Department

1. A Landscaping design for the cul-de-sac has been added to the construction plans.

City Utility Engineer

1. This comment is acknowledged.

2. The sanitary sewer alignment has been revised to provide a maximum clearance between the line and "Outlot B". This revision has been presented to the City Utility Engineer and has been verbally approved.

3. The sanitary sewer and water services to lots 5 and 6 have been revised in accordance with this comment.

Mesa County School District

The comment indicating approval is acknowledged.

City Parks and Recreation

The disposition of Parks and Open space Fees was previously addressed in the Pre-annexation Agreement between the Developer and The City of Grand Junction dated May 2, 1994. All open space requirements have been met.

Please contact our office if you have any further questions.

Sincerely

Monty D. Stroup
Project Manager

cc: Lowe Development

STAFF REVIEW

FILE: #FPP-96-52

DATE: March 27, 1996

STAFF: Michael T. Drollinger

REQUEST: Final Major Subdivision Plan/Plat Filing #5
SOUTH RIM SUBDIVISION

LOCATION: North side of South Rim Drive at South Teal Court

APPLICANT: David G. Behrhorst
Lowe Development Corp.
1280 Ute Street; Suite 32
Aspen CO 81611

EXECUTIVE SUMMARY:

Petitioner is requesting final plan/plat approval for South Rim Filing #5 located north of South Rim Drive at South Teal Court in the Redlands. Filing #5 consists of 15 single family lots on about 10.6 acres and is generally consistent with the approved preliminary plan for the project. Staff recommends approval of the application.

EXISTING LAND USE: Vacant

PROPOSED LAND USE: Single Family Residential

SURROUNDING LAND USE:

NORTH:	Open Space (River Trail)
SOUTH:	Single Family Residential
EAST:	Single Family Residential/Open Space (River Trail)
WEST:	Single Family Residential (E 1/2 Road)

EXISTING ZONING: PR-3.5

PROPOSED ZONING: No change

SURROUNDING ZONING:

NORTH:	AFT (County)

SOUTH:	PR-3.5
EAST:	PR-3.5
WEST:	PR-3.5

RELATIONSHIP TO COMPREHENSIVE PLAN:

No comprehensive plan exists for this area

STAFF ANALYSIS:

The site is located east of the Redlands Parkway on the north side of South Rim Drive at South Teal Court and consists of approximately 10.6 acres. The property is zoned PR-3.5. The petitioner is requesting Final Plat/Plan approval for Filing #5 consisting of 15 single family lots. Further details of the proposal are in the attached project narrative. Also, a complete set of the latest construction plans and the plat along with an aerial photograph are attached for orientation and reference. The proposal is generally consistent with the preliminary plan approval.

All review agency comments have been adequately addressed. The Fire Department has approved the design for the landscape island in the cul-de-sac. Staff is completing review of the requested landscape plan for the open space areas. Approval of the landscape plan by staff will be required prior to approval of the construction drawings.

STAFF RECOMMENDATION:

Staff recommends approval of the Final Plan & Plat for Filing #5.

SUGGESTED PLANNING COMMISSION MOTION:

Mr. Chairman, on item #FPP-96-52, a request for final plat/plan approval for Filing #5, I move that the final plat/plan be approved.

h:\cityfil\1999\96-052.srp

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,

SOUTH RIM FILING NO. FIVE,

Situated in the 1/4 of Section 8,

Township 1 SOUTH, Range 1 WEST,

of the _____ 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 17 day of May, 1996.

City of Grand Junction,
Department of Public Works & Utilities

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

Recorded in Mesa County
Date: _____
Plat Book:____ Page:____
Drawer: _____

g:\special\platcert.doc

M E M O R A N D U M

DATE: May 24, 1996

TO: Monty Stroup/LANDesign, LLC

FROM: Michael T. Drollinger

RE: South Rim Filing #5 - Recording Fees

Below please find the recording fee breakdown for S. Rim Filing #5:

- PLAT: 2 sheets @ $10/sheet + $1 = $21
- DIA: 10 sheets @ $5/sheet + $1 = $51
- Disbursement Agreement: 5 sheets @ $5/sheet + $1 = $26
- CC&Rs supplement: 3 sheets @ $5/sheet + $1 = $16

TOTAL: $114

Please make check payable to "*Mesa County Clerk & Recorder*". Also, please advise if there are any changes or omissions in the above calculations. Thank you.

Michael

October 24, 1996

David G. Berhorst
Lowe Development Corp.
1280 Ute, Suite 32
Aspen, CO 81611

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

Subject: South Rim Filing 5 Subdivision

Dear Mr. Berhorst:

A final inspection of the streets, sewer and drainage facilities in South Rim Filing 5 Subdivision was conducted on August 23, 1996. As a result of this inspection, a list of remaining items was given to Monty Stroup of Landesign for completion. These items were reinspected and found to be satisfactorily completed.

"As Built" record drawings and required test results for the streets and drainage facilities were received on October 10, 1996. These have been reviewed and found to be acceptable.

In light of the above, the streets, sewer and drainage improvements are eligible to be accepted for future maintenance by the City of Grand Junction one year after the date of substantial completion. The date of substantional completion is August 23, 1996.

Your warranty obligation for all materials and workmanship for a period of one year beginning with the date of substantial completion will expire upon acceptance by the City.
If you are required to replace or correct any defects which are apparent during the period of the warranty, a new acceptance date and extended warranty period will be established by the City.

Thank you for your cooperation in the completion of the work on this project.

Sincerely,

Jody Kliska
City Development Engineer

Trent Prall
City Utility Engineer

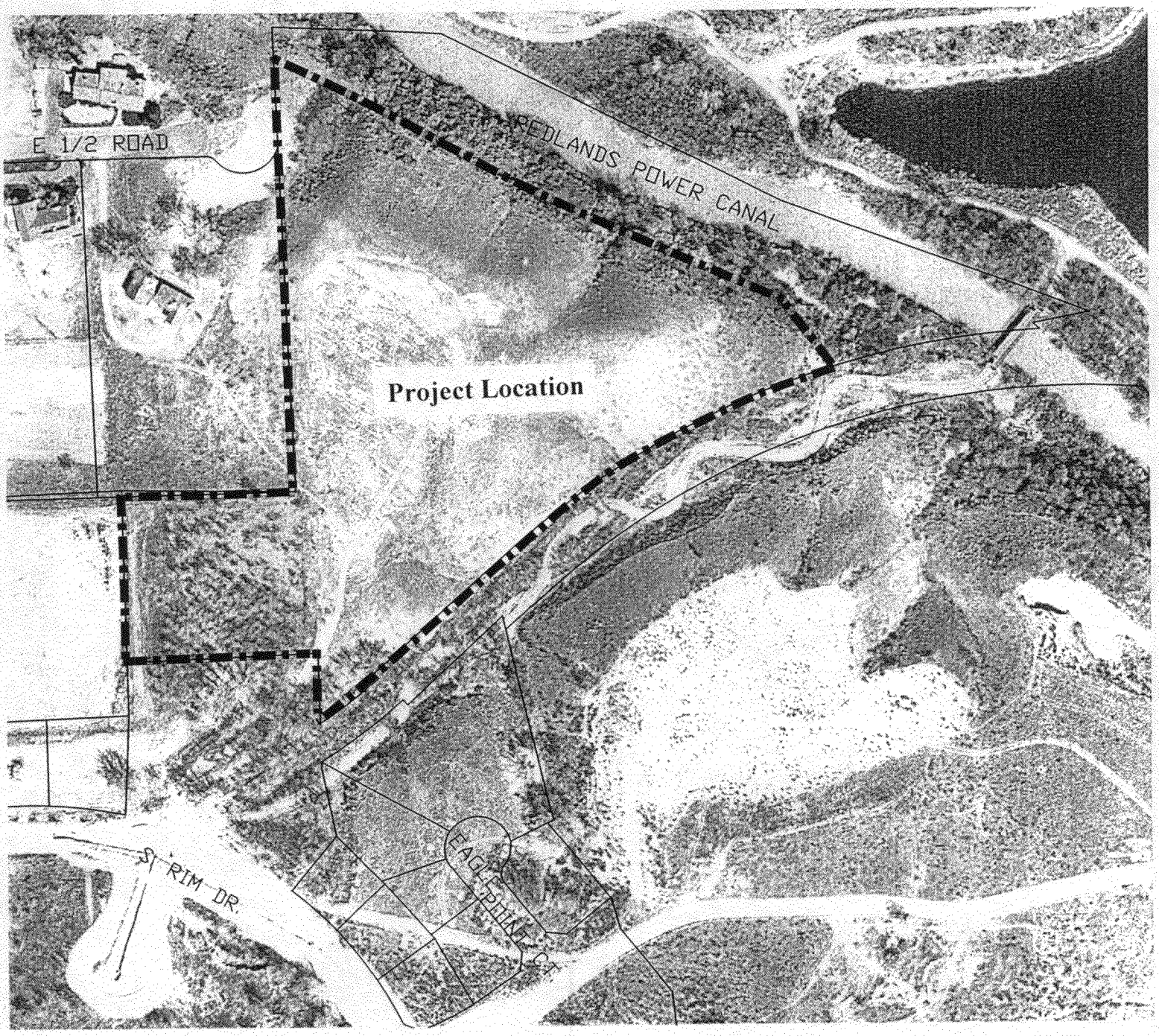
cc: Doug Cline
Walt Hoyt
Don Newton
Kathy Portner
Jerry O'Brien
Monty Stroup, Landesign

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

****

Beginning at the Northeast Corner of the Northwest Quarter of the Southwest Quarter (NW1/4 SW1/4) of Section 8, Township 1 South, Range 1 West of the Ute Meridian, which lies North 00 degrees 03 minutes 18 seconds East 1317.66 feet from the Southeast corner of the Northwest Quarter of the Southwest Quarter (NW1/4 SW1/4) of said Section 8, which corner bears South 89 degrees 47 minutes 07 seconds West from the Southeast Corner of the Northeast Quarter of the Southwest Quarter (NE1/4 SW1/4) of said Section 8 for a basis of bearings with all bearings contained herein relative thereto; thence North 00 degrees 03 minutes 18 seconds East, a distance of 146.51 feet to a point at the southerly line at the northwesterly end of a tract dedicated to the City of Grand Junction for Public Open Space in Book 2132, Pages 955 through 958 of the Mesa County Clerk and Recorders Official Records; thence along said southerly line of said Public Open Space the Seven (7) following courses: (1)South 58 degrees 13 minutes 29 seconds East, a distance of 734.98 feet; (2) thence South 19 degrees 00 minutes 55 seconds East, a distance of 163.21 feet; (3) thence with a non-tangent curve to the left, having a delta angle of 21°40'04", a radius of 1185.92 feet, an arc length of 448.48 feet, a chord bearing of South 60 degrees 09 minutes 03 seconds West, and a chord length of 445.82 feet; (4) thence South 49 degrees 19 minutes 01 seconds West, a distance of 259.08 feet; (5) thence South 40 degrees 40 minutes 55 seconds East, a distance of 10.00 feet; (6) thence with a non-tangent curve to the right, having a delta angle of 08°07'59", a radius of 686.20 feet, an arc length of 97.40 feet, a chord bearing of South 53 degrees 22 minutes 59 seconds West, and a chord length of 97.32 feet; thence South 00 degrees 00 minutes 00 seconds East, a distance of 22.42 feet; (7) thence South 60 degrees 45 minutes 38 seconds West, a distance of 87.07 feet; thence South 74 degrees 15 minutes 43 seconds West, a distance of 64.05 feet; thence North 65 degrees 01 minutes 37 seconds West, a distance of 14.78 feet; thence North 90 degrees 00 minutes 00 seconds West, a distance of 50.43 feet; thence with a non-tangent curve to the right, having a delta angle of 02°50'48", a radius of 222.00 feet, an arc length of 11.03 feet, a chord bearing of South 02 degrees 41 minutes 48 seconds West, and a chord length of 11.03 feet; thence North 90 degrees 00 minutes 00 seconds West, a distance of 44.14 feet; thence with a non-tangent curve to the right, having a delta angle of 11°19'31", a radius of 178.00 feet, an arc length of 35.18 feet, a chord bearing of South 10 degrees 48 minutes 13 seconds West, and a chord length of 35.13 feet; thence South 64 degrees 51 minutes 34 seconds West, a distance of 25.81 feet; thence North 03 degrees 33 minutes 06 seconds East, a distance of 141.58 feet; thence North 00 degrees 00 minutes 00 seconds East, a distance of 75.17 feet; thence North 00 degrees 00 minutes 00 seconds East, a distance of 247.52 feet; thence South 89 degrees 55 minutes 00 seconds East, a distance of 243.38 feet; thence North 00 degrees 03 minutes 18 seconds East, a distance of 520.14 feet to the POINT OF BEGINNING.

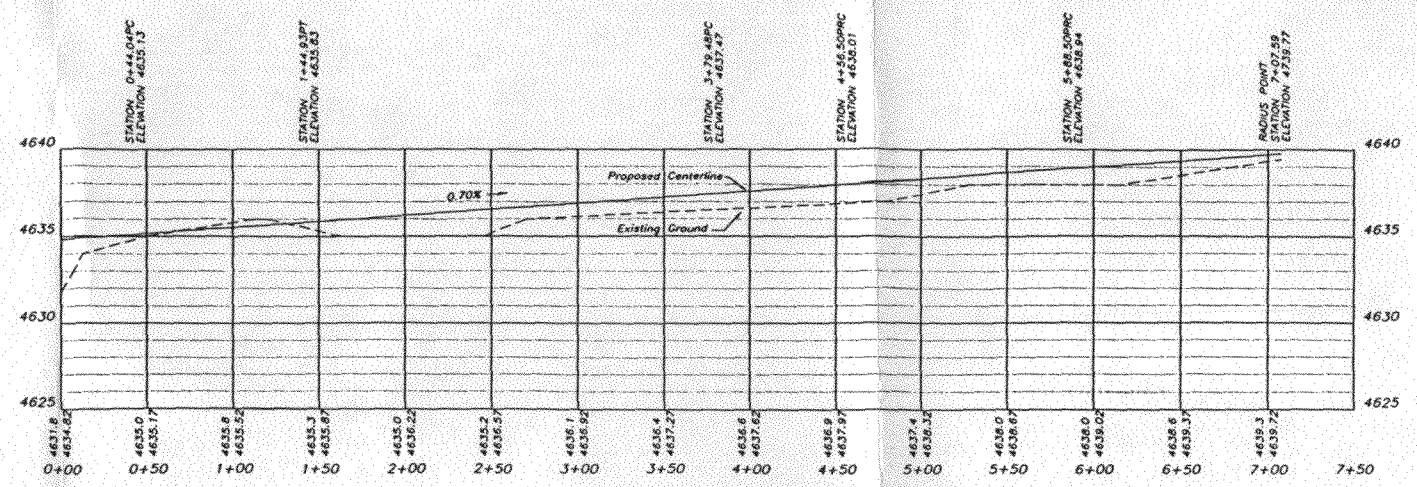
S. RIM #5



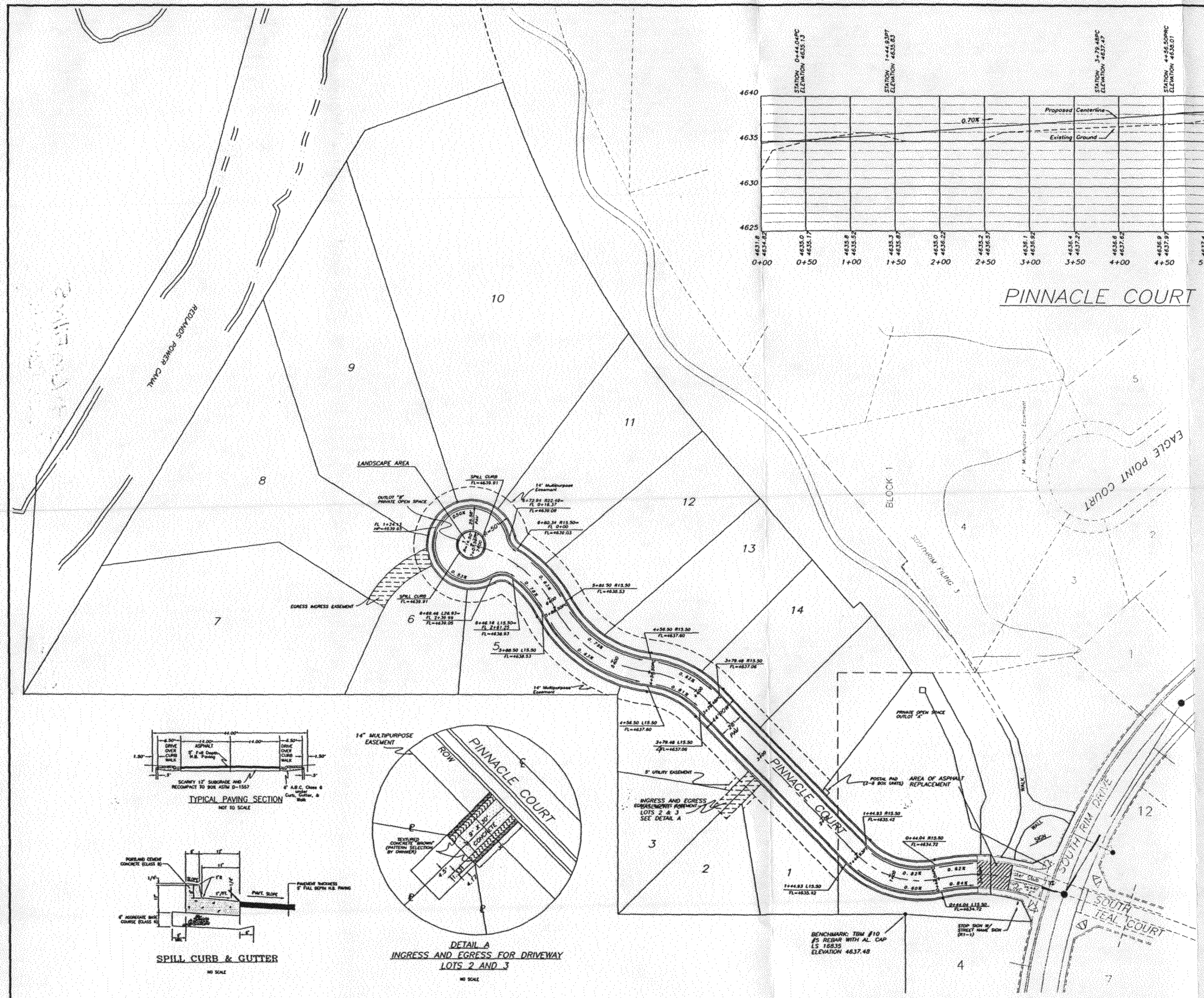
AERIAL PHOTOGRAPH

FPP-96-52
Final Plan/Plat
South Rim Filing #5

N



PINNACLE COURT



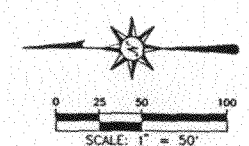
TYPICAL PAVING SECTION
NOT TO SCALE

SPILL CURB & GUTTER
NO SCALE

DETAIL A
INGRESS AND EGRESS FOR DRIVEWAY LOTS 2 AND 3
NO SCALE

CITY OF GRAND JUNCTION
APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.
BY: _____ DATE: _____
ACCEPTED AS CONSTRUCTED
BY: _____ DATE: _____

NOTE: ALL STATIONING IS CENTERLINE UNLESS OTHERWISE NOTED.



DATE:	NO:	REVISIONS:	By:
02/13/96	3	CL MOVE 10'	JOS
02/21/96	3	SEWER & WATER & STREETS	JOS
03/21/96	5	SEWER & WATER & STREETS	JMH

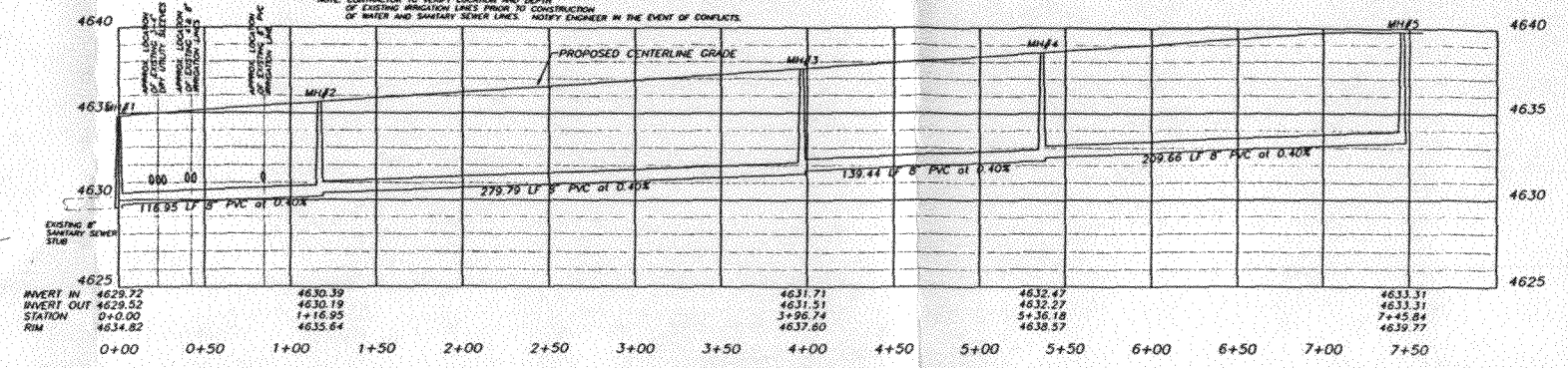
PHILIP M. HART
REGISTERED PROFESSIONAL ENGINEER
P.E. NO. 19346

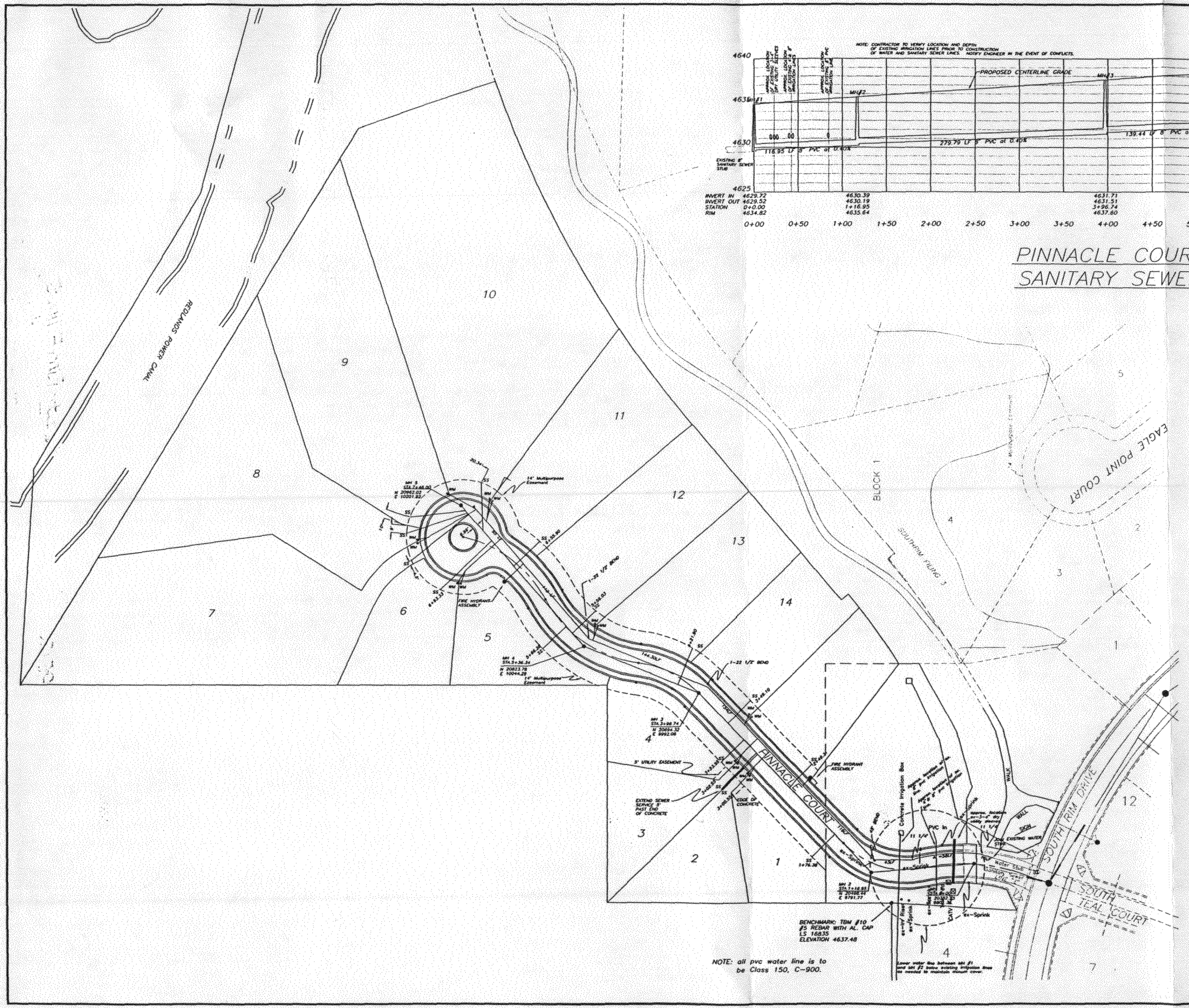
STREET PLAN & PROFILE

SOUTH RIM FILING 5 SUBDIVISION

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

PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN. ,1996	MS/JOS	JOS/BH		5	14





NOTE: all pvc water line is to be Class 150, C-900.

CITY OF GRAND JUNCTION
APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.
BY:________ DATE:________
ACCEPTED AS CONSTRUCTED
BY:________ DATE:________

DATE:	NO:	REVISIONS:	By:
02/13/96	3	CL MOVE 10'	JOS
02/21/96	3	SEWER & WATER & STREETS	JOS
03/21/96	5	SEWER & WATER & STREETS	JMM

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

WATER AND SANITARY SEWER
PLAN & PROFILE

SOUTH RIM FILING 5
SUBDIVISION

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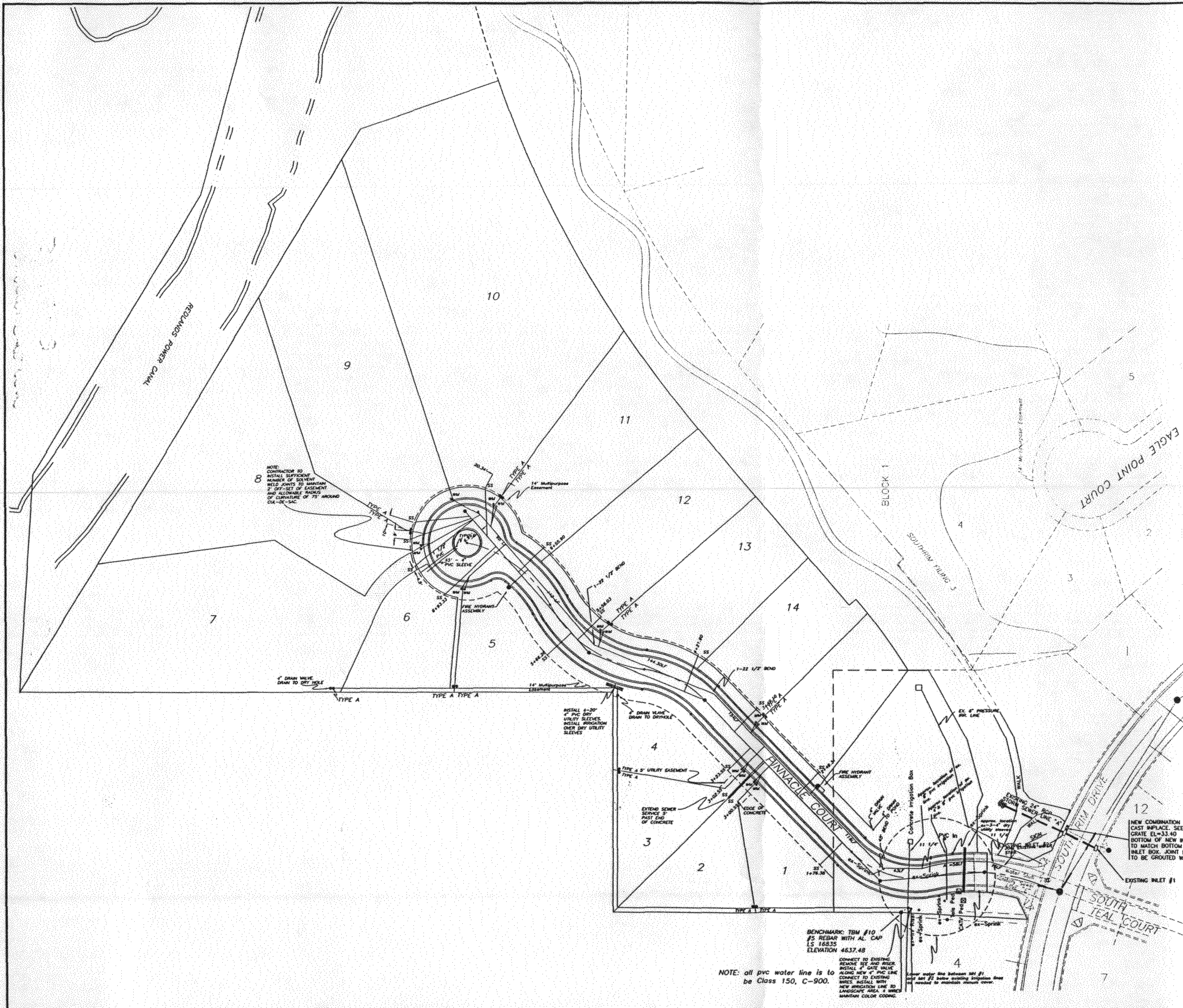
PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN ,1996	MS/JOS	JOS/BH		6	14


REDLANDS POWER CANAL
EAGLE POINT COURT
BLOCK 1
SOUTHRIM FILING 3
PINNACLE COURT
SOUTH RIM DRIVE
SOUTH TEAL COURT
NOTE: CONTRACTOR TO INSTALL SUFFICIENT NUMBER OF SOLVENT WELD JOINTS TO MAINTAIN 2' OFF-SET OF EASEMENT AND ALLOWABLE RADIUS OF CURVATURE OF 75' AROUND CUL-DE-SAC.
FIRE HYDRANT ASSEMBLY
INSTALL 6-20' 4" PVC DRY UTILITY SLEEVES. INSTALL IRRIGATION OVER DRY UTILITY SLEEVES
EXTEND SEWER SERVICE 5' PAST END OF CONCRETE
EDGE OF CONCRETE
Concrete Irrigation Box
EX. 6" PRESSURE IRR. LINE
NEW COMBINATION INLET. CAST INPLACE. SEE DETAIL. GRATE EL=33.40 BOTTOM OF NEW INLET BOX TO MATCH BOTTOM OF EXISTING INLET BOX. JOINT BETWEEN BOXES TO BE GROUTED WATER TIGHT.
EXISTING INLET #1
BENCHMARK: TBM #10 #5 REBAR WITH AL. CAP LS 16835 ELEVATION 4637.48
NOTE: all pvc water line is to be Class 150, C-900.
SCALE: 1" = 50'

CITY OF GRAND JUNCTION
APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.
BY:__________ DATE:__________
ACCEPTED AS CONSTRUCTED
BY:__________ DATE:__________

DATE:	NO:	REVISIONS:	By:
02/13/96	3	CL MOVE 10'	JOS
02/21/96	3	SEWER & WATER & STREETS	JOS
03/21/96	5	SEWER & WATER & STREETS	JMW

UTILITY COMPOSITE

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

PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN ,1996	MS/JOS	JOS/BH		7	14

REDLANDS POWER CANAL

TRAIL CHANNEL

TRAIL CHANNEL

TRAIL CHANNEL

EROSION CUTOFF SWALE W/ STRAW BAIL BARRIERS INSTALLED PERPENDICULAR TO FLOWLINE AS DIRECTED BY THE ENGINEER

EROSION CUTOFF SWALE W/ STRAW BAIL BARRIERS INSTALLED PERPENDICULAR TO FLOWLINE AS DIRECTED BY THE ENGINEER

PINNACLE COURT

SOUTHERN HILLS 3

BLOCK 1

EAGLE POINT COURT

SOUTH RIM DRIVE

SOUTH TEAL COURT

EXISTING 24" SDR 35 SEWER

EXISTING INLET #2

EXISTING INLET #1

NEW COMBINATION INLET. CAST INPLACE. SEE DETAIL. GRATE EL=33.40 BOTTOM OF NEW INLET BOX TO MATCH BOTTOM OF EXISTING INLET BOX. JOINT BETWEEN BOXES TO BE GROUTED WATER TIGHT.

BENCHMARK: TBM #10
#5 REBAR WITH AL. CAP
LS 16835
ELEVATION 4637.48

CITY OF GRAND JUNCTION
APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.
BY: _____ DATE: _____
ACCEPTED AS CONSTRUCTED
BY: _____ DATE: _____

0 25 50 100
SCALE: 1" = 50'

DATE:	NO:	REVISIONS:	By:
02/13/96	3	CL MOVE 10'	JOS
02/21/96	3	SEWER & WATER & STREETS	JOS
03/21/96	5	SEWER & WATER & STREETS	JMM

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

GRADING & DRAINAGE PLAN

SOUTH RIM FILING 5 SUBDIVISION

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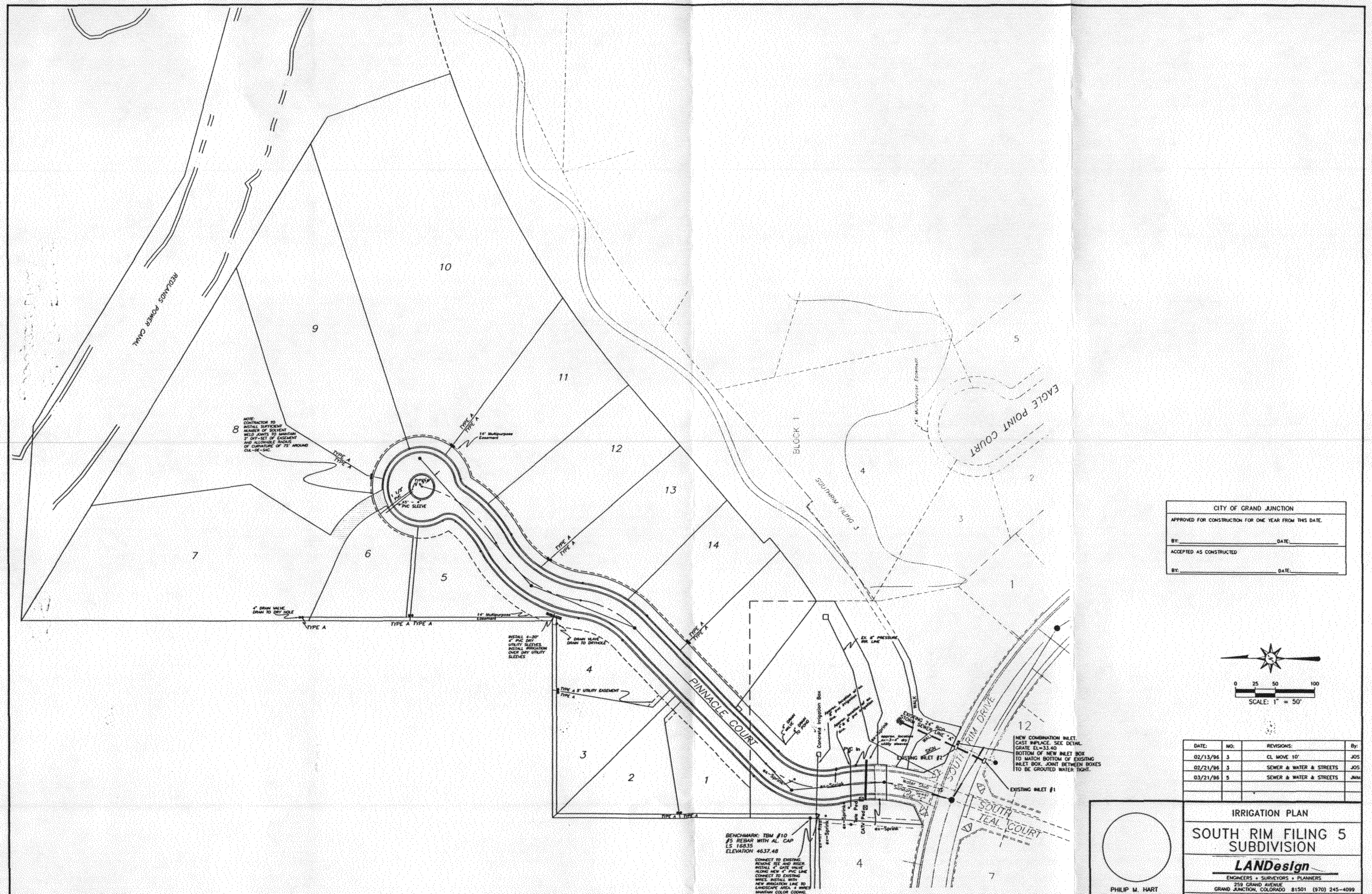
PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN ,1996	MS/JOS	JOS/BH		8	14



CITY OF GRAND JUNCTION

APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.

BY:________________ DATE:________

ACCEPTED AS CONSTRUCTED

BY:________________ DATE:________

0 25 50 100

SCALE: 1" = 50'

DATE:	NO:	REVISIONS:	By:
02/13/96	3	CL MOVE 10'	JOS
02/21/96	3	SEWER & WATER & STREETS	JOS
03/21/96	5	SEWER & WATER & STREETS	JMM

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

IRRIGATION PLAN

SOUTH RIM FILING 5 SUBDIVISION

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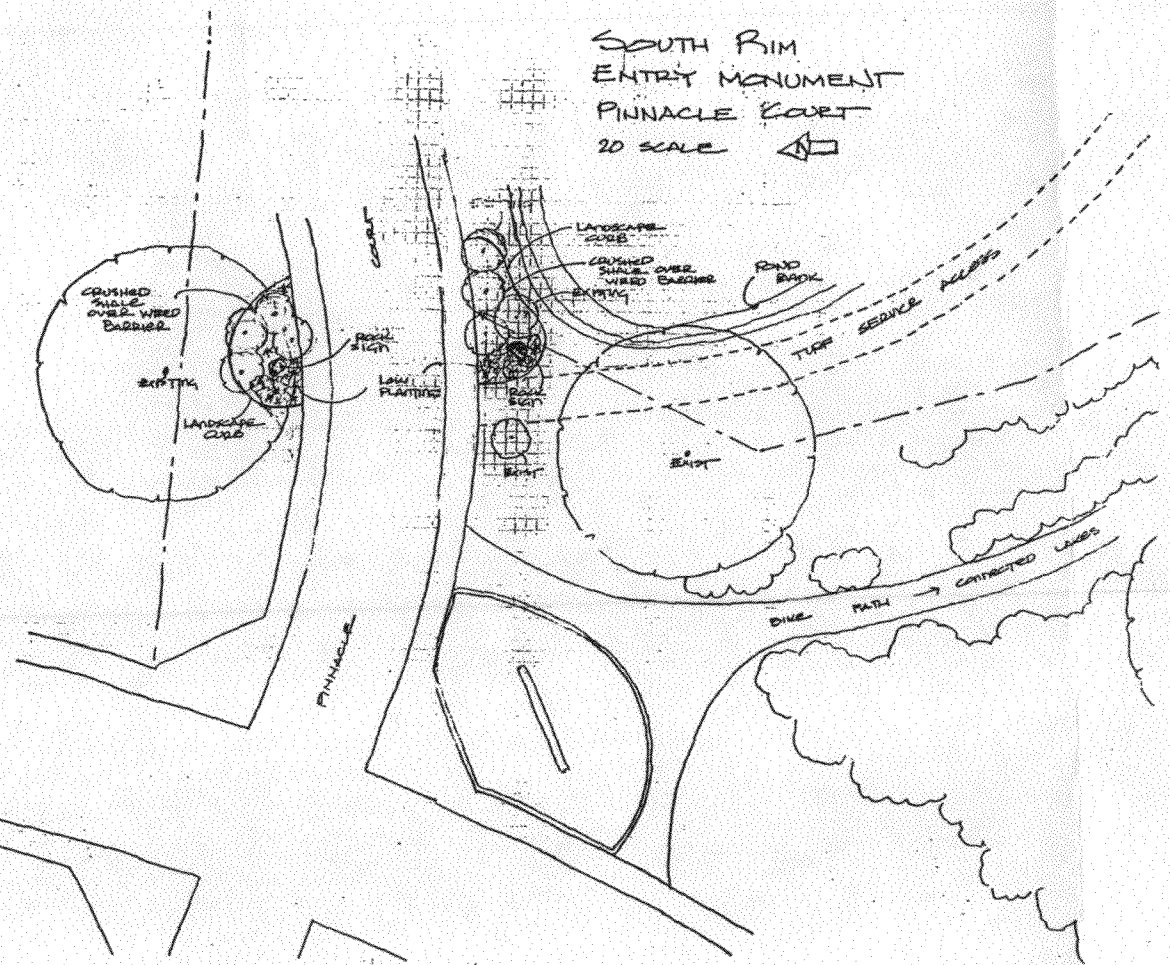
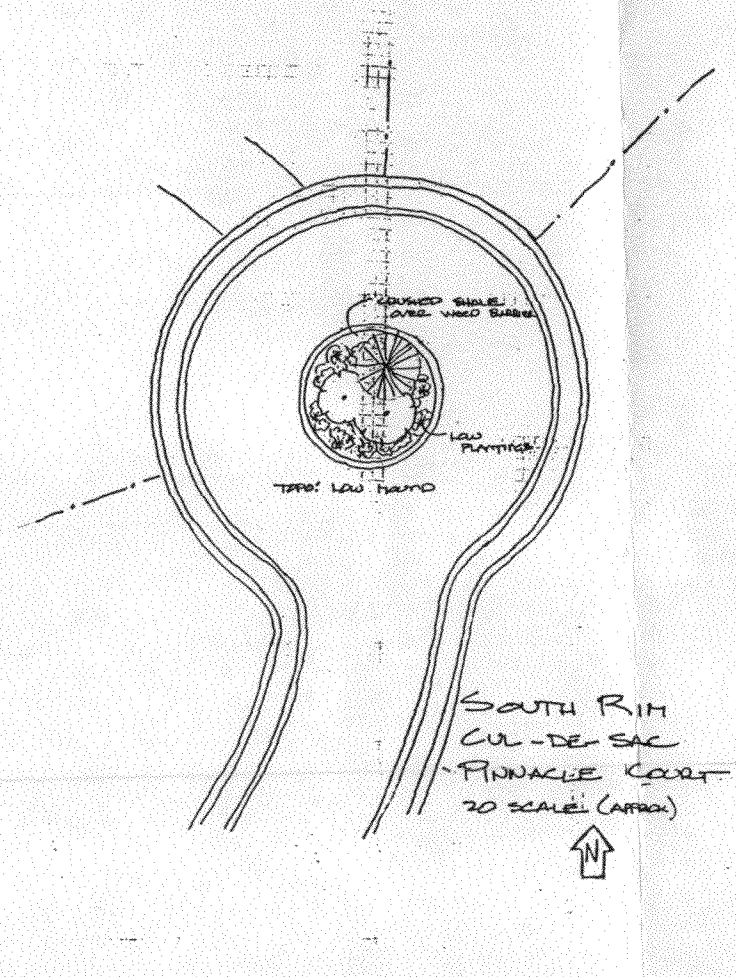
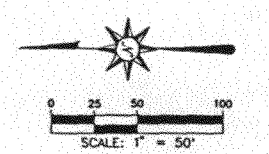
PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN ,1996	MS/JOS	JOS/BH		9	14





CITY OF GRAND JUNCTION
APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.
BY: _____ DATE: _____
ACCEPTED AS CONSTRUCTED
BY: _____ DATE: _____



DATE:	NO:	REVISIONS:	By:
02/13/96	3	CL MOVE 10'	JOS
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03/21/96	5	SEWER & WATER & STREETS	JMM

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

LANDSCAPE DETAILS

SOUTH RIM FILING 5 SUBDIVISION

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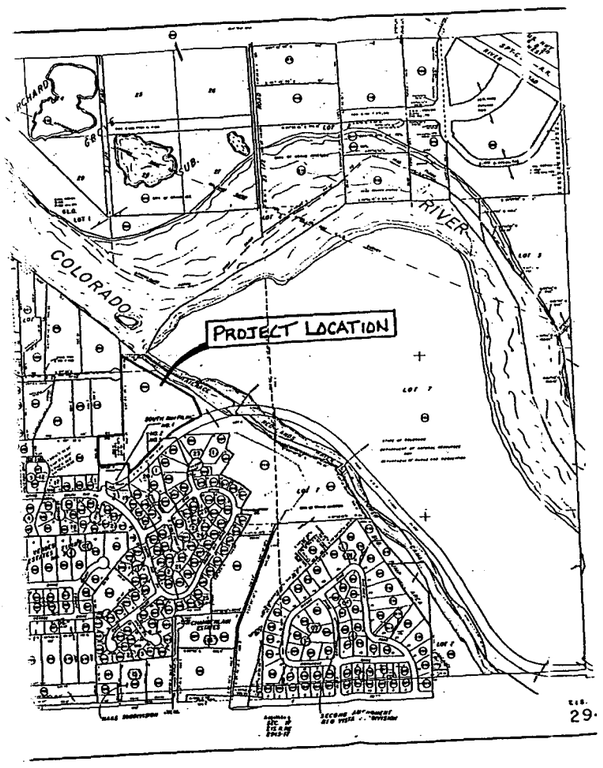
PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN. 1996	MS/JOS	JOS/BH		16	14

SOUTH RIM FILING 5
SUBDIVISION

VICINITY MAP



SHEET INDEX

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

COVER SHEET
SOUTH RIM FILING 5
SUBDIVISION

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359 GRAND AVENUE
GRAND JUNCTION, COLORADO 81501 (970) 245-4099

PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JANUARY 1996				1	14

SOUTH RIM FILING NO. FIVE

DEDICATION

KNOW ALL MEN BY THESE PRESENTS:

That Lowe Development Corporation, a California Corporation, is the owner of that real property located in portions of the Southeast Quarter of the Northwest Quarter (SE1/4 NW1/4), the Northeast Quarter of the Southwest Quarter (NE1/4 SW1/4), and the Northwest Quarter of the Southwest Quarter (NW1/4 SW1/4) of Section 8, Township 1 South, Range 1 West of the Ute Meridian, Mesa County, Colorado, and a Replat of those portions of South Rim Filing No. One, designated as Outlot A and a portion of Tract D (Public Pedestrian Right-of-Way) Vacated as described in Book ____, Page ____, and being more particularly described as follows: (Original Warranty Deed Book 1539, Pages 87 through 90, and Plat Book 14, Pages 198 and 199.)

Beginning at the Northeast Corner of the Northwest Quarter of the Southwest Quarter (NW1/4 SW1/4) of Section 8, Township 1 South, Range 1 West of the Ute Meridian, which lies North 00 degrees 03 minutes 18 seconds East 1317.66 feet from the Southeast corner of the Northwest Quarter of the Southwest Quarter (NW1/4 SW1/4) of said Section 8, which corner bears South 89 degrees 47 minutes 07 seconds West from the Southeast Corner of the Northeast Quarter of the Southwest Quarter (NE1/4 SW1/4) of said Section 8 for a basis of bearings with all bearings contained herein relative thereto; thence North 00 degrees 03 minutes 18 seconds East, a distance of 146.51 feet to a point at the southerly line at the northwesterly end of a tract dedicated to the City of Grand Junction for Public Open Space in Book 2132, Pages 955 through 958 of the Mesa County Clerk and Recorders Official Records; thence along said southerly line of said Public Open Space the Seven (7) following courses: (1)South 58 degrees 13 minutes 29 seconds East, a distance of 734.98 feet; (2) thence South 19 degrees 00 minutes 55 seconds East, a distance of 163.21 feet; (3) thence with a non-tangent curve to the left, having a delta angle of 21°40'04", a radius of 1185.92 feet, an arc length of 448.48 feet, a chord bearing of South 60 degrees 09 minutes 03 seconds West, and a chord length of 445.82 feet; (4) thence South 49 degrees 19 minutes 01 seconds West, a distance of 259.08 feet; (5) thence South 40 degrees 40 minutes 55 seconds East, a distance of 10.00 feet; (6) thence with a non-tangent curve to the right, having a delta angle of 08°07'59", a radius of 686.20 feet, an arc length of 97.40 feet, a chord bearing of South 53 degrees 22 minutes 59 seconds West, and a chord length of 97.32 feet; (7) thence South 00 degrees 00 minutes 00 seconds East, a distance of 22.42 feet; thence South 60 degrees 45 minutes 38 seconds West, a distance of 87.07 feet; thence South 74 degrees 15 minutes 43 seconds West, a distance of 64.05 feet; thence North 65 degrees 01 minutes 37 seconds West, a distance of 14.78 feet; thence North 90 degrees 00 minutes 00 seconds West, a distance of 50.43 feet; thence with a non-tangent curve to the right, having a delta angle of 02°50'48", a radius of 222.00 feet, an arc length of 11.03 feet, a chord bearing of South 02 degrees 41 minutes 48 seconds West, and a chord length of 11.03 feet; thence North 90 degrees 00 minutes 00 seconds West, a distance of 44.14 feet; thence with a non-tangent curve to the right, having a delta angle of 11°19'31", a radius of 178.00 feet, an arc length of 35.18 feet, a chord bearing of South 10 degrees 48 minutes 13 seconds West, and a chord length of 35.13 feet; thence South 64 degrees 51 minutes 34 seconds West, a distance of 25.81 feet; thence North 03 degrees 33 minutes 06 seconds East, a distance of 141.58 feet; thence North 00 degrees 00 minutes 00 seconds East, a distance of 322.70 feet; thence South 89 degrees 55 minutes 00 seconds East, a distance of 243.38 feet; thence North 00 degrees 03 minutes 18 seconds East, a distance of 520.14 feet to the POINT OF BEGINNING.
Said parcel containing 10.574 Acres, as described.

That said owner does hereby dedicate and set apart real property as shown and labeled on the accompanying plat, which is a part of a Planned Common Interest Community known as SOUTH RIM PLANNED UNIT DEVELOPMENT, subject to those certain restrictions as recorded in the "Covenants, Conditions, and Restrictions" as recorded in Book 255, Pages 317 through 414, of the Official Records of Mesa County, Colorado, as amended.

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

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

Outlots A, B, and C as Private Open Space to the South Rim Homeowners Association, a Colorado non-profit corporation, for the purposes of the Association, including, but not limited to landscaping, irrigation equipment and facilities, water storage, and signage.

All Common Drive Ingress/Egress Easements to the Owners of Lots 2 and 3; Lots 7 and 8, respectively identified on the plat as easements for the purpose of common ingress and egress access by the said lot owner, their guests, and invitees, and also for use by public services, including but not limited to postal service, trash collection, fire, police, emergency vehicles, and the City of Grand Junction.

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

All Irrigation Easements as set forth on this plat to the South Rim Homeowners Association, Inc., as perpetual easements for the installation, operation, maintenance and repair of private irrigation systems;

All Drainage Easements hereby platted to the South Rim Homeowners Association, Inc., as perpetual easements for the conveyance of runoff water which originates within the area hereby platted or from upstream areas, through natural or man-made facilities above or below ground;

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

The owners hereby declare there are no lienholders against herein described property.

IN WITNESS WHEREOF, said owners have caused their names to be hereunto subscribed this _____ day of _____, A.D. 1996.

Lowe Development Corporation, a California Corporation

_____
by: David G. Behrhorst, Vice President

NOTARY PUBLIC CERTIFICATION

STATE OF COLORADO }
COUNTY OF MESA } ss

The foregoing instrument was acknowledged before me by David G. Behrhorst, Vice President this _____ day of _____, A.D., 1996.
Witness my hand and official seal:

_____
Notary Public

My Commission Expires _____

CLERK AND RECORDER'S CERTIFICATE

STATE OF COLORADO }
COUNTY OF MESA } ss

I hereby certify that this instrument was filed in my office at _____ o'clock _____.M., _____, A.D., 1996, and was duly recorded in Plat Book No._____ Page No._____, Reception No._____, Drawer No._____.

_____
Clerk and Recorder

CITY OF GRAND JUNCTION APPROVAL

This plat of South Rim Filing No. Five, a subdivision of a part of the City of Grand Junction, County of Mesa, State of Colorado, is approved and accepted this _____ day of _____, A.D., 1996.

_____ _____
City Manager President of City Council

Basis of bearings assume the North line of the SE1/4 SW1/4 of Section 8 to bear S 89°47'07" W, 1319.34 feet, as shown on the recorded Plat of South Rim Filing No. Four, in Plat Book 14, Pages 198-199.
Both monuments on this line are Mesa County Survey Markers.

Note: Property corners located during this survey that were within 0.25± feet of the calculated point were accepted as being "in position".

AREA SUMMARY

LOTS	=	9.030 Acres	85.40%
OPEN SPACE	=	0.683 Acres	6.46%
ROAD ROW	=	0.861 Acres	8.14%
TOTAL	=	10.574 Acres	100.00%

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

SURVEYOR'S CERTIFICATION

I, Dennis W. Johnson, do hereby certify that the accompanying plat of South Rim Filing No. Five, a subdivision of a part of the City of Grand Junction, Colorado, has been prepared under my direct supervision and represents a field survey of same. This plat conforms to the requirements for subdivision plats specified in the City of Grand Junction Development code and the applicable laws of the State of Colorado.

Date certified _____

DENNIS W. JOHNSON, PLS
COLORADO PROFESSIONAL LAND SURVEYOR
P.L.S. NO. 19835

SOUTH RIM
FILING NO. FIVE
PORTIONS OF THE SE1/4 NW1/4, NE1/4 SW1/4, & NW1/4 SW1/4,
SECTION 8, T1S, R1W, UTE MERIDIAN
MESA COUNTY, COLORADO

LANDesign
ENGINEERS • SURVEYORS • PLANNERS
259 GRAND AVENUE
GRAND JUNCTION, COLORADO 81501 (970) 244-8180

PROJECT NO. 95150	SUR. BY:	DRAWN	CHECKED	SHEET	OF
DATE: MARCH, 1996	LD/GF	RSK		1	2

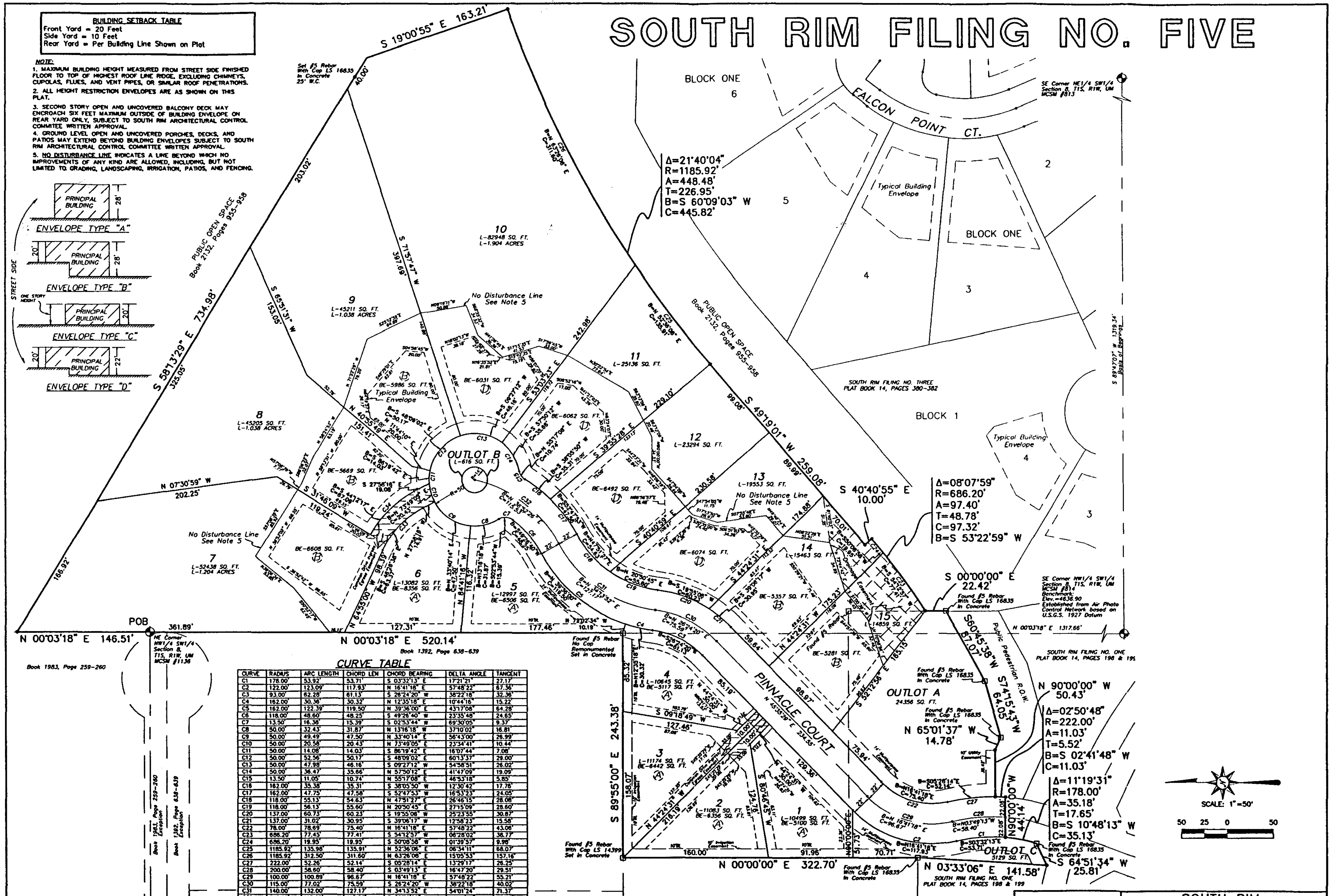
C:\SC12\WORK\95150\95150PLT Tue Mar 19 14:08:12 1996

SOUTH RIM FILING NO. FIVE

BUILDING SETBACK TABLE
Front Yard = 20 Feet
Side Yard = 10 Feet
Rear Yard = Per Building Line Shown on Plat

NOTE:

1. MAXIMUM BUILDING HEIGHT MEASURED FROM STREET SIDE FINISHED FLOOR TO TOP OF HIGHEST ROOF LINE RIDGE, EXCLUDING CHIMNEYS, CUPOLAS, FLUES, AND VENT PIPES, OR SIMILAR ROOF PENETRATIONS.
2. ALL HEIGHT RESTRICTION ENVELOPES ARE AS SHOWN ON THIS PLAT.
3. SECOND STORY OPEN AND UNCOVERED BALCONY DECK MAY ENCROACH SIX FEET MAXIMUM OUTSIDE OF BUILDING ENVELOPE ON REAR YARD ONLY, SUBJECT TO SOUTH RIM ARCHITECTURAL CONTROL COMMITEE WRITTEN APPROVAL.
4. GROUND LEVEL OPEN AND UNCOVERED PORCHES, DECKS, AND PATIOS MAY EXTEND BEYOND BUILDING ENVELOPES SUBJECT TO SOUTH RIM ARCHITECTURAL CONTROL COMMITTEE WRITTEN APPROVAL.
5. NO DISTURBANCE LINE INDICATES A LINE BEYOND WHICH NO IMPROVEMENTS OF ANY KIND ARE ALLOWED, INCLUDING, BUT NOT LIMITED TO GRADING, LANDSCAPING, IRRIGATION, PATIOS, AND FENCING.



CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LEN	CHORD BEARING	DELTA ANGLE	TANGENT
C1	178.00'	53.92'	53.71'	S 03°32'13" E	17°21'21"	27.17'
C2	122.00'	123.09'	117.93'	N 16°41'18" E	57°48'22"	67.36'
C3	93.00'	62.28'	61.13'	S 26°24'20" W	38°22'18"	32.36'
C4	162.00'	30.36'	30.32'	N 12°35'18" E	10°44'16"	15.22'
C5	162.00'	122.39'	119.50'	N 39°36'00" E	43°17'08"	64.28'
C6	118.00'	48.60'	48.25'	S 49°26'40" W	23°35'48"	24.65'
C7	13.50'	16.38'	15.39'	S 02°53'44" W	69°30'05"	9.37'
C8	50.00'	32.43'	31.87'	N 13°16'18" W	37°10'02"	16.81'
C9	50.00'	49.49'	47.50'	N 33°40'14" E	56°43'00"	26.99'
C10	50.00'	20.58'	20.43'	N 73°49'05" E	23°34'41"	10.44'
C11	50.00'	14.08'	14.03'	S 86°19'42" E	16°07'44"	7.08'
C12	50.00'	52.56'	50.17'	S 48°09'02" E	60°13'37"	29.00'
C13	50.00'	47.98'	46.16'	S 09°27'12" W	54°58'51"	26.02'
C14	50.00'	36.47'	35.66'	N 57°50'12" E	41°47'09"	19.09'
C15	13.50'	11.05'	10.74'	N 55°17'08" E	46°53'18"	5.85'
C16	162.00'	35.38'	35.31'	S 38°05'50" W	12°30'42"	17.76'
C17	162.00'	47.75'	47.58'	S 52°47'53" W	16°53'23"	24.05'
C18	118.00'	55.13'	54.63'	N 47°51'27" E	26°46'15"	28.08'
C19	118.00'	56.13'	55.60'	N 20°50'45" E	27°15'09"	28.60'
C20	137.00'	60.73'	60.23'	S 19°55'08" W	25°23'55"	30.87'
C21	137.00'	31.02'	30.95'	S 39°06'17" W	12°58'23"	15.58'
C22	78.00'	78.69'	75.40'	N 16°41'18" E	57°48'22"	43.06'
C23	686.20'	77.45'	77.41'	S 54°12'57" W	06°28'02"	38.77'
C24	686.20'	19.95'	19.95'	S 50°08'58" W	01°39'57"	9.98'
C25	1185.92'	135.98'	135.91'	N 52°36'06" E	06°34'11"	68.07'
C26	1185.92'	312.50'	311.60'	N 63°26'08" E	15°05'53"	157.16'
C27	222.00'	52.26'	52.14'	S 05°28'14" E	13°29'17"	26.25'
C28	200.00'	58.60'	58.40'	S 03°49'13" E	16°47'20"	29.51'
C29	100.00'	100.89'	96.67'	N 16°41'18" E	57°48'22"	55.21'
C30	115.00'	77.02'	75.59'	S 26°24'20" W	38°22'18"	40.02'
C31	140.00'	132.00'	127.17'	N 34°13'52" E	54°01'24"	71.37'
C32	140.00'	119.09'	115.53'	S 36°52'26" W	48°44'17"	63.42'
C33	100.00'	64.48'	63.37'	S 46°26'38" E	36°56'43"	33.41'
C34	120.00'	68.00'	67.09'	S 44°12'17" E	32°28'02"	34.94'

Basis of bearings assume the North line of the SE1/4 SW1/4 of Section 8 to bear S 89°47'07" W, 1319.34 feet, as shown on the recorded Plat of South Rim Filing No. Four, in Plat Book 14, Pages 198-199.
Both monuments on this line are Mesa County Survey Markers.

Note: Property corners located during this survey that were within 0.25± feet of the calculated point were accepted as being "in position".

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

AREA SUMMARY

LOTS	=	9.030 Acres	85.40%
OPEN SPACE	=	0.683 Acres	6.46%
ROAD ROW	=	0.861 Acres	8.14%
TOTAL	=	10.574 Acres	100.00%

LEGEND

- MESA COUNTY OR BLM SURVEY MARKER
- SET CENTERLINE MONUMENT
- SET ALUMINUM CAP ON No. 5 REBAR, PLS 16835 IN CONCRETE
- (R) RECORD MEASUREMENT
- FOUND REBAR, AS NOTED

ALUMINUM CAP ON No. 5 REBAR, PLS 16835, TO BE SET AT ALL LOT CORNERS
L=XXXX LOT AREA
BE=XXXX AREA WITHIN BUILDING ENVELOPE

SURVEYOR'S CERTIFICATION

I, Dennis W. Johnson, do hereby certify that the accompanying plat of South Rim Filing No. Five, a subdivision of a part of the City of Grand Junction, Colorado, has been prepared under my direct supervision and represents a field survey of same. This plat conforms to the requirements for subdivision plats specified in the City of Grand Junction Development code and the applicable laws of the State of Colorado.

Date certified ______________________

DENNIS W. JOHNSON, PLS
COLORADO PROFESSIONAL LAND SURVEYOR
P.L.S. NO. 16835

SOUTH RIM
FILING NO. FIVE
PORTIONS OF THE SE1/4 NW1/4, NE1/4 SW1/4, & NW1/4 SW1/4, SECTION 8, T1S, R1W, UTE MERIDIAN
MESA COUNTY, COLORADO

LANDesign
ENGINEERS • SURVEYORS • PLANNERS
259 GRAND AVENUE
GRAND JUNCTION, COLORADO 81501 (970) 244-9180

PROJECT NO. 95150	SUR. BY:	DRAWN	CHECKED	SHEET	OF
DATE: MARCH, 1996	LD/GF	RSK		2	2

C:\SC12\WORK\95150\95150PLT Thu Mar 21 15:50:21 1996

SOUTH RIM FILING NO. FIVE

BUILDING SETBACK TABLE
Front Yard = 20 Feet
Side Yard = 10 Feet
Rear Yard = Per Building Line Shown on Plat

NOTE:

1. MAXIMUM BUILDING HEIGHT MEASURED FROM STREET SIDE FINISHED FLOOR TO TOP OF HIGHEST ROOF LINE RIDGE, EXCLUDING CHIMNEYS, CUPOLAS, FLUES, AND VENT PIPES, OR SIMILAR ROOF PENETRATIONS.
2. ALL HEIGHT RESTRICTION ENVELOPES ARE AS SHOWN ON THIS PLAT.
3. SECOND STORY OPEN AND UNCOVERED BALCONY DECK MAY ENCROACH SIX FEET MAXIMUM OUTSIDE OF BUILDING ENVELOPE ON REAR YARD ONLY, SUBJECT TO SOUTH RIM ARCHITECTURAL CONTROL COMMITEE WRITTEN APPROVAL.
4. GROUND LEVEL OPEN AND UNCOVERED PORCHES, DECKS, AND PATIOS MAY EXTEND BEYOND BUILDING ENVELOPES SUBJECT TO SOUTH RIM ARCHITECTURAL CONTROL COMMITTEE WRITTEN APPROVAL.
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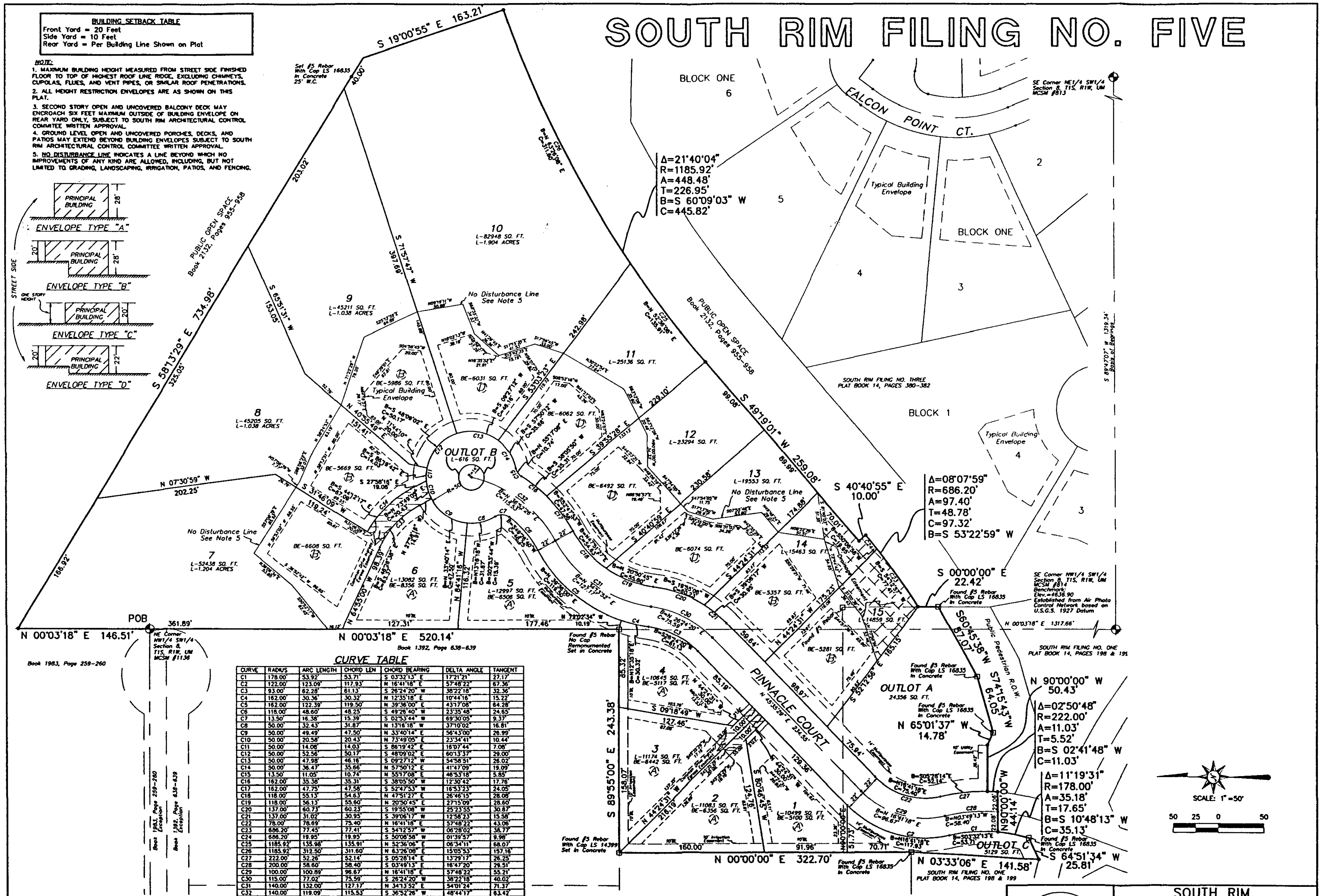

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Date certified ______________________

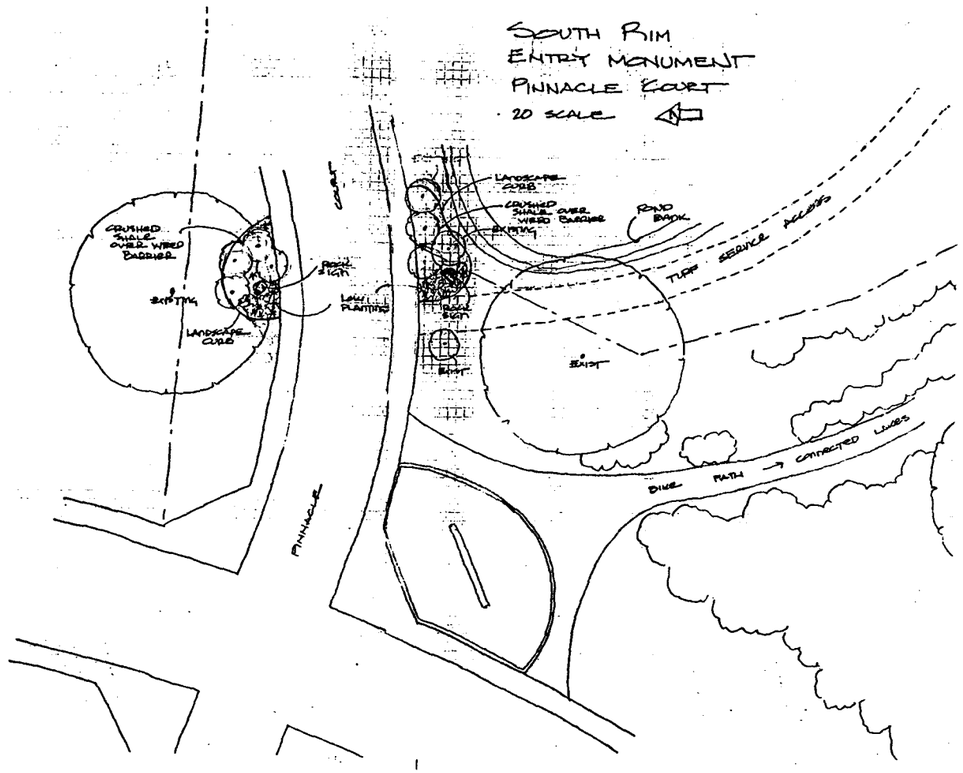
DENNIS W. JOHNSON, PLS
COLORADO PROFESSIONAL LAND SURVEYOR
P.L.S. NO. 16835

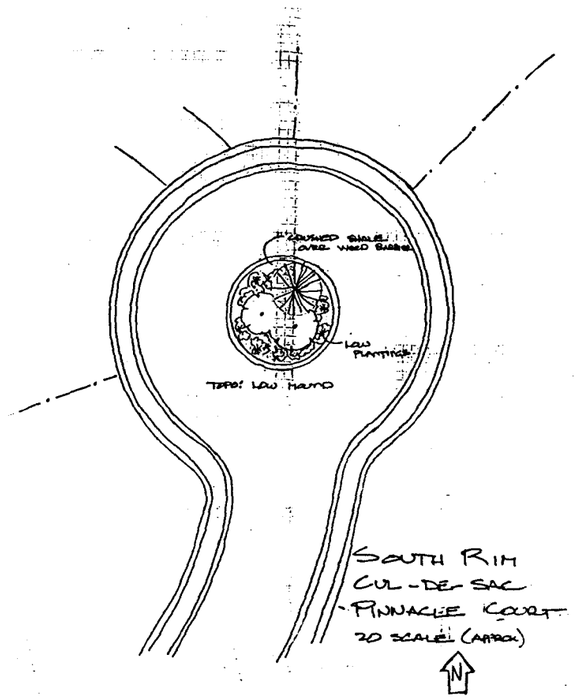
SOUTH RIM
FILING NO. FIVE
PORTIONS OF THE SE1/4 NW1/4, NE1/4 SW1/4, & NW1/4 SW1/4, SECTION 8, T1S, R1W, UTE MERIDIAN
MESA COUNTY, COLORADO

LANDesign
ENGINEERS • SURVEYORS • PLANNERS
259 GRAND AVENUE
GRAND JUNCTION, COLORADO 81501 (970) 244-9180

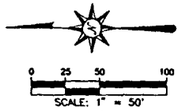
PROJECT NO. 95150	SUR. BY:	DRAWN	CHECKED	SHEET	OF
DATE: MARCH, 1996	LD/GF	RSK		2	2

C:\SC12\WORK\95150\95150PLT Thu Mar 21 15:50:21 1996





CITY OF GRAND JUNCTION
APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.
BY: _____ DATE: _____
ACCEPTED AS CONSTRUCTED
BY: _____ DATE: _____



DATE:	NO:	REVISIONS:	By:
02/13/96	3	CL MOVE 10'	JOS
02/21/96	3	SEWER & WATER & STREETS	JOS
03/21/96	5	SEWER & WATER & STREETS	JMM

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

LANDSCAPE DETAILS

SOUTH RIM FILING 5 SUBDIVISION

LANDesign
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259 GRAND AVENUE
GRAND JUNCTION, COLORADO 81501 (970) 245-4099

PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN. 1996	MS/JOS	JOS/BH		10	14

CITY OF GRAND JUNCTION

APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.

BY: ____________________ DATE: ____________

ACCEPTED AS CONSTRUCTED

BY: ____________________ DATE: ____________

DATE:	NO:	REVISIONS:	By:
02/13/96	3	CL MOVE 10'	JOS
02/21/96	3	SEWER & WATER & STREETS	JOS
03/21/96	5	SEWER & WATER & STREETS	JMM

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

IRRIGATION PLAN

SOUTH RIM FILING 5 SUBDIVISION

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PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN ,1996	MS/JOS	JOS/BH		9	14

REDLANDS POWER CANAL

TRAIL CHANNEL

EROSION CUTOFF SWALE W/ STRAW BALE BARRIERS INSTALLED PERPENDICULAR TO FLOWLINE AS DIRECTED BY THE ENGINEER

EROSION CUTOFF SWALE W/ STRAW BALE BARRIERS INSTALLED PERPENDICULAR TO FLOWLINE AS DIRECTED BY THE ENGINEER

PINNACLE COURT

SOUTH RIM DRIVE

SOUTH HEAL COURT

EAGLE POINT COURT

SOUTHERN FLING 5

BLOCK 1

BENCHMARK: TBM #10
#5 REBAR WITH AL. CAP
LS 16835
ELEVATION 4637.48

NEW COMBINATION INLET. CAST INPLACE. SEE DETAIL. GRATE EL=33.40 BOTTOM OF NEW INLET BOX TO MATCH BOTTOM OF EXISTING INLET BOX. JOINT BETWEEN BOXES TO BE GROUTED WATER TIGHT.

EXISTING INLET #2

EXISTING INLET #1

EXISTING 24" RCP STORM SEWER

CITY OF GRAND JUNCTION
APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.
BY: _____ DATE: _____
ACCEPTED AS CONSTRUCTED
BY: _____ DATE: _____

0 25 50 100
SCALE: 1" = 50'

DATE:	NO:	REVISIONS:	By:
02/13/96	3	CL MOVE 10'	JOS
02/21/96	3	SEWER & WATER & STREETS	JOS
03/21/96	5	SEWER & WATER & STREETS	JMM

PHILIP M. HART
REGISTERED PROFESSIONAL ENGINEER
P.E. NO. 19348

GRADING & DRAINAGE PLAN

SOUTH RIM FILING 5 SUBDIVISION

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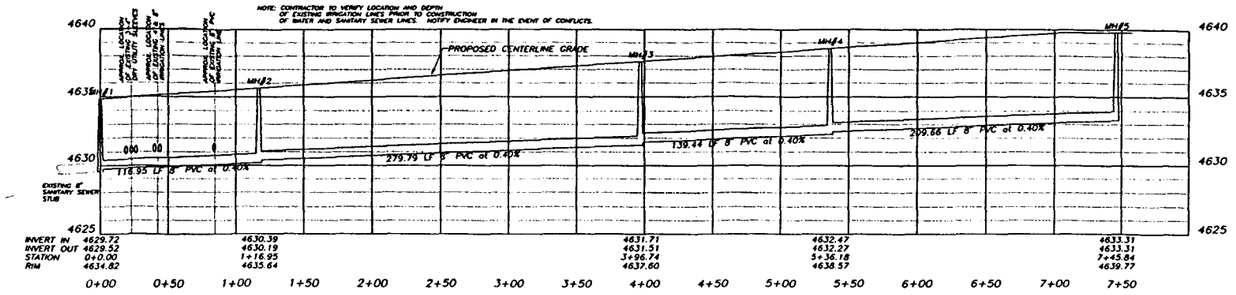
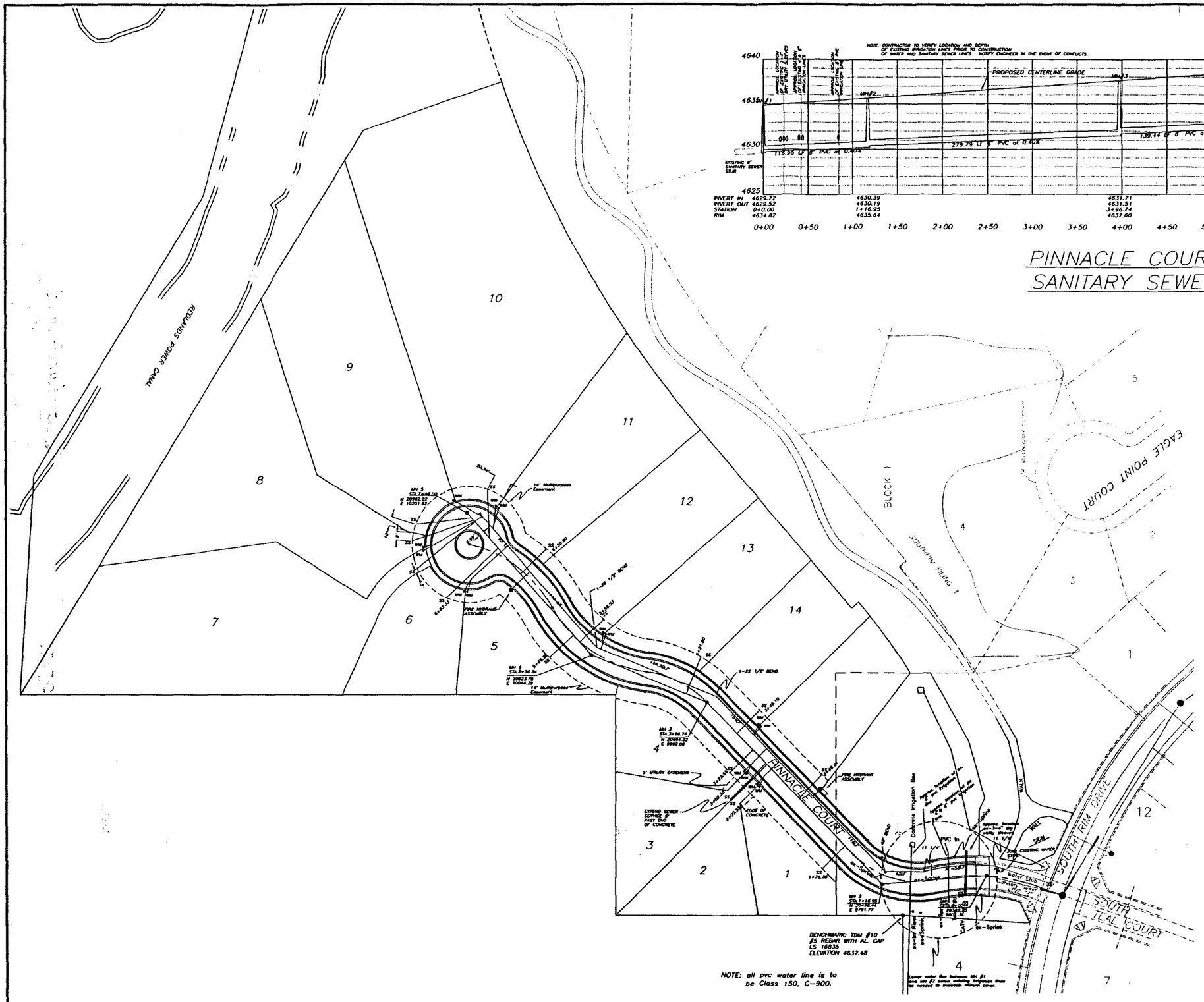
GRAND JUNCTION, COLORADO 81501 (970) 245-4099

PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN. 1996	MS/JOS	JOS/BH		8	14



PINNACLE COURT SANITARY SEWER



CITY OF GRAND JUNCTION
APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.
BY: _____ DATE: _____
ACCEPTED AS CONSTRUCTED
BY: _____ DATE: _____

SCALE: 1" = 50'

DATE:	NO:	REVISIONS:	By:
02/13/96	3	CL MOVE 10'	JOS
02/21/96	3	SEWER & WATER & STREETS	JOS
03/21/96	5	SEWER & WATER & STREETS	JMM

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

WATER AND SANITARY SEWER PLAN & PROFILE

SOUTH RIM FILING 5 SUBDIVISION

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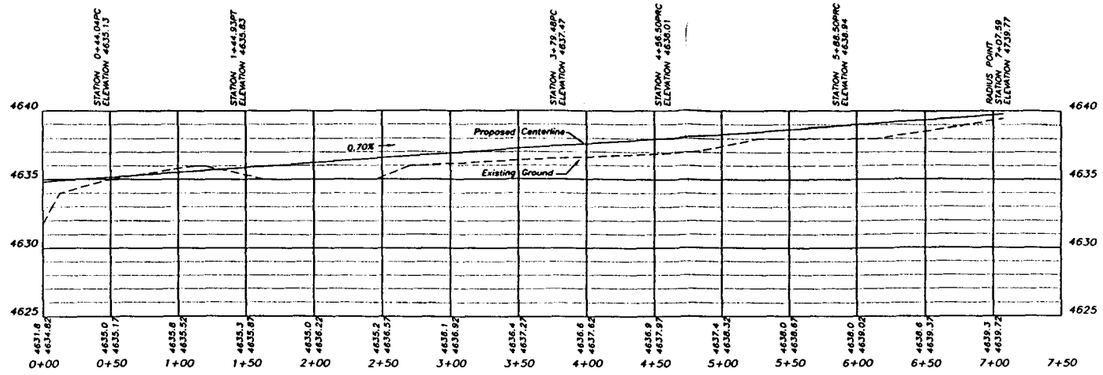
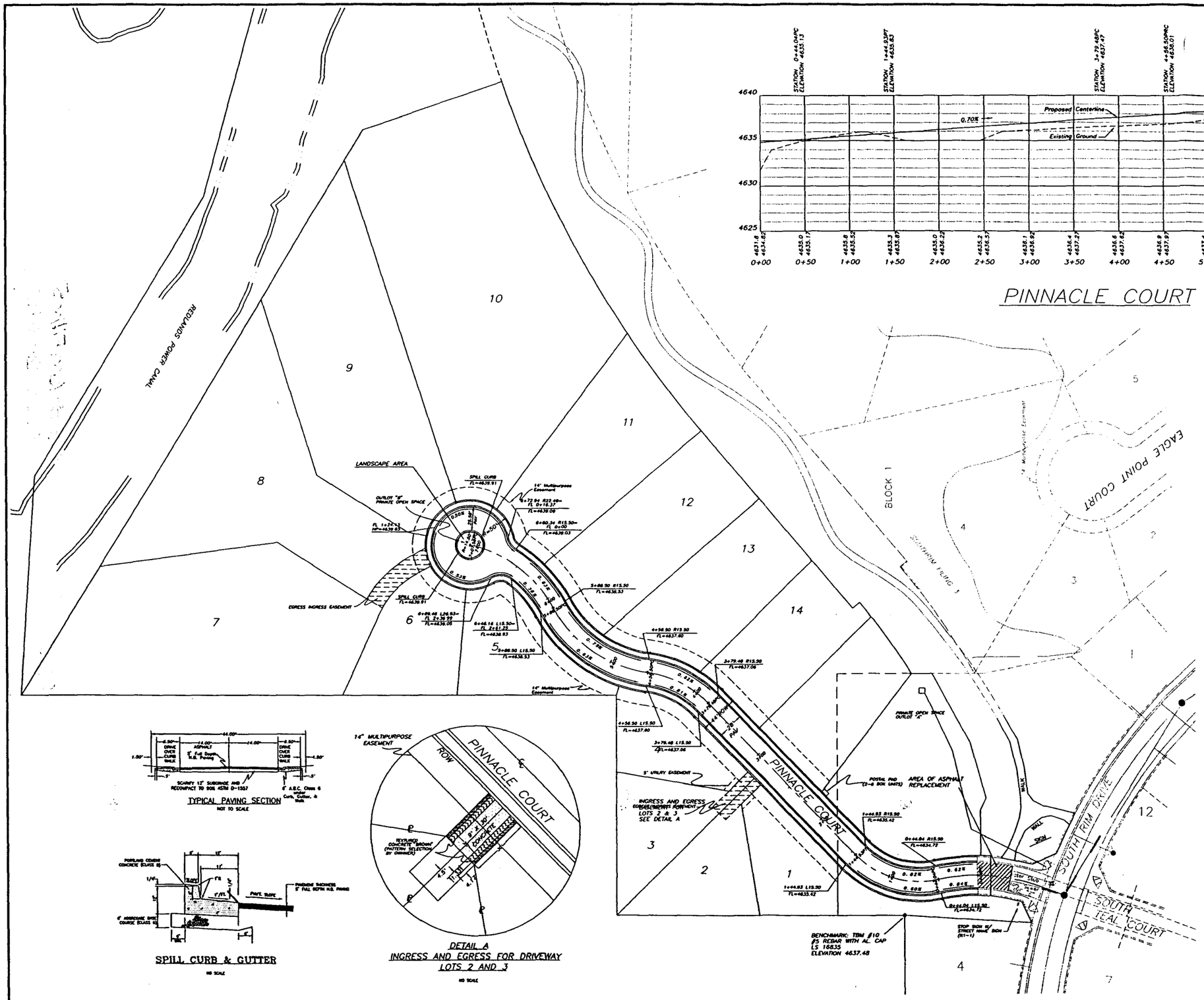
GRAND JUNCTION, COLORADO 81501 (970) 245-4099

PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN ,1996	MS/JOS	JOS/BH		6	12



PINNACLE COURT



TYPICAL PAVING SECTION
NOT TO SCALE

SPILL CURB & GUTTER
NO SCALE

DETAIL A
INGRESS AND EGRESS FOR DRIVEWAY LOTS 2 AND 3
NO SCALE

CITY OF GRAND JUNCTION
APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.
BY: _____ DATE: _____
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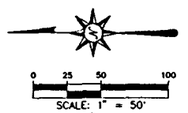
NOTE: ALL STATIONING IS CENTERLINE UNLESS OTHERWISE NOTED.



DATE:	NO:	REVISIONS:	By:
02/13/96	3	CL MOVE 10'	JOS
02/21/96	3	SEWER & WATER & STREETS	JOS
03/21/96	5	SEWER & WATER & STREETS	JMM

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

STREET PLAN & PROFILE

SOUTH RIM FILING 5 SUBDIVISION

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259 GRAND AVENUE
GRAND JUNCTION, COLORADO 81501 (970) 245-4099

PROJECT NO. 95150	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: JAN. 1996	MS/JOS	JOS/BH		5	14