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File SPR-1995-037

Date 8/12/99

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, not all entries designated to be scanned, are present in the file. There are also documents specific to certain files, not found on the standard list. For this reason, a checklist has been included. Remaining items, (not selected for scanning), will be marked present on the checklist. This index can serve as a quick guide for the contents of each file. Files denoted with (**) are to be located using the ISYS Query System. Planning Clearance will need to be typed in full, as well as other entries such as Ordinances, Resolutions, Board of Appeals, and etc.**
X	X	***Summary Sheet – Table of Contents**
		Application form
X		Receipts for fees paid for anything
X	X	***Submittal checklist – Change of Use Review**
X	X	***General project report**
		Reduced copy of final plans or drawings
X		Reduction of assessor's map
		Evidence of title, deeds
		***Mailing list**
		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 nonbound reports
		Traffic studies
X		Individual review comments from agencies
X	X	***Consolidated review comments list**
		***Petitioner's response to comments**
X	X	***Staff Reports**
		***Planning Commission staff report and exhibits**
		***City Council staff report and exhibits**
		***Summary sheet of final conditions**
		***Letters and correspondence dated after the date of final approval (pertaining to change in conditions or expiration date)**

DOCUMENTS SPECIFIC TO THIS DEVELOPMENT FILE:

X	X	Drainage Plan	X		E-mail from Mark Achen from Michael D. – 3/20/95
X		Application for Sales Tax License	X		E-mail for Mark Achen – 3/17/95
X		Cottonwood Mall diagram - Tenants, Space #'s, Size, Parking Req., Parking per Plan	X		Letter from Michael Drollinger to Steve McCallum- 3/16/95
X	X	Planning Clearances – 10 entries for 2493 Highway 6 & 50 - **	X		Letter from Michael Drollinger to Steve McCallum- 3/16/95
X		By-laws of Cottonwood Mall Owners Assoc.	X		E-mail from Jody Kliska to Michael Drollinger – 3/16/95
X		Articles of Incorporation of Cottonwood Mall Owners Assoc.	X		Letter from Michael Drollinger to Steve McCallum- 3/3/95
X		Declaration of Condominium of Cottonwood Mall - 1994	X		Letter from Michael Drollinger to Ken Fulmer – 3/2/95
X		Addendum to Site Plan / Utilities/ Lighting Cottonwood Mall	X		Chicago Title Ins. Co. Owner's Policy
X	X	Letter to City from N.J. Fulmer – 9/11/96	X		CO Dept. of Trans. State Hwy Access Permit
X		Letter from TPI to Steve McCallum – Letter of Credit - 10/10/95 - **	X		Memo from Michael Drollinger from Stephanie Nye – 10/24/95 – Letter of Credit re: Official request to release

X	X	Letter from Jody Kliska to Steve McCall[illegible] 9/1/95	X		Drain[illegible]an – not signed
X		Notes to file – no date	X		Maps - [illegible]ghting Specifications,Curb Ramps Typical Detail, Retention Base Depth, Drop Inlet Detail, Landscaping Notes, West Elevation – East Wing
X	X	Letter to Steve McCallum from Michael Drollinger – 8/21/95	X	X	Preliminary Drainage Plan
X	X	Letter to Steve McCallum from Trent Prall – 7/7/95			
X		Retention Basin Calculations for SWD and Sellers Subdivisions – 4/2/95			
X	X	Development Improvements Agreement - **			
X	X	Letter from Steve McCallum, TPI to City re: Response to letter dated 3/16/95 containing addendum to site plan/utilities/lighting/landscape plan			
X	X	Letter from Michael Drollinger to Steve McCallum			

SUBMITTAL CHECKLIST

SITE PLAN REVIEW

2491

Location: ~~[illegible]~~ Hwy 6 & 50 Project Name: Cottonwood Mall

ITEMS		DISTRIBUTION																					
DESCRIPTION	SSID REFERENCE	● City Community Development	● City Dev. Eng.	● City Utility Eng.	● City Property Agent	● ~~City Parks/Recreation~~	● City Fire Department	● City Attorney	○ City Downtown Dev. Auth.	● County Planning	● County Bldg. Dept.	○ Irrigation District	○ Drainage District	● Water District (Ute)	○ Sewer District	● U.S. West	● Public Service	○ GVRP	● CDOT	○ Corps of Engineers	○ Walker Field	● City Police Dept.	13 TOTAL REQ'D.
● Application Fee $250	VII-1	1																					
● Submittal Checklist*	VII-3	1																					
● Review Agency Cover Sheet*	VII-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● Planning Clearance*	VII-3	1																					
8½x11 ● ~~11"x17"~~ Reduction of Assessor's Map	VII-1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● Evidence of Title	VII-2	1			1			1															
○ Appraisal of Raw Land	VII-1	1			1	1																	
○ Deeds	VII-1	1			1			1															
○ Easements	VII-2	1	1	1	1			1															
○ Avigation Easement	VII-1	1			1			1															
○ ROW	VII-3	1	1	1	1			1															
● Improvements Agreement/Guarantee	VII-2	1	1	1				1															
●, CDOT Access Permit	VII-3	1	1																				
○ Industrial Pretreatment Sign-off	VII-4	1		1																			
● General Project Report	X-7	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● Elevation Drawing	IX-13	1	1																				
● Site Plan	IX-29	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
○ 11"x17" Reduction of Site Plan	IX-29					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● Grading and Drainage Plan	IX-16	1	2										1							1			
○ Storm Drainage Plan and Profile	IX-30	1	2										1			1	1	1					
○ Water and Sewer Plan and Profile	IX-34	1	2	1			1							1	1	1	1	1					
○ Roadway Plan and Profile	IX-28	1	2										1										
○ Road Cross-Sections	IX-27	1	2																				
○ Detail Sheet	IX-12	1	2																				
(*) ● Landscape Plan - new code for 50 sp	IX-20	2	1	1																			
○ Geotechnical Report	X-8	1	1								1												
● Final Drainage Report	X-5.6	1	2										1										
○ Stormwater Management Plan	X-14	1	2										1							1			
○ Phase I and II Environmental Report	X-10,11	1	1																				
○ Traffic Impact Study	X-15	1	2																1				

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

DRAWING STANDARDS CHECKLIST

LANDSCAPE PLAN

ITEM		GRAPHIC STANDARDS	OK	NA
SECTION VIII	A	Scale: 1" = 10' or 20'		
	B	Drawing size: 24" x 36"		
	C	Primary features consist only of landscape features		
	D	Notation: All non-construction text, and also construction notation for all primary features		
	E	Line weights of existing and proposed (secondary and primary) features per City standards		
	H	Vertical control: Benchmarks on U.S.G.S. datum if public facilities other than SW are proposed		
	I	Orientation and north arrow		
	K	Title block with names, titles, preparation and revision dates		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	Q	Contouring interval and extent		
	R	Neatness and legibility		

ITEM		FEATURES	OK	NA
→	1	Use the Site Plan as a base map.		
	2	Identify areas to be covered with specific landscaping materials.		
	3	Boulders, mounds, swales, water courses, rock outcroppings.		
	4	Planting Material Legend includes common and botanical names, quantities, minimum purchase sizes, mature height, groundcover/perennial spacing, types of soil, and other remarks.		
	5	Specification of soil type and preparation.		
	6	Landscape irrigation layout, design, materials, and details (if requested by City staff).		
	7	Planting/staking and other details as required.		
	8	Required note on Plan: "An underground, pressurized irrigation system will be provided."		
	9	Space for approval signature by Community Development with date and title.		

COMMENTS

1 This drawing may be eliminated if information may be put on the Site Plan. See Note (2) on the Site Plan Checklist.

DRAWING STANDARDS CHECKLIST

SITE PLAN

ITEM		GRAPHIC STANDARDS	OK	NA
SECTION VIII	A	Scale: 1" = 10', 20', 30', 40', or 50'		
	B	Drawing size: 24" x 36"		
	C	Primary features consist only of proposed facilities except those related to drainage		
	D	Notation: All non-construction text, and also construction notation for all primary features		
	E	Line weights of existing and proposed (secondary and primary) features per City standards		
	F	Location: All primary facilities are fully located horizontally (See Comment 1)		
	I	Orientation and north arrow		
	J	Stamped and sealed drawings by registered professional competent in the work		
	K	Title block with names, titles, preparation and revision dates		
	L	Reference to City Standard Drawings and Specifications		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	R	Neatness and legibility		

ITEM		FEATURES	OK	NA
	1	Site boundary, and adjacent property lines, land use, and zoning		
	2	Total site acreage and proposed land use breakdown		
	3	All existing and proposed easements, streets and ROW's		
	4	Identify utility vendors to the site		
	5	Identify existing and proposed utilities, including fire hydrants, meters, and service taps		
	6	Show existing and proposed drainage inlets, pipes, channels, and manholes		
	7	Top and toe of slopes for retention/detention basins or other embankments		
	8	Traffic ingress, egress, traffic flow patterns, and traffic control features		
	9	All paving and concrete walks, pads, ramps, wheel chocks		
	10	Building footprint, roof line, exterior doorways, and roof drain location		
	11	Parking areas, striping, stalls, lighting		
	12	Areas to receive gravel		
	13	Signage, trash collection areas, bike racks and paths, crosswalks, fire lanes		
	14	Miscellaneous structures, fences, walls		
	15	Other non-landscaping surface facilities		
	16	Do not show existing or proposed contours		
	17	For perimeter streets, show roadway width from curb to curb or edge of pavement to edge of pavement, ROW width, and the monument or section line.		
	18	When applicable, identify the maximum delivery or service truck size and turning radius, hours of anticipated deliveries, and show truck turning radii on the plan to show adequacy of entry/exit and on-site design.		
	19	Identify trash dumpster type, anticipated pick-up time, and accessibility.		
	20	Space for signature approval by City Engineering with date and title.		
	21	Space for signature of County Clerk and Recorder (when required)		

COMMENTS

1 All angle, curvature, tangency, grade break and change, and other primary features must be fully located horizontally. However, these may be identified on the Grading and Drainage Plan, or may be put on a separate "Staking Plan".

2 If the scale is 1" = 10' or 20', instead of preparing a separate Landscaping Plan, that information may be provided hereon if it will not be too cluttered and confusing. Also, add space for signature approval by Community Development with date and title.

GENERAL PROJECT REPORT

Project Location: 2493 Hwy 6 & 50
Grand Junction, CO 81505

Project Name: Cottonwood Mall

A. Project location is within Grand Junction city limits, one mile west of First Street on Highway 6 & 50. Project address is 2493 Highway 6 & 50, formerly the site of Uranium Liquors, 900 square feet and the 29 room Uranium Motel. Also on the site was a 3,000 square foot restaurant, four single family homes and a 900 square foot automotive repair facility. All structures were utilized during the same period and were demolished during site preparation. The site contains approximately 2.5 acres or 111,400 square feet. The proposed use of the site is to be a 37,800 square foot condominium retail mall, in which the units are individually owned. This will promote pride of ownership and allow the owners to benefit from ownership of the real estate.

B. The public would benefit from an increase in sales, use and property tax to be utilized by the City of Grand Junction to fund capitol improvement and to support improved and existing services, as well as to provide a centralized shopping center for a variety of services and products.

C. 1. This project will require no re-zoning or special use permits.

2. Land use in surrounding area, at the present time, is all Highway oriented.

3. Site access and traffic patterns shall remain as presently utilized.

4. Utilities are all available to the site. The City of Grand Junction, Ute Water and the property owners have worked together to form an improvement district, to provide adequate fire protection lines and hydrants, as well as sewer service. The hydrants are located on the northwest and southwest corner of the parcel.

5. The project will not create any unusual demands on utilities.

6. We anticipate little, if any, effects on public utilities.

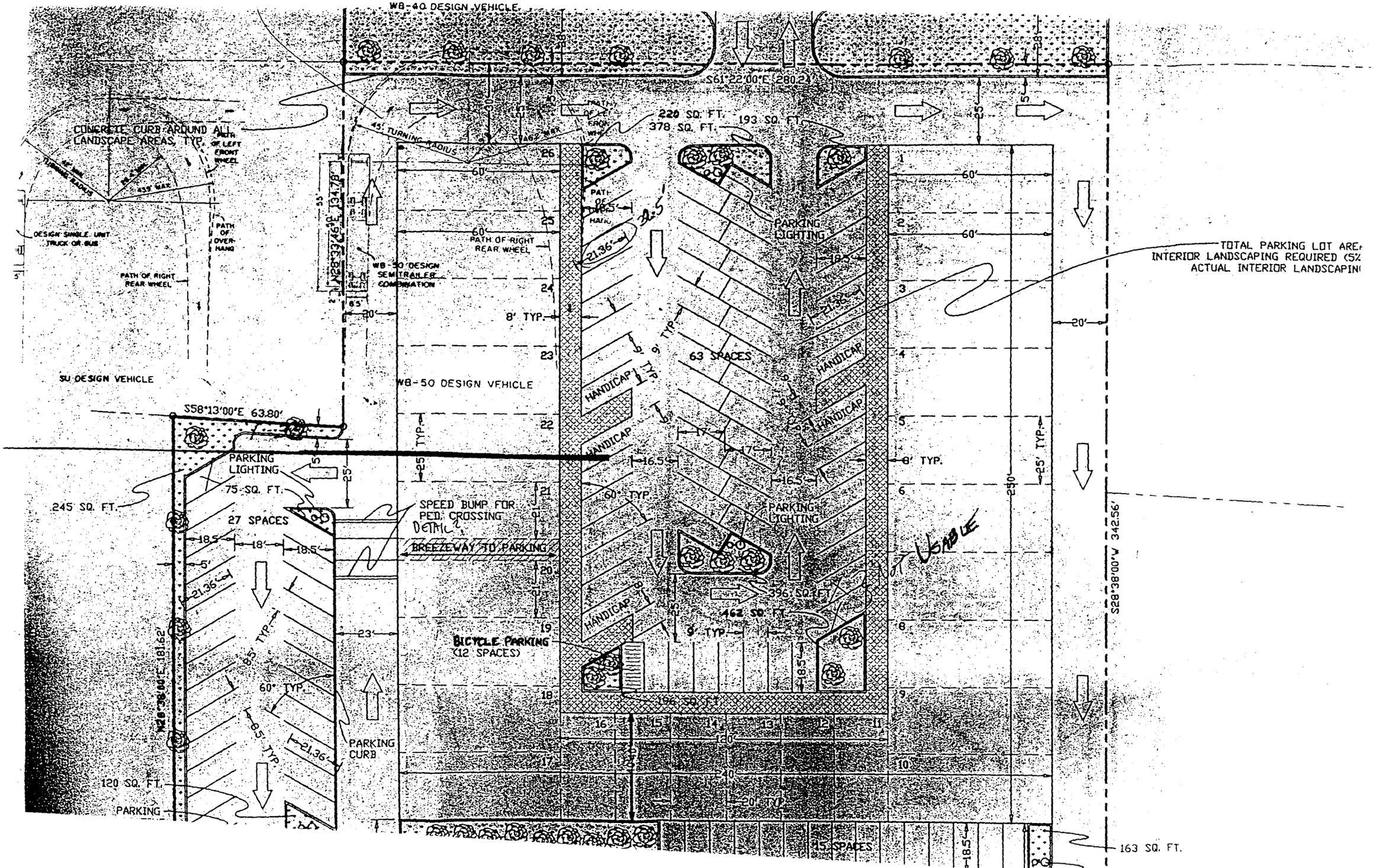
7. No adverse effects on site soil or geology are expected.

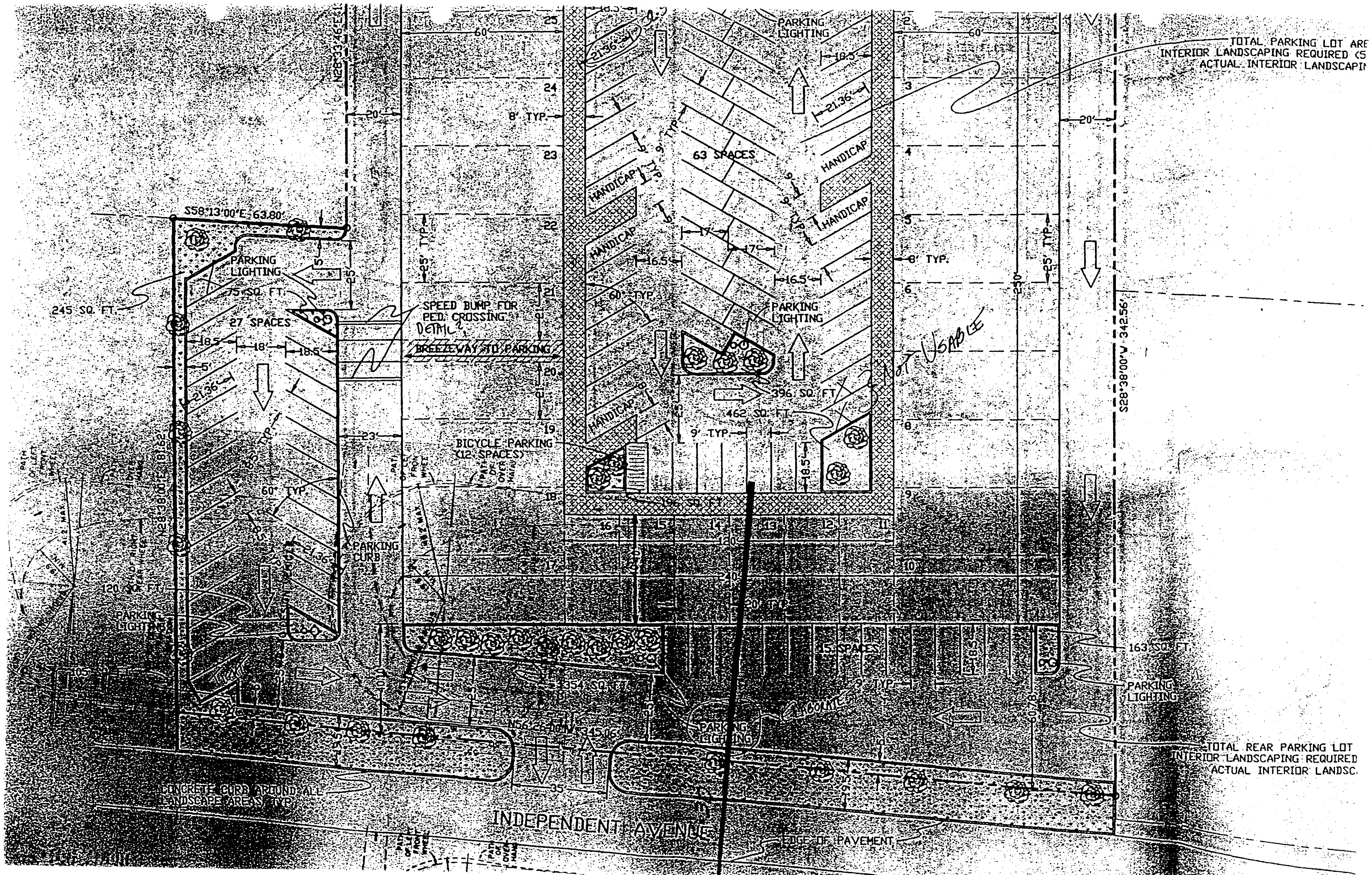
8. Project will not impact site geology and there are no geological hazards.

9. Hours of operation shall be as historically accepted for this type of project.

10. Sign plans are addressed on site plan.

11. Project will be completed in one phase, January 1995 to May 1, 1995.


WB-40 DESIGN VEHICLE
S61°22'00"E 280.24'
CONCRETE CURB AROUND ALL LANDSCAPE AREAS, TYP.
45' TURNING RADIUS
PATH OF LEFT FRONT WHEEL
DESIGN SINGLE UNIT TRUCK OR BUS
PATH OF OVER-HANG
PATH OF RIGHT REAR WHEEL
WB-50 DESIGN SEMI-TRAILER COMBINATION
N28°33'48"E 134.78'
SU DESIGN VEHICLE
WB-50 DESIGN VEHICLE
S58°13'00"E 63.80'
PARKING LIGHTING
75 SQ. FT.
245 SQ. FT.
27 SPACES
SPEED BUMP FOR PED. CROSSING
DETAIL
BREEZEWAY TO PARKING
BICYCLE PARKING (12 SPACES)
PARKING CURB
120 SQ. FT.
PARKING
N28°38'00"E 181.62'
220 SQ. FT.
378 SQ. FT.
193 SQ. FT.
PATH OF RIGHT REAR WHEEL
PARKING LIGHTING
63 SPACES
HANDICAP
396 SQ. FT.
462 SQ. FT.
196 SQ. FT.
TOTAL PARKING LOT AREA
INTERIOR LANDSCAPING REQUIRED (5%
ACTUAL INTERIOR LANDSCAPING
S28°38'00"W 342.56'
163 SQ. FT.
45 SPACES



TOTAL PARKING LOT ARE
INTERIOR LANDSCAPING REQUIRED (5
ACTUAL INTERIOR LANDSCAPIN
PARKING LIGHTING
63 SPACES
HANDICAP
HANDICAP
HANDICAP
HANDICAP
HANDICAP
8' TYP.
8' TYP.
25' TYP.
25' TYP.
60' TYP.
9' TYP.
S58°13'00"E 63.80'
PARKING LIGHTING
75 SQ. FT.
245 SQ. FT.
27 SPACES
SPEED BUMP FOR PED. CROSSING
DETAIL
BREEZEWAY TO PARKING
PARKING LIGHTING
396 SQ. FT.
462 SQ. FT.
NOT USABLE
BICYCLE PARKING (12 SPACES)
196 SQ. FT.
S28°38'00"W 342.56'
PARKING CURB
120 SQ. FT.
PARKING LIGHTING
15 SPACES
163 SQ. FT.
PARKING LIGHTING
354 SQ. FT.
N56°26'00"W 345.06'
PARKING LIGHTING
TOTAL REAR PARKING LOT
INTERIOR LANDSCAPING REQUIRED
ACTUAL INTERIOR LANDSC
CONCRETE CURB AROUND ALL LANDSCAPE AREAS TYP.
INDEPENDENT AVENUE
EDGE OF PAVEMENT

REVISED

PRELIMINARY DRAINAGE PLAN

February 19, 1995

COTTONWOOD MALL
2493 Hwy 6&50
GRAND JUNCTION, CO 81505

Prepared For:
TPI
552 25 Road #D
Grand Junction, CO 81505

Prepared By:
Cronk Construction Inc.
1129 -24- Road
Grand Junction, CO 81505
303-245-0577

Table of Contents

I. General Location and Description

Cottonwood Mall is located within the Grand Junction City limits at 2493 U.S. Highway 6&50. The north boundary of the development fronts along approximately 280' of the frontage road of Hwy 6&50. The property also fronts along approximately 345' of Independent Avenue along its south boundary. Commercial property (manufactured home sales and spa sales) borders the subject property to the east and west.

The development consists of 2.39 acres of uncultivated native soils. The site was the former location of a 900 sq. ft. liquor store, a 3,000 sq. ft. restaurant, a 29 room motel, four single family residences and a 900 sq. ft. automotive repair facility. All previous structures have been demolished and initial grading for the proposed Mall has been completed. The soil at the site is classified as SCS type "D" soil, being sandy clay and silty clay loam.

II. Existing Drainage Conditions

Historic drainage is directed to the south boundary of the property and thence eastward along Independent Avenue some 300' to a 36" corrugated metal drainage pipe (Grand Junction Drainage District). The 36" culvert then channels drainage flows under the Rio Grande Railroad tracks to the Colorado River located approximately 350' to the south. No existing drainage concerns are apparent.

III. Drainage Design Criteria

Drainage design criteria are taken from the *Stormwater Management Manual* (Public Works Department, City of Grand Junction, CO; June, 1994). Reference is also made to the Appendices in the *Stormwater Management Manual* for development of several constitutive design parameters. The Rational Method is used to develop Peak runoff estimate (cfs) for both pre- and post-development conditions. Peak runoff is developed for the 2 year and 100 year precipitation events for the Mesa County urbanized area. The SCS Type II-A hydrograph (HEC-1, Corps of Engineers - U.S. Army) is used to develop the *time of critical storm duration,* T_d, for retention basin storage sizing. Retention basin outflow piping is sized

assuming submerged inlet and outlet, full pipe flow, a sharp edge transition coefficient of discharge of 0.62, and negligible energy loss through pipe.

IV. Drainage Design (developed conditions)

The historic drainage outflow located at the southeast corner of the property will remain unchanged by development. As shown on the Grading and Drainage Plan, post-development drainage will consist of channeling surface flows to a retention basin located in the paved parking area at the southeast corner of the property. Single stage outflow control will be used at the retention basin to limit post-development discharge to the historic 2 yr. event rate of 1.5 cfs (Appendix B). In accordance with the use of single stage outlet control, the retention basin is sized to retain the larger volumes of stormwater generated from higher intensity storms (e.g., the 10 yr and 100 yr events) for discharge at the smaller historic 2 yr rate (Appendix E).

Both historic and developed peak runoff flows are estimated using the *Rational Method*. Peak runoff flows for four site scenarios are calculated. The four scenarios investigated include both historic and developed peak runoff flow for precipitation event frequencies of 2 years and 100 years.

The time of concentration, T_c, worksheet for each of the 4 scenarios investigated is included for reference as Appendix A. The *Rational Method* worksheet used to calculate peak flow runoff is included for reference as Appendix B. Retention basin outflow design considerations are addressed in Appendix C. The SCS Type II-A hydrograph for the area (HEC-1) is used to develop the time of critical storm duration, T_d, as shown in Appendix D. The retention basin sizing worksheet is included for reference as Appendix E.

V. Results and Conclusions

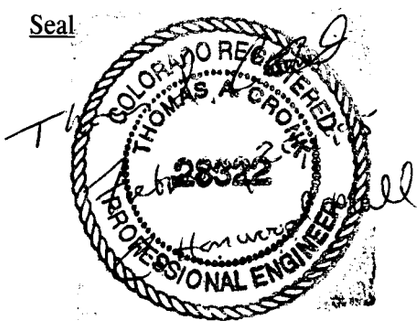
The historic peak flow runoff is estimated at 1.56 cfs (2 year event) and 5.19 cfs (100 year event). As shown in Appendix C, the single stage outlet control will limit developed peak flow discharge to the historic 2 yr event rate of 1.5 cfs during a 2 yr storm. Because of the additional hydrostatic head

developed from retained volumes during higher intensity storms (10 yr and 100 yr events) the single stage peak discharge volume is calculated at 1.9 cfs for the 100 yr event (Appendix C). The 100 yr developed peak discharge rate is approximately 37% of the historic 100 yr. peak discharge flow.

VI. Certification

I, Thomas A. Cronk, hereby certify this report was completed by myself or under my direct supervision and has been prepared in accordance with good engineering practices.

Seal



Thomas A. Cronk

Thomas A. Cronk

Date

February 20, 1995

Time of Concentration, T_c, Worksheet

Project: Cottonwood Mall
Site Condition: Pre-development
Prepared by: Tom A. Cronk
Date: February 19, 1995

(The table below is an adaption of a worksheet provided in the SCS TR-55)
This table may be used in subbasin T_c calculations, or for travel time of subbasin runoff through a lower subbasin reach (T_r).
Use only channel flow for T_r calculations

STORM FREQUENCY		2 YEAR	100 YEAR
REACH	AREA IDENTIFIER		
	SEGMENT IDENTIFICATION		
	T_c OR T_r THROUGH BASIN REACH		
OVERLAND FLOW	SURFACE DESCRIPTION (TABLE E-1)	poor grass on bare surface	poor grass on bare surface
	"N" VALUE (TABLE E-1)	0.3	0.3
	FLOW LENGTH, L (TOTAL < 300 FT.) (ft.)	75	75
	LAND SLOPE, S (ft./ft.)	0.016	0.016
	To (min.) (TABLE E-2, OR FIGURE E-1)	20.00	13.00
SHALLOW CONCENTRATED FLOW	SURFACE DESCRIPTION (FIGURE E-3)	nearly bare and untilled	nearly bare and untilled
	FLOW LENGTH, L (ft.)	100	100
	FLOW SLOPE, S (ft./ft.)	0.016	0.016
	FLOW VELOCITY, V (FIGURE E-3) (fps)	1.3 ✓	1.3
	TRAVEL TIME T_t = L/(60V) (min.)	1.28 ✓	1.28
CHANNEL FLOW	CROSS-SECTIONAL FLOW AREA, a (ft^2)	1.5	1.5
	WETTED PERIMETER, Pw (ft.)	3.24	3.24
	HYDRAULIC RADIUS, r = a/Pw (ft.)	0.46	0.46
	CHANNEL SLOPE, S (ft./ft.)	0.016	0.016
	MANNINGS COEFFICIENT, n (APPENDIX F)	0.027	0.027
	$V = 1.49r^{2/3}S^{1/2}/n$ (fps)	4.16	4.16
	ASSUMED VELOCITY (fps)	4.0	4.0
	FLOW LENGTH, L (ft.)	485	485
	TRAVEL TIME T_{ch} = L/(60V) (min.)	2.02	2.02
T_c	$T_c=T_o+T_t+T_{ch}$ (min.)	23.3	16.3
T_r	$T_r=T_{ch}$ (min.)		
T_l	$T_l=0.6(T_c)$ OR FROM FIGURE E-4		

NOTE - Table and all referenced tables, figures, and appendices from Stormwater Management Manual, Public Works Department, City of Grand Junction, June, 1994

Time of Concentration, T_c, Worksheet

Project: Cottonwood Mall
Site Condition: Post-development
Prepared by: Tom A. Cronk
Date: February 19, 1995

(The table below is an adaption of a worksheet provided in the SCS TR-55)
This table may be used in subbasin T_c calculations, or for travel time of subbasin runoff through a lower subbasin reach (T_r),
Use only channel flow for T_r calculations

STORM FREQUENCY		2 YEAR	100 YEAR
REACH	AREA IDENTIFIER		
	SEGMENT IDENTIFICATION		
	T_c OR T_r THROUGH BASIN REACH		
OVERLAND FLOW	SURFACE DESCRIPTION (TABLE E-1)	asphalt/concrete	asphalt/concrete
	"N" VALUE (TABLE E-1)	0.05	0.05
	FLOW LENGTH, L (TOTAL < 300 FT.) (ft.)	75	75
	LAND SLOPE, S (ft./ft.)	0.005	0.005
	To (min.) (TABLE E-2, OR FIGURE E-1)	8.0	5.0
SHALLOW CONCENTRATED FLOW	SURFACE DESCRIPTION (FIGURE E-3)	paved area	paved area
	FLOW LENGTH, L (ft.)	100	100
	FLOW SLOPE, S (ft./ft.)	0.016	0.016
	FLOW VELOCITY, V (FIGURE E-3) (fps)	2.50	2.50
	TRAVEL TIME T_t = L/(60V) (min.)	0.67	0.67
CHANNEL FLOW	CROSS-SECTIONAL FLOW AREA, a (ft^2)	0.094	0.094
	WETTED PERIMETER, Pw (ft.)	1.625	1.625
	HYDRAULIC RADIUS, r = a/Pw (ft.)	0.058	0.058
	CHANNEL SLOPE, S (ft./ft.)	0.016	0.016
	MANNINGS COEFFICIENT, n (APPENDIX F)	0.014	0.014
	$V = 1.49r^{2/3}S^{1/2}/n$ (fps)	2.02	2.02
	ASSUMED VELOCITY (fps)	2.0	2.0
	FLOW LENGTH, L (ft.)	485	485
	TRAVEL TIME T_{ch} = L/(60V) (min.)	4.04	4.04
T_c	$T_c=T_o+T_t+T_{ch}$ (min.)	12.71	9.71
T_r	$T_r=T_{ch}$ (min.)		
T_l	$T_l=0.6(T_c)$ OR FROM FIGURE E-4		

NOTE - Table and all referenced tables, figures, and appendices from Stormwater Management Manual, Public Works Department, City of Grand Junction, June, 1994

APPENDIX B

RATIONAL METHOD PEAK FLOW RUNOFF WORKSHEET

Rational Method Peak Flow Runoff Worksheet

Project: COTTONWOOD MALL
Prepared by: TOM A. CRONK
Date: FEBRUARY 19, 1995

SITE CONDITION: PRE-DEVELOPMENT

BASIN	AREA			RUNOFF COEFFICIENT[1], C							
	SURFACE TYPE	SCS GROUP	ACREAGE, A	C_{02}	C_{100}						
All	commercial pavement/roof	D	1.2	0.93	0.95						
	residential (1/3 acre)	D	1.19	0.35	0.43						
			TOTAL ACREAGE, A_T	WEIGHTED RUNOFF COEFFICIENT, C_w		CONCENTRATION TIME[2], T_c (min.)		INTENSITY[3], i (in./hr.)		PEAK RUNOFF $Q=C_w i A_T$ (cfs)	
				C_{02}	C_{100}	T_{C02}	T_{C100}	i_{02}	i_{100}	Q_{02}	Q_{100}
			2.39	0.64	0.69	23	16	1.02	3.15	1.56	5.19

[1] - *Rational Method* runoff coefficients taken from Table B-1, **Stormwater Management Manual, Public Works Department, City of Grand Junction, June, 1994**

[2] - Time of Concentration as derived in attached Appendix A worksheet

[3] - Intensity taken from Table A-1, **Stormwater Management Manual, Public Works Department, City of Grand Junction, June, 1994**

Rational Method Peak Flow Runoff Worksheet

Project: COTTONWOOD MALL
Prepared by: TOM A. CRONK
Date: FEBRUARY 19, 1995

SITE CONDITION: POST-DEVELOPMENT

BASIN	AREA			RUNOFF COEFFICIENT[1], C									
	SURFACE TYPE	SCS GROUP	ACREAGE, A	C_{02}	C_{100}								
All	commercial pavement/roof	D	2.39	0.93	0.95								
			TOTAL ACREAGE, A_T	WEIGHTED RUNOFF COEFFICIENT, C_w		CONCENTRATION TIME[2], T_c (min.)		INTENSITY[3], i (in./hr.)		PEAK RUNOFF $Q=C_wiA_T$ (cfs)			
				C_{02}	C_{100}	T_{C02}	T_{C100}	i_{02}	i_{100}	Q_{02}	Q_{100}		
			2.39	0.93	0.95	13	10	1.36	3.80	3.02	8.63		

[1] - *Rational Method* runoff coefficients taken from Table B-1, **Stormwater Management Manual, Public Works Department, City of Grand Junction, June, 1994**

[2] - Time of Concentration as derived in attached Appendix A worksheet

[3] - Intensity taken from Table A-1, **Stormwater Management Manual, Public Works Department, City of Grand Junction, June, 1994**

APPENDIX C

RETENTION BASIN OUTFLOW DESIGN WORKSHEET

RETENTION BASIN OUTFLOW DESIGN WORKSHEET

Project: Cottonwood Mall
Prepared by: Tom A. Cronk
Date: February 19, 1995

2 year event					100 year event				
head difference, h[1], (ft.)	design discharge, Q[2], (cfs)	design pipe diameter[3] (in.)	actual pipe diameter[4] (in.)	actual discharge, Q_a[5], (cfs)	head difference, h[1], (ft.)	design discharge, Q[2], (cfs)	design pipe diameter[3] (in.)	actual pipe diameter[4] (in.)	actual discharge, Q_a[5], (cfs)
1.0	1.5	10	10	1.5	1.67	1.9	10	10	1.9

CANGE TO 5.1

[1] Difference in inlet and outlet water level elevation at maximum retention capacity (ft.)

[2] Design discharge = maximum historic discharge, Q_h (cfs) less other discharge sources (i.e., lower stage discharge and/or sheetflows)

[3] Design diameter (assuming submerged inlet and outlet, full pipe flow, negligible head loss through pipe) calculated from:

$Q = C_d A \sqrt{2gh}$, where, WHEN YOU SOLVE THIS FOR A, YOU END UP W/ X-SECT. AREA OF 0.292 FT² @ 1.5 CFS OR ABOUT A 1" PIPE

Q = design discharge, (cfs)

C_d = coefficient of discharge = 0.62 for sharp edge transition

A = cross-sectional area of pipe (ft^2)

g = gravitational acceleration = 32 ft/sec^2

h = head difference, (ft)

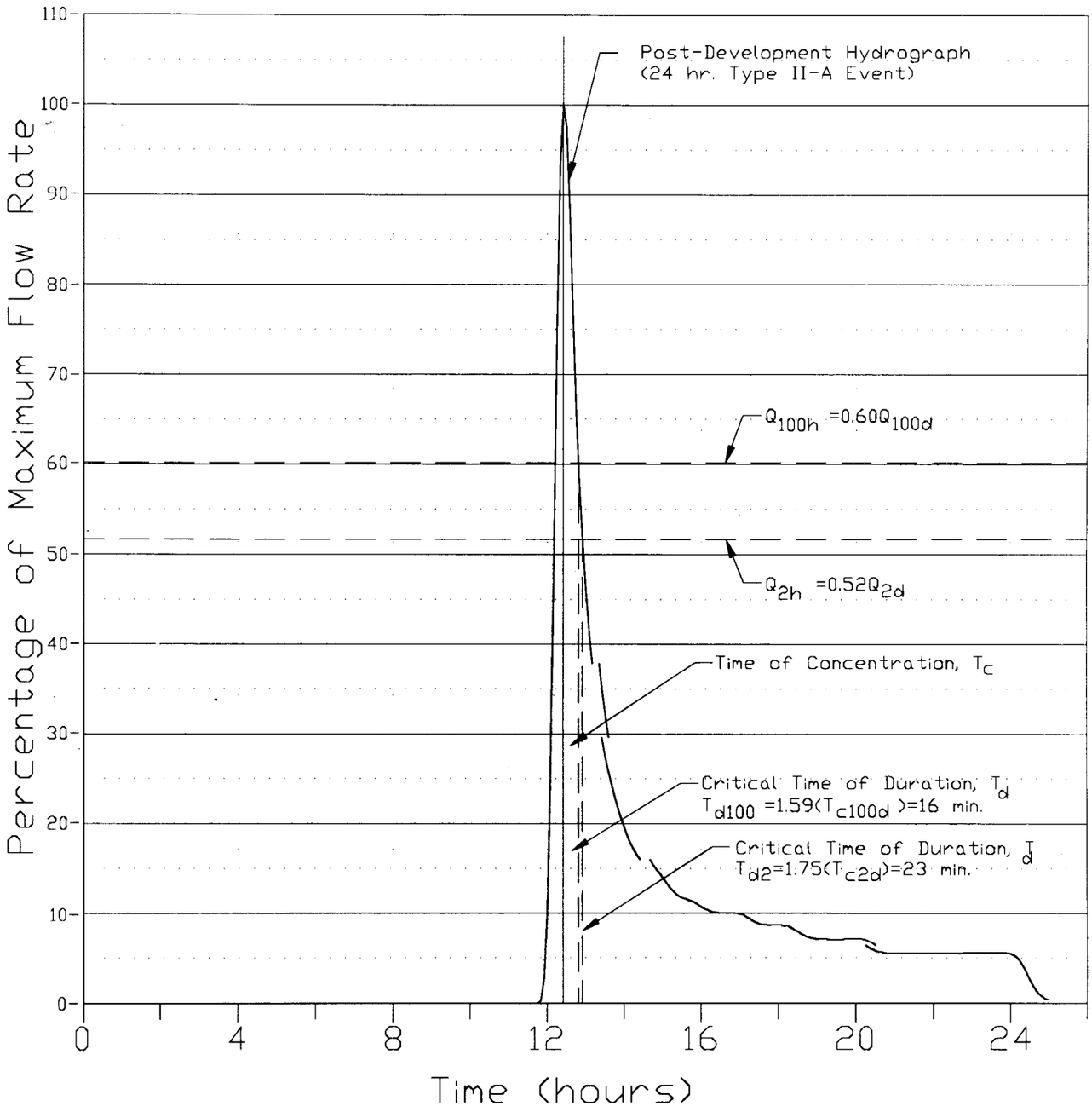
[4] Actual pipe diameter based on available pipe sizes to not exceed design diameter

[5] Actual discharge as based on actual pipe diameter, to be used in determining average discharge rate Q_r for retention basin sizing

APPENDIX D

TIME OF CRITICAL DURATION, T_d, WORKSHEET

Runoff Hydrograph
Post-Construction (Peony Subdivision)
SCS Type II-A Unit Hydrograph (24 hr. event)



APPENDIX E

MODIFIED RATIONAL METHOD RETENTION BASIN SIZING WORKSHEET

MODIFIED RATIONAL METHOD RETENTION BASIN SIZING WORKSHEET

Project: Cottonwood Mall
Prepared by: Tom A. Cronk
Date: February 19, 1995

Basin	Site Hydrology								Retention Basin Sizing					
	Site Condition		2 year event			100 year event			2 year event			100 year event		
			C_{2d}	T_{c2d} (min.)	Q_{2d} (cfs)	C_{100d}	T_{c100d} (min.)	Q_{100d} (cfs)	T_{d2}[1] (min.)	Q_{r2}[2] (cfs)	Storage Volume, V_2[3], (ft^3)	T_{d100}[1] (min.)	Q_{r100}[2] (cfs)	Storage Volume, V_{100}[3], (ft^3)
All	Pre-developed		0.64	23	1.56	0.69	16	5.19						
	Post-developed		0.93	13	3.02	0.95	10	8.63	23	1.23	2,555	16	1.23	7,071
	Development Impact	quantity			+1.46			+3.44						
		percent			+94%			+66%						

[1] Time of critical duration, T_d, from Appendix D worksheet

[2] Average rate of discharge, Q_r, = 82% of actual discharge, Q_a, taken from Appendix C plus other discharge sources (i.e., lower stage discharge and/or sheetflows)

[3] Storage volume required, V (ft^3), calculated from:

$$V = 60\left[Q_d T_d - Q_r T_d - Q_r T_{cd} + \frac{K Q_r T_{cd}}{2} + \frac{Q_r^2 T_{cd}}{2 Q_d}\right], \text{ where,}$$

K = Ratio of pre- and post-development T_{cd}

DRAINAGE PLAN

March 7, 1995

COTTONWOOD MALL
2493 Hwy 6&50
GRAND JUNCTION, CO 81505

Prepared For:
TPI
552 25 Road #D
Grand Junction, CO 81505

Prepared By:
Cronk Construction Inc.
1129 -24- Road
Grand Junction, CO 81505
303-245-0577

Table of Contents

I. General Location and Description

Cottonwood Mall is located within the Grand Junction City limits at 2493 U.S. Highway 6&50. The north boundary of the development fronts along approximately 280' of the frontage road of Hwy 6&50. The property also fronts along approximately 345' of Independent Avenue along its south boundary. Commercial property (manufactured home sales and spa sales) borders the subject property to the east and west.

The development consists of 2.39 acres of uncultivated native soils. The site was the former location of a 900 sq. ft. liquor store, a 3,000 sq. ft. restaurant, a 29 room motel, four single family residences and a 900 sq. ft. automotive repair facility. All previous structures have been demolished and initial grading for the proposed Mall has been completed. The soil at the site is classified as SCS type "D" soil, being sandy clay and silty clay loam.

II. Existing Drainage Conditions

Historic drainage is directed to the south boundary of the property and thence eastward along Independent Avenue some 300' to a 36" corrugated metal drainage pipe (Grand Junction Drainage District). The 36" culvert then channels drainage flows under the Rio Grande Railroad tracks to the Colorado River located approximately 350' to the south. No existing drainage concerns are apparent.

III. Drainage Design Criteria

Drainage design criteria are taken from the *Stormwater Management Manual* (Public Works Department, City of Grand Junction, CO; June, 1994). Reference is also made to the Appendices in the *Stormwater Management Manual* for development of several constitutive design parameters. The Rational Method is used to develop Peak runoff estimate (cfs) for both pre- and post-development conditions. Peak runoff is developed for the 2 year and 100 year precipitation events for the Mesa County urbanized area. The SCS Type II-A hydrograph (HEC-1, Corps of Engineers - U.S. Army) is used to develop the *time of critical storm duration,* T_d, for retention basin storage sizing. Retention basin outflow control is

achieved with a broad crested weir.

IV. Drainage Design (developed conditions)

The historic drainage outflow located at the southeast corner of the property will remain unchanged by development. As shown on the Grading and Drainage Plan, post-development drainage will consist of channeling surface flows to a retention basin located in the paved parking area at the southeast corner of the property. Because the drainage area is very near the Colorado River, the design peak discharge rate for the retention area is chosen as 5 cfs or the approximate historic 100 yr. event peak discharge rate (5.19 cfs, see Appendix B). In accordance with the use of single stage outlet control, the retention basin is sized to retain the larger volumes of stormwater generated from the 100 year storm event under developed conditions (Appendix E).

Both historic and developed peak runoff flows are estimated using the *Rational Method*. Peak runoff flows for four site scenarios are calculated. The four scenarios investigated include both historic and developed peak runoff flow for precipitation event frequencies of 2 years and 100 years.

The time of concentration, T_c, worksheet for each of the 4 scenarios investigated is included for reference as Appendix A. The *Rational Method* worksheet used to calculate peak flow runoff is included for reference as Appendix B. Retention basin outflow design considerations are addressed in Appendix C. The SCS Type II-A hydrograph for the area (HEC-1) is used to develop the time of critical storm duration, T_d, as shown in Appendix D. The retention basin sizing worksheet is included for reference as Appendix E. Appendix F addresses culvert sizing for discharge from the retention basin to the historic drainage channel.

V. Results and Conclusions

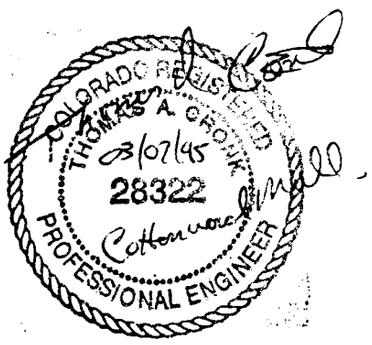
The historic peak flow runoff is estimated at 1.56 cfs (2 year event) and 5.19 cfs (100 year event). As shown in Appendix C, the single stage outlet control will limit developed peak flow discharge to the historic 100 yr event rate of 5.0 cfs. Under developed conditions, the 100 yr precipitation event will

result in a maximum storage volume of approximately 4,500 cubic feet (Appendix E). As shown in Appendix F, a 15" reinforced concrete pipe (RCP) is proposed to channel storm flow from the retention basin to the historic drainage channel located south of Independent Avenue. Under design *inlet control conditions* (submerged outlet with free flow at outlet), the design maximum flow of the culvert is 11.42 cfs. The design maximum flow capacity of the culvert is thus in excess of the 100 yr peak discharge of 8.63 cfs under developed site conditions.

VI. Certification

I, Thomas A. Cronk, hereby certify this report was completed by myself or under my direct supervision and has been prepared in accordance with good engineering practices.

Seal



Thomas A. Cronk

Thomas A. Cronk

Date

March 7, 1995.

APPENDIX A

Time of Concentration, T_c, Worksheet

Time of Concentration, T_c, Worksheet

Project: Cottonwood Mall
Site Condition: Pre-development
Prepared by: Tom A. Cronk
Date: February 19, 1995

(The table below is an adaption of a worksheet provided in the SCS TR-55)
This table may be used in subbasin T_c calculations, or for travel time of subbasin runoff through a lower subbasin reach (T_r),
Use only channel flow for T_r calculations

STORM FREQUENCY		2 YEAR	100 YEAR
REACH	AREA IDENTIFIER		
	SEGMENT IDENTIFICATION		
	T_c OR T_r THROUGH BASIN REACH		
OVERLAND FLOW	SURFACE DESCRIPTION (TABLE E-1)	poor grass on bare surface	poor grass on bare surface
	"N" VALUE (TABLE E-1)	0.3	0.3
	FLOW LENGTH, L (TOTAL < 300 FT.) (ft.)	75	75
	LAND SLOPE, S (ft./ft.)	0.016	0.016
	To (min.) (TABLE E-2, OR FIGURE E-1)	20.00	13.00
SHALLOW CONCENTRATED FLOW	SURFACE DESCRIPTION (FIGURE E-3)	nearly bare and untilled	nearly bare and untilled
	FLOW LENGTH, L (ft.)	100	100
	FLOW SLOPE, S (ft./ft.)	0.016	0.016
	FLOW VELOCITY, V (FIGURE E-3) (fps)	1.3	1.3
	TRAVEL TIME T_t = L/(60V) (min.)	1.28	1.28
CHANNEL FLOW	CROSS-SECTIONAL FLOW AREA, a (ft^2)	1.5	1.5
	WETTED PERIMETER, Pw (ft.)	3.24	3.24
	HYDRAULIC RADIUS, r = a/Pw (ft.)	0.46	0.46
	CHANNEL SLOPE, S (ft./ft.)	0.016	0.016
	MANNINGS COEFFICIENT, n (APPENDIX F)	0.027	0.027
	$V = 1.49r^{2/3}S^{1/2}/n$ (fps)	4.16	4.16
	ASSUMED VELOCITY (fps)	4.0	4.0
	FLOW LENGTH, L (ft.)	485	485
	TRAVEL TIME T_{ch} = L/(60V) (min.)	2.02	2.02
T_c	$T_c = T_o + T_t + T_{ch}$ (min.)	23.3	16.3
T_r	$T_r = T_{ch}$ (min.)		
T_l	$T_l = 0.6(T_c)$ OR FROM FIGURE E-4		

NOTE - Table and all referenced tables, figures, and appendices from Stormwater Management Manual, Public Works Department, City of Grand Junction, June, 1994

Time of Concentration, T_c, Worksheet

Project: Cottonwood Mall
Site Condition: Post-development
Prepared by: Tom A. Cronk
Date: February 19, 1995

(The table below is an adaption of a worksheet provided in the SCS TR-55)
This table may be used in subbasin T_c calculations, or for travel time of subbasin runoff through a lower subbasin reach (T_r),
Use only channel flow for T_r calculations

STORM FREQUENCY		2 YEAR	100 YEAR
REACH	AREA IDENTIFIER		
	SEGMENT IDENTIFICATION		
	T_c OR T_r THROUGH BASIN REACH		
OVERLAND FLOW	SURFACE DESCRIPTION (TABLE E-1)	asphalt/concrete	asphalt/concrete
	"N" VALUE (TABLE E-1)	0.05	0.05
	FLOW LENGTH, L (TOTAL < 300 FT.) (ft.)	75	75
	LAND SLOPE, S (ft./ft.)	0.005	0.005
	To (min.) (TABLE E-2, OR FIGURE E-1)	8.0	5.0
SHALLOW CONCENTRATED FLOW	SURFACE DESCRIPTION (FIGURE E-3)	paved area	paved area
	FLOW LENGTH, L (ft.)	100	100
	FLOW SLOPE, S (ft./ft.)	0.016	0.016
	FLOW VELOCITY, V (FIGURE E-3) (fps)	2.50	2.50
	TRAVEL TIME T_t = L/(60V) (min.)	0.67	0.67
CHANNEL FLOW	CROSS-SECTIONAL FLOW AREA, a (ft^2)	0.094	0.094
	WETTED PERIMETER, Pw (ft.)	1.625	1.625
	HYDRAULIC RADIUS, r = a/Pw (ft.)	0.058	0.058
	CHANNEL SLOPE, S (ft./ft.)	0.016	0.016
	MANNINGS COEFFICIENT, n (APPENDIX F)	0.014	0.014
	$V = 1.49r^{2/3}S^{1/2}/n$ (fps)	2.02	2.02
	ASSUMED VELOCITY (fps)	2.0	2.0
	FLOW LENGTH, L (ft.)	485	485
	TRAVEL TIME T_{ch} = L/(60V) (min.)	4.04	4.04
T_c	$T_c=T_o+T_t+T_{ch}$ (min.)	12.71	9.71
T_r	$T_r=T_{ch}$ (min.)		
T_l	$T_l=0.6(T_c)$ OR FROM FIGURE E-4		

NOTE - Table and all referenced tables, figures, and appendices from Stormwater Management Manual, Public Works Department, City of Grand Junction, June, 1994

APPENDIX B

RATIONAL METHOD PEAK FLOW RUNOFF WORKSHEET

Rational Method Peak Flow Runoff Worksheet

Project: COTTONWOOD MALL
Prepared by: TOM A. CRONK
Date: FEBRUARY 19, 1995

SITE CONDITION: POST-DEVELOPMENT

BASIN	AREA			RUNOFF COEFFICIENT[1], C							
	SURFACE TYPE	SCS GROUP	ACREAGE, A	C_{02}	C_{100}						
All	commercial pavement/roof	D	2.39	0.93	0.95						
			TOTAL ACREAGE, A_T	WEIGHTED RUNOFF COEFFICIENT, C_w		CONCENTRATION TIME[2], T_c (min.)		INTENSITY[3], i (in./hr.)		PEAK RUNOFF $Q=C_w i A_T$ (cfs)	
				C_{02}	C_{100}	T_{C02}	T_{C100}	i_{02}	i_{100}	Q_{02}	Q_{100}
			2.39	0.93	0.95	13	10	1.36	3.80	3.02	8.63

1 - *Rational Method* runoff coefficients taken from Table B-1, **Stormwater Management Manual, Public Works Department, City of Grand Junction, June, 1994**

2 - Time of Concentration as derived in attached Appendix A worksheet

3 - Intensity taken from Table A-1, **Stormwater Management Manual, Public Works Department, City of Grand Junction, June, 1994**

APPENDIX C

RETENTION BASIN OUTFLOW DESIGN WORKSHEET

RETENTION BASIN OUTFLOW DESIGN WORKSHEET
WEIR HYDRAULIC CONTROL
(broad crest weir equation)

Project: Cottonwood Mall
Prepared by: Tom A. Cronk
Date: February 19, 1995

2 year event				100 year event			
head difference, h^1, (ft.)	design discharge, Q^2, (cfs)	coefficient of discharge, C^3	weir width, L^4, (ft.)	head difference, h^1, (ft.)	design discharge, Q^2, (cfs)	coefficient of discharge, C^3	weir width, L^4, (ft.)
				1.0	5.0	3.1	1.61

[1] Water depth measured from weir crest to flow depth upstream (ft.)

[2] Design discharge = maximum historic discharge, Q_h (cfs) less other discharge sources (i.e., lower stage discharge and/or sheetflows)

[3] Figure L-5, **Stormwater Management Manual, Public Works Department, City of Grand Junction, June, 1994**

[4] Width of weir calculated from the broadcrested weir equation as, $Q = CLh$

RETENTION BASIN OUTFLOW DESIGN WORKSHEET
WEIR HYDRAULIC CONTROL
(broad crest weir equation)

Project: Cottonwood Mall
Prepared by: Tom A. Cronk
Date: February 19, 1995

2 year event				100 year event			
head difference, h^1, (ft.)	design discharge, Q^2, (cfs)	coefficient of discharge, C^3	weir width, L^4, (ft.)	head difference, h^1, (ft.)	design discharge, Q^2, (cfs)	coefficient of discharge, C^3	weir width, L^4, (ft.)
				1.0	5.0	3.1	1.61

[1] Water depth measured from weir crest to flow depth upstream (ft.)

[2] Design discharge = maximum historic discharge, Q_h (cfs) less other discharge sources (i.e., lower stage discharge and/or sheetflows)

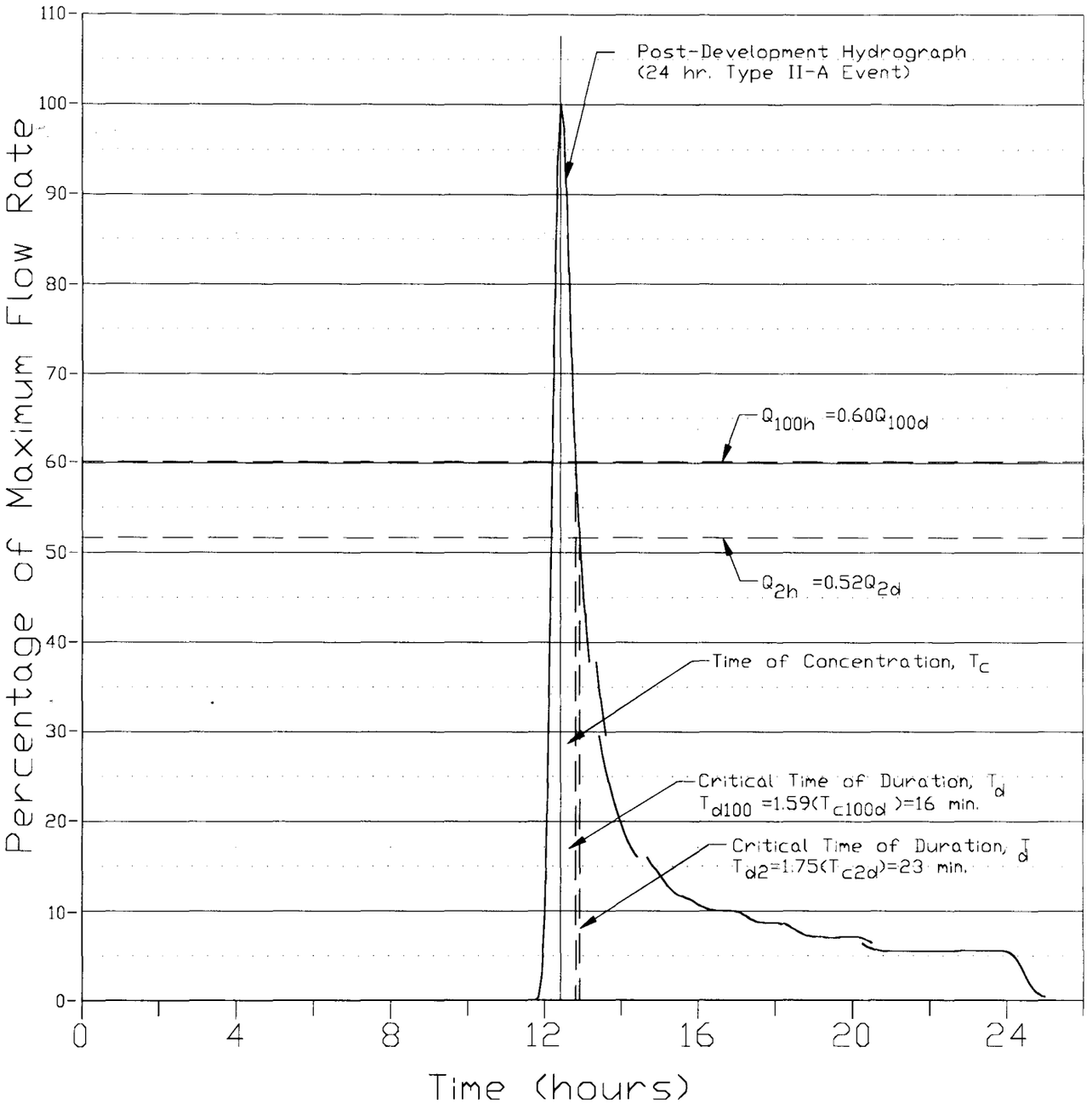
[3] Figure L-5, **Stormwater Management Manual, Public Works Department, City of Grand Junction, June, 1994**

[4] Width of weir calculated from the broadcrested weir equation as, $Q = CLh$

APPENDIX D

TIME OF CRITICAL DURATION, T_d, WORKSHEET

Runoff Hydrograph
Post-Construction (Peony Subdivision)
SCS Type II-A Unit Hydrograph (24 hr. event)



APPENDIX E

MODIFIED RATIONAL METHOD RETENTION BASIN SIZING WORKSHEET

MODIFIED RATIONAL METHOD RETENTION BASIN SIZING WORKSHEET

Project: Cottonwood Mall
Prepared by: Tom A. Cronk
Date: February 19, 1995

Basin	Site Hydrology								Retention Basin Sizing					
	Site Condition		2 year event			100 year event			2 year event			100 year event		
			C_{2d}	T_{c2d} (min.)	Q_{2d} (cfs)	C_{100d}	T_{c100d} (min.)	Q_{100d} (cfs)	T_{d2}[1] (min.)	Q_{r2}[2] (cfs)	Storage Volume, V_2[3], (ft^3)	T_{d100}[1] (min.)	Q_{r100}[2] (cfs)	Storage Volume, V_{100}[3], (ft^3)
All	Pre-developed		0.64	23	1.56	0.69	16	5.19						
	Post-developed		0.93	13	3.02	0.95	10	8.63	23	1.23	2,555	16	4.10	4,441
	Development Impact	quantity			+1.46			+3.44						
		percent			+94%			+66%						

[1] Time of critical duration, T_d, from Appendix D worksheet

[2] Average rate of discharge, Q_r, = 82% of actual discharge, Q_a, taken from Appendix C plus other discharge sources (i.e., lower stage discharge and/or sheetflows)

[3] Storage volume required, V (ft^3), calculated from:

$$V = 60\left[Q_d T_d - Q_r T_d - Q_r T_{Cd} + \frac{K Q_r T_{Cd}}{2} + \frac{Q_r^2 T_{Cd}}{2 Q_d}\right], \text{ where,}$$

K = Ratio of pre- and post-development T_{Cd}

APPENDIX F
CULVERT SIZING WORKSHEET

PROJECT: COTTONWOOD MALL
2493 HWY 6&50
GRAND JUNCTION, CO 81505

STATION: INDEPENDENT AVENUE
SHEET _____ OF _____

CULVERT DESIGN FORM

DESIGNER/DATE: TOM A. CRONK / 03/07/95
REVIEWER/DATE: _____ / _____

HYDROLOGICAL DATA

DESIGN FLOWS

BASIN: COTTONWOOD MEHTOD: RATIONAL

R. I. (years)	FLOWS (cfs)
2 (DEVEL.)	3.02
100 (DEVEL.)	8.63

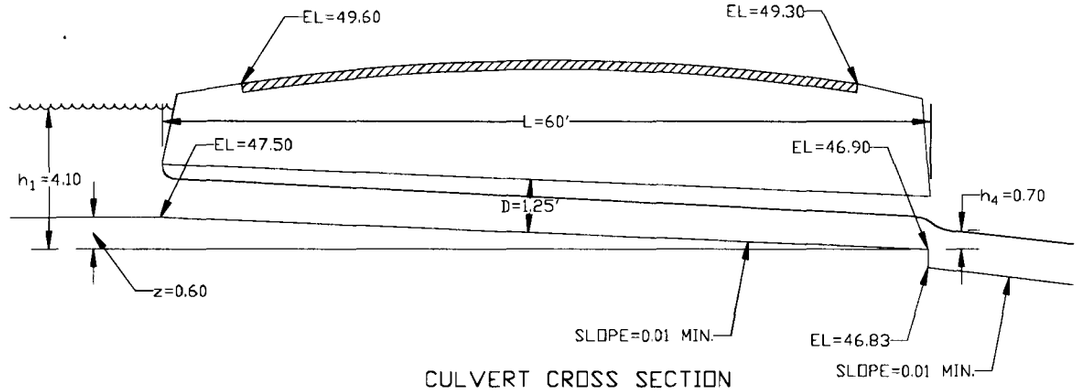
TAIL WATER CHANNEL FLOW

CHANNEL TYPE UNIFORM, GRASS/WEEDS
CHANNEL SHAPE TRIANGULAR
CHANNEL SLOPE 0.01
FLOW VELOCITY 3.0 fps

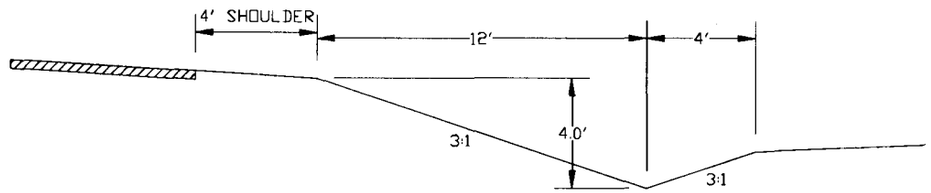
R. I. (years)	FLOWS (cfs	TAIL WATER (ft)
2 (DEVEL.)	3.02	0.58
100 (HIST.)	5.19	0.76
100 (DEVEL)	8.63	0.98

CULVERT SIZING

TYPE OF FLOW: SUB IN/FREE FLOW OUT
MATERIAL: RCP (ASTM C-76) CLASS 5
SHAPE: ROUND
FLOW EQUATION: $Q = C_d A_o \sqrt{2g(h_1 - z)}$
CULVERT SIZE: 15" I.D.
DESIGN MAXIMUM DISCHARGE (cfs) 11.42
ENTRANCE: SHARP EDGE



CULVERT CROSS SECTION



TAIL WATER FLOW CHANNEL
CROSS SECTION

Q=discharge (cfs)
C_d=discharge coefficient
(equal to 0.62 for sharp
edge transition)
A_o=culvert cross section (ft)
g=gravitational constant (32.2 ft/sec)
h_1=inlet head measured to inlet invert (ft)
z=fall through culvert (ft)

CULVERT BARREL SELECTED

SHAPE: ROUND
SIZE: 15" I.D. CLASS 5
MATERIAL: REINFORCED CONCRETE ASTM C-76
ENTRANCE: SHARP EDGE

PRELIMINARY

REVIEW COMMENTS

FILE #SPR-95-37 **TITLE HEADING:** Site Plan Review - Cottonwood Mall

LOCATION: 2493 Highway 6 & 50

PETITIONER: Steve McCallum

PETITIONER'S ADDRESS/TELEPHONE: 552 25 Road
Grand Junction, CO 81505
243-4642

PETITIONER'S REPRESENTATIVE: W.H. Lizer & Associates

STAFF REPRESENTATIVE: Michael Drollinger

NOTE: WRITTEN RESPONSE (4 COPIES) BY THE PETITIONER TO THE REVIEW COMMENTS IS REQUIRED. A PLANNING CLEARANCE WILL NOT BE ISSUED UNTIL ALL ISSUES HAVE BEEN RESOLVED.

COUNTY BUILDING DEPARTMENT **2/23/95**
Bob Lee **244-1656**

No comments at this point.

MESA COUNTY PLANNING **2/24/95**
Verna Cox **244-1637**

No comments.

CITY DEVELOPMENT ENGINEER **2/24/95**
Jody Kliska **244-1591**

See attached comments.

CITY UTILITY ENGINEER **2/27/95**
Bill Cheney **244-1590**

WATER - Ute Water
SEWER

1. Sewer will not be available May 1 if constructed and part of the Improvement District. Projected time of completion is June 30, 1995.
2. Each unit will be required to pay a separate Plant Investment Fee if owned as individual units. P.I.F. will be based on square footage if retail or number of employees if office space.

COMMUNITY DEVELOPMENT DEPARTMENT **2/24/95**
Michael Drollinger **244-1439**

See attached comments.

GRAND JUNCTION FIRE DEPARTMENT **2/24/95**
Hank Masterson **244-1414**

1. A fire flow survey is required - submit a complete set of building plans to Fire Department for our review.
2. Requirements for on-site hydrants, if any, will b based on results of fire flow survey.
3. To determine available water supply, flow tests of hydrants on Independent Avenue and Highway 6 & 50 frontage road are required. Petitioner must contact Fire Department to schedule a time for these tests.
4. Group M retail sales occupancies in excess of 12,000 square feet are required to have automatic sprinkler systems throughout.
5.. Emergency access is adequate as shown.

UTE WATER DISTRICT **3/1/95**
Gary R. Mathews **242-7491**

1. Ute Water has an 8" main line on the Frontage Road and in Independent Avenue. Both lines will provide adequate fire flow requirements.
2. A RPV devise is required on all high hazard areas and a double check valve on sprinkler systems..
3. Contact with Ute Water is needed to discuss meter options for domestic needs.
4. Policies and fees in effect at the time of application will apply.

February 23, 1995

REVIEW COMMENTS FOR: **Cottonwood Mall SPR-95-37**

TYPE OF REVIEW: **Site Plan & Drainage**

REVIEWED BY: **Jody Kliska**

Site Plan

Please see the attached copies with the truck turning templates superimposed. Trucks will not be able to circulate on this site without running over landscaping or into the corner of the building. I have also included a copy of a truck template for your use.

There are at least three, possibly four unusable parking spaces as shown because cars will not be able to back out without hitting other parked cars. These are marked on the redlined plans.

Please show a detail for the speed bump. I have included a copy of a speed hump which has been shown to be effective both to slow down vehicles without tearing out the bottoms of cars and provide a pedestrian crosswalk.

City Zoning and Development Code requires a lighting plan showing the specifications and an isofootcandle diagram. See section 5-5-1 F (2)(i).

Please include a note and/or detail for the handicap parking spaces so that they are marked and signed appropriately. City Standard Drawings have the details. No grades are shown, but a ramp may be required from the parking lot to the sidewalk to accommodate handicapped. Maximum slope allowed is 1" rise per foot.

Grading and Drainage Plan

Please show spot elevations throughout the parking lot. I would also like to see a cross-section of the paved area around the building. Will the pavement be inverted to carry water or is curbing required?

The parking spaces behind the building appear to be 5-6' below the finished floor elevation. How do people access the building from these spaces?

Please show a detail for the drop inlet in the parking lot and provide a grate elevation. Running the pipe under the building may

be a maintenance problem at some point. You may want to rethink this, or at least consider using casing. When this is platted for condominium, some provision for maintenance of the stormwater facilities needs to be made.

Please include a calculation for the pipe which indicates it will meet the minimum requirement of 2.5 fps flow requirement (Section H-1, Stormwater Management Manual).

The SWMM Manual allows a maximum one foot of ponding in parking lots with a provision of a 12' wide emergency lane with .5' of ponding. It appears the 100 year storm will exceed this.

Please provide a design for the retaining wall including the calculations and showing all the details including the footing and reinforcing steel. Because there is a residence next door and the shopping center is several feet higher, it is critical the wall be properly designed so the adjacent property is not damaged from a structural failure.

Please recheck the drainage report calculations for the outlet orifice. It appears the calculated orifice should be 1" in diameter, not 10". You may want to consider a combination weir in the wall, and release the historic 2 year and the historic 100 year flows, rather than a pipe.

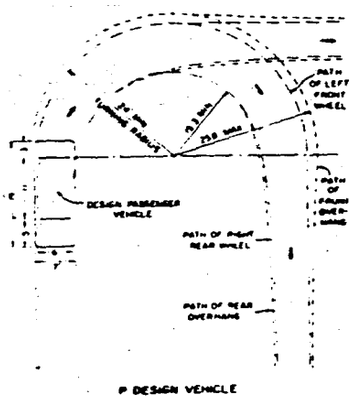
Please provide a cross-section of the proposed channel along Independent. The SWMM Manual requires a minimum slope of 2% for grass channels. It is not clear on the drawing what the elevation of the channel bottom is. Some erosion control at the detention outlet may be required. The Handbook of Steel Drainage and Highway Construction Products calls for a minimum cover of one foot for a 12" cmp. Please show the driveway locations on the plans. What is the plan for the channel through the landscaped area? Permission from the property owner in writing is required.

Please provide a detail for the drop inlet to the storm sewer. Agreement in writing from the Drainage District is required to utilize their facility.

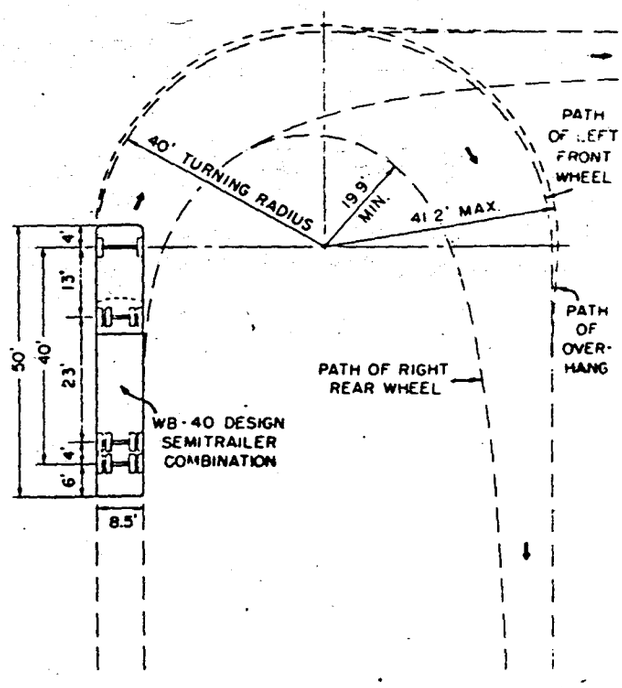
Other

Please provide the attachment for the CDOT access permit.

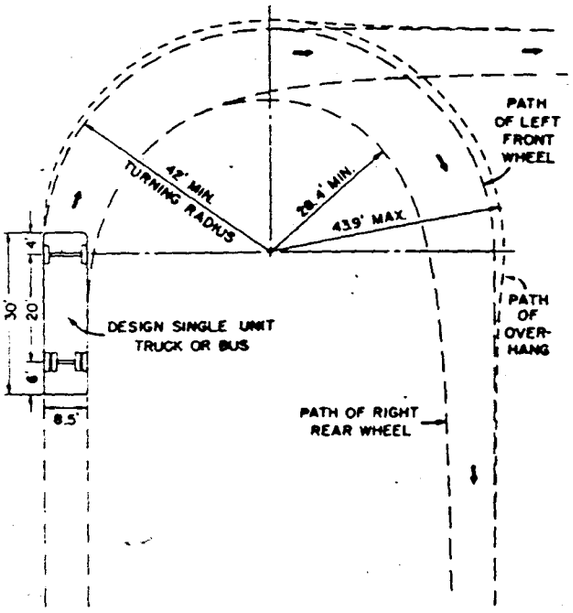
TCP is calculated at $6600.00 after reduction for prior uses.



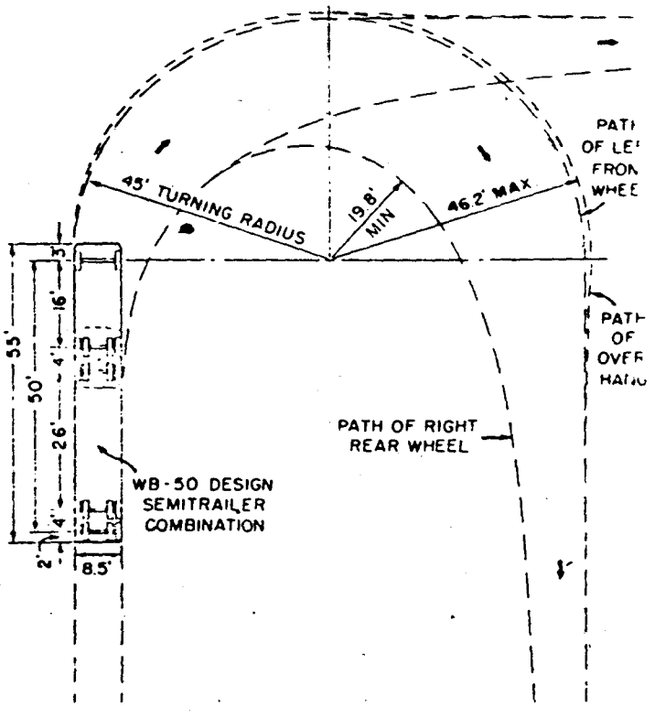
P DESIGN VEHICLE



WB-40 DESIGN VEHICLE



SU DESIGN VEHICLE

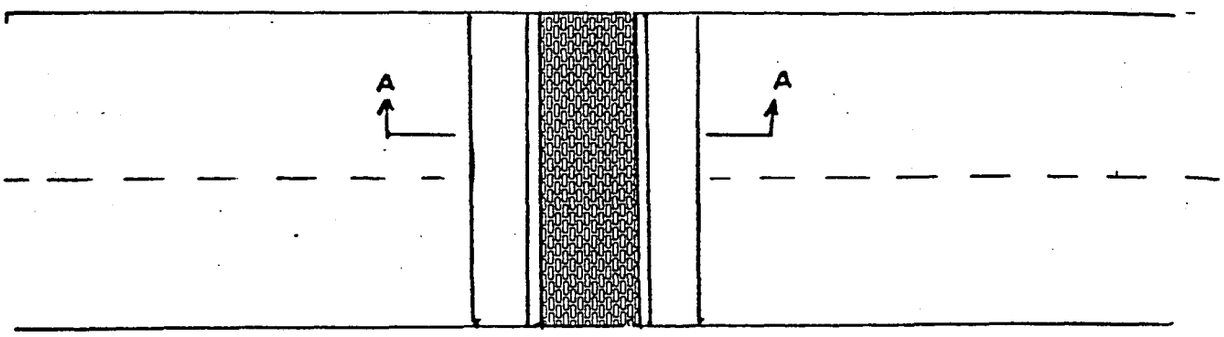


WB-50 DESIGN VEHICLE

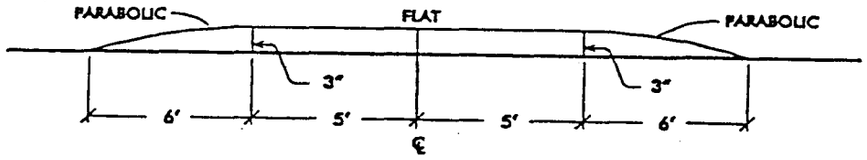
1"=30'

RAISED CROSSWALK

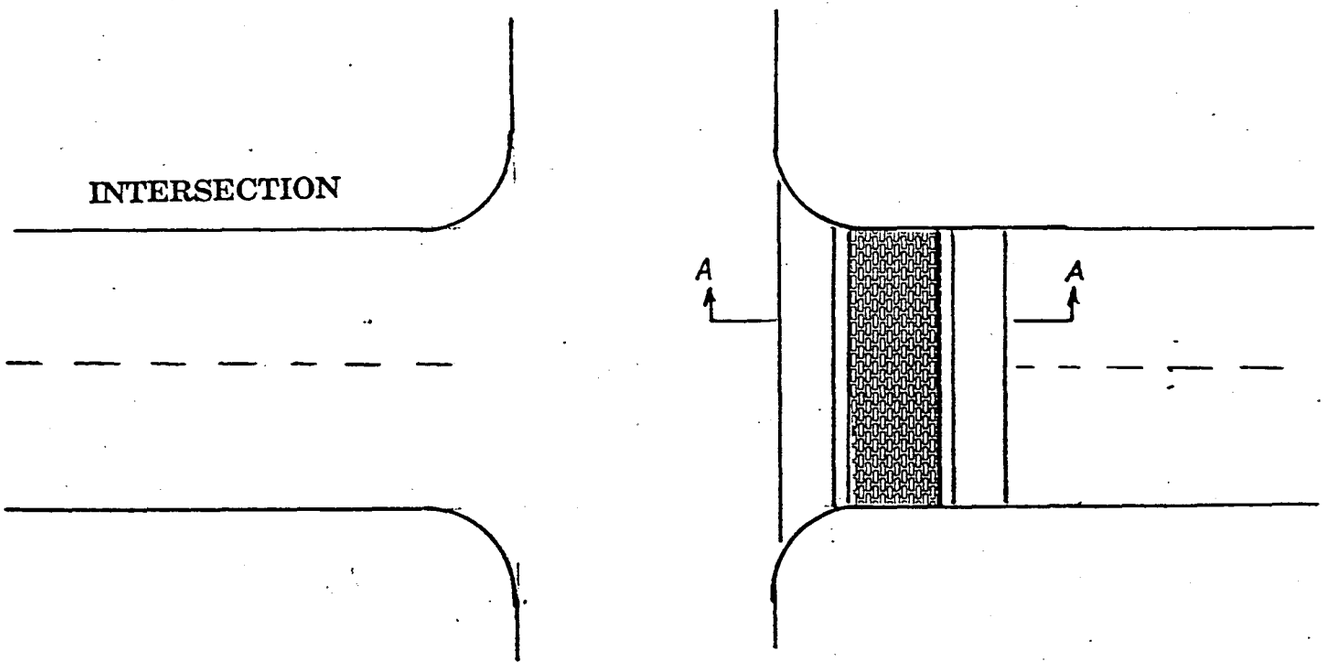
MID-BLOCK



Section A–A



INTERSECTION



B. DRAINAGE FACILITY SLOPES AND GRADES

1. **Slopes** Minimum and maximum slopes shall be as shown in Table X-2.

TABLE X-2
DRAINAGE FACILITY SLOPES
(Applicable to bottoms and side slopes of channels, swales, and basins)

SLOPE LIMIT	SURFACE TYPE				
	Maintenance Access Ramp	Sod or Seed and Mulch	Riprap	Asphalt	Concrete
Minimum	2%	2%	2%	1.0%	0.5%
Maximum	6H:1V	3H:1V*	2H:1V	**	**

* For public detention/park facilities, maximum slope is 4H:1V. Also, all unpaved slopes and surfaces shall be protected from erosion by seeding and mulching, sodding or other approved ground cover.
** Maximum slope depends upon the application.

2. **Freeboard** There may be specific cases where freeboard for 100-year storm events is required. Normally, however, finish floor criteria of 1.0 foot above 100-year water surfaces and 0.50 foot above lot outfalls will be adequate. Conditions meriting freeboard may include but are not limited to channel or pond embankments which are significantly higher than surrounding ground where a breach could result in substantial failure of the embankment, or areas presenting high blockage or clogging potential.

3. **Highwater** Ponding (non-flowing backup water) from 100-year storm events shall not occur on streets. Therefore, detention/retention and other drainage facilities must be designed accordingly.

C. **LOT AND SITE GRADING** Developed lots shall be graded with minimum and maximum slopes as prescribed in Table X-2 toward drainage facilities and streets, all in accordance with criteria presented in this manual. Site grading should prevent an inflow of runoff that has not historically contributed to or passed through the site such as at driveways and other low spots. Increased lot runoff due to development shall be directed away from private property in order to conform with stormwater law presented in Section III and as expounded upon in Section VIII as pertaining to detention and retention facilities. Finish floor elevations shall be a minimum of 1.0 foot above all estimated 100-year storm water surface elevations, and a minimum of 0.5 foot above the site outfall.

In the 100-year storm event, retention and detention water on parking areas shall not exceed 1.0 foot in depth, and a 12 foot wide emergency lane through driveways or parking lots must be available with no more than 0.5 foot of ponding depth.

D. GRADING PLAN REQUIREMENTS Standards for grading and drainage plans are provided in the Submittal Standards for Improvements and Development (SSID) manual.

CITY OF GRAND JUNCTION

DEPARTMENT OF PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

PROJECT Cottonwood Mall
SUBJECT TCP
DATE 2-23-95 BY JKK FILE NO. ____ SHEET ____ OF ____

PRIOR USES

900 SF Liquor Stores — 70/1000 weekday
29 Room ~~Restaurant~~ Motel — 10.19 trips/ Occupied Room - Avg. Occupa 65%
3000 SF Restaurant — 165/1000 SF
900 SF Auto Repair — 70/1000
4 Single Family Homes — 9.55 weekday trips/Unit

ITE Allows a Capture Rate of 80-90% for Motel/Restaurants/Retail Uses, therefore a reduction is applied.

Retail 1800 SF x 70/1000 x .50 (capture) = ~~126 trips~~ 63 trips

Motel 29 Rooms x .65 (Occ. Rate) x 10.19 x .20 (Reduction for Capture) = 38 trips

Restaurant 3000 SF x 165/1000 = 495 trips

Single Family 4 x 9.55 = 38 trips

634 ~~697~~ Total Trips

PROPOSED USES — From Parking Breakdown Supplied

Showroom/Sales/Retail 30300 SF

Warehouse 4500 SF

~~Retail 30300 x 70/1000 x .60~~

Retail 30300 SF x 70/1000 x ~~.80~~ x .60 = 1272 ~~1224~~ trips

Warehouse 4500 SF x 4.88/1000 = 22 trips

1294 trips

CITY OF GRAND JUNCTION

DEPARTMENT OF PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

PROJECT Cottonwood Mall
SUBJECT TCP
DATE 2-23-95 BY JKK FILE NO. SHEET OF

1294 − 634 = 660 New Trips

TCP = $500 × 660/10≠ × 60% New ≠ 3/6 = **$6600**

RESPONSE TO REVIEW COMMENTS

FILE #SPR95-37

Location: 2493 Hwy 6 & 50
Petitioner: Steve McCallum
Petitioner's Address/Telephone: 552 25 Road
Grand Junction, CO 81505
243-4642
Petitioner's Representative: Cronk Construction
Staff Representative: Michael Drollinger
Response Submitted: March 10, 1995

City Development Engineer, Jody Kliska

Please see revised plans, they should address all of your comments regarding the proposed project.

City Utility Engineer, Bill Cheney

1. We have noted your comments regarding the projected dates of the Improvement District completion. As earlier discussed, if the District is not in place by the date required, we will install, as per your specifications, the portion from 25 Road to our development.
2. We will satisfy your request regarding the required P.I.F. Please note all sewer service will be billed to the Cottonwood Mall Owners Association.

Community Development Department, Michael Drollinger

Please note revised plans, they should address all of your concerns.

Grand Junction Fire Department, Hank Masterson

1. A Complete set of plans will be submitted no later than 3/14/95 for your review.
2. This parcel is included in the recent fire-line upgrade along the south side of Highway 6 & 50, as well as the north side of Independent.
3. We will contact Mr. Masterson at the same time to schedule flow tests for the hydrants.
4. We will provide fire separation walls, so space will not be in excess of 12,000 square feet.

Ute Water District, Gary R. Mathews

We will schedule a meeting with Mr. Mathews, after the meeting with Hank Masterson, to resolve service requirements.

Grand Junction Police Department, Dave Stassen

1. The questions regarding traffic flow have be resolved with Jody Kliska at Engineering. We have increased the lighting for the exterior, as per your request.
2. The speed bumps located at the pedestrian walkway will remain as shown, with or without modifications.

Sincerely Yours,

Steve McCallum

REVIEW COMMENTS

FILE #SPR-95-37 **TITLE HEADING:** Site Plan Review - Cottonwood Mall

LOCATION: 2493 Highway 6 & 50

PETITIONER: Steve McCallum

PETITIONER'S ADDRESS/TELEPHONE: 552 25 Road
Grand Junction, CO 81505
243-4642

PETITIONER'S REPRESENTATIVE: Cronk Construction / 1129 24 Road / 81505

STAFF REPRESENTATIVE: Michael Drollinger

NOTE: WRITTEN RESPONSE (4 COPIES) BY THE PETITIONER TO THE REVIEW COMMENTS IS REQUIRED. A PLANNING CLEARANCE WILL NOT BE ISSUED UNTIL ALL ISSUES HAVE BEEN RESOLVED.

COUNTY BUILDING DEPARTMENT **2/23/95**
Bob Lee **244-1656**

No comments at this point.

MESA COUNTY PLANNING **2/24/95**
Verna Cox **244-1637**

No comments.

CITY DEVELOPMENT ENGINEER **2/24/95**
Jody Kliska **244-1591**

See attached comments.

CITY UTILITY ENGINEER **2/27/95**
Bill Cheney **244-1590**

WATER - Ute Water
SEWER

1. Sewer will not be available May 1 if constructed and part of the Improvement District. Projected time of completion is June 30, 1995.
2. Each unit will be required to pay a separate Plant Investment Fee if owned as individual units. P.I.F. will be based on square footage if retail or number of employees if office space.

COMMUNITY DEVELOPMENT DEPARTMENT **2/24/95**
Michael Drollinger **244-1439**

See attached comments.

GRAND JUNCTION FIRE DEPARTMENT **2/24/95**
Hank Masterson **244-1414**

1. A fire flow survey is required - submit a complete set of building plans to Fire Department for our review.
2. Requirements for on-site hydrants, if any, will b based on results of fire flow survey.
3. To determine available water supply, flow tests of hydrants on Independent Avenue and Highway 6 & 50 frontage road are required. Petitioner must contact Fire Department to schedule a time for these tests.
4. Group M retail sales occupancies in excess of 12,000 square feet are required to have automatic sprinkler systems throughout.
5.. Emergency access is adequate as shown.

UTE WATER DISTRICT **3/1/95**
Gary R. Mathews **242-7491**

1. Ute Water has an 8" main line on the Frontage Road and in Independent Avenue. Both lines will provide adequate fire flow requirements.
2. A RPV devise is required on all high hazard areas and a double check valve on sprinkler systems..
3. Contact with Ute Water is needed to discuss meter options for domestic needs.
4. Policies and fees in effect at the time of application will apply.

GRAND JUNCTION POLICE DEPARTMENT **3/2/95**
Dave Stassen **244-3587**

1. I share the concerns with the traffic flow around the building and the safety problem of the drop to the south of the project. I liked the location of the parking lot lighting and would encourage some more lights on the south and west sides of the building.
2. I like the speed bumps at the pedestrian walkway in the west parking lot. I would encourage this to remain if any modifications are made to the site plan.

TO DATE, COMMENTS HAVE NOT BEEN RECEIVED FROM THE FOLLOWING AGENCIES:

City Property Agent
City Attorney
U.S. West
Public Service Company
Colorado Department of Transportation

STAFF REVIEW

FILE: #SPR 95-37
DATE: February 24, 1995
STAFF: Michael Drollinger
REQUEST: Site Plan Review
LOCATION: 2493 Hwy. 6&50 - Cottonwood Mall
ZONING: C-2

STAFF COMMENTS:

Site Plan/Circulation

1. Adequate striping and signage must be provided to identify circulation patterns, especially considering the amount of one-way circulation proposed. Traffic control signage locations and details must be provided on the Site Plan as per the SSID manual.

2. Driveways along the north frontage shall be signed for "no parking." Loading areas on east and west side of building should be signed to permit loading and unloading only. This requirement is to prevent any overflow parking from the main parking area from blocking site driveways.

3. What edge treatment (e.g. curbing or fencing) will be provided along the property lines to prevent encroachment of vehicles onto adjacent properties especially considering the narrow aisle widths provided?

4. Half-street improvements are not identified. Curb, gutter, and sidewalk (minimum width six feet for sidewalk) are required along the frontage road.

5. Bicycle parking rack detail required.

6. See attached "Drawing Standards Checklist" for items missing on the Site Plan.

Landscaping

1. Landscape Plan does not meet SSID requirements. See attached "Drawing Standards Checklist" for missing items.

2. Frontage landscaping and right-of-way landscaping appear to be adequate subject to additional detail being supplied on the Landscape Plan. A revocable permit is required for landscaping in the ROW (no charge - contact Community Development for details).

3. Street frontage landscaping adjacent to the southern parking areas does not meet the depth requirements of Section 5-5-1F2(a). The required landscape barrier is also not provided.

4. The requirements of Section 5-5-1F2(c)2 regarding protection of landscaping from vehicular encroachment have not been met.

5. Planting island width for islands in lot in southwest corner of site must be a minimum of nine (9) feet (see Section 5-5-1F(2)c3).

6. The landscaping details provided are insufficient to determine compliance with Section 5-5-1F(2)e.

7. A lighting plan and lighting details must be provided as per Section 5-5-1F(2)i.

Miscellaneous

1. Narrative states that signage is identified on site plan; no such details have been provided.

2. Considering that the units will be condominium units, a mechanism must be put in place via the property owner's association to distribute the parking spaces as uses change so that the minimum City requirements for each use are met since not enough parking is proposed for the project so that all uses could be retail uses. A limited pool of additional parking spaces (above the minimum required by Code for the uses provided) are available for redistribution. The petitioner should contact the City Attorney for details regarding this requirement. Copies of the covenants must be forwarded for review by the City Attornay and Community Development.

3. Where will trash containment areas be located?

REVISED PLANS WILL BE REQUIRED.

PLEASE RETURN RED-LINED PLANS SUPPILED BY DEVELOPMENT ENGINEER.

PLEASE TAKE NOTE OF THE FOLLOWING:

1. ALL SIGNS TO BE ERECTED ON THE SITE WILL REQUIRE A SIGN PERMIT PRIOR TO INSTALLATION OF THE SIGN.

2. SITE IMPROVEMENTS (INCLUDING LANDSCAPING) MUST BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS. ANY MODIFICATIONS MUST BE APPROVED, IN WRITING, BY THE COMMUNITY DEVELOPMENT DEPARTMENT. FAILURE TO INSTALL SITE IMPROVEMENTS AS PER THE APPROVED PLANS MAY DELAY THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

3. SITE IMPROVEMENTS (E.G. LANDSCAPING, SIDEWALK, ETC.) NOT COMPLETED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY MUST BE GUARANTEED.

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

95-37.wpd

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

March 20, 1995

Steve McCallum
552 25 Road
Grand Junction, CO 81505

RE: Cottonwood Mall (Our File # SPR 95-37)

Dear Mr. McCallum,

At your insistence, we will not require the changes in the covenants which would create a mechanism whereby the parking spaces provided can be distributed among the users as the uses in the complex change so that minimum City parking requirements can be met. We still believe, however, that this provision is in the best interest of the unit owners to protect themselves from parking disputes that may arise if future owners desire uses requiring more parking.

At this time the City is approving your proposal with the use mix and provided parking which is detailed on the site plan. As you are aware, sufficient parking will not be available for the development should the approved uses change to uses requiring parking above the limited number of spaces which have been provided exceeding the existing parking requirement. The City will approve use change requests which can provide for sufficient parking on a "first come" basis. Future tenants may run the risk of not having sufficient parking available for their proposal.

If you have any questions or require further information please do not hesitate to call.

Sincerely yours,

Michael T. Drollinger
Senior Planner

cc: Mark Achen, City Manager
Ken Fulmer
Hal Heath
Curt Rahm
Ed Hokanson

cityfil\1995\95-378.wpd

Cottonwood Mall

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

July 7, 1995

Steve McCallum
552 25 Road
Grand Junction, CO 81505
Phone: 243-4642

Project: **U.S. Highway Sewer Improvement District**

Subject: **Sewer availability for Cottonwood Mall Site**

Mr. McCallum,

The construction of the 6 & 50 Sewer Improvement District that will service the proposed Cottonwood Mall site has been delayed due to complications in obtaining an agreement to build the proposed sewer within the Southern Pacific Railroad right of way on the south side of the Cottonwood Mall site.

The City of Grand Junction is currently negotiating an easement agreement with Southern Pacific Railroad. After many months of working through Southern Pacific's organization, the City has finally received a fee for use of the easement. The City feels that the proposed fee is high and is submitting a counter proposal on July 6, 1995. Contingent upon Southern Pacific's acceptance of the City's counter proposal, construction on the portion of the sewer line to serve Cottonwood Mall may commence within 2 weeks. If the counter proposal is rejected, the City staff will seek permission from City Council to commence condemnation proceedings to acquire use of the right of way. Condemnation proceedings would delay the start of construction by an additional 6 weeks.

In order to accommodate the construction of the Cottonwood Mall facility the City signed off on the planning clearance despite sewer not yet being available. The permanent Certificate of Occupancy will not be issued until the sewer is constructed and a sewer service line is connected to the Cottonwood Mall structure. **However**, the Mesa County Building Department has agreed to issue temporary Certificates of Occupancy upon installation of a sewage holding tank. The tank would not be a permanent solution, however it would allow Cottonwood Mall to open business upon completion of the facility.

The sewer line will be constructed this year, however it may not be available until the middle of August or the middle of October depending upon which of the above mentioned scenarios play out.

If you have any questions regarding the above, please call me at 244-1590.

Sincerely,

Trent Prall, Acting Utility Engineer
City of Grand Junction

cc: City of Grand Junction Planning Dept.
Utility Billing
Project File

I:\PW_UTIL\PWDOC\6&50\CttnMl1.650

Printed on recycled paper

SPR-95-37

9/11/96

To Whom It May Concern,

I am the owner of Sports Replay, a business currently located in Cottonwood Mall at 2493 Hwy. 6&50. I have been inbusiness for 6 years and have seen my sales increase every year. However the growth has also demanded an increase in expenses.

I moved into Cottonwood Mall and purchased a unit thinking that it would be an ideal location for exposure and that that exposure would offset the increase in expenses. After being here one year, I have observed that the potential for great exposure is apparent, however due tothe frontage road set back from the highway and then our Mall sign having to be set back so far, our businesses aren't adequately exposed to the traffic. In an effort to attract more business, we set up banners, on steel posts, in the ground, in front of our mall, being careful not to impede the visibility of traffic. The banners have wind holes and are secured at 6 points so as to eliminate being classified as wind driven. As a result my business traffic and sales has increased by two to three fold. This has made the difference between closing my doors and not only paying my bills but even taking home a paycheck. At least one other business in the mall has stated the same. Two to three others, who are waiting on the results of our banner appeal, have not had banners made, but are also suffering from lack of exposure and may have to close their doors.

Cottonwood Mall employs many employees and contributes a lot of sales tax to the community. But our survival depends on better exposure to the local traffic. I am appealing to you to consider our banners, which each business ~~will take~~ turns utilizing and the home owners assoc. will regulate the quality and condition of the banners to be displayed..

We appreciate you consideration in this manner and hope that you will help us to make Cottonwood Mall a successful location for all of our businesses.

Thank You,

Sincerely,

N J Fulmer

N.J. Fulmer
owner
Sports Replay
245-2817

2493 Hwy. 6&50

To: kathyp
Cc: michaeld
From: Mark Achen
Subject: Cottonwood Mall signage
Date: 9/24/96 Time: 10:41AM

The Webbers, who own a scuba shop in Cottonwood, have scheduled a meeting with me Thurs, the 26th, 3PM to inquire about their options. Mike Webber, RMHMO exec, saw me at another meeting and asked for my help saying that some of the businesses in Cottonwood will have trouble surviving unless something can be done. Please have someone brief me in advance and attend this meeting with me. Thanks!

FILE

Grand Junction Community Development Department
Planning • Zoning • Code Enforcement
250 North Fifth Street
Grand Junction, Colorado 81501-2668
(970) 244-1430 FAX (970) 244-1599

August 21, 1995

Steve McCallum
552 25 Road
Grand Junction CO 81505

Re: Cottonwood Mall (Our File #SPR-95-37)

Dear Mr. McCallum,

As per our conversation last Thursday, I am summarizing the options which you have to permit issuance of Certificates of Occupancy (C.O.) in the Cottonwood Mall without completion of all required site improvements. I understand that some of the businesses in the mall are close to requesting a C.O. and I have observed that many site improvements remain to be completed. City Code requires that site improvements be completed prior to occupancy, however, a development improvements agreement may be entered into prior to completion of site improvements with one of the following as a guarantee:

1. disbursement agreement between a bank doing business in Mesa County and the City, or

2. a good and sufficient letter of credit acceptable to the City, or

3. depositing with the City cash equivalent to the estimated cost of construction of the improvements.

Of course, another available option is to complete the site improvements as per the approved plans prior to a request for a Certificate of Occupancy.

Should you choose to complete an improvements agreement for this project, I have enclosed a copy for your use with instructions for completion. If you have any questions or require further information please do not hesitate to contact me.

Sincerely yours,

Michael T. Drollinger
Senior Planner

encls.

cc: Mark Achen, City Manager (w/o encl.)
h:\cityfil\1995\95-379.wpd

September 1, 1995

Steve McCallum
TPI
552 25 Road
Grand Junction, CO 81501

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

RE: COTTONWOOD MALL DRAINAGE

Dear Steve,

With this letter I am following up our phone conversation of August 30, 1995 letter regarding the drainage at Cottonwood Mall. In a site visit last week, I noticed the detention area and outlet structure for the the project was not constructed as shown on the approved plans and thus an item was added to the improvements guarantee you posted for work on this project to be completed.

To remedy this, there are two choices:

1. Construct the detention facilities as shown on the approved plans, or

2. Submit re-engineered plans and documentation as necessary showing an alternative drainage facility. This will be subject to the same review by City Engineering as the original design underwent.

I am not aware of any approval by Grand Junction Drainage District to release flows undetained into their system. If they have given such approval, please provide me with it in writing.

My other concern for the drainage as it currently exists is there may be insufficient storage on-site in the 100 year event and this will spill over onto adjacent properties once the storm drain inlet reaches capacity. We require on-site handling of stormwater so this does not occur.

Please contact me if you have questions. I will be happy to review any new plans.

Sincerely,

Jody Kliska
City Development Engineer

cc: Michael Drollinger, City Community Development
Tom Cronk, Cronk Construction
John Ballagh, GJ Drainage District

US HWY 6&50 EAST BOUND

FRONTAGE ROAD - HWY 6&50

EDGE OF P E E

NORTH

10 0 20 40 60 80 100

SCALE 1 =30

RECEIVED GRAND JUNCTION PLANNING DEPARTMENT FEB 1 1996 RECD

PARKING - 115 REQUIRED
111 AVAILABLE

1460 SQ. FT.

1120 SQ. FT

188 SQ FT

186 SQ FT

44 SPACES

1570 SQ FT

26 SQ FT

242 SQ FT

BREEZEWAY TO PARKING

29 SP CES

28 SPACES

10 SPACES

1 35 SQ FT

1024 SQ. FT.

INDEPENDENT AVENUE

EDGE OF PA E E T

E ISTI G STOR A ER D GE
D TF 36 CMP DER R
TRACK TO RIVER (GR D NC IO
DR I GE DISTRICT)

LEGEND

- ◒ - SURVEY MARKER
- ∘ - SET NO 5 REBAR WITH 1-1/2 CAP
- ○ - PROPERTY CORNER

REVISED ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____

PAGE 1 OF 2
DRAWN TAC DATE 06/19/93
CHECHED ____ DATE ____
APPROVED ____ DATE ____

PROJECT
REFERENCE
PROJECT LOCATION

COTTONWOOD MALL
SITE PLAN
2493 HWY 6&50
GRAND JUNCTIION, CO 81506

DATE
SCALE
PREPARED BY

JANUARY 31 1995
1 IN = 20 FT
TOM A CRONK

CRONK
CONSTRUCTION
INCORPORATED
1129 -24- ROAD
GRAND JUNCTION CO 81505
303-245-0577

PROJECT

PROJECT NO

FILED
BOOK____
PAGE____