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File 1992-0027 Name: High Fashion Fabrics - Rezone & Final Plan

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

DOCUMENT DESCRIPTION:

X	X	Action Sheet - 8/19/92 - Final Plat-Approved, Zoning - Approved	X		Dept. Revenue Recap Sheet - 8/17/92
X	X	Development Plan	X	X	Ordinance No. 2592 - **
X	X	Correspondence	X		Improvements List / Detail - 11/4/92
X		Quit Claim Deed not conveyed to City - 9/1/291	X	X	Hydrologic Analysis - 11/11/92
X	X	Supplemental Traffic Analysis - 5/14/92	X		Public Notice Posting - 6/1/92
X	X	Special Conditional Use Submittal	X	X	List of Subcontractors - 11/12/92
X	X	Hi-Fashion Fabrics Preliminary Estimate of Costs - 5/22/92	X	X	City Council Minutes - 4/7/92 - **
X	X	Drainage Report	X	X	South Elevation - Meander Drive Street Section
X		Legal Ad - 6/30/92, 7/8/92, 8/12/92	X	X	Landscape Plan
X		Notes to file	X	X	Sewer and Water Plan
X		Utility Coordinating Committee Approval - 7/8/92	X	X	Grading Plan
X		Land Appraisal Report - 7/20/92	X	X	Site Development Plan
X	X	Planning Commission Minutes - 8/4/92	X	X	Agreement for detention/retention facilities - missing last page
X		City Council Agenda - 8/5/92	X	X	Development Improvements Agreement - **

X	X	Hi- Fashion Fabrics Subdivision - GIS Historical Maps - **	X		Foundation Plan
X	X	Site Plan	X		Floor Plan
X	X	Grading Plan	X		South Elevation
X		Street Sections	X		Cross Sections
X	X	Landscape Plan	X		Plumbing /Floor Plan
X		Reflected Ceiling Lighting Plan	X		Mechanical/Reflected Ceiling Plan
X	X	Parking and Grading Plan	X		Electrical / Floor Plan
X	X	RESOLUTION NO. 21-93-**			

DEVELOPMENT APPLICATION

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

A Receipt 5013
Date 5/4/92
Rec'd By dbarnett
File No. #27 92

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				
[X] Rezone				From: RSF-4 To: PB	
[X] Planned Development	[ ] ODP [ ] Prelim [X] Final		N.W. CORNER PATTERSON Rd & MEANDER Dr.		proposed Light Retail
[ ] Conditional Use					
[ ] Zone of Annex					
[ ] Text Amendment					
[ ] Special Use					
[ ] Vacation					[ ] Right-of-Way [ ] Easement

[ ] PROPERTY OWNER	[ ] DEVELOPER	[ ] REPRESENTATIVE
KATHLEEN DEE TOMKINS (*)	ARLENE Vogel	Thomas A. Logue
Name	Name	Name
605 MEANDER	1938 N. 1st Street	537 Fruitwood Dr.
Address	Address	Address
GRAND JCT. CO. 81505	Grand Jct. CO. 8150	Grand Jct. CO. 81504
City/State/Zip	City/State/Zip	City/State/Zip
	242-1890	523-0017
Business Phone No.	Business Phone No.	Business Phone No.

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

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

X Thomas A. Logue — 5/1/92
Signature of Person Completing Application — Date

X

X Kathleen Dee Tomkins — 5/1/92
Signature of Property Owner(s) - Attach Additional Sheets if Necessary

(*) ARLENE VOGEL 705 POTTER DR. G.J. CO 81506 242-1890 HAS CONTRACT ON THE LAND

Carroll L. Ely
600 Meander Drive
Grand Jct. CO 81505

Perry Christensen
2945 Fruitridge Dr.
Grand Jct. CO. 81505

John M. Harris
602 Meander Dr.
Grand Jct. CO 81505

Larry Kempton
607 26 Road
Grand Jct. CO 81505

Mildred Vandover
604 Meander Dr.
Grand Jct. CO 81505

Pat Gormley
2433 N. 1st. Street
Grand JUnction, CO 81505

Kathkeen Dee Tomkins
605 Meander Dr.
Grand Jct. CO 81505

Clifford G. Harwin
2582 F ROAD
GRAND JCT. CO. 81505

D.E. Christensen
608 Meander Dr.
Grand Jct. CO 81505

Earl Fuoco
611 Meander Dr.
Grand Jct. CO 81505

Arnold Acker
616 Meander Dr.
Grand Jct. CO 81505

Ina Hendrick
2592 Fruitridge
Grand Jct. CO 81505

Virgil Vandyke
2592 Fruitridge
Grand Jct. CO 81505

Venice Carr
2595 Fruitridge Dr.
Grand Junction, CO 81505

#27 92

T-A-L
THOMAS A. LOGUE
LAND DEVELOPMENT CONSULTANT

May 1, 1992

City of Grand Junction
City Council
Planning Commissions
250 North 5th. Street
Grand Junction, CO 81501

Dear Members:

Accompanying is a Zone Change Request and Development Plan for a new retail business location for Hi-Fashion Fabrics. The requested change in zoning is from RSF-4 to PB "Planned Business". The subject site is located on approximately 2.1 acres northwest of Patterson Road and Meander Dive, 660 feet west of North 1st. Street.

The enclosed information is intended to provide sufficient data to assess the merits of the requested change in zoning and development plans.

Given the opportunity, the proposal demonstrates that a quality business coupled with a development plan that is sensitive to the existing neighborhood, can be desirable for redeveloping an area such as that which exists west of 1st. Street along Patterson Road.

To proceed further with the development of the Hi-Fashion Fabrics facility requires a great deal of investment and risk to the petitioner. The owners of Hi-Fashion Fabrics, who have operated their business since 1965, believe they will be introducing an expanded existing business which will prove to profitable and desirable to the City of Grand Junction. They request that you, the City Council and Planning Commission give the petition and the owners of Hi-Fashion Fabrics your best consideration, and trust you will make a knowledgeable and wise decision in this matter.

The petitioner will be present at the scheduled public hearings to discuss the project and answer any questions which may arise.

Respectfully,

Thomas A. Logue

#27 92

537 FRUITWOOD DRIVE - GRAND JUNCTION, COLORADO 81504
(303) 434-8215

SITE ANALYSIS

Introduction

The purpose of this section is to identify the physical and technical characteristics of the property selected for the Hi-Fashion Fabrics facility.

This section evaluates potential site development assets and constraints.

Location

The subject site is located northwest of Patterson Road and Meander Drive, 660 feet west of North 1st. Street in Grand Junction, Colorado. The site is located in part of the SE 1/4 SE 1/4 of Section 3, Township 1 South, Range 1 West of the Ute Meridan.

Existing Land Use

The site is somewhat rectangular in shape and is approximately 325 feet long north and south and 270 feet east and west. Most of the site is currently being used as grazing land. The northerly end of the property is is barren. As shown on the accompanying maps, the topography ranges from flat to a gentle rolling landscape. Total difference in elevation is 16 feet. No permanent structures are found on the property.

The subject property is zoned RSF-4 (residential, 4 dwelling units per acre) by the City of Grand Junction.

Surrounding Land Use

Surrounding land uses are considered to be low intensity. Most of the land in the surrounding vicinity is vacant and used as grazing land. "Estate type" housing uses can be found to the north of the property. The closest residential structure to the property boundary is estimated to be about 250 feet north of the site.

Even though much of the surrounding property is vacant and being utilized for grazing all of the land is zoned for other uses by either the City or Mesa County. The Grand Junction City Limits form the north boundary of the subject property.

Surrounding land use zones in the area include County zoned land designated as R-1-A, a residential zone requiring at least two acres per building site. This land is located north of the property. City zoned properties include:

East	PB, Planned Business
West	RSF - 4
South	PR, Planned Residential (max. 10 du/ac.)

Utility Service

WATER SERVICE - Domestic Water Service is available from the Ute Water Conservancy District. An eight inch water main is located within the Patterson Road right-of-way. This main is sufficient in size to provide adequate water for fire protection.

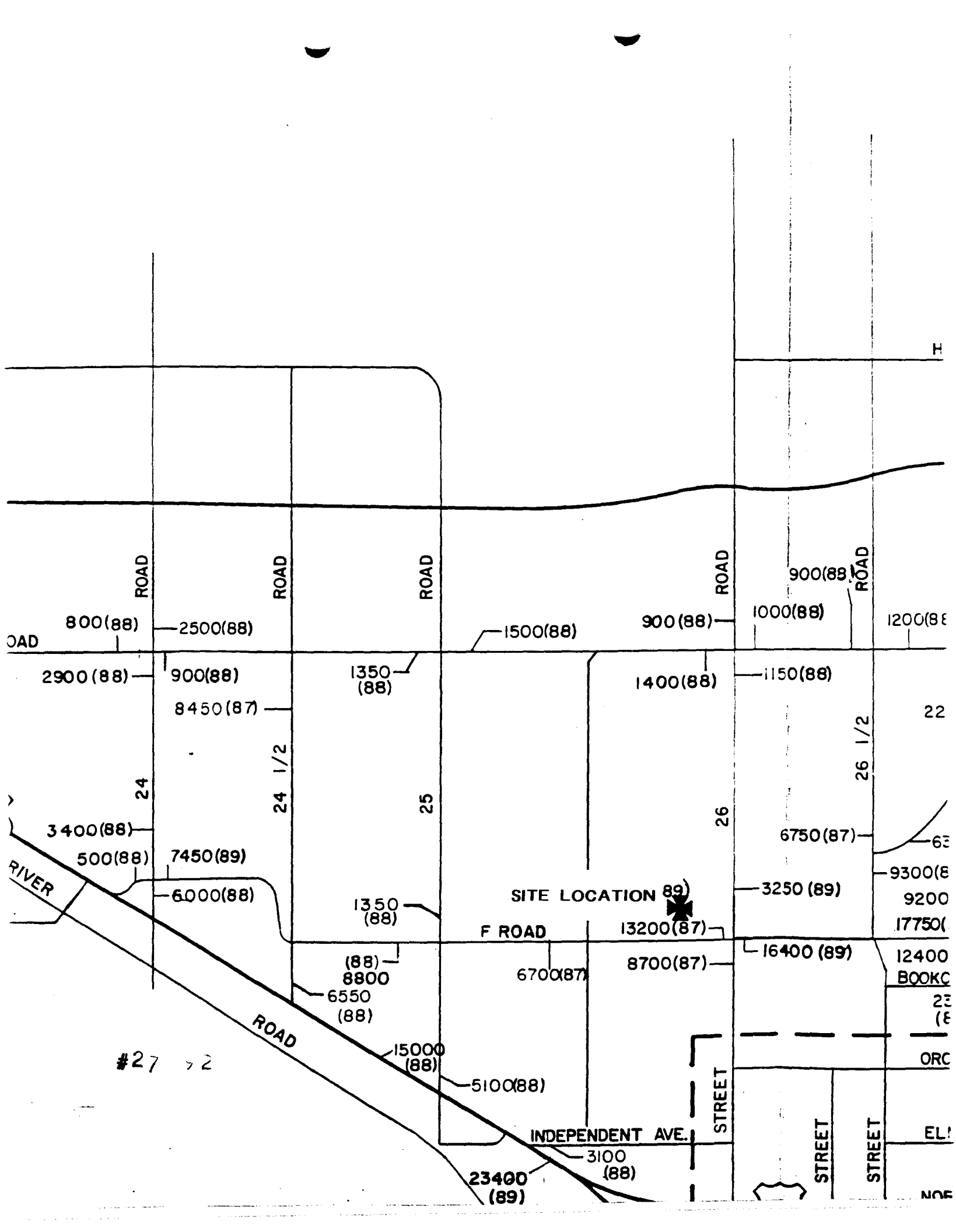
SANITARY SEWER - The *Horizon Drive Sewer Interceptor* main is located in Patterson Road along the south boundary of the property. This line currently is operating within its' design capacity.

ELECTRIC, GAS & COMMUNICATION - Underground communication and natural gas mains adjoin the property within the existing road right-of-ways. Overhead electrical service is also located adjacent to the subject property within the adjoining roadways.

IRRIGATION WATER - An existing underground irrigation water pipe line is located along the properties northerly boundary and along the east side of Meander Drive. It appears that this pipe line carries "return" water flow from the Grand Valley Irrigation Companies' system to the *Ranchmans Ditch.*

Access

Primary access to the site is Patterson Road which is fully improved four lane roadway. Traffic counts for 1988 were made by the City and are shown on the following page.


ROAD
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#27 >2
INDEPENDENT AVE.
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STREET
3100 (88)
23400 (89)

Site Drainage

The subject site is not adversely affected by any off-site drainage influence. Storm water is carried on the surface to Patterson Road and ultimately discharged into an existing box culvert located along the south side of Patterson Road.

Soils and Geologic Conditions

No major man-made of geologic hazards are not to exist on the subject property. The Soil Conservation Service has classified soils on the property to be Fc, Fruita and Ravola Loams. This class of soils does not have severe limitations when slopes are less than 7%

PROPOSED LAND USE

The accompanying development plans indicates the proposed development of a retail fabric store to be located on a 2.1 acre tract of land northwest of Patterson Road and Meander Drive in the City of Grand Junction.

The primary focal point of the development will be the construction of a new 11,250 square foot building. Building materials will be masonry and steel.

In addition to the building, 73 paved parking spaces will be provided for the customers and employees of the facility.

Hours of operation will be between 9:30 A.M. and 5:30 P.M., monday thru saturday.

This new facility will replace the petitioners existing operation located at the corner of 1st. Street and Orchard Avenue a short distance south of the subject property.

At this time Hi-Fashion Fabrics employees seven full time people. Upon the expansion of their business it is conceivable that they will expand the number of employees by at least two.

In addition to a wall mounted sign on the building, a single "monument" type sign will be located near the primary entrance. The sign will identify the facility name and address. All signs will meet the current City sign code requirements.

Access - The primary access drive will be from Patterson Road, 106 feet west of the centerline of Meander Drive. A secondary access is also proposed from Meander Drive 290 feet north of Patterson Road. Both access drives will be constructed in accordance with the City of Grand Junction's driveway standards.

According to the Colorado State Highway Department's, *Trip Generator*, approximately 61 average weekday trips will be generated once the facility opens.

Since the City requires the improvement or escrow payment of adjoining half street improvements, the proposal calls for the construction of full width improvements to Meander Drive for approximately one-half of the site's street frontage. Further, the proposal call for participation from the City in the expense of the improvement exceeding normal escrow payments. The petitioner is willing to absorb the cost of engineering the and project management.

#27 92

Utility Service - Electric, gas and communication service will be extended from existing facilities which adjoin the site.

Domestic water service will be extended to the building from an existing 8 inch diameter main located in Patterson Road which is owned and operated by the Ute Water Conservancy District. Estimated water requirements are expected to be 500 gal./day. The existing water main will also be utilized for fire protection. A new fire hydrant will be installed near the access drive on Patterson Road.

The proposal calls for the utilization of the Horizon Drive Interceptor Sewer of sewage disposal. The proposed building will be connected to an existing 4 inch sewer service.

The petitioner has one share of Grand Valley Water Company irrigation water. This water will be utilized for irrigation of the landscaped open areas. A pumping facility will be located near an existing irrigation structure along the north boundary of the property.

Grading and Drainage - Grading of the site will be conducted in a manner to provide positive drainage away from the building. Two drainage discharge points are proposed, both of about equal area. Drainage flows in excess of the total historic flow will be detained on-site in a detention basin near the corner of Patterson Road and Meander Drive. All of the drainage water discharged from the site will ultimately be received by the Ranchmans Ditch located along the south side of Patterson Road in a box culvert.

Buffering and Screening - The proposal utilizes the existing site topography as it primary method of buffering and screening. The proposed building and parking areas are located as close as practical to Patterson Road.

Review of the proposed site plan indicates about 1.0 acres or one-half of the total site will be left as landscaped open space. Two types of landscaped areas are proposed. A formal landscaped area consisting of "street trees" and turf grass ground cover along the adjoining roadways. Natural grasses and existing vegetative ground cover is proposed for the area located located north of the building and parking area. Additionally, a picnic area and gravel walking path are also proposed for this area. Existing irrigation water will be utilized to maintain all of the landscaped areas.

Development Schedule - It is anticipated that site development will begin immediately upon the City's acceptance of the proposal. With completion of the project within a 12 to 18 month period.

REZONE CRITERIA

The City of Grand Junction has established seven criteria for evaluation of zone change requests. A response to each follows:

A. Since the underlying zone was established during the annexation process by the City without the benefit of a specific use for the property an error in the existing zone could be considered to have occurred.

B. Substantial changes in the character of the surrounding area have occurred. Specific changes include:

1. The construction of Patterson Road to arterial standards.
2. The establishment of a non-residential zone along the east boundary of the subject site.
3. The construction of Mesa Mall.

C. It is widely accepted fact that any community that does not have some new development activity will wither and die economically. It is important for any community to encourage development of new and existing business endeavors which maintains its economic stability.

D. Other than economic impacts to the City of Grand Junction, the proposed site in its present state does not present major adverse impact on the adjoining areas. However, once development of the Hi-Fashion Fabrics facility is completed, some impact of the adjoining properties would most likely be realized. Impacts to the adjoining non-residential zones would be positive, while impact to the adjoining residential zones could be considered negative.

Utilizing the "Planned Unit Development" (PUD) zone concept, any such negative impacts can be minimized. The PUD zone allows for specific site plan reviews of the proposed development plans by the general public and various governmental agencies.

Preparation of the Site Development Plan meets several goals in development of the site:

1. Protect the adjoining residential uses from any adverse impacts.
2. Maintain visibility of the use from Patterson Road.
3. Maintain ease of accessibility for customers and delivery of goods.
4. Achieve a desirable surrounding for the employees and projects a positive image to the consumer.

In order to meet the goals established above the following key design elements were incorporated within the Site Development Plan:

1. 54% of the total site is landscaped open space.
2. Adequate parking for employees and customers.
3. Utilization of the topography of the site for buffering from adjoining residential uses.
4. Hours of operation are 9:30 A.M. to 5:30 P.M.
5. Low intensity security lighting will be used.
6. The proposed building is located as far away as possible from residential uses.

E. Because the requested land use zone is non-residential in nature, the requirement upon local government services is considered to be minimal. Revenues generated by the proposed use should more than off-set costs incurred by the City in providing services. Revenues generated will be from the following:

1. Property Taxes
2. Sales Taxes
3. Special Use and Tap Fees

F. The City of Grand Junction has adopted numerous land use policies. Of the adopted policies, the *Patterson (F) Road Corridor Guideline* is the most applicable to the request. According to the guideline, "Light business and mixed use development is appropriate along the north (side) of Patterson Road from 25 1/2 Road to 1st. Street ...". The request for a Planned Business Zone meets the recommendations within this policy.

G. All public utilities required for the development of the subject property exists within the adjoining roadways and have the available capacity to serve the proposed use.

SUMMARY AND CONCLUSIONS

The proposal calls for the development of a new retail business located on 2.1 acres northwest of Patterson Road and Meander Drive, 660 feet west of 1st. Street. Site development plans include to construction of a 11,250 square foot retail fabric store.

The site of the proposed use adjoins an existing non-residential zoned property.

Approximately 50% of the total site area is designated as open space to creating a buffer between the proposed use and the existing residential uses in the vicinity of the request. Additionally, the proposed building is located as far as possible from existing residential uses.

Access to the subject site is gained from a fully improved principle arterial. Given the current traffic volumes, the design capacity, and projected traffic increases from the proposed use, no adverse affects occur.

All of the necessary utility services required for development of the type have available capacity. Adequate water supplies for fire protection exist, as well as, central sewage disposal.

Fiscal Impacts, once the site is fully developed are positive. Adverse impacts to public facilities are almost nonexistent.

The proposal meets or exceeds the criteria set forth in the City's Patterson Road Policy Statement.

The site meets the requirements of the operators to be within 3 minutes of their existing facility.

HI-FASHION FABRICS

SUPPLEMENTAL TRAFFIC ANALYSIS

May 14, 1992

This analysis is supplemental to the project narrative for Hi-Fashion Fabrics on file with the Community Development Department, the reader of this analysis is encouraged to read the narrative in order to gain a full understanding of the proposal.

According to the Colorado Department of Highways' Memorandum dated November 10, 1981, *Estimating Trip Generation*, approximately 70 vehicle trips per weekday would be generated once the Hi-Fashion Fabrics facility is complete. The highway departments generator does not include a specific category for fabric stores. The category of "General Light Industrial was use for this analysis.

For the purposes of this study a "trip" is a single (one direction) vehicle movement with its destination inside the study site. In other words a total of 140 movements could be expected on a daily basis.

Utilizing the cash receipts from the petitioners existing operation, it was determined that the facility peak operating hours is between 11:30 A.M. and 2:30 P.M. daylight savings time. Further, their peak sales season is in the months of October and November. The formentioned project narrative indicates that the facility will be open Monday thru Saturday between the hours of 9:30 A.M. and 5:30 P.M.

Therefore, peak traffic can be expected to occur around the noon hour. It is estimated that this peak would represent 50% of the daily total traffic, or, 70 movements at the peak hour.

The ITE *Trip Generation Report* does not include a specific category for fabric stores. However, it does include a category for Furniture Stores which is considered to be equivalent to the Hi-Fashion Fabric operation in terms of intensity of the use. The ITE report indicates that the traffic direction (in and out) would be equal.

Two access drives are proposed for the new facility. It is impossible to accurately determine what the future habits of the motorist would be in terms of the extent each driveway would be utilized, for the purpose of this study it is felt that at least 75% of all generated traffic would utilize the Patterson Road driveway.

REVIEW COMMENTS

FILE NO. #27-92 **TITLE HEADING:** Hi-Fashion Fabrics

ACTIVITY: Rezone from RSF-4 to PB and Final

LOCATION: NW Patterson Rd & Meander Dr

PHASE: Final **ACRES:** 2

PETITIONER: Hi-Fashion Fabrics

PETITIONER'S ADDRESS/TELEPHONE: 1938 N 1st Street
Grand Jct, CO 81501
(303) 242-1890

PROJECT ENGINEER/REPRESENTATIVE: Thomas A. Logue

STAFF REPRESENTATIVE: Karl Metzner

NOTE: WRITTEN RESPONSE BY THE PETITIONER TO THE REVIEW COMMENTS IS REQUIRED ON OR BEFORE 5:00 P.M., May 29, 1992.

CITY FIRE DEPARTMENT 05/11/92
George Bennett 244-1400

Building access appears to be a problem. Access to the west appears to be non-existent. The building must comply with the Building and Fire Codes.

A Fire Department clearance must be obtained prior to construction.

CITY PROPERTY AGENT 05/18/92
Tim Woodmansee 244-1565

The True Point of Beginning needs to be identified on the survey plat. The second to the last course of N90°00'W 7.50 feet has been omitted from the legal description. In order for the right-of-way dedication along Meander Drive to be valid, this area should be drawn and described within the limits of the subdivision boundary. The alternative would be to have the owner dedicate the right-of-way by General Warranty Deed. Information needs to be provided for the line that separates Lot 1 & Lot 2.

CITY ATTORNEY 05/15/92
John Shaver 244-1506

1. The applicant needs to clarify its proposal relative to improvement of Meander Drive. The statement that the proposal calls "for participation from the City in the expense of the improvement exceeding normal escrow payments" makes no sense.

2. The applicant must demonstrate compliance with all Zoning & Development Code requirements relative to rezone.

CITY UTILITIES ENGINEER 05/15/92
Bill Cheney 244-1590

Water - The City reserves the right to supply this development with water at a later date. The development is within the City limits and is therefore required to connect to City water when available. A 2" tap appears to be larger than required for a development of this nature.

Sewer - A grade of 2% should be maintained on the sewer service if possible. A 4" sewer service will provide adequate service to the building unless other uses are being contemplated.

US WEST 05/08/92
Leon Peach 244-4964

No comments at this time.

PUBLIC SERVICE 05/08/92
Dale Clawson 244-2695

Request the south five (5) feet of lot be dedicated as utility easement.

PARKS & RECREATION 05/08/92
Don Hobbs 244-1542

Need appraisal for determination of open space fee requirement.

Note: If the irrigation water comes from up on Meander Drive there may not be sufficient water available for this site due to a small "ditch" pipe. We water Foresight Village Park from this line and when all users are on-line there is not enough water capability.

GRAND VALLEY IRRIG. CO. 05/11/92
Phil Bertrand 242-2762

Please note the following comments:

The Grand Valley has a piped irrigation line on the north side of proposed property and south and near the pavement of Meander Drive. We are exercising an exclusive right-of-use ownership and title that needs to be stated on the plat (GVIC exclusive right-of-way).

With the change of use of the property, the property owner is totally liable for any waters or return water that may cause damage or injury to GVIC system.

POLICE DEPARTMENT 05/14/92
Marty Currie 244-3563

From a police perspective there are no problems anticipated.

GRAND JUNCTION DRAINAGE DISTRICT (GJDD) 05/12/92
John L Ballagh 242-4343

There are some technical inaccuracies on the sheets submitted for review. On sheet 3 of 5 the GJDD Gormley Tile on the east side of Meander is incorrectly identified as an "existing irrigation water pipeline." On sheet 2 of 5 the material called out in that Gormley Tile is not 12" CMP but 12" NRCP. The STD City inlet elevations for grates and inverts seem to be incorrect. Where are the surface runoff calculations which support the inlets, pipe sizes and slopes and the detention sizing? What of the higher ground north of the immediate parcel. What surface runoff originates off site and flows across this parcel. Any tie in to the GJDD manhole on the east of Meander and north of Patterson will be in accordance with GJDD specs. The area is known to have a high water table, the Gormley Tile is on three sides of the parcel east of Meander Drive. There are two tile lines to the south across F Road. The beehive drain is just to the west.

CITY DEVELOPMENT ENGINEER 05/19/92
Gerald Williams 244-1577

Rejected as incomplete - see attached. (See attachment "A")

MESA COUNTY SURVEYING **06/16/92**
Fred A. Weber 244-1822

The following issues need to be clarified prior to recording the plat:

1. The bearing and distance need to be shown on the line common to Lot 1 & Lot 2.
2. The true point of beginning needs to be shown.
3. The distance of 1309.91' from the SE 1/16 to the SW corner of SE 1/4, SE 1/4 appears graphically to represent the distance from the S 1/16 to the P.O.B. Please clarify if this distance is 846.41'.
4. The 7.5' easement referenced as Book 701, Page 360 calculates as 8.18' at the SW corner of Clifford D. Harwin's property. Should Harwin's east and west lines parallel the Aliquot Line or as shown?
5. The SW corner of SE 1/4, SE 1/4 should be monumented, noted on the plat and a monument record filed.
6. The side referenced as 7.65' in length appears to be more appropriately 7.50' in length. Please check.
7. Minor differences seem to exist in the curve data.
8. All dimensions are required by County regulations to be shown to the nearest 1/100th of a foot, both in the dedication and the graphic portion of the plat.

COMMUNITY DEVELOPMENT DEPARTMENT **05/19/92**
Karl G. Metzner 244-1439

The proposed use and zone is in conformance with the adopted Patterson Road Corridor Guidelines. Landscape plan must specify proposed species and planting sizes. How will irrigation be provided to the various landscaped areas? Landscape in front of building should have non-turf ground cover and shrubs to reduce maintenance and water requirements.

A number of technical deficiencies have been identified by other review agencies. These must be resolved 48 hours prior to hearing or staff may recommend tabling or denial of this project.

THOMAS A. LOGUE
LAND DEVELOPMENT CONSULTANT

May 20, 1992

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

RE: Hi-Fashion Fabrics

Dear Mr. Metzner:

In response to your initial review of our application for a change in zone and site development plan approval, the following is offered for your consideration:

1. It is the petitioners proposal to obtain a "revocable permit" for the proposed site improvements which are located within the Patterson Road right-of-way. These improvements consist of parking, driveway, sign, and landscaping. Due to the nature of the development schedule, a Right-of-Way Vacation Application will be processed sometime after acceptance of the application.

2. Accompanying is a Supplemental Traffic Analysis.

3. Additional drainage data will be transmitted to the City Engineering Department under separate cover.

4. Accompanying is a revised Landscaping Plan which indicates specie and size of planting, and a description of what is proposed for the natural grass areas.

5. Due to the time and expense coupled with the potential for modifications to the building location which may be requested by other review agencies, it is the petitioners desired to provide a sub-surface soils investigation and appraisal upon the citys final acceptance of the application.

We are confident that this provides you with the additional information you have requested.

Respectfully,

Thomas A. Logue

Thomas A. Logue

xc: Jeff Vogel

537 FRUITWOOD DRIVE - GRAND JUNCTION, COLORADO 81504
[303] 434-8215

Attachment "A"

SPECIAL & CONDITIONAL USE SUBMITTAL

(MOST APPLICABLE CHECKLIST FOR TYPE OF PROJECT)

Project Name	Submittal No.	Submittal Date
HI-FASHION FABRICS	1	5/1/92

ENGINEERING CHECKLIST

The following checklist is an abbreviated form based primarily on Section 4-7 of the Development Code, which should be referred to for additional information. Items marked "Not Req'd" are not necessary for the initial submittal, but may be required as a result of agency review.

CODE ITEM	DESCRIPTION	Received		Not Rec'd	Not Req'd
		Complete	Incomp		
4-7-1 &	Existing Features	✓			
5-6-13	Proposed Improvements	✓			
4-7-2 A	Elevation or Perspective Drawings				GRW
B	Development Schedule and Phasing	✓			
C	Agreements, Provisions, and Covenants				GRW
E-i	Grading and Drainage Plan & Report		✓	✓	
E-ii	Utility Composite: Sewer, Water, Gas, Electric TV, Telephone, Storm Drain, Irrigation, Ditches	✓			
E-iii	Landscape Plan		✓		
E-iv	Irrigation Plan			✓	
E-v	Level I Environmental Site Assessment				GRW
E-vi	Level II Environmental Site Assessment (if recommended by Level I ESA)				GRW
E-vii	CDOT Access Permit				GRW
E-viii	Section 404 Permit				GRW
E-ix	Restoration or Reclamation Plans				GRW
E-x	Traffic Impact Study				GRW
E-xi	Best Management Practices Plan				GRW
E-xii	Water Supply, Water Usage, and Sewage Generation Estimates			✓	
E-xiii	Improvements Agreement and Guarantee			✓	
E-xiv	Power of Attorney for Annexation and I.D.				GRW
E-xv					
E-xvi					

EVALUATION OF SUBMITTAL

Submittal is: ☐ accepted ☐ conditionally accepted ☒ rejected as incomplete (Submitted as final, is more appropriate as Pre-lim)

E-i Basin boundaries are not shown, no drainage report or calculations of hydrology, hydraulics, detention, etc. provided.

E-iii Landscape items not identified

E-~~x~~xiii For Street, SW, C & G

Plans (and report when submitted) must be sealed and signed by a registered engineer who has "responsible charge" per state law.

HI-FASHION FABRICS PRELIMINARY ESTIMATE MAY 22, 1992

ROADWAY IMPROVEMENTS

ITEM		UNIT	QUAN.	UNIT PRICE	TOTAL
1	Excavation and Embankment	CY	1670	$5.00	$8,350.00
2	Sub-Grade Preperation	SY	2400	$1.00	$2,400.00
3	Class 6 ABC	CY	550	$16.50	$9,075.00
4	3" Grading C HBP	TON	280	$26.00	$7,280.00
5	18" RCP	LF	30	$20.00	$600.00
6	6 ft. Curbwalk	LF	600	$15.00	$9,000.00
7	Remove Existing Pavement	SY	1200	$1.50	$1,800.00
8	Relocate Irrigation Pipe	LS			$5,000.00
9	12" RCP Storm Sewer	LF	66	$20.00	$1,320.00
10	Standard Inlet	EA	2	$3,000.00	$6,000.00
11					$0.00
12					$0.00
13					$0.00
14					$0.00
15	Traffic Control Signs	EA	2	$125.00	$250.00
16	Raise Manholes and Valves	EA	7	$200.00	$1,400.00
18	Engineering	LS			$25,000.00
19	Construction Management	LS			$15,000.00
	TOTAL ROADWAY IMPROVEMENTS				$92,475.00

SANITARY SEWER

ITEM		UNIT	QUAN.	UNIT PRICE	TOTAL
1	8" Sanitary Sewer Main	LF	690	$10.00	$6,900.00
2	4" Sanitary Sewer Main	LF	0	$5.50	$0.00
3	Standard Manhole	EA	5	$750.00	$3,750.00
4	Shallow Manhole	EA	0	$48.00	$0.00
5	Service Connections	EA	0	$8.00	$0.00
6	Trench Compaction	LF	690	$4.00	$2,760.00
7	Pipe Bedding Material	CY	200	$10.00	$2,000.00
8	Pavement Replacement	LF	30	80	$2,400.00
9					$0.00
10					$0.00
11					$0.00
12					$0.00
13					$0.00
14					$0.00
15					$0.00
16					$0.00
18	Engineering	LS			$5,000.00
19	Construction Management	LS			$3,500.00
	TOTAL SANITARY SEWER IMPROVEMENTS				$26,310.00

DOMESTIC WATER

ITEM		UNIT	QUAN.	UNIT PRICE	TOTAL
1	8" PVC Water Main	LF	700	$12.00	$8,400.00
2	6" PVC Water Main	LF			
3	3" PVC Water Main	LF		$5.50	$0.00
4	8" Gate Valve w/Box	EA	2	$525.00	$1,050.00
5	6" Gate Valve w/Box	EA		$500.00	
6	3" Gate Valve w/Box	EA		$300.00	$0.00
7	Join Exist. Water Main	EA	1	$2,500.00	$2,500.00

HI-FASHION FABRICS PRELIMINARY ESTIMATE MAY 22, 1992

8	Service Connection	EA	0	$300.00	$0.00
9	Trench Compaction	LF	700	$4.00	$2,800.00
10	Fire Hydrant Assembly	EA	0	$170.00	$0.00
11	Asphalt Replacement	LF	30	$80.00	$2,400.00
12					$0.00
13					$0.00
14					$0.00
15					$0.00
16					$0.00
18	Engineering	LS			$5,000.00
19	Construction Management	LS			$3,500.00
					$25,650.00

SUMMARY

ITEM		
1	ROADWAY IMPROVEMENTS	$92,475.00
2	SANITARY SEWER IMPROVEMEN	$26,310.00
3	DOMESTIC WATER IMPROVEMEN	$25,650.00
4	sub-total	$144,435.00
5	CONTINGENCY	$14,443.50
6	TOTAL	$158,878.50

700 LF STREET FRONTAGE = $132/LF (ST only)

$227/LF (everything)

May 22, 1992

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

Mr. Jeffery Vogel
Hi Fashion Fabrics
1938 N. 1st Street
Grand Junction, CO 81501

Dear Mr. Vogel:

With regard to your submittal for a zone change and planned Business development at Patterson Road and Meader Drive, we are sorry to inform you that we cannot process your application because it does not meet the minimum requirements of the Grand Junction Zoning and Development Code.

Section 7-5 B entitled "Submittal Requirements" lists:

"1. All materials required by the Preliminary Plan Section of the Subdivision Regulations (see Section 6-7)..."

"6-7-2 B. The preliminary plan shall include:

9. Grading, Drainage, Storm Runoff and Flooding

a.The existing and proposed contours at two foot intervals for ground slopes within the tract between level slopes...
b. Existing drainage features...
c. Proposed drainage system...
d. Hydrology..

(see attached)

Until these plans and documents are submitted we cannot process your application.

Your application, therefore, will not be heard at the June 2, 1992 City Planning Commission hearing. The submittal will not be considered complete until the required documents are reviewed and approved by City staff.

Sincerely,

Bennett Boeschenstein
Community Development Director

xc. Karl Metzner
Dan Wilson
John Shaver

HI-FASHION FABRICS
DRAINAGE REPORT
PATRICK M. O'CONNOR, P.E.
JUNE, 1992

Prior to studying the contents of this report, it is advised to read the *Project Narrative For Hi-Fashion Fabrics.* This narrative statement includes all aspects of the current site conditions and the proposed land use.

The Hi-Fashion Fabrics site, in its current state, is mostly covered with pasture grass. Some barren ground is evident along the face of a small hill near the north property line. The contour of the historic drainage basin directs stormwater runoff to the southwest corner of the property. The runoff is overland flow.

The 2.10 Hi-Fashion Fabrics site is located within a total 7.7 acre drainage basin which is indicated on the accompanying Figure I. For the purpose of this study, it is assumed that stormwater runoff east of the subject property would be intercepted by Meander Drive, due to its present grade.

The proposed site grading plan divides the existing drainage basin into two separate basins. Consisting of 2.5 acres to the east and 5.2 acres to the west.

Utilizing the *Rational Method*, it is estimated that a 10 year frequency storm for the historic drainage basin would generate 5.8 cfs of storm water which is discharge on the ground surface near the southwest corner of the subject site. The proposed grading plan for the new west basin would generate approximately 4.3 cfs of storm water at the historic discharge point. The new east basin would generate 2.2 cfs of stormwater which would be discharged at the southeast corner of the site.

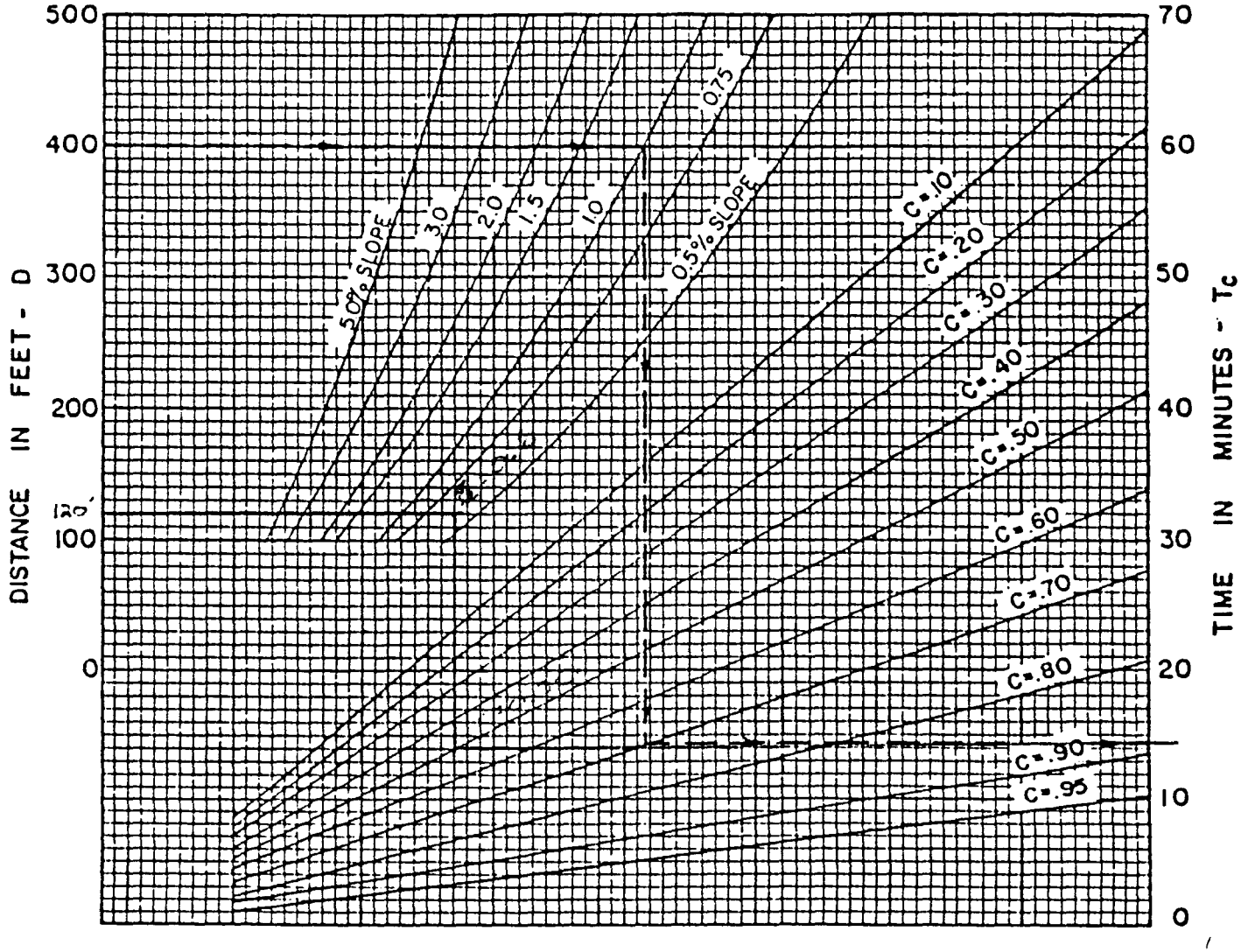
In order to control developed stormwater flows, a storm water detention is proposed near the southeast corner of the subject site for the new east basin. Based on the accompanying calculations it is estimated that stormwater storage requirements for a 10 year frequency storm would be 6456 cubic feet. The grading plan for the proposed stormwater detention basin has a capacity of 8572 cubic feet. In order to control "nuisance water" created by the irrigation of open areas, snow melt, and minor rain fall, an inlet is planned in the detention basin. The grate for the inlet is sized to maintain a maximum discharge flow rate less than 1.0 cfs.

EAST BASIN
SITE
WEST BASIN
1640
1630
1620
1610
1600
1590

RUNOFF COEFFICIENTS FOR RATIONAL METHOD

LAND USE OR SURFACE CHARACTERISTICS	PERCENT IMPERVIOUS	C, Runoff Coefficients FREQUENCY 2	5	10	100
Business:					
Commercial Areas	95	.87	.87	.88	.89
Neighborhood Areas	70	.60	.65	.70	.80
Residential:					
Single-Family	40	.40	.45	.50	.60
Multi-Unit (detached)	50	.45	.50	.60	.70
Multi-Unit (attached)	70	.60	.65	.70	.80
½ Acre Lot or Larger	30	.30	.35	.40	.60
Apartments	70	.65	.70	.70	.80
Industrial:					
Light Areas	80	.71	.72	.76	.82
Heavy Areas	90	.80	.80	.85	.90
Parks, Cemeteries	7	.10	.10	.35	.60
Playgrounds:	13	.15	.25	.35	.60
Schools:	50	.45	.50	.60	.70
Railroad Yard Areas:	40	.40	.45	.50	.60
Undeveloped Areas:					
Historic Flow Analysis- Greenbelts, Agricultural	2	(See "Lawns")			
Offsite Flow Analysis (when land use not defined)	45	.43	.47	.55	.65
Streets:					
Paved	100	.87	.88	.90	.93
Gravel	13	.15	.25	.35	.65
Drive and Walks:	96	.87	.87	.88	.89
Roofs:	90	.80	.85	.90	.90
Lawns, Sandy Soil:	0	.00	.01	.05	.20
Lawns, Clayey Soil:	0	.05	.10	.20	.40

TIME OF CONCENTRATION ≃ T_c
FOR OVERLAND FLOW



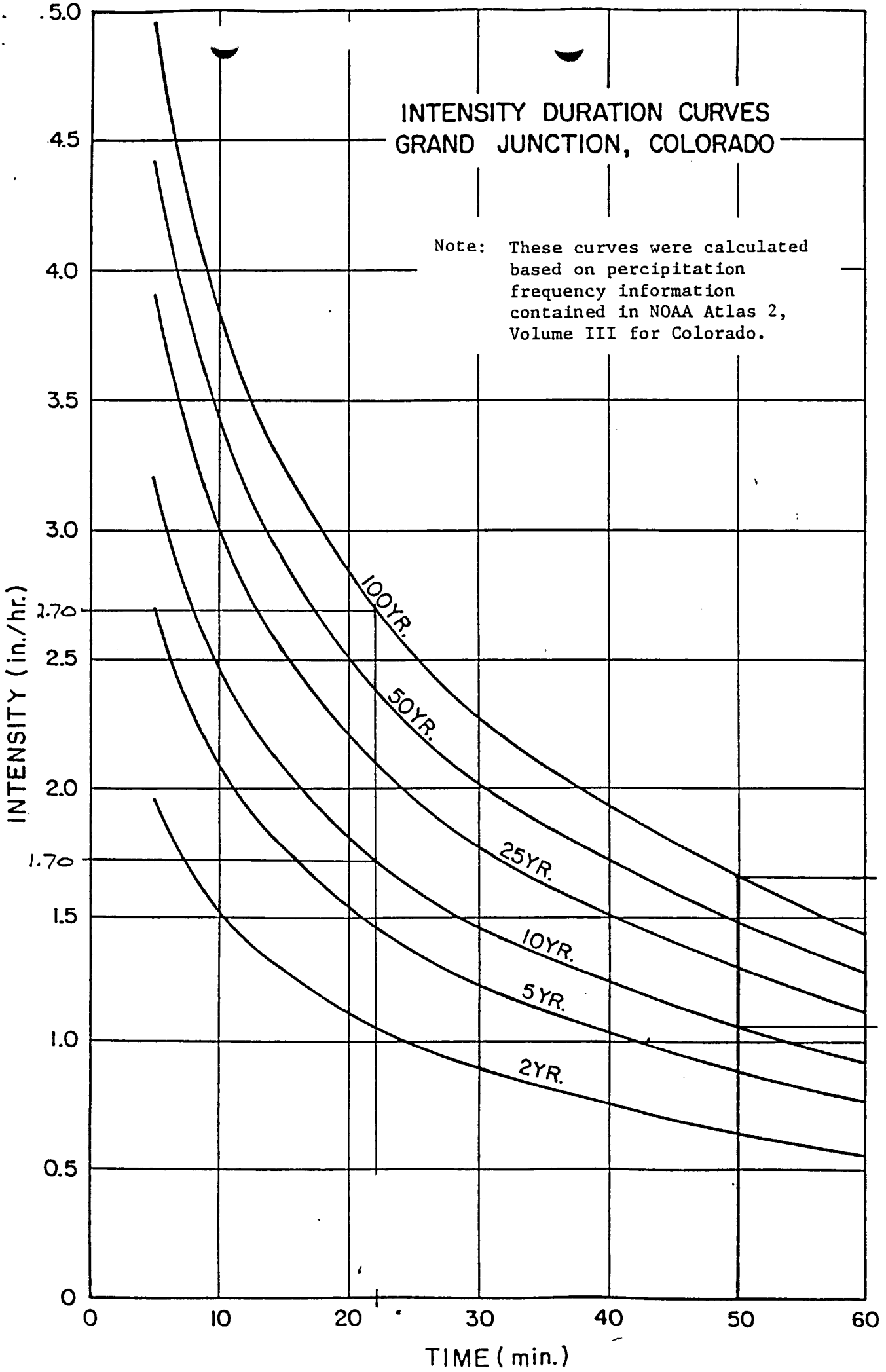
BASED ON EQUATION

$$T_c \approx \frac{1.8\,(1.1-C)\sqrt{D}}{\sqrt[3]{S}}$$

C = Coefficient of runoff
D = Distance of flow in feet
S = Slope in %

EXAMPLE

D = 400'
S = 1%
C = 0.70
T_c = 15 Minutes


INTENSITY DURATION CURVES
GRAND JUNCTION, COLORADO
Note: These curves were calculated based on percipitation frequency information contained in NOAA Atlas 2, Volume III for Colorado.
100YR.
50YR.
25YR.
10YR.
5YR.
2YR.
INTENSITY (in./hr.)
TIME (min.)
5.0
4.5
4.0
3.5
3.0
2.70
2.5
2.0
1.70
1.5
1.0
0.5
0
0
10
20
30
40
50
60

DEVELOPED:

EAST BASIN:

2.5 Ac. TOTAL (0.5 Ac @ C=0.90 + 2.0 Ac. @ C=0.50)

$$\text{COMPOSITE } C = \frac{(0.9 \times 0.5) + (0.5 \times 2.0)}{2.5} = 0.58$$

t_c: 400 L.F. OVERLAND @ S= 5.0% C=0.4

300 L.F. OVERLAND @ S= 1.5% C=0.6

$t_c = 14.8 + 13.6 = 28$ MINUTES

$I_{10} = 1.5$ IN./HR.

$Q_{10} = 0.58 (1.5)(2.5) = 2.2$ CFS

FLOW/STORAGE ANALYSIS

TIME (MINUTES)	RAINFALL INTENSITY (IN/HR)	Q (CFS)	$Q_{AVG.}$ (CFS)	RELEASE Q_o	STORED Q	TIME (MIN.)	STORED VOLUME (FT^3)
0	—	0					
			1.1	0	1.1	28	1848
28 (t_c)	1.5	2.2					
			1.9	0	1.9	22	2508
50	1.1	1.6					
			1.4	0	1.4	25	2100
75 (2.67t_c)	0.8 (EST.)	1.2					
							6456 FT^3

HISTORIC: (7.7 AC. @ C = 0.50)

t_c: OVERLAND FLOW 500 L.F. @ S = 6.0%

350 L.F. @ S = 1.71%

$$t_c = 1.8(1.1-C)(D)^{1/2}/(S)^{1/3}$$

$t_c = 13.3 + 16.9 \approx 30$ MINUTES

$I_{10} = 1.5$ IN./HR.

$Q_{10} = CIA = 0.5(1.5)(7.7) = 5.8$ CFS

DEVELOPED: (TWO BASINS)

WEST BASIN:

5.2 AC. TOTAL (0.6 AC. @ C = 0.90 + 4.6 @ C = 0.50)

$$\text{COMPOSITE } C = \frac{(0.9 \times 0.6) + (0.5 \times 4.6)}{5.2} = 0.55$$

t_c: 300 L.F. OVERLAND @ S = 8.7% C = 0.4

500 L.F. OVERLAND @ S = 1.6% C = 0.6

$t_c = 10.7 + 17.2 = 28$ MINUTES

$I_{10} = 1.5$ IN./HR.

$Q_{10} = 0.55(1.5)(5.2) = 4.3$ CFS

To: KarlM
Cc: ClaudiaH, MarkR, GeraldW
From: Don Newton
Subject: Hi Fashion Fabrics
Date: 7/07/92 Time: 4:41p

I have the following additional comments regarding the revised plans for this development:

1. The proposed street improvements on Meander Drive do not meet the Developmet Code requirements for half street improvments along the entire frontage of the subdivision. However, at this location the proposed plan to widen Meander Drive full width along the frontage of the proposed development may be of more functional benefit than half street improvements along the entire property frontage.

If the street improvements are approved as proposed, this approval should not preclude the requirement for half street improvements along the remaining property frontage at such time that the remaining property is developed.

2. The site plan, grading & drainage plan and street improvement plans lack sufficient detail for final plan approval. I would recommend that these plans either be considered as "preliminary" or that the final plan approval be tabled until such time that complete plans are submitted.

3. I remain opposed to the proposed curb cut on patterson Road. This access in not needed with Meander Drive adjacent to the property. Two curb cuts to the parking lot would be allowed from Meander Drive. Access to arterial streets like Patterson Road should be minimized

REVIEW COMMENTS
HI-FASHION FABRICS
7-8-92

by: Gerald Williams

1. Improvements Agreement

   a. The improvements agreement submitted was on the old form. A new form should be picked up from Community Development and submitted.

   b. The street grading quantity is listed as cubic yards which should probably read square yards.

   c. A more appropriate cost for this type of street paving work would be $40 per ton instead of $28 per ton.

   d. A more appropriate figure for the curb, gutter and sidewalk is $25 per linear foot instead of $15 per linear foot.

   e. A more appropriate figure for water mains (including valves) would be $16 a linear foot instead of $12 a linear foot.

   f. There should be an amount for traffic control.

2. We previously requested documentation of the detention volume available, and also indicated that average end-area methods were inappropriate and provided the conic method for use. The drainage report provides volume calculations which do not use the conic method nor do they appropriately use average end-area methods; i.e., between contour 4 and contour 5, one would use the average area times the depth between, not the depth between times the higher area as was done in the calculations provided. Using the conic equation, as was required, and which would be more appropriate, would yield a total volume of 3,928 cubic feet. This is less than the calculated 4,521 cubic feet required. However, inasmuch as the volume required was based on no release during the storm, it is highly probable that such volume would not be necessary. Therefore, we will not request a resubmittal of calculations, but please keep in mind that such submittals will not be acceptable in the future.

3. On the grading plan, the elevation 6 contour was slightly modified to make it appear that 1 percent slope is provided on the parking lot when in reality much of the site does not have a minimum 1 percent slope. This must be revised to make sure that there is at least 1 percent slope on asphalt.

4. Grades, slopes and contours on the parking lot do not match each other. These should be reworked.

5. Grade changes on the pavement should be shown and located adequately for construction staking.

6. Grading detail was requested for the entrance off of Meander Drive. These must be provided on the plans.

7. On the drain trough detail, much definition and grading is lacking. There is a sidewalk behind the building which connects to public sidewalk. The cross-section shows that the private sidewalk dips down and goes underneath the other sidewalk. It would appear that part of the private sidewalk would and should remain at the elevation of the back of the public sidewalk. However, grading and slope information is lacking on the detail.

8. The public sidewalk cut shown would be approximately 1 foot away from the private sidewalk. The proposed fire hydrant is at least 3 foot away. It would appear that the sidewalk cut should be shown to extend further to the east to allow for the installation of the fire hydrant, and the additional sidewalk amount should also be included in the improvement agreement.

9. The grate elevation shown in Section A-A is at 3.23 feet, and on the grading plan it is shown at 3.25 feet. These should be consistent.

10. There is a note on the street section that the base should be per the soils engineer's recommendations. We had indicated before that these were final plans, and information from the soils engineer should be on the plans. Note that 6 inches is a minimum.

11. Also regarding the street section, we requested previously that two core samples be taken to determine if the existing pavement section and base material, plus the inch and a half overlay, is adequate to meet current city standards.

12. On the detail of the 4 foot walk and curb, it shows a 5 foot drainage and slope easement. This has been changed to 15 feet on the plats and grading plan. Also please change the easement to be a drainage, utility, and slope easement.

13. In conjunction with what was just stated, the 15 foot easement shown on the plat should read drainage, utility and slope easement.

14. As previously mentioned, a maintenance agreement for the detention facility will be required. We will submit City approved forms as soon as they are ready.

If you have any questions regarding the above comments, please feel free to call or stop by to discuss them.

T-L THOMAS A. LOGUE
LAND DEVELOPMENT CONSULTANT

July 15, 1992

Mr. Gerald Williams
City Development Engineer
City of Grand Junction
250 North 5th. Street
Grand Junction, CO 81501

RE: Hi-Fashion Fabrics

Dear Mr. Williams:

In response to your comments dated July 8, 1992 and recommendations made by Don Newton, the following is provided for your consideration:

1. Revised Sheets 1, 2, and 5 are attached for your use.

2. A new Improvements Agreement is attached utilizing the new form. Unit prices have been modified as you have suggested.

3. New calculations for the detention basin are attached. The driveway relocation requested by Don Newton, resulted in some change to the basin's volume. The "conic" method was utilized.

4. All grades, slopes, and contours have been double checked to insure a minimum of 1.0% slope on all paved surfaces.

5. Additional detail information for the Drain Trough near the southwest corner of the site have been added to Sheet 5.

6. The the length of the sidewalk replacement along Patterson Road has been increased.

7. Other incidental comments have been incorporated within the attached drawings.

8. Two outstanding items remain un-answered at this time, includes core samples and pavement design recommendations, and the maintenance agreement for the detention facility. Field samples have been taken and the test results and recommendations should be available late next week. The petitioner will respond to the maintenance agreement as soon as possible after receipt.

Respectfully,

Thomas A. Logue
xc: Jeff Vogel

537 FRUITWOOD DRIVE - GRAND JUNCTION, COLORADO 81504
(303) 434-8215

IMPROVEMENTS LIST/DETAIL

DATE: July 15, 1992
NAME OF DEVELOPMENT: Hi-Fashion Fabrics
LOCATION: N.W. Meander Drive & Patterson Road
PRINTED NAME OF PERSON PREPARING: Thomas A. Logue

	UNITS	TOTAL QTY.	UNIT PRICE	TOTAL AMOUNT
I. SANITARY SEWER (Existing)				
1. Clearing and grubbing				
2. Cut and remove asphalt				
3. PVC sanitary sewer main (incl. trenching, bedding & backfill)				
4. Sewer Services (incl. trenching, bedding, & backfill)				
5. Sanitary sewer manhole(s)				
6. Connection to existing manhole(s)				
7. Aggregate Base Course				
8. Pavement replacement				
9. Driveway restoration				
10. Utility adjustments				
II. DOMESTIC WATER				
1. Clearing and grubbing				
2. Cut and remove asphalt	Included in Streets			
3. Water Main (incl. excavation, bedding, backfill, valves and appurtenances)	LF	180	16.00	2880.00
4. Water services (incl. excavation, bedding, backfill, valves, and appurtenances)	LF	30	5.00	150.00
5. Connect to existing water line	LS	—	1500.00	1500.00
6. Aggregate Base Course				
7. Pavement Replacement	Included In Streets			
8. Utility adjustments				
III. STREETS				
1. Clearing and grubbing	None			
2. Earthwork, including excavation and embankment construction	CY	725	3.00	2175.00
3. Utility relocations	None			
4. Aggregate sub-base course (square yard)	CY	150	16.00	2400.00
5. Aggregate base course (square yard)	Above			
6. Sub-grade stabilization	SY	660	2.00	1320.00
7. Asphalt ~~or concrete pavement~~ (square yard)	Ton	40	350.00	14,000.00
8. Curb, gutter & sidewalk (linear feet)	LF	614	25.00	15,350.00
9. Driveway sections (square yard)	Inc. Above			
10. Crosspans & fillets	None			
11. Retaining walls/structures	None			
12. Storm drainage system	EA	2	1200.00	2400.00
12" PVC Storm Sewer	LF	66	20.00	1386.00

13. Signs and other traffic control devices	EA	1	150.00	150.00
14. Construction staking	LS	—	—	750.00
15. Dust control	None			
16. Street lights (each)	Existing			
IV. LANDSCAPING				
1. Design/Architecture	LS	—	—	500.00
2. Earthwork (includes top soil, fine grading, & berming	SY	12,750	0.50	6375.00
3. Hardscape features (includes walls, fencing, and paving) Pathway	LF	320	5.00	1600.00
4. Plant material and planting	LS	—	—	5000.00
5. Irrigation system	LS	—	—	2000.00
6. Other features (incl. statues, water displays, park equipment, and outdoor furniture)	LS			250.00
7. Curbing	none			
8. Retaing walls and structures	none			
9. One year maintenance agreement	LS			500.00
V. MISCELLANEOUS				
1. Design/Engineering	L.S.			3500.00
2. Surveying	L.S			2500.00
3. Developer's inspection costs	L.S			3000.00
4. Quality control testing	L.S.			2000.00
5. Construction traffic control	L.S.			750.00
6. Rights-of-way/Easements	none			
7. City inspection fees	L.S.			1000.00
8. Permit fees	none			100.00
9. Recording costs	L.S.			
10. Bonds	none			
11. Newsletters	none			
12. General Construction Supervision	Inc. Above			
13. Other _____				
14. Other _____				

TOTAL ESTIMATED COST OF IMPROVEMENTS: $ 73,536.00

_____ _____

SIGNATURE OF DEVELOPER — DATE

(If corporation, to be signed by President and attested to by Secretary together with the corporate seals.)

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

_____ _____

CITY ENGINEER — DATE

_____ _____

COMMUNITY DEVELOPMENT — DATE

HI-FASHION DRAINAGE | DETENTION VOLUMES | O'CONNOR 7/21/92 | 1

AREA @ INLET = 2 FT² ELEV. = 03.23

ΔELEV. = 0.77'

AREA @ CONTOUR(04) = 1,240 FT² ELEV. 04.00 (GEOMETRIC BREAK @ PARKING LOT)

ΔELEV. = 1.0'

AREA @ CONTOUR (05) = 11,880 FT² ELEV. 05.00

CONIC EQUATION (FROM CITY OF G.J.):

$$\left\{ A_1 + A_2 + (A_1 A_2)^{0.5} \right\} H/3 = \text{VOLUME}(V)$$

V_1 (BETWEEN GRATE AND 04), V_2 = (BETWEEN 04 + 05)

$$V_1 = \left\{ 2 + 1240 + (2 \times 1240)^{0.5} \right\} 0.77/3 = 332 \text{ FT}^3$$

$$V_2 = \left\{ 1240 + 11,880 + (1240 \times 11880)^{05} \right\} 1/3 = 5653 \text{ FT}^3$$

TOTAL VOLUME = 5984 FT³

VOLUME REQUIRED = 4500 FT³

∴ O.K. ✓

RESPONSE TO REVIEW COMMENTS

Project: Hi-Fashion Fabrics

File No: 27-92

Activity: Rezone RSF-4 to PB and Final

Location: NW Patterson Road and Meander Drive

CITY FIRE DEPARTMENT
Two emergency fire door exits will be provided along the west building wall. A sidewalk has been added to the site plan adjacent to the west building wall. Detailed building plans will be submitted to the department for review during the building permit process. The west building wall will be constructed in accordance with the *Uniform Building Code* which requires a one hour fire wall for the building occupancy load of B-2.

CITY PROPERTY AGENT
The following items have been added to the final plat:

1. The True Point of Beginning has been identified.
2. The second to the last course has been added to the legal description within the dedication.
3. The Meander Drive right-of-way dedicated area has been drawn and described within the limits of the subdivision boundary.
4. Data has been added to the lot line between Lots 1 and 2.

CITY ATTORNEY
See response to City Development Engineer

CITY UTILITIES ENGINEER
The water plan have been modified to include a 3/4 inch water tap.

Sewer grades have been changed to maintain a minimum of 2% slope for a 4 inch service line.

US WEST
A response to comments not required.

PUBLIC SERVICE
A 5 foot utility easement has been added to the final plat along the south side of each lot.

PARKS AND RECREATION
An appraisal will be prepared by a certified appriser an presented to the City staff once the Zone Change Request has

been granted. 5% of the appraised raw land value will be paid to the City prior to obtaining a building permit.

A central pressurized irrigation system is proposed to water the landscaped areas. The system will be fully automated. Watering can be accomplished during off peak usage hours.

GRAND VALLEY IRRIG. CO.
The final plat has been changed to reflect an exclusive right-of-way for the irrigation company.

POLICE DEPARTMENT
A response to comments not required.

GRAND JUNCTION DRAINAGE DISTRICT
The following has been incorporated within the development plan sheets:

1. The *Gormley Tile* has been identified.
2. Inlet elevation for grates and inverts have been changed.
3. Existing tile lines adjoining the subject property have been identified.

A copy of the drainage report which addresses both on site and off site drainage flows historic and developed has been transmitted to the district.

Connection of the proposed storm sewer to the district's manhole will be done in accordance with their specifications has been added to the plan sheets.

CITY DEVELOPMENT ENGINEER
A drainage report has been transmitted to the department.

The following is the petitioners justifications for not relocating Meander Drive in accordance with the request by the City Engineering Department:

1. Surrounding land owners which utilize Meander Drive prefer that the alignment remain as it now exists.

2. Relocation of Meander Drive will create conflicts with the existing underground irrigation delivery system.

3. There are ten parcels of land in addition to the subject property which utilize Meander Drive for access. Upon review of these parcels it is suggested that the maximum future average daily vehicle trips would be in the range of 130 since Meander Drive is a "dead end" street.

4. The Patterson *Road Corridor Guidlines* say,"Meandering pedestrian walks can be considered as an alternative to standard City sidewalk requirements." This has been incorporated within the Landscape Plan.

5. Meander Drive adjacent to the subject properties north boundary is owned and maintained by Mesa County, not the City of Grand Junction.

6. Properties along Meander Drive do not have central sewage collection lines available. Additionally, existing domestic water mains are not sufficient in size to accommodate fire protection. It is felt by the petitioner that utility upgrades within Meander Drive are most likely to occur in the near future. Therefore, it would be undesirable to complete a major street relocation without the installation of upgraded utility service. As the accompanying Preliminary Cost Estimate indicates, the cost for these extensions would be $51,960. It should be pointed out that the petitioners property would not benefit from these utility up-grades since existing services are available in Patterson Road.

7. The accompanying Preliminary Construction Cost Estimate indicates a total improvement cost, including necessary underground utility improvements is $181,753. This total exceeds the current property value by 40%. The roadway improvement only, and lost land value for right-of-way, represent 89% of the property value.

The application has been modified to accommodate the City Engineering Department's request to widen the existing intersection at Meander and Patterson Road. This will allow a left turn lane on Meander.

COMMUNITY DEVELOPMENT DEPARTMENT
A new landscape plan has been prepared which specify proposed species and planting sizes. The landscaping plan has been modified to include a planting area adjacent to the south side of the building for shrubbery in lue of turf ground cover.

HI-FASHION FABRICS PRELIMINARY ESTIMATE MAY 22, 1992

ROADWAY IMPROVEMENTS

ITEM		UNIT	QUAN.	UNIT PRICE	TOTAL
1	Excavation and Embankment	CY	1670	$5.00	$8,350.00
2	Sub-Grade Preperation	SY	2400	$1.00	$2,400.00
3	Class 6 ABC	CY	550	$16.50	$9,075.00
4	3" Grading C HBP	TON	280	$26.00	$7,280.00
5	18" RCP	LF	30	$20.00	$600.00
6	6 ft. Curbwalk	LF	600	$15.00	$9,000.00
7	Remove Existing Pavement	SY	1200	$1.50	$1,800.00
8	Relocate Irrigation Pipe	LS			$5,000.00
9	12" RCP Storm Sewer	LF	66	$20.00	$1,320.00
10	Standard Inlet	EA	2	$3,000.00	$6,000.00
11					$0.00
12					$0.00
13					$0.00
14					$0.00
15	Traffic Control Signs	EA	2	$125.00	$250.00
16	Raise Manholes and Valves	EA	7	$200.00	$1,400.00
18	Engineering	LS			$25,000.00
19	Construction Management	LS			$15,000.00
	TOTAL ROADWAY IMPROVEMENTS				$92,475.00

SANITARY SEWER

ITEM		UNIT	QUAN.	UNIT PRICE	TOTAL
1	8" Sanitary Sewer Main	LF	690	$10.00	$6,900.00
2	4" Sanitary Sewer Main	LF	0	$5.50	$0.00
3	Standard Manhole	EA	5	$750.00	$3,750.00
4	Shallow Manhole	EA	0	$48.00	$0.00
5	Service Connections	EA	0	$8.00	$0.00
6	Trench Compaction	LF	690	$4.00	$2,760.00
7	Pipe Bedding Material	CY	200	$10.00	$2,000.00
8	Pavement Replacement	LF	30	80	$2,400.00
9					$0.00
10					$0.00
11					$0.00
12					$0.00
13					$0.00
14					$0.00
15					$0.00
16					$0.00
18	Engineering	LS			$5,000.00
19	Construction Management	LS			$3,500.00
	TOTAL SANITARY SEWER IMPROVEMENTS				$26,310.00

DOMESTIC WATER

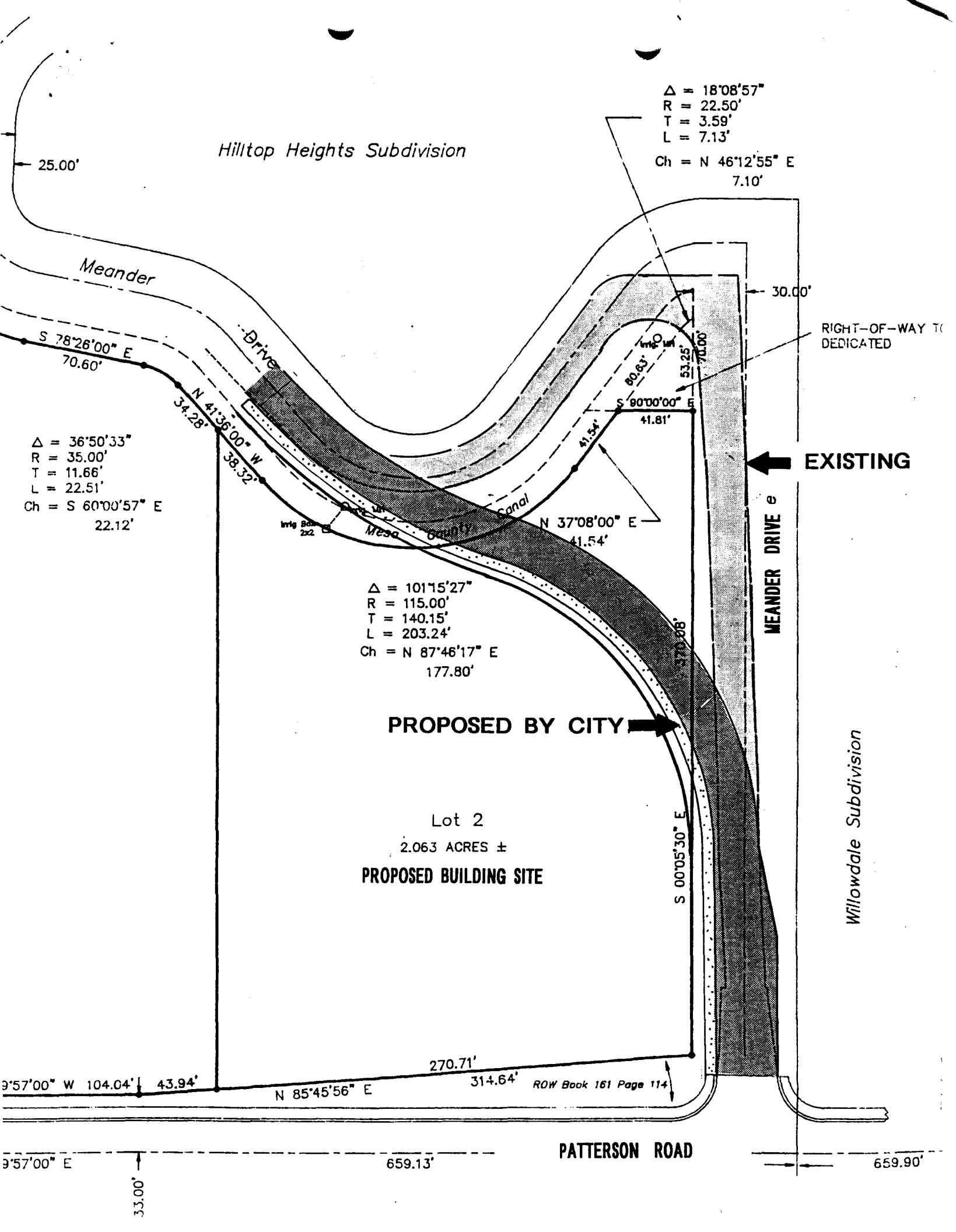
ITEM		UNIT	QUAN.	UNIT PRICE	TOTAL
1	8" PVC Water Main	LF	700	$12.00	$8,400.00
2	6" PVC Water Main	LF			
3	3" PVC Water Main	LF		$5.50	$0.00
4	8" Gate Valve w/Box	EA	2	$525.00	$1,050.00
5	6" Gate Valve w/Box	EA		$500.00	
6	3" Gate Valve w/Box	EA		$300.00	$0.00
7	Join Exist. Water Main	EA	1	$2,500.00	$2,500.00

HI-FASHION FABRICS PRELIMINARY ESTIMATE MAY 22, 1992

8	Service Connection	EA	0	$300.00	$0.00
9	Trench Compaction	LF	700	$4.00	$2,800.00
10	Fire Hydrant Assembly	EA	0	$170.00	$0.00
11	Asphalt Replacement	LF	30	$80.00	$2,400.00
12					$0.00
13					$0.00
14					$0.00
15					$0.00
16					$0.00
18	Engineering	LS			$5,000.00
19	Construction Management	LS			$3,500.00
					$25,650.00

SUMMARY

ITEM		
1	ROADWAY IMPROVEMENTS	$92,475.00
2	SANITARY SEWER IMPROVEMENTS	$26,310.00
3	DOMESTIC WATER IMPROVEMENTS	$25,650.00
4	sub-total	$144,435.00
5	CONTINGENCY	$14,443.50
6	subtotal	$158,878.50
7	ROW (15,250 SF @ $1.50/SF)	$22,875.00
8	GRAND TOTAL	$181,753.50


Hilltop Heights Subdivision
25.00'
Meander
Drive
S 78°26'00" E
70.60'
N 41°36'00" W
34.28'
38.32'
Δ = 36°50'33"
R = 35.00'
T = 11.66'
L = 22.51'
Ch = S 60°00'57" E
22.12'
Δ = 18°08'57"
R = 22.50'
T = 3.59'
L = 7.13'
Ch = N 46°12'55" E
7.10'
30.00'
RIGHT-OF-WAY TO BE DEDICATED
Irrig Lat
80.63'
53.25'
70.00'
S 90°00'00" E
41.81'
41.54'
EXISTING
Irrig Box 2x2
Mesa County Canal
N 37°08'00" E
41.54'
MEANDER DRIVE
Δ = 101°15'27"
R = 115.00'
T = 140.15'
L = 203.24'
Ch = N 87°46'17" E
177.80'
370.08'
PROPOSED BY CITY
Lot 2
2.063 ACRES ±
PROPOSED BUILDING SITE
S 00°05'30" E
Willowdale Subdivision
9°57'00" W 104.04'
43.94'
N 85°45'56" E
270.71'
314.64'
ROW Book 161 Page 114
PATTERSON ROAD
9°57'00" E
659.13'
659.90'
33.00'

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

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

July 29, 1992

Mr. Thomas A. Logue
537 Fruitwood Drive
Grand Juncion, CO 81504

Re: Suggested Pavement Sections
Hi-Fashion Fabrics
Patterson Road & Meander Lane
Grand Junction, Colorado

Dear Mr. Logue;

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:

R =	20
Expansion @ 300 psi =	0
Displacement @ 300 psi =	2.38

The soil profile consists of low density, very moist to saturated soils which will control the road section design and construction. The analysis assumed the placement of a Geotextile Separation Fabric (Mirafi 140, Polyfelt TS or an approved, equivalent Needle Punched Spun Geotextile Fabric) at the bottom of the road section for the areas which are soft, wet and unstable. These soft, wet and unstable areas may be found across the majority of the site and will prevent proper reworking and compaction of the native subgrade soils.

It is our recommendation that any areas of heavy truck traffic, such as loading and unloading areas, be constructed using a Rigid Concrete Pavement.

Traffic volumes of 170 single unit cars and pickup trucks per day and 34 heavy vehicles for Meander Lane, were provided to Lincoln DeVore. Based on the above traffic volumes and the tested R value of the subgrade soils, pavement recommendations have been provided. Recommendations are provided for Meander Lane Improvements, for the commercial main drive areas (heavy load areas) and parking areas assuming a 20-year design life. The pavement sections are summarized below.

The owner of the structure should be aware that the traffic volume and the loads on pavement will be considerably higher during the construction phase than during the design life of the pavement structure. Therefore, some repair may be required after construction of the pavement is complete. An alternative would be to design a heavier pavement section at this time, utilizing the expected construction volume. It has been our experience that pavement failures during construction are minimal, and that it is more economical to repair localized failures due to contruction traffic rather than construct a heavier pavement section.

Automobile Parking Areas:

20-Year Design Life

3 inches of asphaltic concrete pavement
on 9 inches of aggregate base course
on 8 inches of recompacted subgrade soils

Full Depth Asphalt
20 Year Design Life

5.5 inches of asphaltic concrete pavement
on 8 inches of recompacted subgrade soils

Main Drive Areas and Meander Lane:

20-Year Design Life

3 inches of asphaltic concrete pavement
on 10 inches of aggregate base course
on 8 inches of recompacted subgrade soils

Full Depth Asphalt
20-Year Design Life

6 inches of asphaltic concrete pavement
on 8 inches of recompacted subgrade soils

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 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 day density (ASTM D-1557) at a moisture content within + or -2% of optimum moisture.

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

Rigid Concrete Pavement - 20-Year Design Life

Non-Dowelled

7.5 inches of rigid concrete pavement
on 4 inches of aggregate base course
on 8 inches of recompacted subgrade soils

Dowelled

6 inches of rigid concrete pavement
on 4 inches of aggregate base course
on 8 inches of recompacted subgrade soils

We recommend that the rigid concrete pavement have a minimum flexural strength (F_t) of 550 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 be **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.

The concrete should be placed at the lowest slump practical for the method of placement. In all cir-

cumstances, the maximum slump should be limited to 4 inches. Proper consolidation of the plastic concrete is important. The placed concrete must be properly protected and cured.

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.

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

Respectfully Submitted,

LINCOLN DeVORE, Inc.

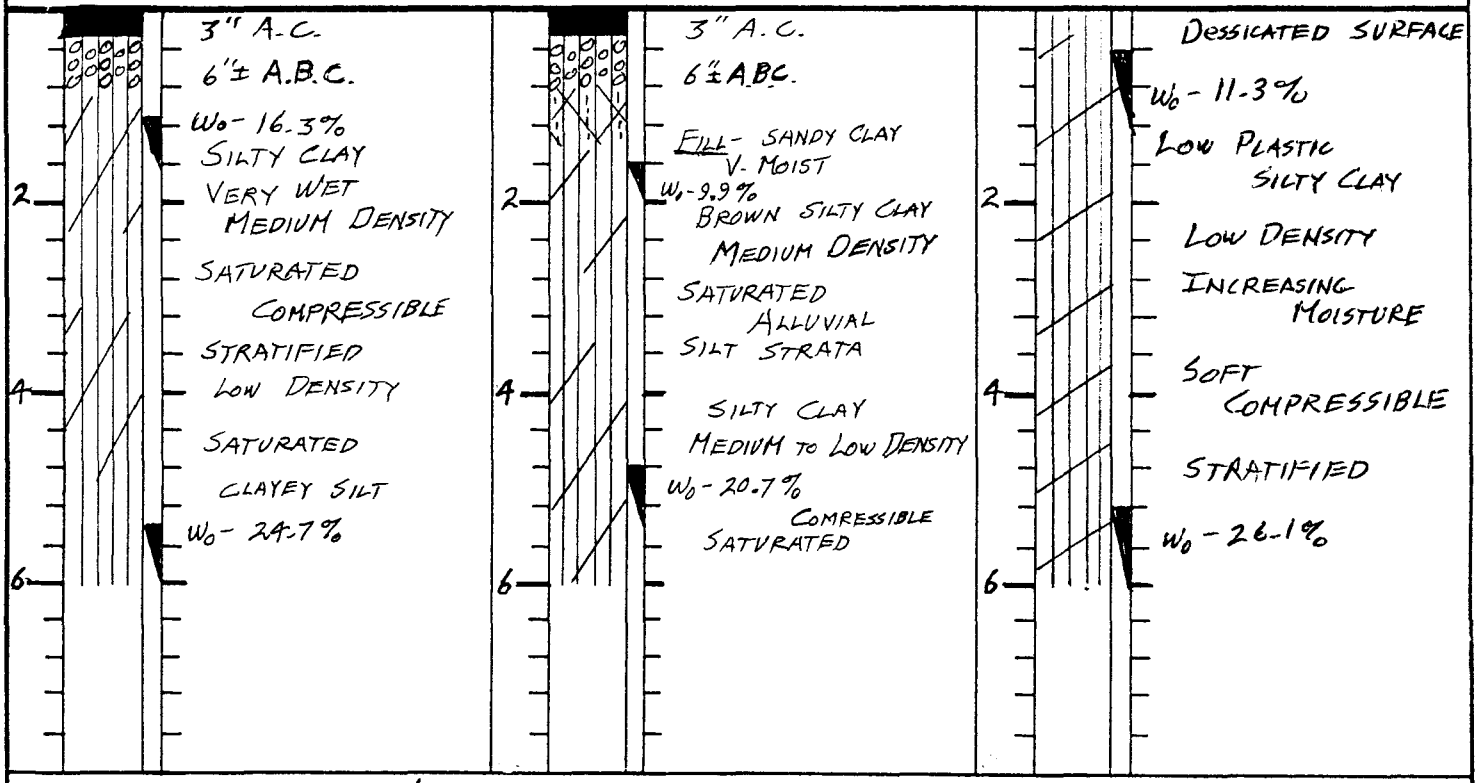
by: Edward M. Morris EIT Reviewed By: George D. Morris, PE
Engineer/Western Slope Manager

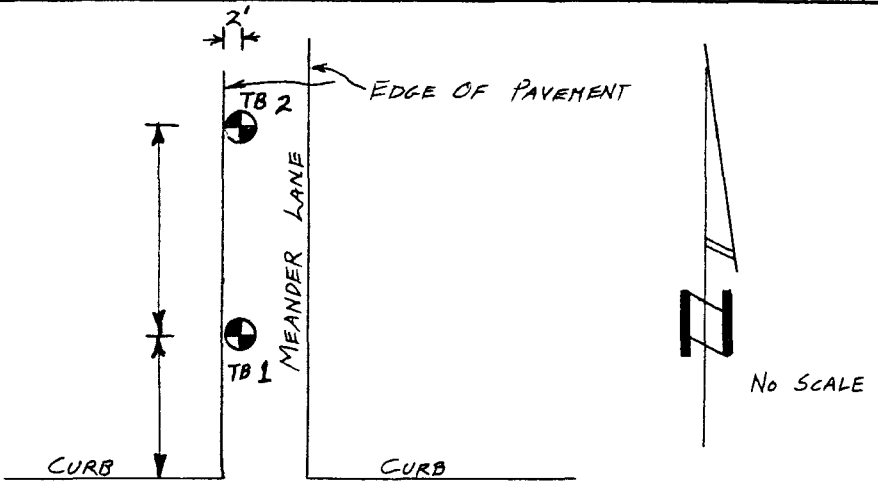
8/4/92

LD Job No.: 76604-J

TEST BORING

No.	1	2	5
ELEVATION			PARKING LOT





PATTERSON ROAD

LOG OF SUBSURFACE EXPLORATION

Lincoln DeVore, Inc.
Geotechnical Consultants

ROAD SECTION (EXISTING) - MEANDER LANE		
Hi-FASHION FABRICS		DATE 7-30-92
JOB NO. 76604-J	DRAWN EHM	

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

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

August 10, 1992

Hi Fashion Fabrics
1938 N 1st Street
Grand Junction, CO 81501

Re: Subsurface Soils Exploration
Hi Fashion Fabrics
Patterson and Meander Lane
Grand Junction, Colorado

Dear Clients:

As requested, Lincoln-DeVore personnel have recently completed a geotechnical exploratory program at the above referenced site. Two shallow test borings were placed within the building pad to determine as closely as possible the soil types which exist beneath the proposed structure. Our conclusions and recommendations for this site are presented below.

Soil Classification: The soils on this site consist of a series of silty clay and sandy clay soils which are a product of mud flow/debris flow features which originate on the south-facing slopes of the Bookcliffs. These mud flow/debris flow features are a small part of a very extensive mud flow/debris flow complex along the base of the Bookcliffs and extending to the Colorado River. Utilizing recent events and standard evaluation techniques, this tract is not considered to be within with an active debris flow hazard area. The surface soils are an erosional product of the upper Mancos Shale and the Mount Garfield Formations which are exposed on the slopes of the Bookcliffs. The soils contained within these mud flow/debris flow features normally exhibit a metastable condition which can range from very slight to severe. Metastable soil is subject to internal collapse and is very sensitive to changes in the soil moisture content. Based on the field and laboratory testing of the soils on this site, the severity of the metastable soils can be described as low.

This Soil Type was classified as a silty clay and low-plastic clay (CL/ML) under the Unified Classification System. This material is of low plasticity, of low to moderate permeability, and was encountered in a low density, wet condition. It undergoes mild expansion with the entry of small amounts of moisture, but will undergo long-term consolidation upon the addition of larger amounts of moisture. This soil will settle after being loaded. The maximum allowable bearing capacity for this soil was

found to be 700 psf, with 150 psf minimum dead load pressure required. The finer grained portion of this soil type contain sulfates in detrimental quantities.

Man-made Fill: An extensive layer of very soft native soils was encountered on this site. These soils are of extremely low density and are not judged suitable for support of the proposed shallow foundation system. Owing to the depths to which this low density soil was encountered and the relatively shallow excavation depths anticipated, it is recommended that an overexcavation/replacement scheme be used on this site.

The existing low density soils should be removed to a minimum depth of two feet below the proposed bottom footing elevation. Once it is felt that adequate soil removal has been achieved, it is recommended that the excavation be closely examined by a representative of Lincoln-DeVore to ensure that an adequate overexcavation depth has indeed occurred and that the exposed soils are suitable to support the proposed structural man-made fill.

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

The placement of a geotextile fabric for separation between the native soils and the structural fill is recommended to aid the fill placement and to improve the stability of the completed fill.

When The structural fill is completed, an allowable bearing capacity of 1700 psf maximum may be assumed for proportioning the footings.

Soil Moisture Conditions: A free water table came to equilibrium during drilling at 12 feet below the present ground surface. This is probably very close to the true phreatic surface rather than a perched water table. In our opinion the subsurface water

conditions shown are a permanent feature on this site. The depth to free water would be subject to fluctuation on this site depending upon external environmental effects.

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

Data presented in this report concerning ground water levels are representative of those levels at the time of our field exploration. Groundwater levels are subject to change seasonally or by changed environmental conditions. Quantitative information concerning rates of flow into excavations or pumping capacities necessary to dewater excavations is not included and is beyond the scope of this report. If this information is desired, permeability and field pumping tests will be required.

Foundation Type Recommended: Assuming that some amount of differential movement can be tolerated, then a conventional shallow foundation system, underlain by structural fill, placed in accordance with the recommendations contained within this report may be utilized. The foundation would consist of continuous spread footings beneath all bearing walls and isolated spread footings beneath all columns and other points of concentrated load. Such a shallow foundation system, resting on the properly constructed structural fill may be designed on the basis of an allowable bearing capacity of 1700 psf maximum. Recommendations pertaining to balancing, reinforcing, drainage, and inspection are considered extremely important and must be followed. Contact stresses beneath all continuous walls should be balanced to within + or - 200 psf at all points. Isolated interior column footings should be designed for contact stresses of about 150 psf less than the average used to balance the continuous walls. The criteria for balancing will depend somewhat on the nature of the structure. Single-story, slab-on-grade structures may be balanced on the basis of dead load only. Multi story structures may be balanced on the basis of dead load plus one half live load, for up to three stories.

If the design of the upper structure is such that loads can be balanced reasonably well,or as in the case of a steel-frame structure some degree of movement can be tolerated, a floating structural slab or raft type of foundation could be used on this site. Such a slab would require heavy reinforcing to resist differential bending. It is possible to design such a slab either as a solid or ribbed slab, but in either case, a rimwall must be used for confinement. Any such slab must be specifically designed for the anticipated loading. Such a foundation system will settle to some degree as the softer, underlying soils consolidate, but differential movement is held to a minimum. Because of the potential of the heavily loaded portions of the slab settling more than the non-loaded interior portions, some minor cracking and heave are possible unless the slabs are specifically designed with the movement in mind. For design purposes, the modulus of subgrade reaction for this soil may be taken as 75 pci for the native soils and 150 pci for slabs which are underlain by a granular, properly compacted structural fill, a minimum of two feet in thickness.

Reinforcing: Stem walls for a shallow foundation system should be designed as grade beams capable of spanning at least twelve feet. These "grade beams" should be horizontally reinforced both near the top and near the bottom. The horizontal reinforcement required should be placed continuously around the structure with no gaps or breaks. A foundation system designed in this manner should provide a rather rigid system and, therefore, be better able to tolerate differential movements associated with the compressible soils found on this site.

The stem wall recommendations given above apply principally to conventional masonry construction. If a rigid frame (or steel frame) building is used, the foundation configuration would probably take the form of isolated bearing pads located directly beneath the exterior wall columns with a concrete grade beam spanning from pad to pad and supporting the exterior wall. In this case, we recommend that the exterior grade beams be designed to span at least half the distance between pad to pad with a load transfer at this point. Horizontal reinforcing in the grade beams is recommended to be continuous around the building exterior with no gaps or breaks unless they are properly designed.

It is extremely important, due to the nature of data obtained by the random sampling of a nonhomogeneous material such as soil, that a shallow foundation system be used only if all recommendations are strictly followed. All the listed recommendations regarding fill compaction, site grading, drainage and subsurface water control are exceedingly important. **CAUTION : Failure to follow these recommendations will void part or all of the recommendations contained in this report.**

Floor Slabs: Floor slabs on grade, if not a part of the structural foundation system, should be positively separated from all structural portions of this building and allowed to float freely. Frequent scoring (control joints) of the slabs should be provided to allow for possible shrinkage cracking of the slab. These control joints should be placed to provide maximum slab areas of approximately 200 to 360 square feet. Any man-made fill placed below floor slabs on grade should be compacted to a minimum of 90% of its maximum Modified Proctor dry density, ASTM D-1557. These soils should be placed at a moisture content conducive to the required compaction (usually Proctor optimum moisture content ±2%.

Drainage and Grading: Surface grading should be completed in such a manner that all runoff moisture is removed from the vicinity of the structure as quickly as possible. It is recommended that a minimum surface gradient of 8% be maintained away from the structure for the first 10 feet. Roof downspouts and sill cocks should be carried across all backfill areas and allowed to discharge well away from the building. All lawn sprinkling heads should be placed at least 10 feet away from the foundation. Future owners of this structure should be advised to fill in any settled yard areas to eliminate ponding of water near the structure and to provide adequate slope for proper drainage away from the structure and off the site at all times.

The existing drainage on the site must either be maintained carefully or improved. We recommend that water be drained away from structures as rapidly as possible and not be allowed to stand or pond near the building. We recommend that water removed from one building not be directed onto the backfill areas of adjacent buildings. We recommend that a hydrologist or drainage engineer experienced in this area be retained to complete a drainage plan for this site.

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

Backfill: To reduce settlement and aid in keeping water from reaching beneath this building, all backfill around this building should be mechanically compacted to 80% of its maximum Modified

Proctor dry density ASTM D-1557. The only exception to this would be the components of the perimeter foundation drain, if any. All backfill should be composed of the native soils and should not be placed by soaking, jetting or puddling. All backfill placed in utility trenches around this structure or below foundation walls should be mechanically compacted to a minimum of 90% of its maximum Modified Proctor dry density ASTM D-1557. These soils should be placed at a moisture content conducive to the required compaction (usually Proctor optimum content ±2%.

Cement Type: Type II, Type I-II or Type II-V cement is recommended for all concrete which is in contact with the soils on this site. Calcium chloride should not be added to a Type II, Type I-II or Type II-V cement under any circumstances.

Remarks: The bottoms of all exterior foundations should be located a minimum of 24 inches below finished grade for frost protection.

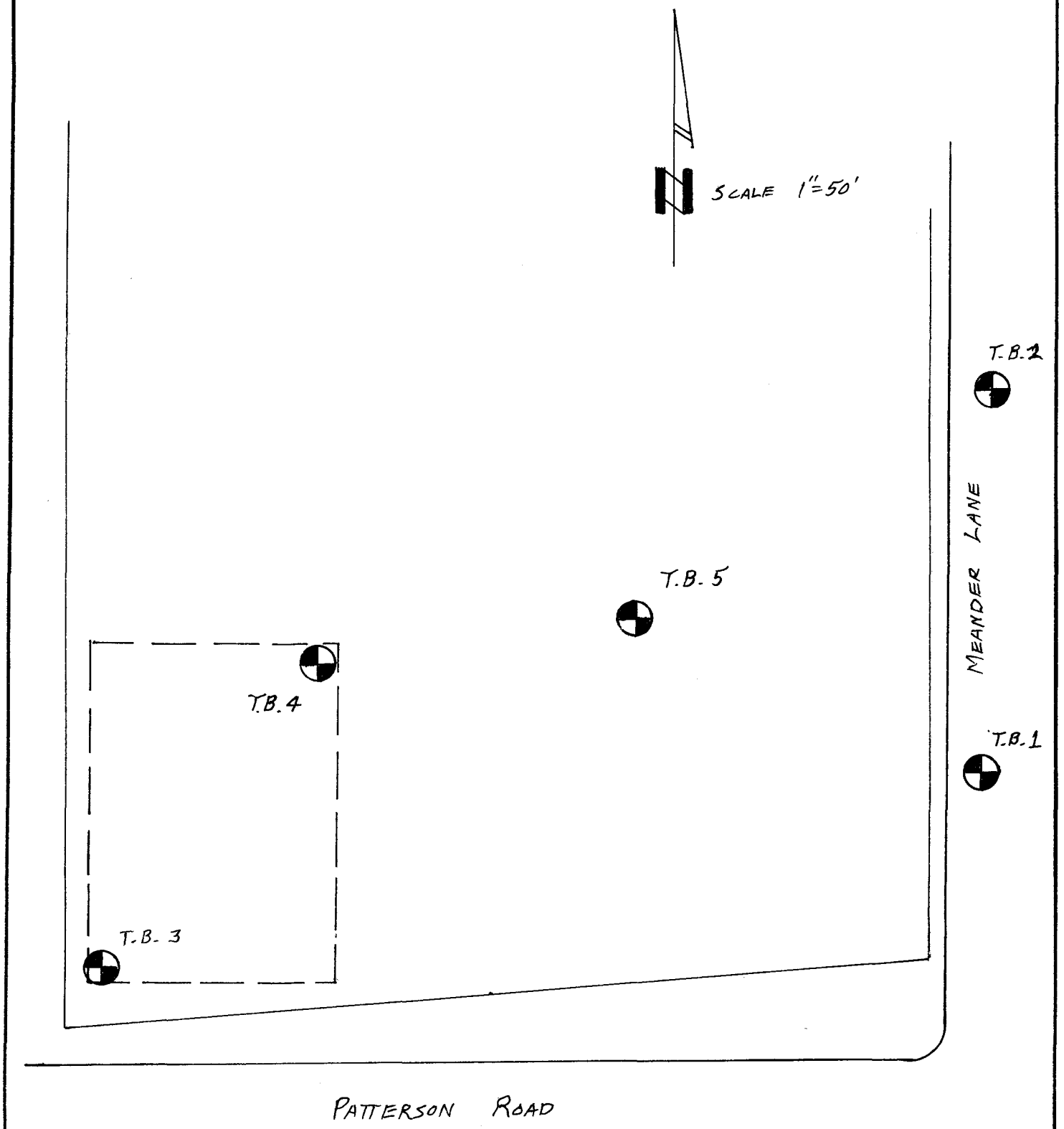
Respectfully submitted,

LINCOLN-DeVORE, INC.

By: Edward M. Morris EIT
Western Slope Manager

Reviewed by: George D. Morris PE
8/13/92

LD Job # 76604-J



Lincoln DeVore, Inc.
Geotechnical Consultants

TEST BORING LOCATION

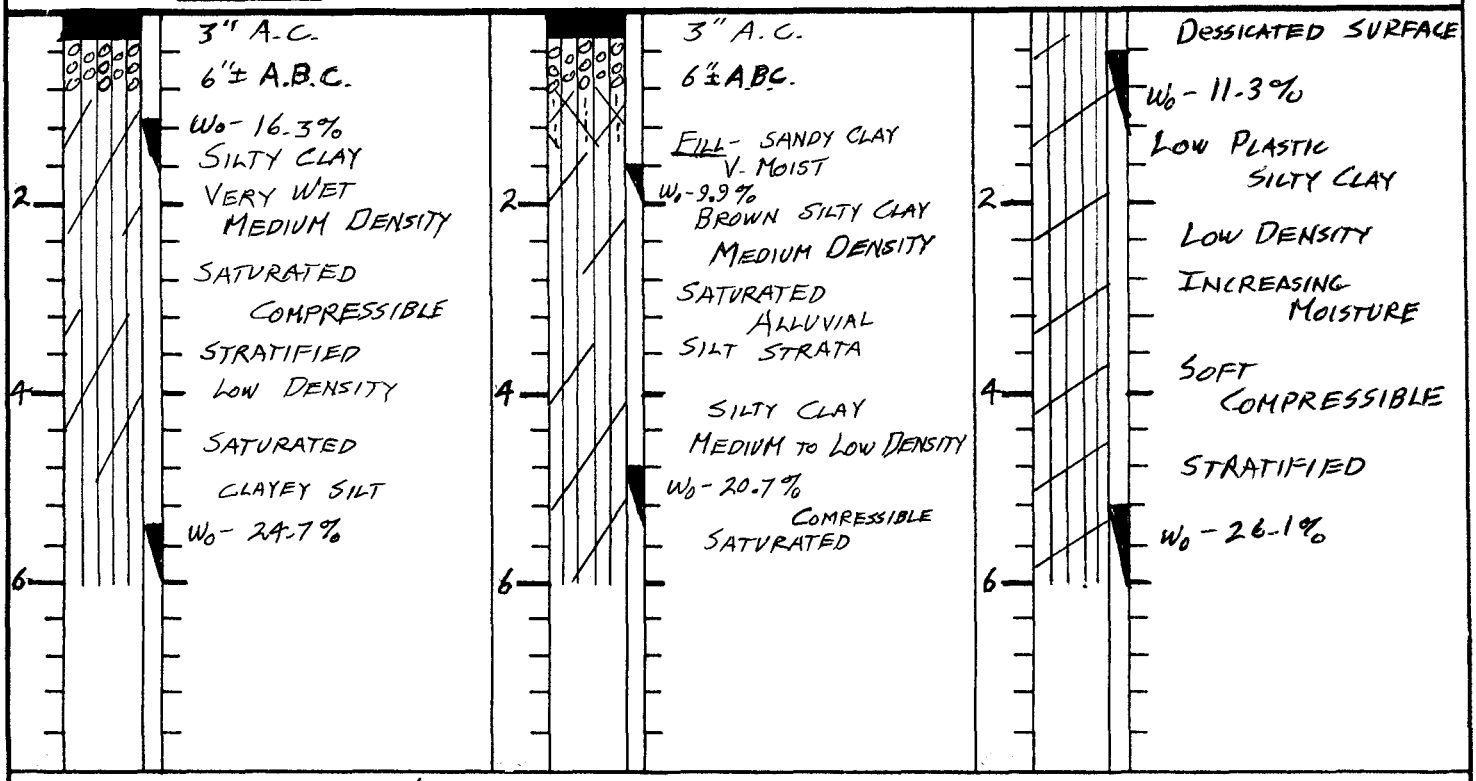
HI FASHION FABRICS - Gd. Jct.

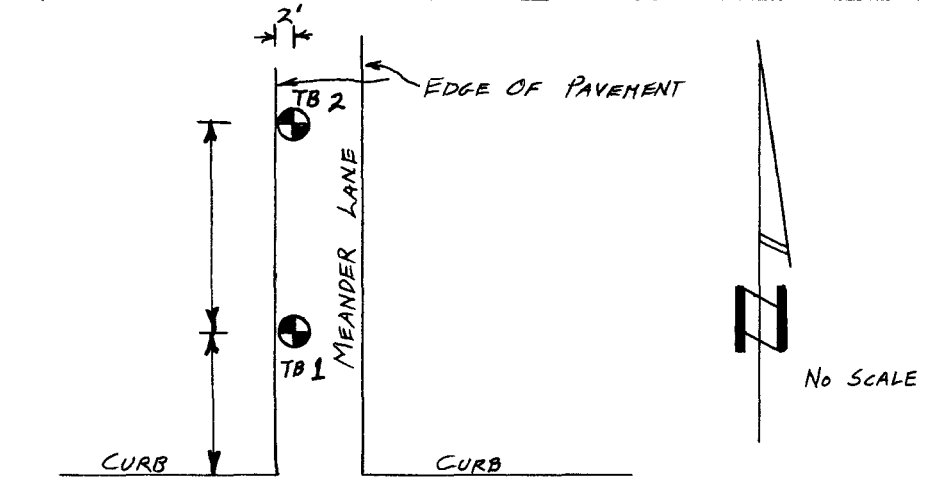
DATE 7-30-92

JOB NO. 76604-J

DRAWN EMM

TEST BORING No. 1	2	5
ELEVATION		PARKING LOT





LOG OF SUBSURFACE EXPLORATION

Lincoln DeVore, Inc.
Geotechnical Consultants

ROAD SECTION (EXISTING) - MEANDER LANE

Hi-FASHION FABRICS

DATE 7-30-92

JOB NO. 76604-J

DRAWN EHM

BORING NO. 3

ELEVATION:

DEPTH (FT)	SYMBOL	SAMPLE	DESCRIPTION		PENETRATION RESISTANCE	IN-SITU DENSITY (PCF)	MOISTURE CONTENT (%)
			THIN DESSICATED SURFACE				
			LOW PLASTIC SILTY CLAYS				
			AND CLAYEY SILTS - SOME SANDS	S.T.		106.4	25.9%
5			NEAR SATURATED - VERY HIGH SULFATE				
			LOW DENSITY - SOME CLAYEY STRATA				
			LIGHT BROWN COMPRESSIBLE	ST		103.2	26.2%
10			SILTY CLAY & CLAYEY SILT				
			THIN SAND STRATA				
			FREE WATER DURING DRILLING	ST		112.5	26.6%
15			14' SOFT HOLE SQUEEZING SHUT				
			INCREASING SAND STRATA				
			SATURATED	ST		97.8	29.5
20			SAME AS ABOVE				
25			LOW PLASTIC SILTY CLAY				
			SOFT SATURATED	BULK			23.4%
30			T.D. @ 30' HIGH SULFATES				
			ALL SOILS ARE DEBRIS FLOW				

LOG OF SUBSURFACE EXPLORATION

Lincoln DeVore, Inc.
Geotechnical Consultants

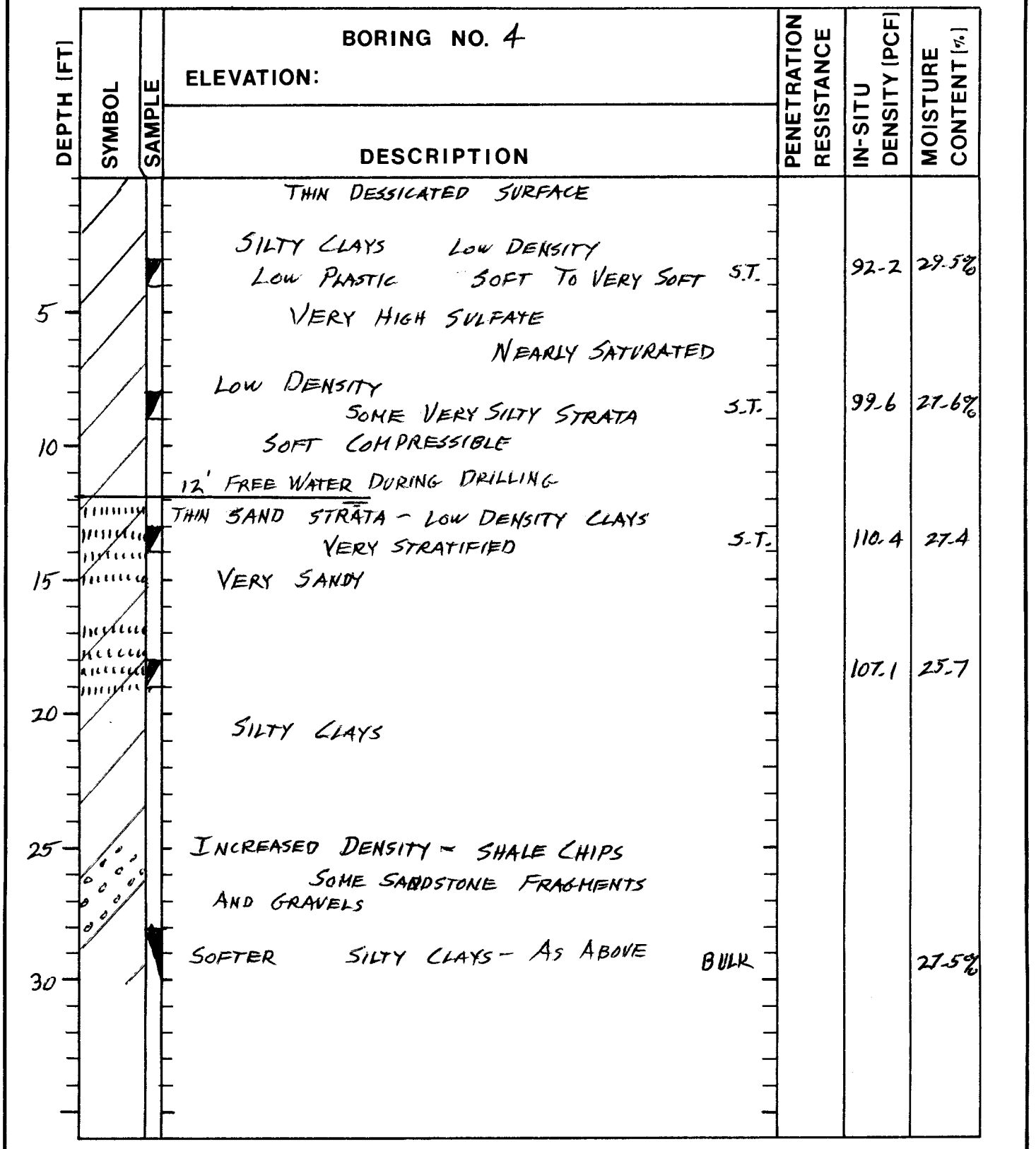
PATTERSON & MEANDER, GRAND JUNCTION, CO

HI FASHION FABRICS

DATE 7-30-92

JOB NO. 76604

DRAWN EMM



LOG OF SUBSURFACE EXPLORATION

Lincoln DeVore, Inc.
Geotechnical Consultants

PATTERSON & MEANDER, GRAND JUNCTION, CO.

HI FASHION FABRICS

DATE 7-30-92

JOB NO. 76604

DRAWN EMM

SUMMARY SHEET

Soil Sample: Low Plastic Clay-Silty (CL-ML)
Test No.: 76604
Location: Hi Fashion Fabric - Patterson St.
Date: 7-30-92
Boring No.: 4 Depth: 8'
Sample No.: I
Test by: J.S.

Natural Water Content (w): 27.4 %
Specific Gravity (Gs): 2.63
In Place Density (γ_o): 99.6 pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	
1"	
3/4"	
1/2"	
4	100
10	99.9
20	98.8
40	99.4
100	90.5
200	78.2

HYDROMETER ANALYSIS:

Grain size (mm)	%
.02	47.6
.005	29.9

Plastic Limit P.L.: 15.9 %
Liquid Limit L. L.: 22.1 %
Plasticity Index P.I.: 7.2 %
Shrinkage Limit: %
Flow Index:
Shrinkage Ratio: %
Volumetric Change: %
Lineal Shrinkage: %

MOISTURE DENSITY: ASTM METHOD

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

BEARING:

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

PERMEABILITY:

K (at 20°C):
Void Ratio:

Sulfates 2000+ ppm.

SOIL ANALYSIS

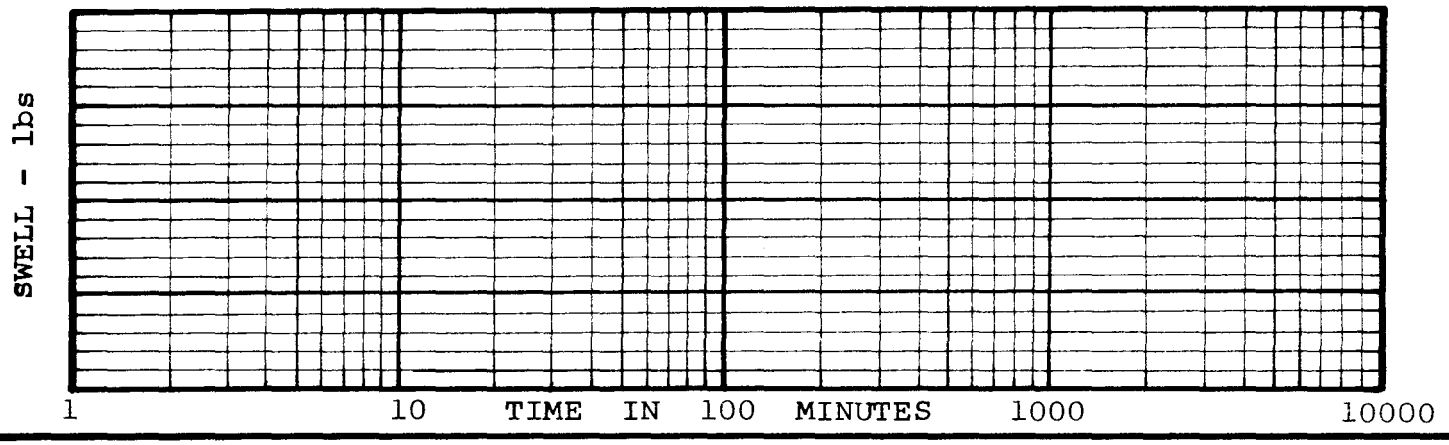
LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS, COLORADO

SOIL SAMPLE _____ Test No. 76604-J

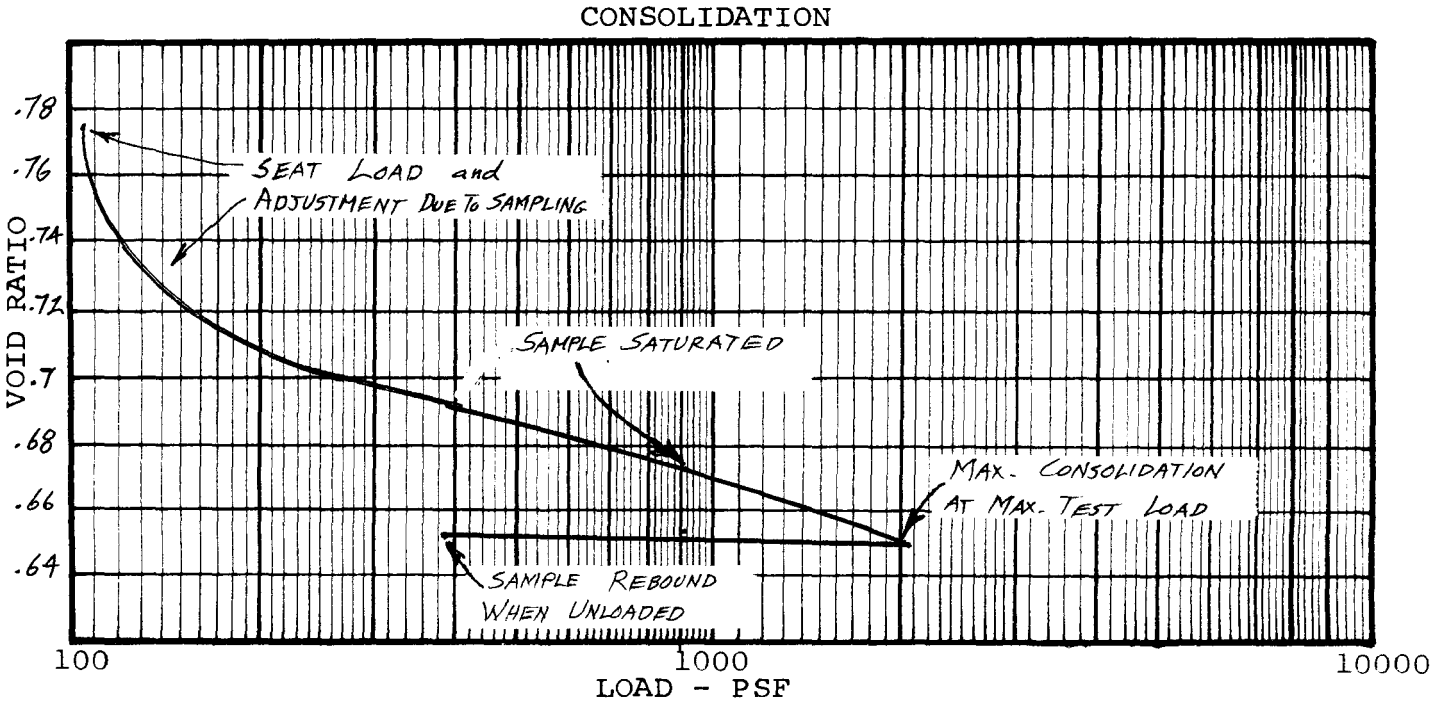
Project HI FASHION FABRICS - PATTERSON ROAD Date 7-30-92

Sample Location T.H. # 4 @ 3' Test by JS

SWELL



CONSOLIDATION



Sample Conditions	Initial	Maximum Load	Expanded
Dry Density	92.2 #/ft³	99.1 #/ft³	98.9 #/ft³
% Moisture	29.5%	24.8%	24.9%
% Saturation	99.9%	100%	100%
Void Ratio	.774	.649	.653

Specific Gravity 2.62

Maximum Load used 2059 lb. Ring Number 143-1

Apparatus DENSOIL 4 Volume 2.5" Ring .002841 cu.ft.

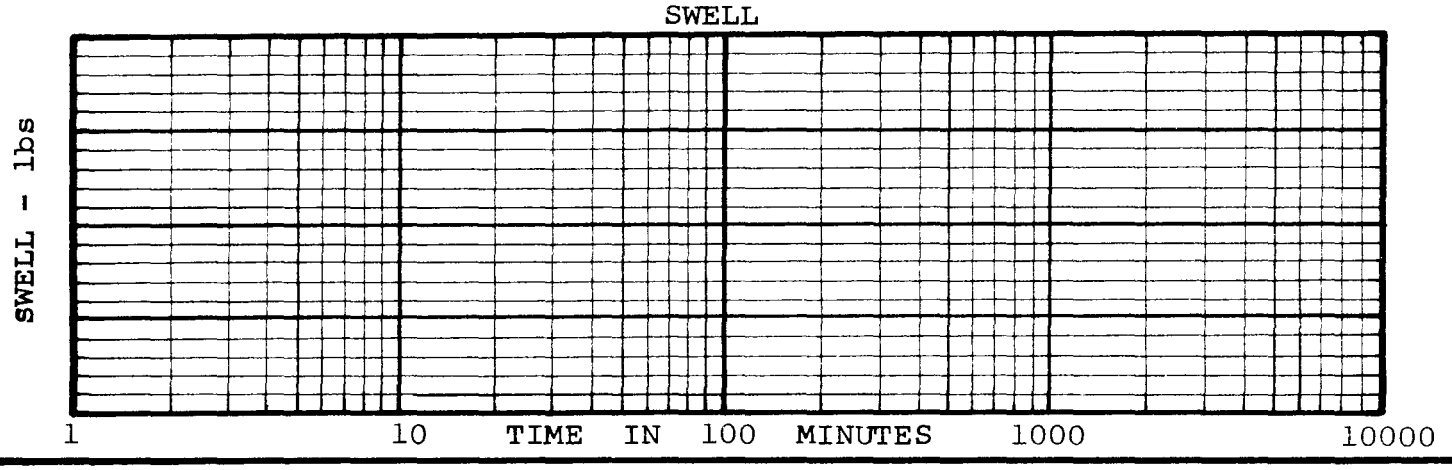
LOAD - CONSOLIDATION

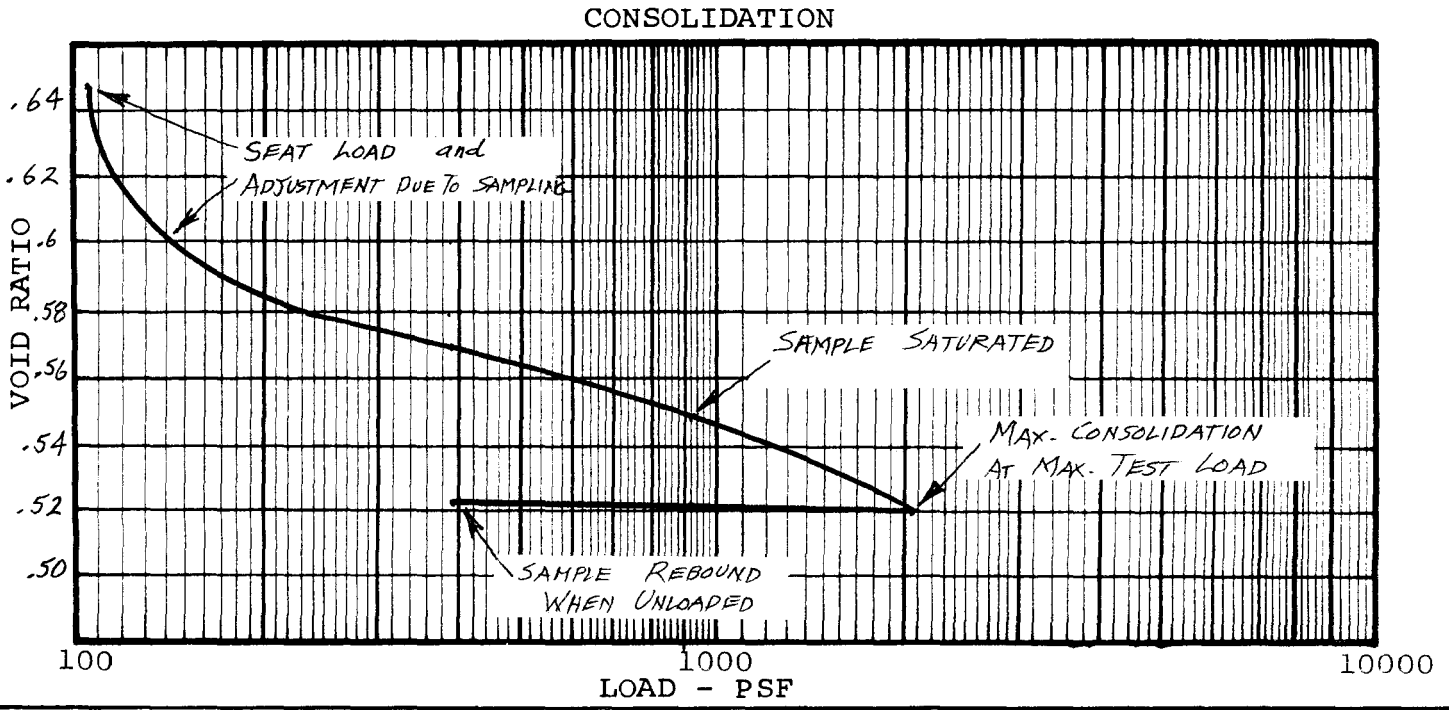
LINCOLN-DeVORE, INC.
COLORADO SPRINGS, COLORADO

SOIL SAMPLE _____ Test No. 76604-J

Project Hi Fashion Fabrics Patterson Road Date 7-30-92

Sample Location T.H. #4 @ 8' Test by JS





Sample Conditions	Initial	Maximum Load	Expanded
Dry Density	99.6 #/ft³	108.0 #/ft³	107.8 #/ft³
% Moisture	27.4%	19.8 %	19.9%
% Saturation	100%	100 %	100 %
Void Ratio	.648	.520	.522

Specific Gravity 2.63

Maximum Load used 2042 lb. Ring Number 144-39

Apparatus DENSOIL 2 Volume 2.5" Ring .002841 cu.ft.

LOAD - CONSOLIDATION

LINCOLN-DeVORE, INC.
COLORADO SPRINGS, COLORADO

FF

ACTION SHEET

ACRES 2

REZONE AND FINAL

FILE NUMBER #27 92

UNITS

ZONE

DENSITY

TAX SCHEDULE # 2945-03-00-088
089
090

ACTIVITY Rezone RSF-4 to PB

PHASE FINAL

COMMON LOCATION NW CORNER Patterson Rd & Meander Dr.

DATE SUBMITTED DATE MAILED OUT DATE POSTED

DAY REVIEW PERIOD RETURN BY

OPEN SPACE DEDICATION (acreage) OPEN SPACE FEE REQUIRED $ PAID RECEIPT #

RECORDING FEE REQUIRED $ PAID (Date) DATE RECORDED

REVIEW AGENCIES	A App	B Nov.	C X	D App.	E Title	F X	G Legal	H Mail	I X	J X	K X	L Soils	M STA	N Const	O Geo	P Plat	Q Site	R Land	S 10	T Utils	U L.S.	V Park	W X	X CIC	Y Traf	Z Final	AA Bldg	BB Gds	CC	DD	EE	FF Action
Planning Department ✓	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
City Engineer ✓	●	●	●						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●			
Transportation Engineer	●	●	●									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●			
City Parks/Recreation ✓	●	●	●	●								●	●	●	●	●	●	●		●	●					●			●			
City Fire Department ✓	●	●	●									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●			
City Police Department ✓	●	●	●											●	●	●	●			●	●					●			●			
County Planning	●	●	●									●	●	●	●	●	●	●	●	●	●	●				●			●			
County Engineer	●	●	●									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●			
County Health	●	●	●							●	●	●	●	●	●	●	●	●		●	●					●			●			
Floodplain Administration	●	●	●						●			●	●	●	●	●	●	●		●	●					●			●			
G.J. Dept. of Energy	●	●	●									●	●	●	●	●	●	●		●	●					●			●			
Walker Field	●	●	●									●	●	●	●	●	●	●		●	●					●			●			
School District	●	●	●									●	●	●	●	●	●	●		●	●					●			●			
Irrigation G.V.I. ✓	●	●	●									●	●	●	●	●	●	●	●	●	●					●			●			
Drainage G.V. ✓	●	●	●									●	●	●	●	●	●	●	●	●	●					●			●			
Water (Ute, Clifton)	●	●	●									●	●	●	●	●	●	●	●	●	●					●			●			
Sewer Dist. (FV, CGV, OM)	●	●	●									●	●	●	●	●	●	●	●	●	●					●			●			
U.S. West ✓	●	●	●									●	●	●	●	●	●	●	●	●	●					●			●			
Public Service (2 sets) ✓	●	●	●									●	●	●	●	●	●	●	●	●	●					●			●			
State Highway Department	●	●	●									●	●	●	●	●	●	●		●	●					●			●			
State Geological	●	●	●							●	●	●	●	●	●	●	●	●		●	●					●			●			
State Health Department	●	●	●										●																●			
City Property Agent ✓	●	●	●									●	●	●	●	●	●	●	●		●	●				●			●			
City Utilities Engineer ✓	●	●	●									●	●	●	●	●	●	●	●		●	●				●			●			
City Attorney ✓	●	●	●		●	●						●	●	●	●	●	●									●			●			
Building Department	●	●	●							●	●				●		●	●				●				●			●			
DDA	●	●	●												●		●	●				●	●			●			●			
GJPC (7 packets)	●	●	●												●			●				●	●						●	●	●	
CIC (X/packet)	●	●	●												●			●				●	●						●	●	●	
Other	●	●	●												●	●	●	●				●							●			
TOTALS	22	22		4	3	2	2			3								3													

21

BOARDS	DATE	
P.C.	7/7/92	Rezone Recommend Approval Plan Tabled
P.C.	8/4/92	Final Plan Plat / — Approved subject to revised plans + review comments
CIC	8/5/92	Zoning Approved 1ST READING
CIC	8/19/92	Zoning Approved 2nd Reading

STAFF

APPLICATION FEE REQUIREMENTS

$500

GRAND JUNCTION Planning

City of Grand Junction, Colorado
250 North Fifth Street
81501-2668
FAX: (303) 244-1599

September 1, 1992

Mr. Jeff Vogel
1938 N. 1st Street
Grand Junction, CO 81501

Re: Hi-Fashion Fabrics

Dear Jeff:

The plans for Hi-Fashion Fabrics have been approved for construction. We now request that the following information be submitted for site work (not buildings) as soon as possible:

(i) Construction schedule;
(ii) List of contractors to be used;
(iii) Testing laboratory that will provide materials and other testing; and
(iv) Name of developer's designated inspector.

In addition to the above, Walt Hoyt at 244-1577 or 244-6232 (mobile) should be called for inspection for the various stages of construction as outlined on the attached form which will be used to keep track of construction inspection and approvals.

If you have any questions regarding the above, please call.

Sincerely,

Gerald R Williams

Gerald R. Williams, P.E.
Development Engineer

Attachment

xc: Don Newton, City Engineer
Karl Metzner, Planner
File

Planing Dept.'s Copy (2)

Lincoln DeVore, Inc.
Geotechnical Consultants
1000 West Fillmore St.
Colorado Springs, CO 80907

TEL: (719) 632-3593
FAX: (719) 632-2648

November 11, 1992

Hi Fashion Fabrics
1938 North 1st Street
Grand Junction, CO 81501

Attn: Mr. Jeff Vogel

Re: Hydrologic Analysis, High Fashion Fabrics, Patterson and Meander Lane, Grand Junction, Colorado

Dear Mr. Vogel:

As requested, Lincoln DeVore has investigated runoff conditions at the proposed High Fashion Fabrics site at the intersection of Patterson and Meander Lanes in Grand Junction, Colorado. This analysis was completed in November, 1992, and consisted of analyzing the historic 2-year and 100-year runoff at the site outlet, together with the developed 2- and 100-year runoff at the site outfall. The proposed internal drainage and parking area storage was computed to determine the holding capacity and means to allow developed runoff from the site which will not exceed historic rates.

Scope and Sources:

The purpose of the analysis was to size proposed outlets from the site which restrict outflow runoff to the equivalent historic rates. The analysis was based on the "Interim Outline of Grading and Drainage Criteria" obtained from the City Engineering Office of Grand Junction, Colorado. We understand that the copy obtained is not yet in its final form, but the basic outline of procedure appears to be complete. The results obtained following the Grand Junction criteria were checked using methods outlined in CUHP, Vols. 1 and 2. Information concerning soil drainage characteristics was taken from Soil Conservation Service and U. S. Geological Survey publications, and was corroborated by information from geotechnical work performed in the area by Lincoln DeVore.

Coefficients for the Rational Method, n values and Intensity, Duration, Frequency Values used herein were taken from Appendices attached to the Interim Grading and Drainage Criteria, Grand Junction, Colorado. We understand that the Criteria requires design of outlets for the 2-year runoff and the 100-year runoff so that the equivalent "historic" flow is not exceeded through

this range. The project site and contributing basin areas are small. Therefore, the modified Rational Formula method was used for these calculations.

Site Description:

The site is located in the northwesterly portion of Grand Junction, at the northwest corner of the intersection of Patterson (F Road) and Meander Lane. The project site consists of a mild, low gradient slope toward Patterson. This area was fed by a small basin to the north which lies on the south slope of a low northeast-southwest trending hill. The slopes in this area are steeper than those found on the project site. Most runoff from the higher area consisted of overland sheetflow with some runoff carried in shallow swales. Predevelopment topography forced runoff into sheetflow and shallow swales, so that concentration time was relatively slow.

Development of the area has changed runoff directions somewhat. The attached basin map divides the area into four subbasins. Subbasin A flows generally south, to an outfall a short distance west of the project site, and included a strip of land in the western portion of the project site. The majority of the project site (Subbasin C) received runoff from Subbasin B on the slope north of the project site. Construction of Meander Lane cut off the upper portion of Subbasin A, adding this runoff to runoff from Subbasin B along Meander lane. In effect, this runoff and the runoff from Subbasin B has been cut off from feeding the project site, and carries runoff along Meander Lane to its intersection with Patterson. In addition, drainage changes on the project site have reclaimed most of the runoff from the site which originally added to Subbasin A. For all practical purposes, developed runoff from the project site consists only of the precipitation falling directly on the site.

At the time of our observations of the site, some runoff was noted to have escaped from Meander Lane and entered the project site. Without any available method of measurement, the amount of this escape could not be determined. In our opinion, Meander Lane should be improved to contain all runoff from Subbasins A2 and B. The Mesa County Canal, running along the northerly property line of the project site, has been converted to a piped system and has been covered. For this reason, the lateral cannot be utilized to accept runoff water at this site.

Soil Conditions:

The soils on the site are described by the U.S.G.S. as residually weathered clays derived from the Mancos Shale, occasionally covered with Piedmont deposits consisting of clayey sands and gravels. The Soil Conservation Service describe the soils as being variations of Fruita and Ravola Loams and Gravelly Loams. Their classification shows these site soils in Subbasins A2, B and C (project site) as being in Hydrologic Group B. Coefficients for use in both the "historic" analysis and in the developed analysis were taken from the Grand Junction Criteria based on the S.C.S hydrologic classification of "B". Development on site will cover most of the site with roof areas, paved areas and landscaped areas. Coefficients for each of these conditions were taken from the Grand Junction Criteria.

Historic Runoff:

The time of concentration for each of the subbasins was calculated based on overland flow not to exceed 300 feet, added to swale flow times to the outfall point at Patterson. Examination of the subbasins indicated that most runoff was either sheetflow (overland) or concentrated in shallow, relatively wide swales on the hillside, expanding in width and reducing in depth at the lower project site gradients. Therefore, the time of concentration for "historic" flow was relatively long to the point of outfall. The historic peak flow found by the modified Rational Formula varied from 0.235 cfs for the 2-year runoff to 1.66 cfs for the 100-year runoff.

Developed Runoff:

The time of concentration for the project site runoff in the developed condition is relatively short, since much of the area will be paved or roofed. Conversely, the gradient overall has been reduced. In this manner, the time of concentration is not reduced as much as if the original gradients had not been lowered. The coefficients for the formula were increased to fit the paved and landscaped conditions. The developed peak flows found by the modified Rational Formula varied from 1.69 cfs for the 2-year runoff to 5.59 cfs for the 100-year runoff.

The geometry of the project site was maintained as designed. This plan was given to Lincoln DeVore for our use in developing the proper sizes for runoff systems. Other than some minor changes in grade, the plan was used as given to us. In this manner, the desired site layout could be preserved with few changes.

As designed, the parking area is to be constructed as a basin, graded to a subsurface pipe outfall system leading to the City drainage system at Meander and Patterson. The pipe system is to be constructed as a 6-inch PVC outlet pipe end, covered with a restricting plate orifice as required. The runoff will collect in the parking area and be carried by surface grades to a drop inlet covered with a City Standard "street strength" grated cover, then entering the system. The volumetric capacity of the parking lot was computed at ascending elevations of 0.2 feet, from the grate at elevation 2.55 to the high point elevation of 4.0.

Computations show that this system will restrict runoff to "historic" levels for the 2-year to 10-year runoff. It was further determined that this system will not satisfactorily extend to the 50-year and 100-year runoff. Therefore, a higher level outfall was found to be required. The topography of the site is such that an upper level pipe system cannot be easily designed. In our opinion, a small concrete weir set at a parking lot elevation of 0.5 feet below the highest elevation of the parking lot will add to the ongoing runoff taken by the pipe system, to allow discharge of the 100-year runoff without exceeding the "historic" 100-year runoff.

The required size of the plate orifice to cover the pipe system outfall was found to be a round orifice with a diameter of 2.36 inches. This will provide "historic" discharge at the 2-year runoff level (or less) until water level in the parking lot reaches the critical elevation of 3.42. Above this level, a weir with a bottom level 1-1/2 foot in length with side slopes of 5:1 (horizontal to vertical) will provide additional outfall to the level of the 100-year "historic" runoff if the bottom of the weir opening is set at elevation 3.50.

Conclusions:

The geometry of the site restricts the use of a double pipe system or a riser system to a large degree, although such a system is possible. In our opinion, the system described in the report above will maintain the "historic" runoff from the site for storms ranging from very small to a 100-year runoff, and will better fit the geometry of the site.

Also, in our opinion, the developed site as shown on the attached map is capable of storing the runoff for the required range of storms with overflow only at the points designated and sized.

This opportunity to be of professional service is sincerely appreciated. If you have any questions or require additional information, please feel free to contact the undersigned engineer at your convenience.

Respectfully submitted,

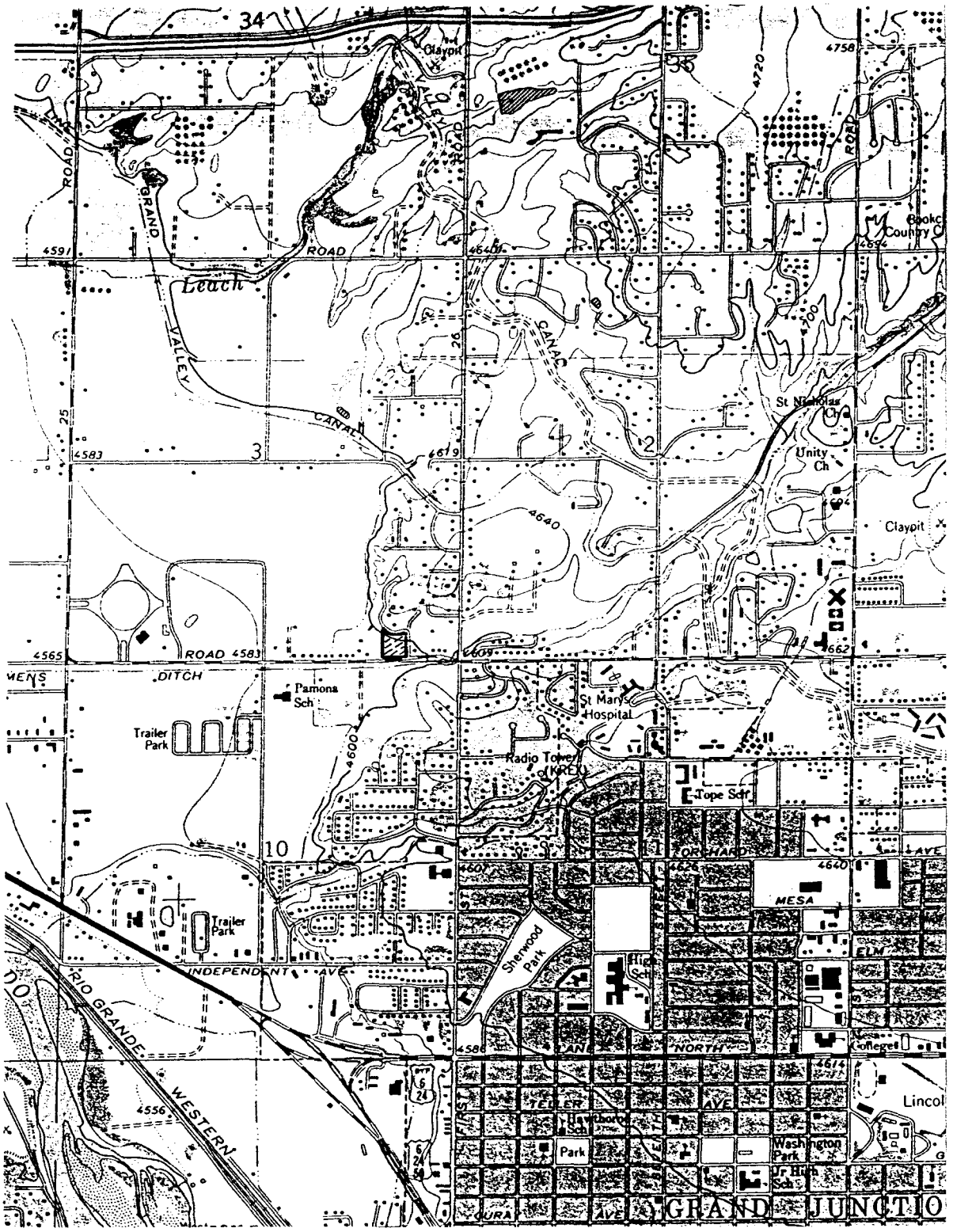
LINCOLN DeVORE, INC.

11/12/92

By: George D. Morris, P.E.

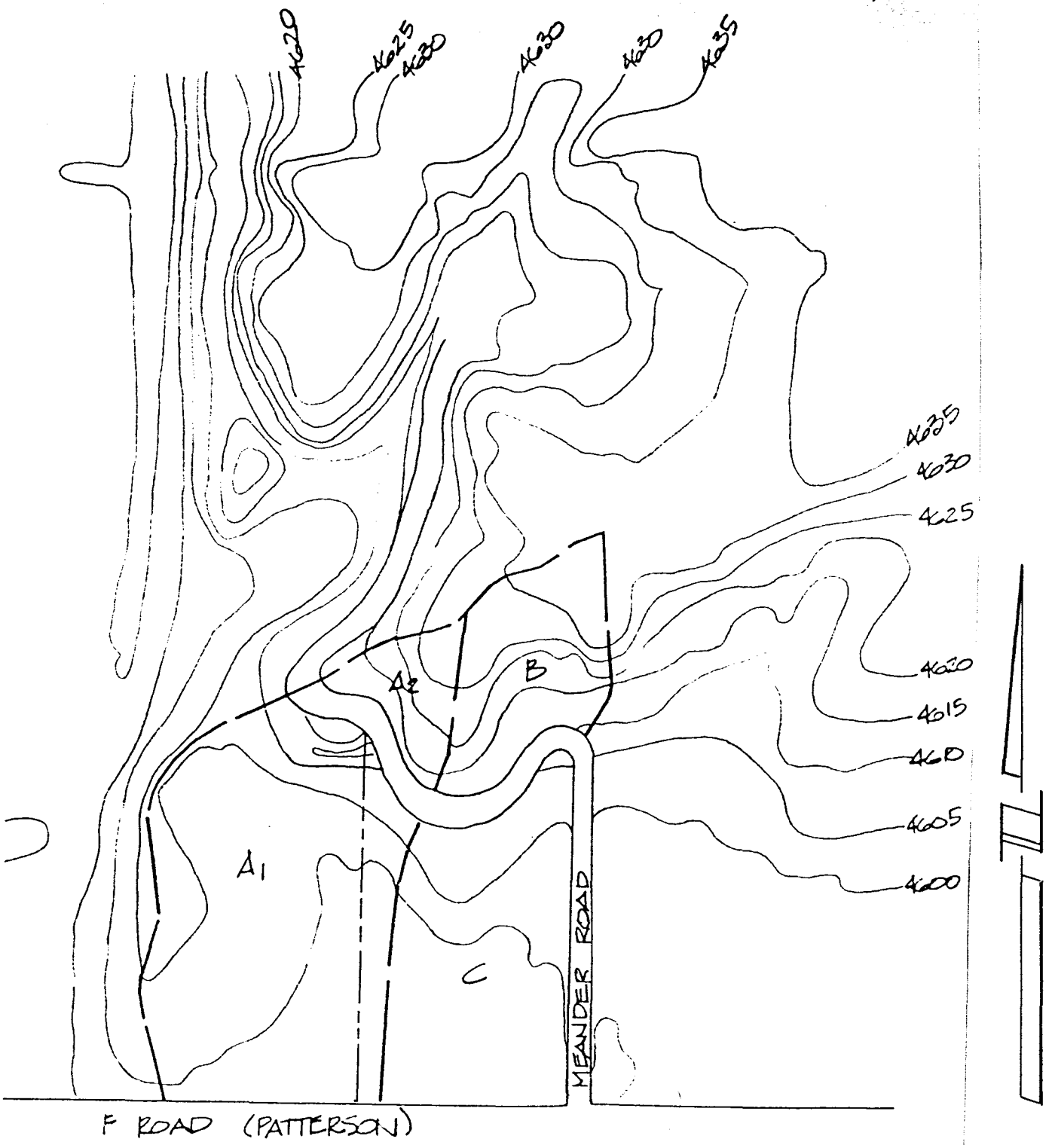
Reviewed by: Edward M. Morris

GDM/lab
LD Job No. 76604-J
Enclosures
cc: Lincoln DeVore, Grand Junction



SCALE 1" = 2000'

Lincoln DeVore, Inc. Geotechnical Consultants	Patterson and Meander Lane, Grand Junction	
	Hi Fashion Fabrics	DATE 11/11/92
	JOB NO. 76604-J / DRAWN GDM	



AREA BASIN MAP

1"=200'

Lincoln DeVore, Inc.
Geotechnical Consultants

Patterson and Meander Lane, Grand Junction		
Hi Fashion Fabrics		DATE 11/11/92
JOB NO. 76604-J	DRAWN KD/GDM	

APPENDIX A

Basic Data:

Soil Types in Site Area by SCS Classification:

Fa - Fruita and Ravola Gravelly Loams, 2-5%. Alluvial fans and some gravel terrace. Derived from Kmc, Hydro Class B

Fc - Fruita and Ravola Loams, 2-5%. Derived from Kmc, Hydro Class B

Ra - Ravola Clay Loam, 0-2%. Alluvium and Kmc, Hydro Class B

West of Site:

Ba - Billings Silty Clay, 0-2%, Derived from Kmc, Hydro Class C

Soil Types by U.S.G.S. Classification:

Qp - Pediment deposits, clayey silts, sands and gravels, slope wash Kmc. Hydro Class B to C.

Qr - Weathered shale, silty and clayey residual deposit on Kmc. Hydro Class C.

None of these soils are listed as hydric.

Runoff Notes: (see map for subbasin locations)

Subbasin A1 and A2 historically drained to F Road (Patterson) immediately west of the project site.

Subbasin B historically drained to F Road across Subbasin C (project site).

Construction of Meander changed this by cutting off drainage from A2, combining it with Subbasin B and conducting drainage to F Road at Meander (east of the project site).

In effect, Meander isolates the project site from incoming flow unless the curb or side ditch on Meander cannot carry this runoff. Observation indicates some water crosses onto the project site from Meander at the present time. This water should be carried by Meander to F Road.

Historic flow, therefore, is the combination of Subbasins B and C (the project site). For all practical purposes, Subbasin C consists of the entire project site.

The Developed Flow, however, consists only of Subbasin C, the project site. Subbasins A2 and B are intercepted by Meander and carried to F Road. The west line of the (historic) C Basin is changed by a collector to bring the entire Basin into a single site--minor change at west property line.

Grand Junction rules limit Std. Tc form to 300'. Tc will then equal the sum of overland and swale flow velocities. Areas are quite small, so qp will be small.

Historic Flow:

Basin C: A = 2.10 ac., total L = 470', total H = 23', Av. S = 0.0657, 2-yr. storm, C = 0.1

2-year: Overland L = 160' S = 9/160 = 0.0563
Swale L = 310' S = 4/310 = 0.0129

Swale in C - assume rounded, b = 10', d = 0.25'

then: $V = \frac{1.486}{0.1} \times 0.35106 \times 0.1664 = 0.868$ fps

Tc_2 = overland = $1.87\ (1.1-0.1)\ 160^{.5} \times 5.63^{-.33}$ = 13.4 min.
swale = 310/0.868 = 357/60 = 6.0 min.
Tc_2 at outfall = 19.4 min.

$Q_2 = 0.1 \times 1.12 \times 2.10 = 0.235$ cfs

100-year:

Swale in C - b = 10', d = 0.30' rounded bottom

then: $V = \frac{1.486}{0.1} \times 0.45846 \times 0.1664 = 1.13$ fps

Tc_2 = overland = $1.87\ (1.1-0.25)\ 160^{.5} \times 5.63^{-.33}$ = 11.4 min.
swale = 310/1.13 = 274/60 = 4.6 min.
Tc_{100} at outfall = 16.0 min.

$Q_{100} = 0.25 \times 3.17 \times 2.10 = 1.66$ cfs

Developed Flow:

Roof Area	= 11,250 ft.²,	C2 = 0.90	C100 = 0.95)		
Concrete	= 1,880 ft.²,	C2 = 0.90	C100 = 0.95)	Total = 0.88 ac.	
A/C	= 25,340 ft.²,	C2 = 0.90	C100 = 0.95)		
Landscaped	= 15,024 ft.²,	C2 = 0.15	C100 = 0.30		0.35 ac.
Rough Landscape	= 37,897 ft.²,	C2 = 0.45	C100 = 0.60		0.87 ac.

Then:
Composite C2 = (0.90x0.88+0.35x0.15+0.87x0.45)/2.10 = 0.589, use 0.59
Composite C100 = (0.95x0.88+0.30x0.35+0.60x0.87)/2.10 = 0.697, use 0.70

Subbasin C
slight difference in swale flow due to grade lowering and widening

Then:
2-year flow:
Tc_2 = overland = $1.87\ (1.1-0.59)\ 160^{.5} \times 5.63^{-.33}$ = 6.82 min.
"swale" = 310/0.882 = 351/60 = 5.85 min.
Tc_2 at outfall = 12.67 min., use 13 min.
$Qp_2 = 0.59 \times 1.36 \times 2.10 = 1.69$ cfs

100-year flow:
Tc_{100} overland = $1.87\ (1.1-0.70)\ 160^{.5} \times 5.63^{-.33}$ = 5.35 min.
"swale" = 310/1.19 = 261/60 = 4.34 min.
Tc_{100} at outfall = 9.69 min., use 10 min.
$Qp_{100} = 0.70 \times 3.50 \times 2.10 = 5.59$ cfs

Parking Area Storage: (note: islands are painted. not raised curbs)

Comment	Elev.	Form = $[Ag+Ag+1+(Ag \times Ag+1)^{.5}]\ h/3$		Cum. Volume
Flow Line, Outlet	00.71	--		--
C orifice & pipe	01.04	--		--
Top manhole grate	02.55	start with volume in C.B. above		5 ft.^{3}
	02.60	$.05/3\ [3 + 132 + (3 \times 132)^{.5}]$		8 ft.^{3}
	02.80	$.2/3\ [132+628 + (132 \times 628)^{.5}]$		78 ft.^{3}
	03.00	$.2/3\ [628+1424+ (628 \times 1424)^{.5}]$		278 ft.^{3}
	03.20	$.2/3\ [1424+2788+(1424 \times 2788)^{.5}]$		692 ft.^{3}
Anticipate spillway	03.40	$.2/3\ [2788+4816+(2788 \times 4816)^{.5}]$	d_2	1443 ft.^{3}
	03.60	$.2/3\ [4816+7596+(4816 \times 7596)^{.5}]$		2674 ft.^{3}
	03.80	$.2/3\ [7596+10544+(7596 \times 10544)^{.5}]$	d_{100}	4480 ft.^{3}
Top of parking lot	04.00	$.2/3\ [10544+14392+(10544 \times 14392)^{.5}]$		6964 ft.^{3}
	04.20	$.2/3\ [14392+16692+(14392 \times 16692)^{.5}]$		10.070 ft.^{3}

Summary:

		2-yr Historic		100-yr Historic		Developed					
Basin	Area	Tc_2	qp2	Tc_{100}	qp100	Tc_2	qp2	C	Tc_{100}	qp100	C
C	2.10 ac.	20 min	.235 cfs	16 min	1.66 cfs	13 min	1.69 cfs	.59	10 min	5.59 cfs	0.70

Basin C:

2-year Storm: Qo orifice only - .75 x .235 = .176

$Td_2 = [633.4 \times .59 \times 2.1/(.176-.176^2 \times 13/(81.2 \times .59 \times 2.1)]^{.5} - 15.6 = 51.95$

$Id_2 = 40.6/(51.95+15.6) = .601"/hr.$

$Qd_2 = .59 \times 2.1 \times .601 = .745$ cfs

$K = 20/13 = 1.538$

$V = 66[.745 \times 51.95 - .176 \times 51.95 - .176 \times 13 + 1.538 \times .176 \times 13/2 + .176^2 \times 13/(2 \times .745)] = 1934$ ft.^{3}

100-year Storm: Qo - will probably need spillway for this = $.65 \times 1.66 = 1.079$

$Td_{100} = [2925 \times .70 \times 2.1/(1.079-1.079^2 \times 10/(234 \times .70 \times 2.1)]^{.5} - 25 = 39.1$ min.

$Id_{100} = 117/(39.1+25) = 1.825"/hr.$

$Qd_{100} = .70 \times 2.1 \times 1.825 = 2.683$ cfs

$K = 16/10 = 1.60$

$V = 66\ [2.683 \times 39.1 - 1.079 \times 39.1 - 1.079 \times 10 + 1.6 \times 1.079 \times 10/2 + 1.079^2 \times 10/(2 \times 2.683)] = 4140$ ft.^{3}

Orifice Outlet:

C orifice = elev. 01.04, grate elev. = 02.55 . 1.51' head exists in catch basin.
Take H pond = H head above this.

$Q = CA\ (2gH)^{.5}$ Max. Q allowable - 0.235 cfs, max. H = 2.96' above C of orifice

Then: $.235 = .60A\ (64.4 \times 2.96)^{.5}$ or $A = .235/8.284 = 0.02837$ ft.^{2} d = 2.28"

and: 2-year critical elevation in parking lot is 3.60', H = 2.56'

$A = .235/7.7040 = 0.0305$ ft.^{2}

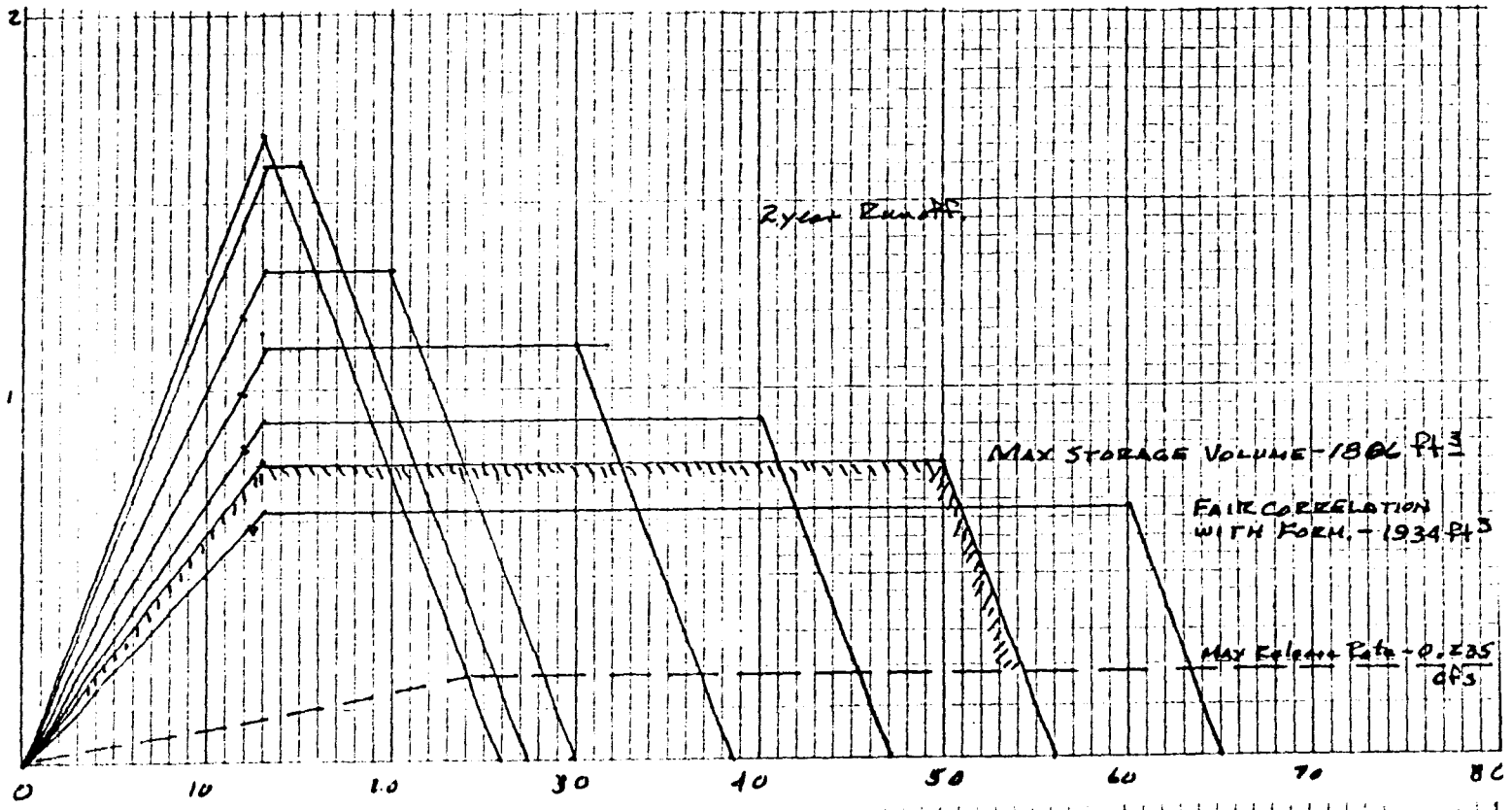
.0305 ft.^{2} d = 2.36" orifice with diameter of 2.36" will hold historic flow at the critical elevation.

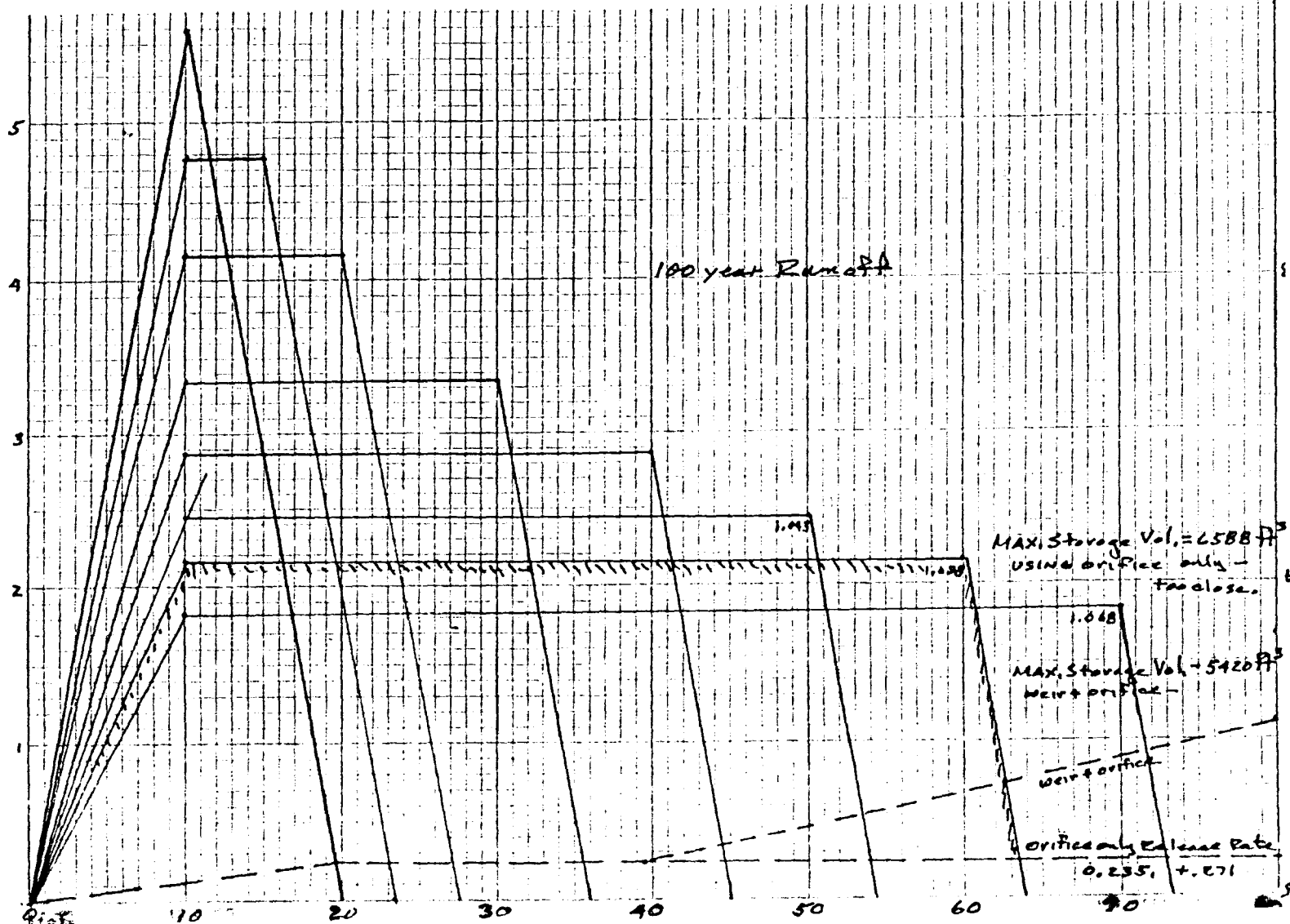
So: Overflow at various heads.

Water Elevation	q out (cfs)
2.55	.180
2.60	.183
2.80	.195
3.00	.206
3.20	.216
3.40	.226
3.60	.235
3.80	.244
4.00	.253 (top of parking lot berm)
4.20	.261

Check by CUHP/ Mod. Rational Procedure!

Che





Since CUHP Graphical Procedure indicates that parking lot may hold the 100-year flow. check this 100-year condition using Qo = .75 Q max.

Then:

Basin C - Redo to check graph - Qo = .75 x .271 = .2032

100-year storm -

Td_{100} = [2925x.70x2.1/(0.2032-.2032²x10/(234x.70x2.1)]$^{.5}$ - 25 = 120.9 min.

Id_{100} = 117/(120.9+25) = 0.802"/hr.

Qd_{100} = .70x2.1x1.802 = 1.179 cfs

K = 16/10 = 1.60

V = 66 [1.179x120.9-0.2032x120.9-0.2032x10+1.6x0.2032x10/2 + 0.2032²x10/(2x1.179)] = 7786.7 ft.^{3}

Won't take it - original thought correct - use upper overflow

Pipe overflow does not fit site well due to cover and dimension restrictions.

Use weir type spillway, 1.5' wide, side slopes 5:1 . C = 3.39 (King)

County requires general weir form Q = $CLH^{1.5}$

Then: 100-year overflow at various heads:

Elevation H	q out (cfs)	
03.55	0.00	E - weir
03.60	0.05	
03.80	0.64	
04.00	1.54	top of berm
04.20	2.66	

APPENDIX B

Basic data and notes are the same as shown on Appendix A. These computations indicate the movement of Developed runoff along Meander Lane, with and without loss to Basin C. Some loss is presently occurring, but it has been recommended that the loss be stopped.

Historic Flow:

Basin B: A = 1.14 ac., Total L = 350', Total H = 23', Av. S = 0.0657, n = 0.2

2-year: Overland L = 150' S = 8/150 = 0.0453
Swale L = 200' S = 15/200 = 0.0750
Swale B - b = 5', d = 0.20'

then: $V = \frac{1.486}{0.2} \times 0.2888 \times 0.2739 = 0.588$ fps

Swale to F - b = 10', d = 0.25', n = 0.1

then: $V = \frac{1.486}{0.1} \times 0.35106 \times 0.1664 = 0.868$ fps

Tc_2 = overland = $1.87\ (1.1-0.1)\ 150^{.5} \times 4.53^{-.33}$ = 13.9 min.
Basin B swale = 200/0.588 = 340/60 = 5.7 min.
Swale to F Road = 470/0.868 = 541/60 = 9.0 min.
Tc_2 at outfall = 28.6 min., use 29 min.

Outfall B = $Q_{2(B)}$ = 0.1 x 1.13 x 1.14 = 0.129 cfs
Outfall at F = Q_2 = 0.1 x 0.90 x 3.04 = 0.273 cfs

100-year: C_{100} = 0.25
Tc_{100} = overland = $1.87\ (1.1-0.25)\ 150^{.5} \times 4.53^{-.33}$ = 11.8 min.
Basin B swale = 200/0.863 = 232/60 = 3.9 min.
Swale to F Road = 470/1.13 = 416/60 = 6.9 min.
Tc_{100} at outfall = 22.6 min., use 23 min.

Outfall at F = Q_{100} = 0.25 x 2.63 x 3.04 = 2.00 cfs

Developed Flow:

Meander Lane added Subbasin A2 to B. Area developing slowly as 1/2-acre + tracts. Unit average lower due to hillside, ditch and soil types.

So: Take C_2 = 0.30 and C_{100} = 0.45

Meander street pavement = 1,000 x 34 = 34,000 ft.² = 0.781 ac. at C_2 = 0.90 and C_{100} = 0.95, L = 550'

Composite C_2 = (A2+B) = (0.90X0.781+0.30X1.542)/2.323 = 0.50
Composite C_{100} = (A2+B) = (0.95X0.781+0.45X1.542)/2.323 = 0.62

See St. V on Sheet A-1

Developed Flow: (cont'd)

2-year:

Subbasin A2

Tc_2 = overland = 1.87 (1.1-0.3) 150$^{.5}$ x 7.78$^{-.33}$ = 10.2 min.
Street to B out = 450/1.30 = 346/60 = 5.8 min.
Street to F out = 550/2.29 = 240/60 = 4.0 min.
Tc_2 at outfall = 20.0 min.

Subbasin B

Tc_2 = overland = 1.87 (1.1-0.3) 150$^{.5}$ x 4.53$^{-.33}$ = 11.13 min.
Swale in Basin = 200/0.855 = 234/60 = 3.90 min.
Street to F out = 550/2.29 = 240/60 = 4.00 min.
Tc_2 at outfall = 19.00 min.

Peak will be at Tc 19 min. (only 1 min. difference) and: R Coeff. = 1.14

Q_2 = 0.50 x 1.14 x 2.32 = 1.32 cfs

100-year:

Subbasin A2

Tc_{100} overland = 1.87 (1.1-0.45) 150$^{.5}$ x 7.75$^{-.33}$ = 8.29 min.
Street to B out = 450/1.32 = 341/60 = 5.68 min.
Street to F out = 550/2.32 = 237/60 = 3.95 min.
Tc_{100} at outfall = 17.92 min., use 18 min.

Subbasin B

Tc_{100} overland = 1.87 (1.1-0.45) 150$^{.5}$ x 4.53$^{-.33}$ = 9.04 min.
Swale in B = 200/0.92 = 217/60 = 3.62 min.
Street to F out = 550/2.33 = 236/60 = 3.93 min.
Tc_{100} at outfall = 16.59 min., use 17 min.

Peak will be at Tc 17 min. and: R Coeff. = 3.07

Q_{100} = 0.62 x 3.07 x 2.32 = 4.42 cfs

Summary:

		Subbasin B Only Historic Flow									
		2-year		100-year		Developed (A2+B)					
Basin	Area	Tc_2	qp2	Tc_{100}	qp100	Tc_2	qp2	C	Tc_{100}	qp100	C
C	3.04 ac.	29 min	.273 cfs	23 min	2.00 cfs	19 min	1.32 cfs	.50	17 min	4.42 cfs	0.62

Totals to catch basins on Meander Lane at F Road (Patterson)

KELCO
General Contractors
P.O. Box 55065, Grand Junction, Colorado 81505 (303) 245-9343 Fax (303) 245-5090

November 12, 1992

List of Subcontractors

RE: Site Development
Hi Fashion Fabrics
2586 Patterson Road
Grand Junction, CO 81501

General Contractor: Kelco
P.O. Box 55065
Grand Junction, CO 81505
Kelly Ford
245-9343

Skyline Excavation
2477 Industrial Blvd.
Grand Junction, CO 81505
Mike Kelleher
245-2606

Elam Construction
1225 S 7th St
Grand Junction, CO 81501
Kevin Combs
242-5370

Crigger Concrete
595 Agana
Grand Junction, CO 81504
Bob Crigger
434-1074

Lincoln Devore (Testing Laboratory)
1441 Motor Street
Grand Junction, CO 81501
Ed Morris
242-8968

The developer designated inspectors are:
Kelly Ford
Kelco General contractors
and
Ed Morris
Lincoln Devore

MEMORANDUM

DATE: **November 23, 1992**

TO: **Karl Metzner**

FROM: **Gerald Williams**

SUBJ: **Hi Fashion Fabrics**

We have reviewed the recent resubmittals for Hi Fashion Fabrics prepared by Kelco General Contractors and Lincoln DeVore. Several revisions have been made this past week based upon our review comments. The latest drawings received November 20, 1992 still do not address the following comments:

1) The handicap spaces do not meet ADA requirements, although adequate space is provided and additional change required pertains to paint striping;

2) The grading plan and drainage report do not yet coincide in terms of grades and detention outlet design;

3) Curbing or concrete wheel chocks are not provided on the east side of the parking lot;

4) Concrete edge curb or thickened pavement edge is not provided around the perimeter of the paved parking lot which will likely result in pavement raveling and deterioration in the short run; and

5) The pavement section of 2 inches of asphalt on 6 inches of base course does not meet the geotechnical recommendations of 3 inch asphalt on 9 inches of base for the site soil conditions, nor does it appear adequate for normal design life based upon other applications within the City.

It is our understanding that Kelco will be submitting 4 new sets of prints today, which will address item (1) above. Item (2) is not yet resolved, but does not impact the building, site grading (except minimally), water and sewer, and storm drain except minimally in the parking lot and overflow drain line. Therefore, it is our intent to conditionally sign the new plans so that construction may begin, but with the understanding that the grading and drainage issues must be resolved.

Jeff Vogel, the owner, has elected not to install concrete wheel chocks, pavement edge treatment, nor an increased pavement section despite the geotechnical engineer's recommendations and City concern that the result of such decision will be a significantly reduced pavement life. Notwithstanding, being informed, we feel to honor the Jeff's decision. We have received a letter dated November 19, 1992 from Jeff regarding the pavement section, and a subsequent telephone conversation between Jeff and I held November 20, 1992 also disclosed Jeff's preference to forego the pavement edge treatment.

While writing this memorandum, we received the 4 sets of plans for conditional approval, and only await a revised drainage report.

xc: Don Newton - City Engineer

Parking Area Storage: (note: islands are painted. not raised curbs)

Comment	Elev.	Form = [A$_x$+A$_{x+1}$+(A$_x$xA$_{x+1}$)$^{.5}$] h/3		Cum. Volume
Flow Line, Outlet	00.71 ✓	--		--
C orifice & pipe	~~01.04~~	00.96		--
Top manhole grate	02.55	start with volume in C.B. above		5 ft.^{3}
	02.60	.05/3 [3 + 132 + (3 x 132)$^{.5}$]		8 ft.^{3}
	02.80	.2/3 [132+628 + (132 x 628)$^{.5}$]		78 ft.^{3}
	03.00	.2/3 [628+1424+ (628x1424)$^{.5}$]		278 ft.^{3}
	03.20	.2/3 [1424+2788+(1424x2788)$^{.5}$]		692 ft.^{3}
Anticipate spillway	03.40	.2/3 [2788+4816+(2788x4816)$^{.5}$]	d_2	1443 ft.^{3} — V_2 = 1934 ft^3 (with Q_o = .176)
ELEV$_2$ = 3.48+/-	03.60	.2/3 [4816+7596+(4816x7596)$^{.5}$]		2674 ft.^{3}
ELEV$_{100}$ = 3.76+/-	03.80	.2/3 [7596+10544+(7596x10544)$^{.5}$]	d_{100}	4480 ft.^{3} — V_{100} = 4140 ft^3 (with Q_o = 1.07
Top of parking lot	04.00	.2/3 [10544+14392+(10544x14392)$^{.5}$]		6964 ft.^{3}
	04.20	.2/3 [14392+16692+(14392x16692)$^{.5}$]		10.070 ft.^{3}

Summary:

		2-yr Historic		100-yr Historic		Developed					
Basin	Area	Tc_2	qp2	Tc_{100}	qp100	Tc_2	qp2	C	Tc_{100}	qp100	C
C	2.10 ac.	20 min	.235	16 min	1.66	13 min	1.69	.59	10 min	5.59	0.70
			cfs		cfs		cfs			cfs	

Basin C:

2-year Storm: Qo orifice only - .75 x .235 = .176 ← This would apply if the orifice was at and not below the pond bottom. However, using it will result in less than historic outflo (which is acceptable) and greater storage volume req'd. For review purposes, I'll use it.

Td_2 = [633.4x.59x2.1/(.176-.176²x13/(81.2x.59x2.1)]$^{.5}$ - 15.6 = 51.95

Id_2 = 40.6/(51.95+15.6) = .601"/hr.

Qd_2 = .59 x 2.1 x .601 = .745 cfs

K = 20/13 = 1.538

V = 66[.745x51.95-.176x51.95-.176x13+1.538x.176x13/2+.176²x13/(2x.745)] = 1934 ft.^{3}

100-year Storm: Qo - Will probably need spillway for this = .65x1.66=1.079

← Condition of crest @ pond bottom does not e

Td_{100} = [2925x.70x2.1/(1.079-1.079²x10/(234x.70x2.1)]$^{.5}$ - 25 = 39.1 min. Therefore this does not really appl

Id_{100} = 117/(39.1+25) = 1.825"/hr. It is doubtful that it can easily be obtained, but we'll forge ahead wit

Qd_{100} = .70x2.1x1.825 = 2.683 cfs calculations and checks anyway.

K = 16/10 = 1.60

V = 66 [2.683x39.1-1.079x39.1-1.079x10+1.6x1.079x10/2 + 1.079²x10/(2x2.683)] = 4140 ft.^{3}

Orifice Outlet:

C orifice = elev. ~~01.04~~ 00.96, grate elev. = 02.55 . ~~1.51~~ 1.59' head exists in catch basin.

Take H pond = H head above this.

Q = CA (2gH)$^{.5}$ Max. Q allowable - 0.235 cfs, max. H = 2.96' above C of orifice

SEE ATTACHED

Then: .235 = .60A (64.4x2.96)$^{.5}$ or A = .235/8.284 = 0.02837 ft.² d = 2.28"

and: 2-year critical elevation in parking lot is 3.60', H = 2.56'

A = .235/7.7040 = 0.0305 ft.²

.0305 ft.² d = 2.36" orifice with diameter of 2.36" will hold historic flow at the critical elevation.

Using info on the preceding page...

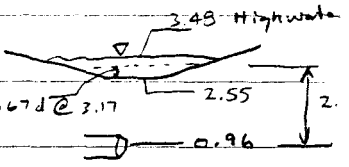
2YR ANALYSIS

Given: Q_{o2} was selected at 0.176 cfs, which resulted in a req'd V_2 of 1934 ft^3 and EL_2 of 03.48±.

Find: Low level outlet orifice size

Soln: Normally, the orifice would be sized to ensure that at EL_2, Q_{2n} of 0.235 cfs is not exceeded, which is the only check that would be required for the 2 yr condition. However, the original use of the "0.75" factor was incorrect inasmuch as the orifice is below the bottom of the pond. Therefore, the orifice will be sized for Q_o, then verified that Q_{2n} is not exceeded.

$Q = CA(2gH)^{.5}$, H used is H_{AVG}, H = 2.21



$.176 = (.6)(A)[2 \times 32.2 \times 2.21]^{.5}$

$.0246 = A(ft^2)$

$3.54 = A(in^2) = \frac{\pi d^2}{4}$

$4.51 = d^2$

$2.12" = d \doteq 2.125"$

Check for Q_{2n} $Q = CA(2gH)^{.5}$; H is max H, H = 3.48 - 0.96 = 2

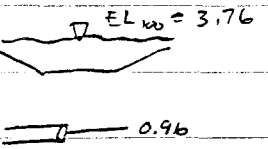
$Q = (.6)(.0246)[2 \times 32.2 \times 2.52)^{.5} = 0.188$ cfs < 0.235

OK

100 YR ANALYSIS

Given: Orifice with area of .0246 ft² (d = 2.125") @ elev 0.96

Find: Orifice capacity at H_{100}, $H_{100} = 3.76 - 0.96 = 2.80'$



Soln: $Q = CA(2gH)^{.5}$

$Q = (.6)(.0246)(2 \times 32.2 \times 2.80)^{.5} = 0.198 \doteq 0.20$ cfs

Given: $Q_{100h} = 1.66$ cfs — This may not be exceeded

Find: Capacity of add'l outflow req'd / allowed & check design

Soln: $Q_{100h} - Q_{orifice} = Q$ add'l outflow

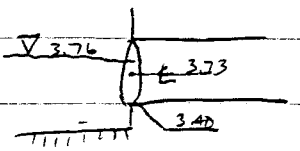
$1.66 - 0.2 = 1.46$

The calculated V_{100} of 4140 ft³ is based upon an average outflow of 1.079 cfs. Since the low level orifice takes an approximate average of 0.19 cfs, the add'l outflow must average $1.079 - 0.19 = 0.889 \doteq 0.9$ cfs This cannot be accomplished with the current design, not only is Qo not 0.9, but Q_{max} is not 0.9 based upon the EL_{100} of 3.76'.

The depth of flow is $3.76 - 3.40 = 0.36'$

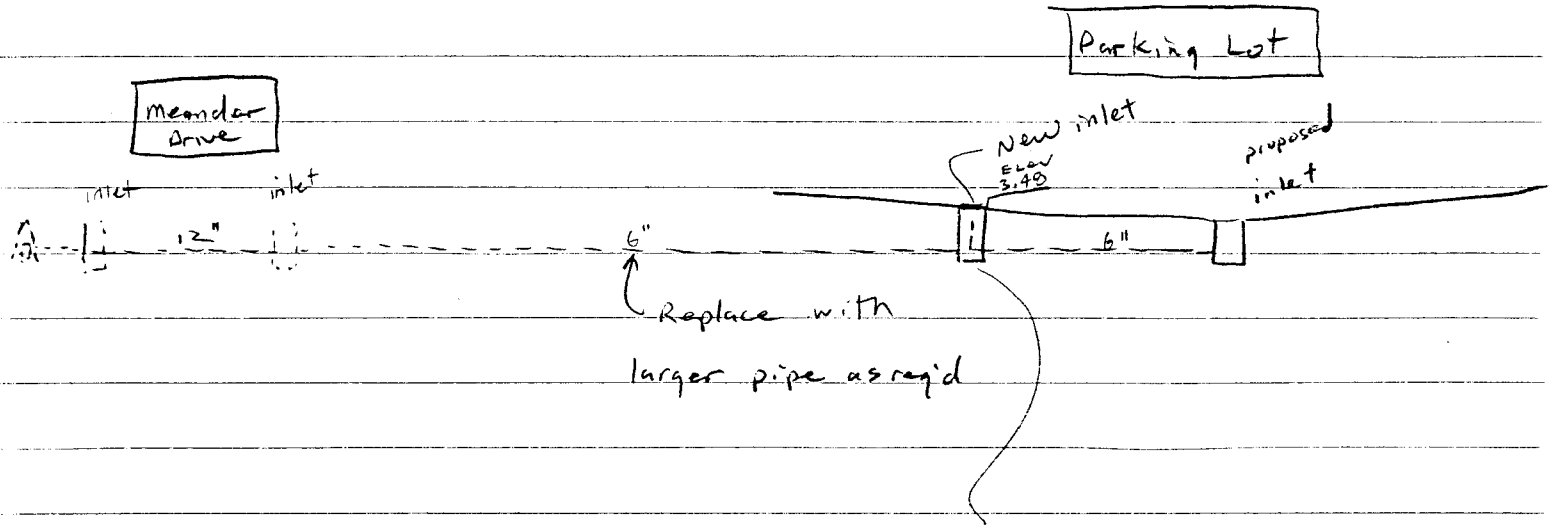
Even a 12" CMP under inlet control can't get 0.9 cfs at the maximum ponding.

V_{100} per previous calculation = 3.76



CONCLUSION: The designed system does not match the calculations; That is, 1.0789 cfs average cannot be achieved, which is what the volume calcs are based upon. With the current design, the outflow is less, therefore the volume will be more, and the depth of ponding increased. Criteria only allows 1.0' of ponding on parking areas. If the design worked per calculations (which it does not), the 1.0 foot would be exceeded. However, as the current design is, it is probable that the depth would approach 1.75 +/- feet. That is unacceptable.

We suggest looking at the following.



$Q_o = 0.9$ cfs $\therefore$ Avg $h = (3.76 - 3.40)(.67) = = 0.19'$

$Q_o = 0.9$ cfs $= 3pd^{1.5}$

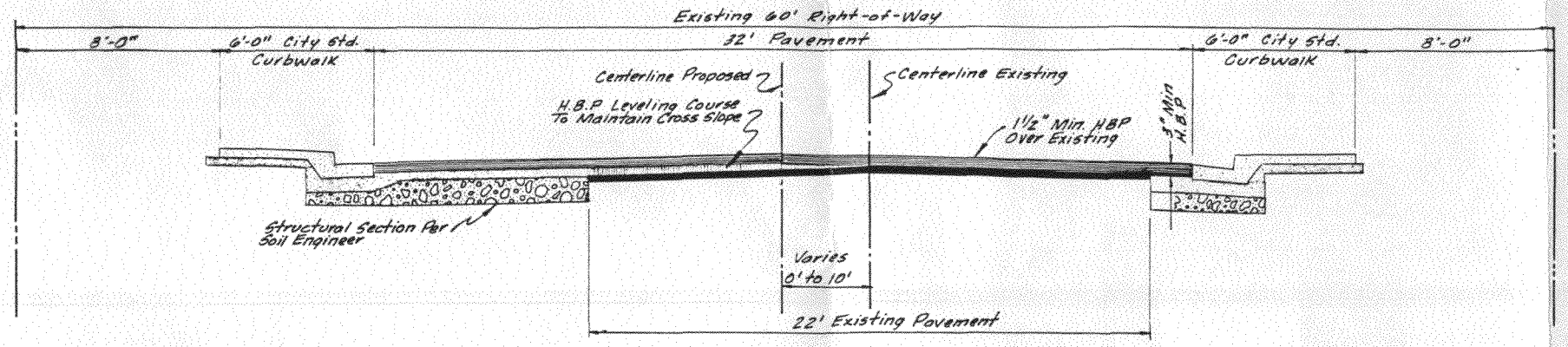
$3.62' = p$ → Grate opening is subject to clogging, and should not be used to meter outflow. Figure 50% clogging, use grate with $P = 3.62 \times 2 = 7.$

The City std area inlet has a perimeter of 9 L.F

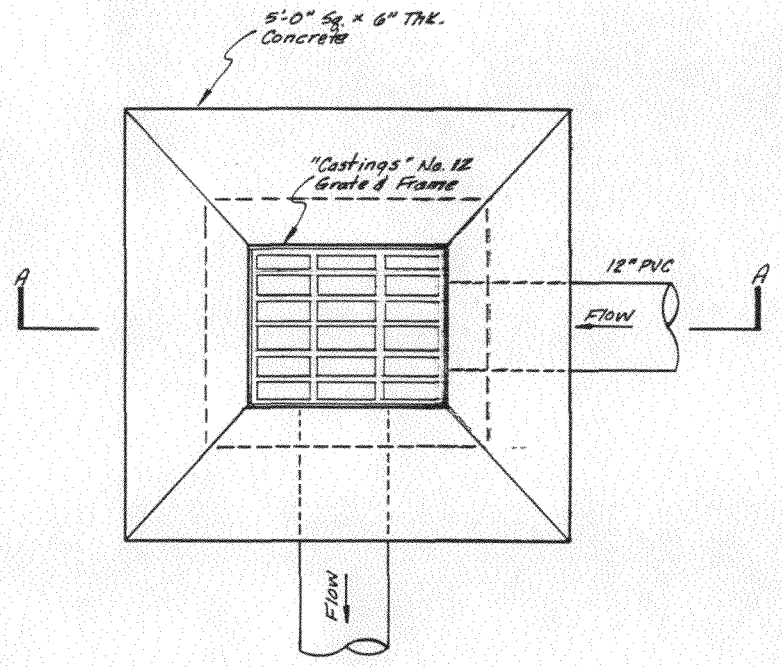
Then, have orifice opening <u>below</u> the grate that:

1) Has a capacity of 0.9 cfs +/- when the ponded W.S. elevation is at $3.48 + 0.67(3.76-3.48) = 3.69$; and

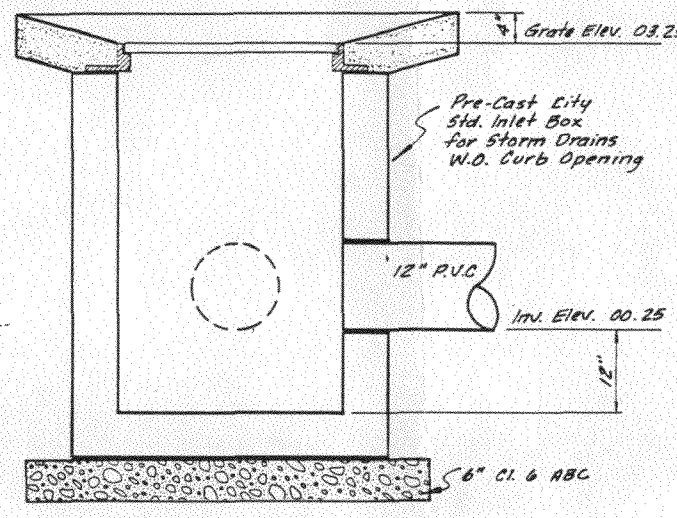
2) At W.S. elev at 3.76, Q does not exceed $1.66 - 0.2 = 1.46$ cfs.



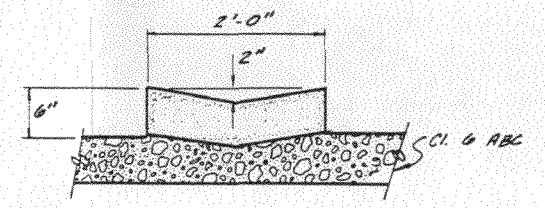
MEANDER DRIVE STREET SECTION



PLAN

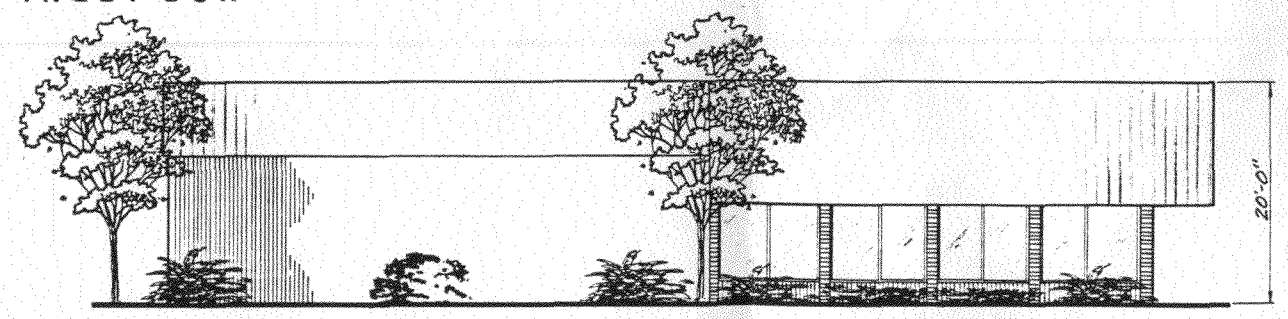


SECTION A-A



2 ft. "V" GUTTER

INLET BOX



SOUTH ELEVATION

#27 92

REVISIONS	BY

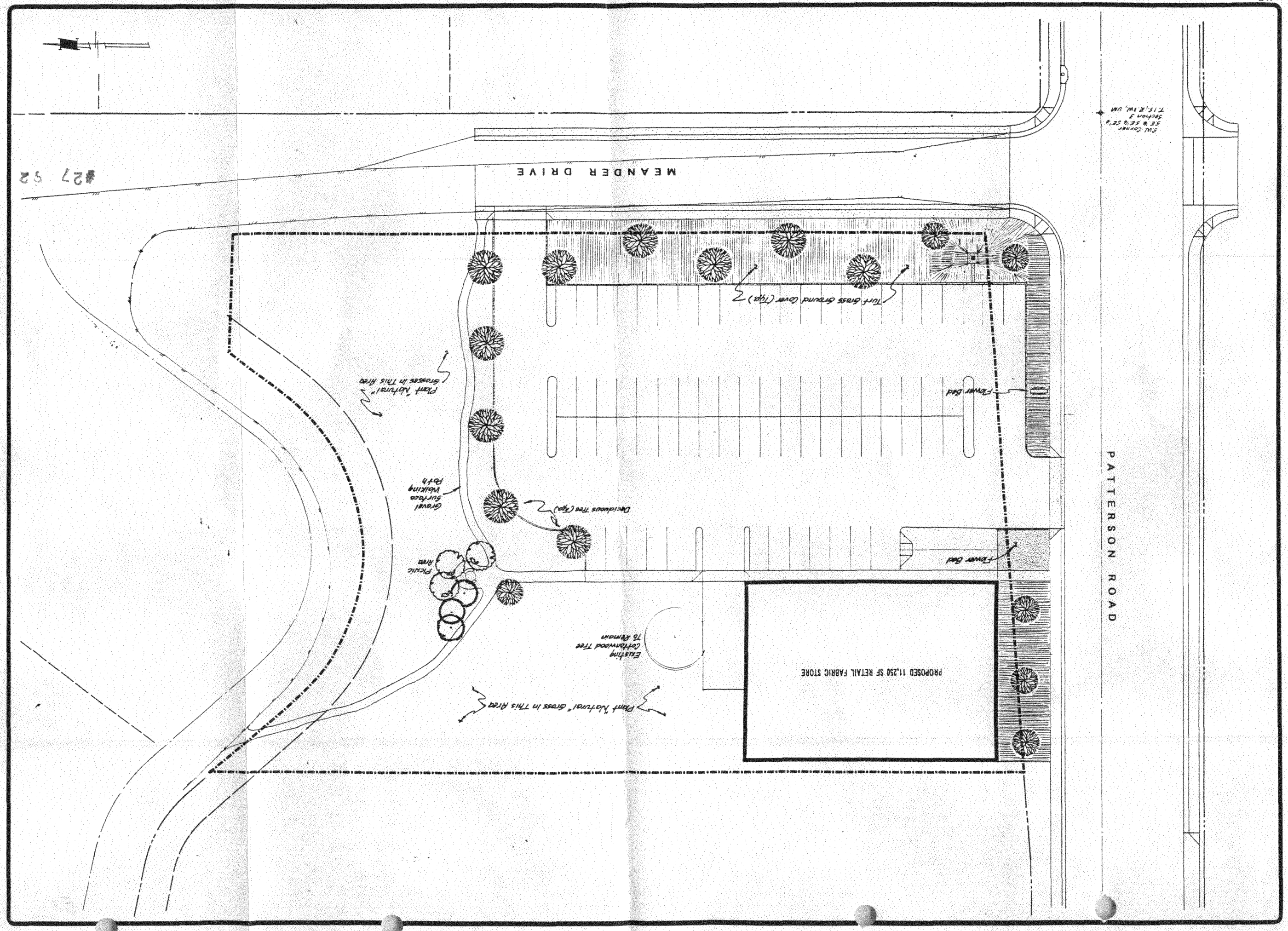
T&L THOMAS A. LOGUE
LAND DEVELOPMENT CONSULTANT
1938 N. 1st. STREET, GRAND JUNCTION, CO. 242-1890

MEANDER DRIVE

DETAIL SHEET

DRAWN	
CHECKED	
DATE	
SCALE	
JOB NO.	
SHEET	5
OF	5 SHEETS

K-E



LANDSCAPE PLAN

DRAWN TAL
CHECKED PMO
DATE APRIL 1992
SCALE 1"=20'
JOB NO.
SHEET 4
OF 5 SHEETS

THOMAS A. LOGUE
LAND DEVELOPMENT CONSULTANT

1539 N. 1st. STREET, GRAND JUNCTION, CO. 242-1996

NO.	REVISIONS	BY

PROPOSED 11,250 SF RETAIL FABRIC STORE

18" Horizon Drive Sewer Interceptor

Existing 8" Ute Water Main

Abandoned 8" City Water Main

PATTERSON ROAD

78 L.F. 2" Water Service

Proposed Fire Hydrant

95 L.F. 6" P.V.C. Sewer Service
Min Slope = 1.0%

Join Exist. 4" P.V.C
w/ 6" Cleanout

8" P.V.C.

Proposed
Storm Sewer
See Sheet 2

MEANDER DRIVE

Existing Communication To Be Relocated by U.S. West

S.W. Corner
S.E.¼ S.E.¼ S.E.¼
Section 3
T. 1 S., R. 1 W., U.M.

Existing Irrigation Water Pipeline

Exact Location of
Irrigation Pipe
Not Known

#27 92

K-E

REVISIONS	BY

T&L THOMAS A. LOGUE
LAND DEVELOPMENT CONSULTANT

1930 N. 1st. STREET, GRAND JUNCTION, CO. 242-1990

SEWER AND
WATER
PLAN

DRAWN	TAL
CHECKED	DMC
DATE	APRIL, 1992
SCALE	1"=20'
JOB NO.	
SHEET	3
OF	5 SHEETS

#27 92

PATTERSON ROAD

MEANDER DRIVE

Randhmann's Ditch Box Culvert

PROPOSED 11,250 SF RETAIL FABRIC STORE
FINISHED FLOOR ELEV. = 4505.50

DETENTION POND

LEGEND
Existing Contour
Flooded Contour

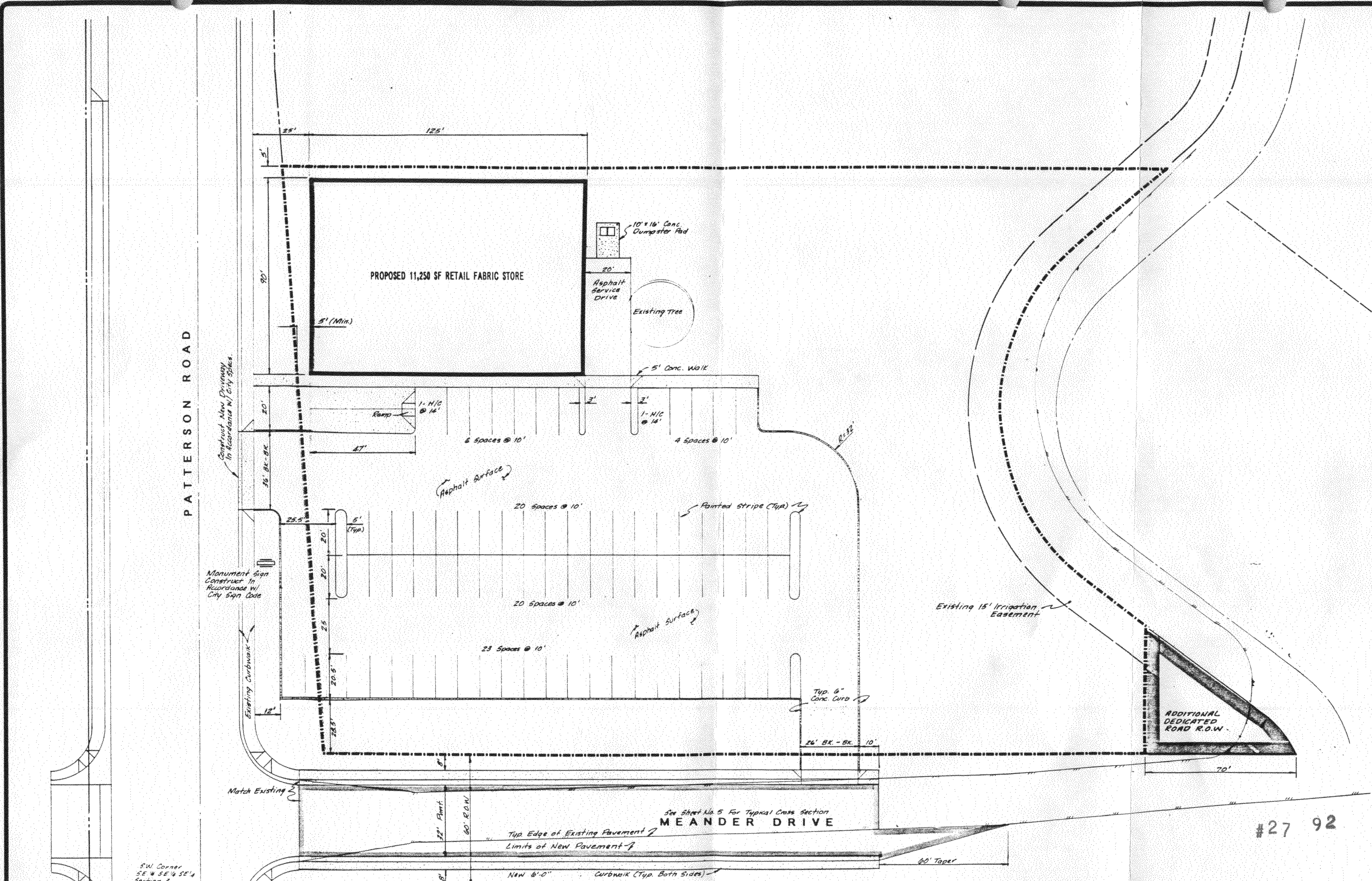
GRADING PLAN

THOMAS A. LOGUE
LAND DEVELOPMENT CONSULTANT
1938 N. 1st. STREET, GRAND JUNCTION, CO. 242-1890

REVISIONS	BY

DRAWN	TAL
CHECKED	PMO
DATE	APRIL, 1992
SCALE	1"=20'
JOB NO.	
SHEET	2

OF 5 SHEETS



#27 92

LAND USE SUMMARY

AREA IN BUILDING	11,250 SF	11.9% OF TOTAL
AREA IN PARKING	0.80 AC	38.1% OF TOTAL
AREA IN OPEN SPACE	1.01 AC	48.0% OF TOTAL
AREA IN DEDICATED R.O.W.	0.04 AC	2.0% OF TOTAL
TOTAL SITE AREA	2.10 AC	

TOTAL PARKING = 73 SPACES RATIO = 1 SPACE PER 227 SF

SHEET INDEX

NO.	TITLE
1	SITE DEVELOPMENT PLAN
2.	SITE GRADING PLAN
3.	WATER AND SEWER PLAN
4.	LANDSCAPING PLAN
5.	DETAIL SHEET

REVISIONS | BY

T&L THOMAS A. LOGUE
LAND DEVELOPMENT CONSULTANT

H.O. FASHION FABRICS
1938 N. 1st. STREET, GRAND JUNCTION, CO. 242-1990

SITE DEVELOPMENT PLAN

DRAWN TAL
CHECKED PMO
DATE APRIL, 1992
SCALE 1"=20'
JOB NO.
SHEET 1 OF 5 SHEETS

K-E

PANEL SCHEDULE

3φ-4W-277/480V
225A M.L.O.
PANEL H

BRKR. USED	CRC NO.	LOAD AMP	BRKR AMP		BRKR AMP	LOAD AMP	CRC NO.	BRKR. USED
NORTH LTG.	1	1400	70		20	2323	2	NT STRIP LTG.
	3		20		20	2323	4	NT STRIP LTG.
STRIP LTG.	5	2270	20		20	2323	6	NT STRIP LTG.
STRIP LTG.	7	2270	20		20	960	8	NIGHT LTG.
WAREHOUSE LTG.	9	1920	20		20	1984	10	STRIP LTG.
	11		20		20	1984	12	STRIP LTG.
	13		20		3	10,800	14	TRANSFORMER
	15		20			10,800	16	TRANSFORMER
	17		20			10,800	18	TRANSFORMER
	19		20		20		20	
	21		20		20		22	
	23		20		20		24	
	25		20		20		26	
	27		20		20		28	
	29		20		20		30	
	31		20		20		32	
	33		20		20		34	
	35		20		20		36	
	37						38	
	39						40	
	41						42	

NOTE: TOTAL WATTS — A = 17.8KW, B = 17.0KW, C = 17.2KW

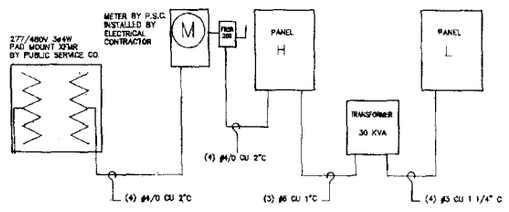
ELECTRICAL SYMBOLS

	FLUORESCENT LIGHTING FIXTURE
	CONDUIT CONCEALED IN CEILING OR WALLS – 2 WIRE
	WIRE RUN – THREE WIRE, FOUR, ETC.
	DUPLEX RECEPTACLE – 12" A.F.F.
S	SWITCH
	FUSED SAFETY SWITCH
	PANELBOARD W/ TRANSFORMER
	JUNCTION BOX
	THERMOSTAT
A-1	HOME RUN TO PANEL BOARD PANEL A, CIRCUIT #1

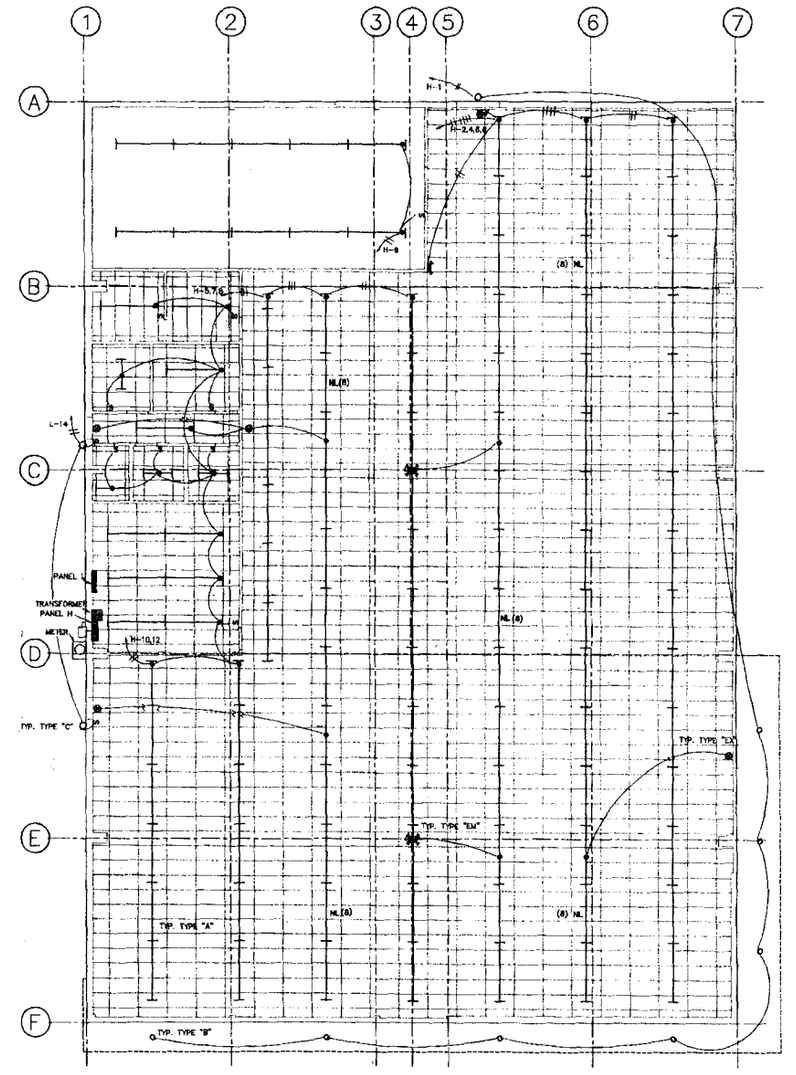
FIXTURE SCHEDULE

SYMBOL	DESCRIPTION
A	METALUX SS240-277-LE3 8' 2 LIGHT STRIP W/2 F40TR/CW
B	MARCO LMX7-277V 100W MH RECESSED CAN W/100 P FLAT TRIM
C	LUMARK MHWL-175-MT 175W METL WALL PACK
D	
EX	DUAL-LITE RSG-FKDK EXIT 277V W/FKEP BATTERY PACK
EM	DUAL-LITE E22 EMERGENCY LIGHT
F	NUTONE 672 110CFM EXHAUST FAN
G	
H	
L	

NOTE.



ONE-LINE DIAGRAM



NORTH

REFLECTED CEILING LIGHTING PLAN

SCALE: 1/4" = 1'-0"

REVISED

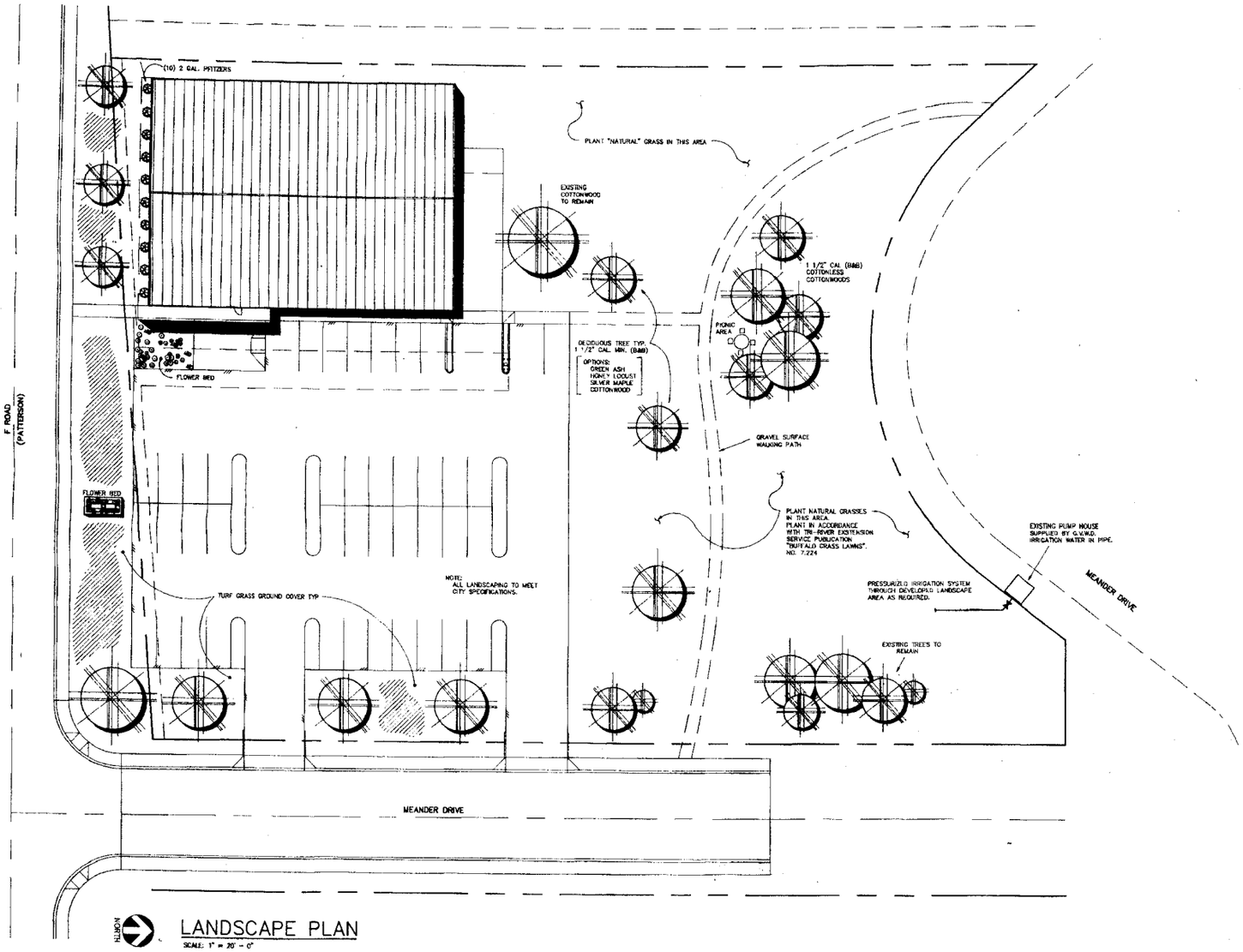
REVISIONS	BY

KELCO General Contractors

HI - FASHION FABRICS
PATTERSON & MEANDER LANE
GRAND JUNCTION, CO

DRAWN GE
CHECKED
DATE 11-6-12
SCALE As Shown
JOB NO.
SHEET E-2
OF SHEETS

K-E



LANDSCAPE PLAN

SCALE: 1" = 20' - 0"

REVISED

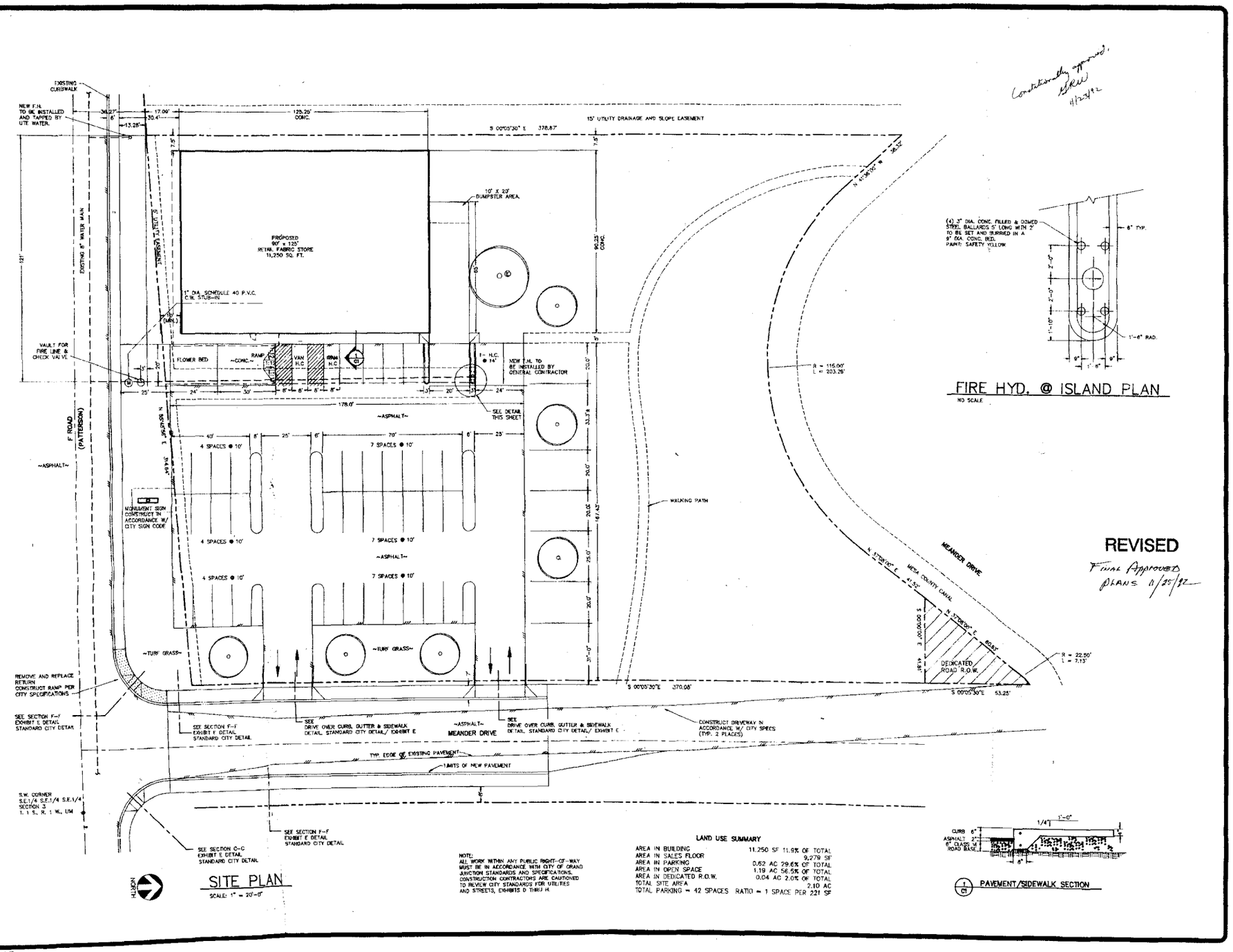
REVISIONS	BY

KELCO General Contractors

HI - FASHION FABRICS
PATTERSON & MEANDER LANE
GRAND JUNCTION, CO

DRAWN	
CHECKED	
DATE	8-6-97
SCALE	
JOB NO.	
SHEET	C-4
OF	SHEETS

K•E



SITE PLAN

SCALE: 1" = 20'-0"

LAND USE SUMMARY

AREA IN BUILDING	11,250 SF 11.9% OF TOTAL
AREA IN SALES FLOOR	9,279 SF
AREA IN PARKING	0.62 AC 29.6% OF TOTAL
AREA IN OPEN SPACE	1.19 AC 56.5% OF TOTAL
AREA IN DEDICATED R.O.W.	0.04 AC 2.0% OF TOTAL
TOTAL SITE AREA	2.10 AC

TOTAL PARKING = 42 SPACES RATIO = 1 SPACE PER 221 SF

FIRE HYD. @ ISLAND PLAN

NO SCALE

1/C1 PAVEMENT/SIDEWALK SECTION

Conditionally approved 11/24/92

REVISED
Final Approved Plans 11/25/92

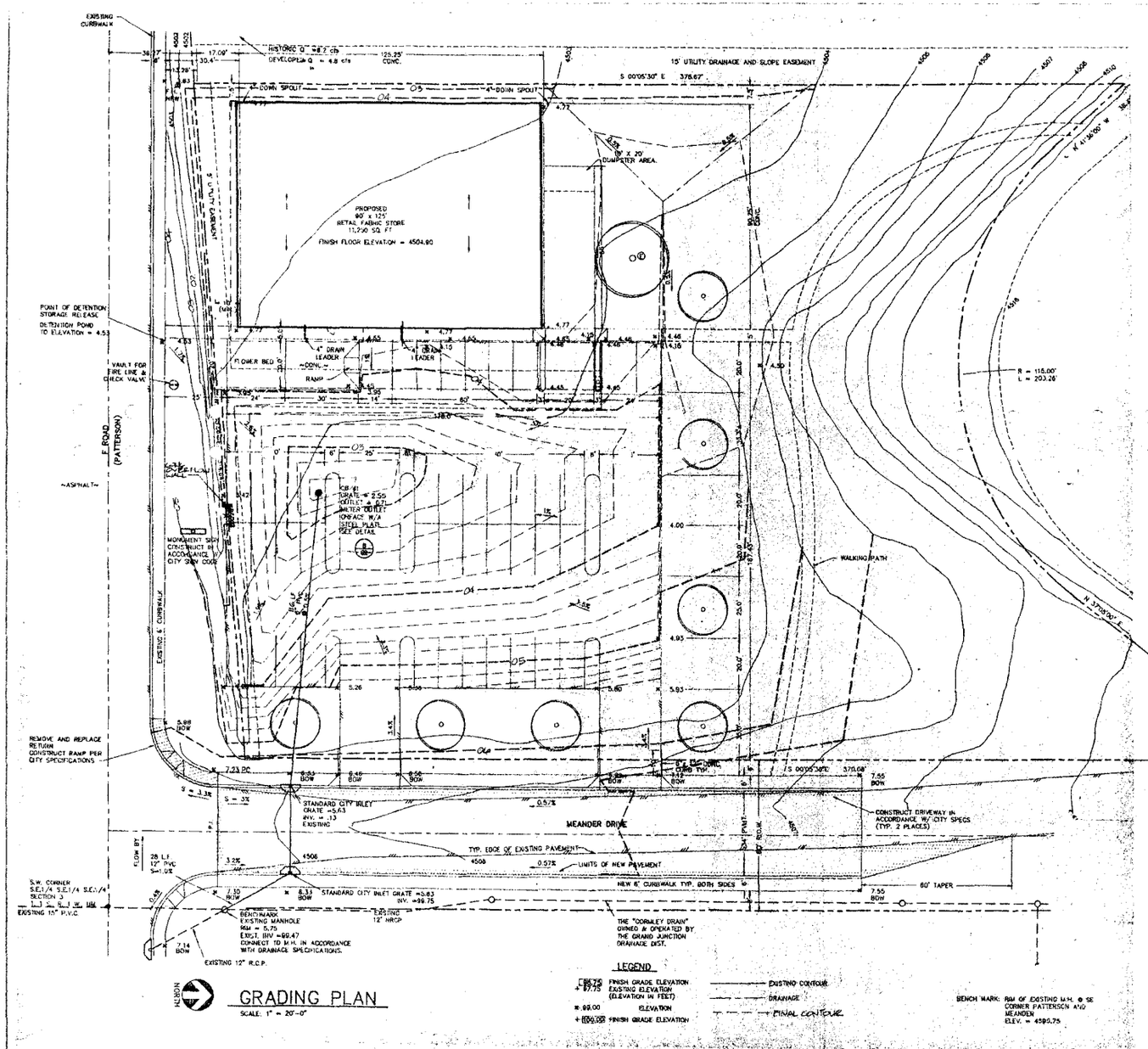
REVISIONS	BY
11-20-92	GJC

KELCO General Contractors

HI - FASHION FABRICS
PATTERSON & MEANDER LANE
GRAND JUNCTION, CO

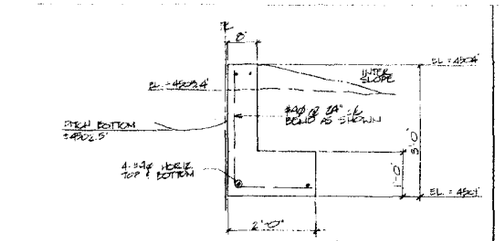
DRAWN GJC
CHECKED
DATE 11-19-92
SCALE As Shown
JOB NO.
SHEET C-1
OF SHEETS

K-E



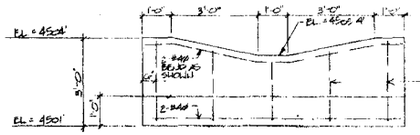
GRADING PLAN

SCALE: 1" = 20'-0"



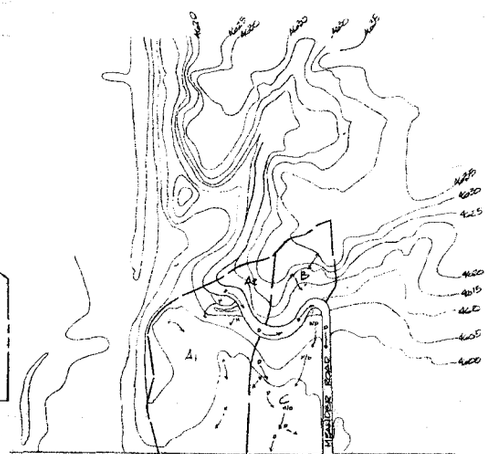
OVERFLOW WALL SECTION

3/4"=1'-0"



OVERFLOW WALL ELEVATION

3/4"=1'-0"



AREA BASIN MAP

1"=200'

PROJECT
PARKING LOT GRADING PLAN
PATTERSON & MEANDER - GRAND JUNCTION

PREPARED FOR
HI-FASHION FABRICS

Rhodes, Richards & Partners, Grand Junction

DESIGNED: GCM
DRAWN: KDS
DATE: NOV '07, REV
SCALE: SHOWN
JOB
SHEET: 1 OF 1