Table of Contents

File SPR-1995-172
Date 10/599

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
		Receipts for fees paid for anything
X	X	***Submittal checklist**
X	X	***General project report**
		Reduced copy of final plans or drawings
X	X	Reduction of assessor's map
		Evidence of title, deeds
		***Mailing list**
		Public notice cards
		Record of certified mail
X	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
		Individual review comments from agencies
X	X	***Consolidated review comments list**
X	X	***Petitioner's response to comments**
X	X	***Staff Reports**
		***Planning Commission staff report and exhibits**
		***City Council staff report and exhibits**
		***Summary sheet of final conditions**
		***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		E-mail from Bill Nebeker to Bobbie Paulson re: release of funds - 3/19/97	X	X	E-mail to Bobbie Paulson from Bill Nebeker – 3/19/97
X		Letter from Bill Nebeker to Carl Baker re: CUP 1/15/96	X	X	E-mail to Mark Achen from Tim Woodmansee – 12/23/98
X	X	Memo from First Church of the Nazarene – 6/20/95	X	X	Site Plan
X		Handwritten Notes - undated	X		Landscape Plan
X	X	Letter from Ken Jacobson to Bill Nebeker – 10/12/95	X		Utility Plan
X	X	Letter from Bill Nebeker to Brian Walker re: release of deed of trust - 3/1/99	X		Grading and Irrigation Plan
X		Memo from Bill Nebeker to Tim Woodmansee re: release of Deed of Trust - 8/31/98			
X	X	File Close-out Summary – 2/28/97			
X	X	Certificate of Occupancy			
X	X	Planning Clearances - **			
X		Memo from Bill Nebeker to Stephanie Nye re: Original Agreements for Site Plan Review - 12/18/95			
X	X	Development Improvement Agreement - **			
X		Memo from Bill Nebeker to Wanda, Burke Assoc. - Lighting Fixture Schedule – Parking Lot			
X	X	Warranty Deed - easement			
X	X	Resolution No. 62-95 - **			
X	X	Final Drainage Report – March, 1995			

SUBMITTAL CHECKLIST

SITE PLAN REVIEW

Location: NE Corner of 28 Rd & Patterson Project Name: FJ 1st Church of the Nazarene

Date Received 8/18 rec'd for $100.00

Receipt # _____

File # SPR-95-172

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.	City Planning	City Bldg. Dept.	Irrigation District GV Water Users	Drainage District GJT	Water District UTE	Sewer District	U.S. West	Public Service	GVRP	CDOT	Corps of Engineers	Walker Field	Persigo WWT	Mesa County Health	State Environ. Health	City Sanitation	School Dist #51						TOTAL REQ'D.
● Application Fee $100.00	VII-1	1																														
● Submittal Checklist *	VII-3	1																														
● Review Agency Cover Sheet*	VII-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
● Planning Clearance*	VII-3	1																														
● 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	1	1	1	1						
● Evidence of Title	VII-2	1			1			1																								
O Deeds	VII-1	1			1			1																								
O Easements	VII-2	1	1	1	1			1																								
● Avigation Easement	VII-1	1			1			1																								
O ROW	VII-2	1	1	1	1			1																								
● Improvements Agreement/Guarantee*	VII-2	1	1	1				1																								
O CDOT Access Permit	VII-3	1	1																													
O 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	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	1	1	1	1						
O 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	1	1	1	1						
● Grading and Drainage Plan	IX-16	1	2										1							1												
O Storm Drainage Plan and Profile	IX-30	1	2										1			1	1	1														
O Water and Sewer Plan and Profile	IX-34	1	2	1			1							1	1	1	1	1														
O Roadway Plan and Profile	IX-28	1	2										1																			
O Road Cross-Sections	IX-27	1	2																													
O Detail Sheet	IX-12	1	2																													
● Landscape Plan	IX-20	2	1	1																												
O 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												
O Phase I and II Environmental Rerpot	X-10,1	1	1																													
O Traffic Impact Study	X-15	1	2																1													

TOTAL REQ'D. 12

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

NAZARENE CHURCH

DRAWING STANDARDS CHECKLIST

SITE PLAN

ITEM		GRAPHIC STANDARDS	OK	NA
SECTION VIII	A	Scale: 1" = 20', 30', 40', or 50'		
	B	Sheet 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 ROWs		
	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 NO DIMENSIONS		
	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 an 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.

First Church of the Nazarene

1000 N. Ninth Street # 8
Grand Junction, CO 81501

GENERAL PROJECT REPORT

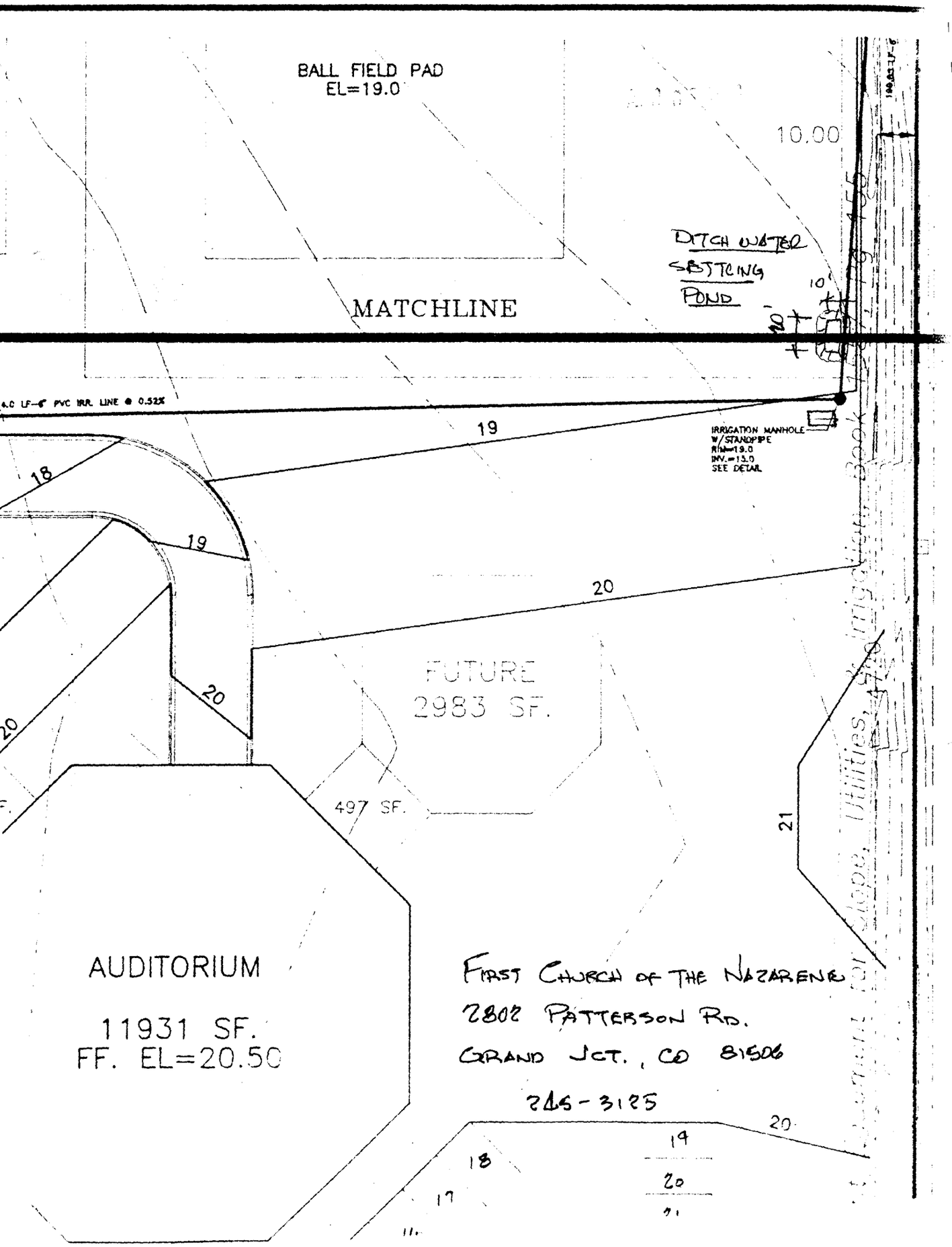
The First Church of the Nazarene of Grand Junction is proposing to erect a 11,931 square foot multiple-purpose church facility on the northeast corner of 28 Road and Patterson Road. The facility will house a variety of ministry activities including: Sunday morning and evening worship, Sunday School, Bible study groups, support groups, indoor basketball and volleyball, church potlucks and dinners and other ministry activities as they develop (i.e., seminars, training). We anticipate opening a Day Care ministry as soon as possible after occupancy of the facility. Our projected head count for this is 25-75 children and required staff. Long range plans include a Christian School. We expect this will be at least 5 years in the future. Typical head count for Christian Schools in the Grand Valley run 25-200.

The building will be a pre-engineered steel structure, octagon in shape, with tilt-up Corotherm concrete outer walls with a decorative finish. The parking lot is designed for one slot per 3 people and is proposed to be built in stages. The first stage will accommodate our current attendance plus 62.5% more for growth. The remaining parking accommodations will be added as continued growth occurs up to the maximum of 500 members.

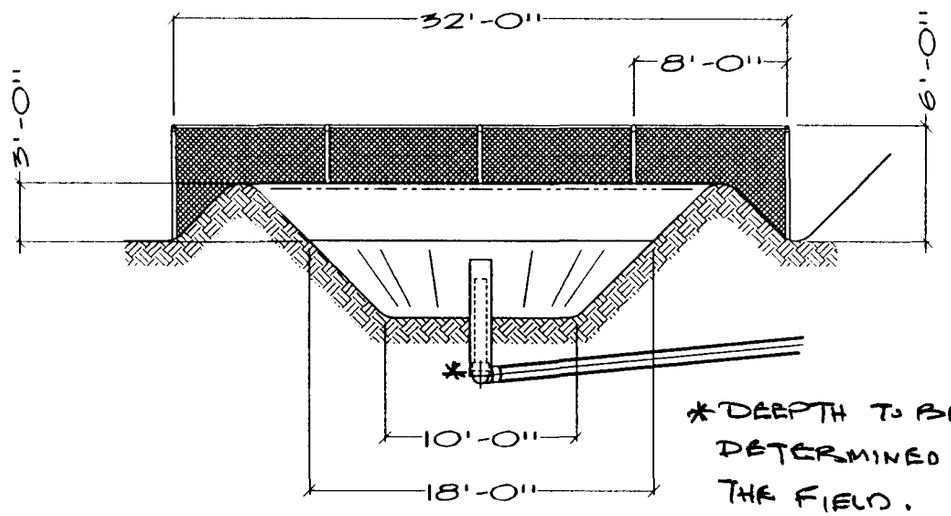
Future expansion is possible by adding up to two (2) additional octagonal steel "pods" to the current building. Each pod would add 6,000 square feet of space for future ministry needs including educational space, counseling , and chapel.

Appropriate drainage and landscaping have been engineered into the site. Half-street improvements will be accomplished.

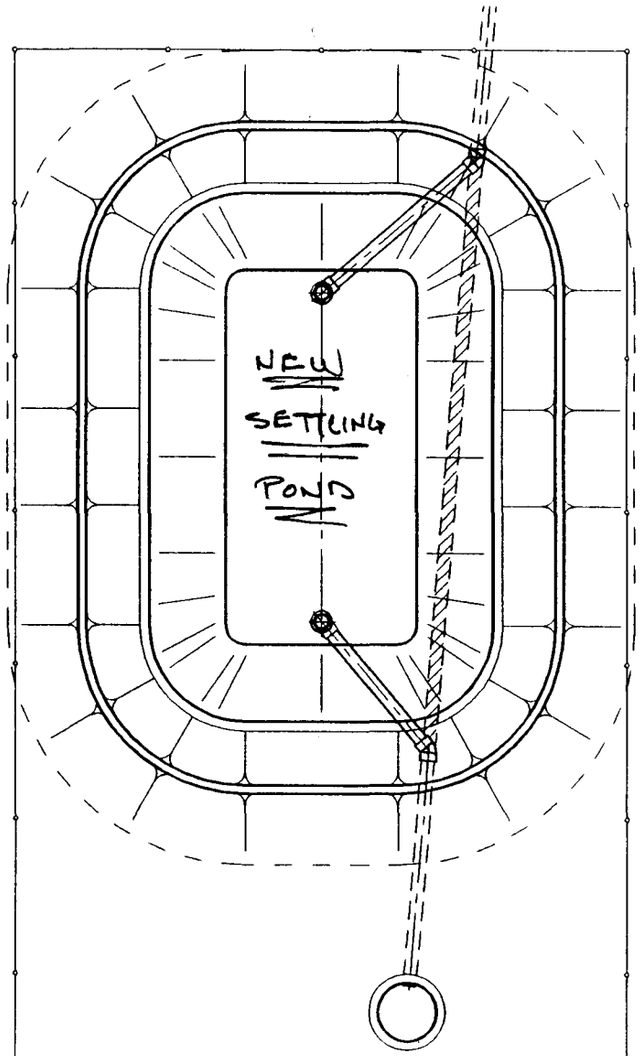
We are very excited to see our dreams coming nearer to completion after more than 15 years of owning this prime location property. Our excitement includes the City of Grand Junction being our neighbors on the north side of our project where the regional detention facility will be built and other accouterments.



FIRST CHURCH OF THE NAZARENE
2802 PATTERSON RD.
GRAND JCT., CO 81506
245-3125



*DEPTH TO BE DETERMINED IN THE FIELD.



EXISTING
PUMP HSE.

FINAL DRAINAGE REPORT FOR:

FIRST CHURCH OF THE NAZERENE

March, 1995

Prepared For:

Clark A. Childers
First Church of the Nazerene
1000 N. 9th Street, #8
Grand Junction, Colorado 81501

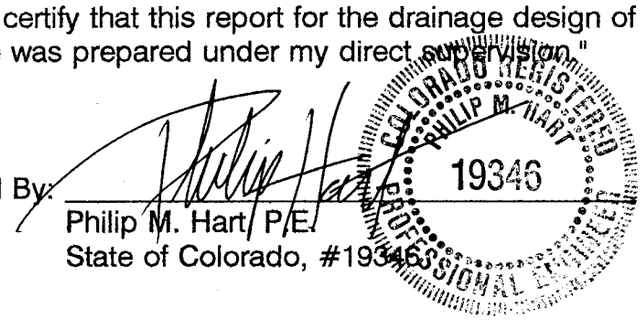
Prepared By:

LANDesign LLC.
200 North 6th Street, Grand Junction, Colorado 81501
(303) 245-4099

Prepared By: _____
Monty D. Stroup

"I hereby certify that this report for the drainage design of the First Church of the Nazerene was prepared under my direct supervision."

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



I. General Location and Description

A. Site and Major Basin Location:

The First Church of the Nazerene contains approximately 8.89 acres and is located within the City of Grand Junction. The property is located in part of the SW 1/4 of the SW 1/4 of Section 6, Township One South, Range One East, of the Ute Meridian.

Streets in the vicinity include 28 Road which defines the west boundary of the site and F Road which defines the south boundary.

Development in the vicinity is residential in nature. To the west lies Pheasant Run Condominiums a multi-family development platted as part of Spring Valley. To the north lies Grand View Subdivision a single family development currently under construction. Land to the east is currently undeveloped. Proposals for development of lands east of the site have been submitted to Mesa County as Matchett Village. Development of this area is expected to occur. South of F Road are several single family residences on large lots.

B. Site and Major Basin Description:

The project site contains approximately 8.89 acres. The site is vacant of structures and for the most part is in a fallow state.

Based on the "Soil Survey, Mesa County Area" (Reference 5, Exhibit 2.0) onsite soils are defined as (Bc), Billings silty clay loam, 0 to 2 percent slopes, hydrological soil group "C" (approximately 80 % of the site). The remaining 20% of the site is defined as (Pb) Persayo-Chipeta silty clay loam 2 to 5 % slopes, hydrological soils group "D".

II. Existing Drainage Conditions

A. Major Basin: (see the Historic Basin & Watershed Map)

Grand View Subdivision to the north (sub-basin OF1, 91.86 acres) drains generally from the north to the south through a series of 2 detention ponds constructed as part of the development. Historic release rates are discharged to and conveyed by a large drainage ditch south along 28 road to an existing storm sewer located approximately 150 feet south of the northwest corner of the project. This location is considered the headwater of the "Buthorn Drain". The drainage ditch along 28 Road is owned and maintained by Grand Valley Water Users Association.

Offsite lands to the east (sub-basin OF3, 187.49 acres) drain generally from the northeast to the southwest towards an existing natural drainageway which bisects the site flowing from east to west. Recently this drainageway has been augmented with the installation

of a 18-inch diameter RCP which intercepts and conveys existing runoff and irrigation tailwater from the Matchett Village land. The drainageway and conduit discharge to the existing storm sewer located 150 feet south of the northwest corner of the site, combining with flows from Grand View Subdivision.

The parcel of land north of and adjacent to the subject site (sub-basins OF2 and OF4) is currently owned by the First Church of the Nazerene. These sub-basins drain generally from the northeast to the southwest. The runoff is intercepted by the existing drain ditch along 28 Road and conveyed to the existing storm sewer located 150 south of the northwest corner of the site. The City of Grand Junction is considering this site as the location of an "Area Wide Detention Pond". This pond or series of ponds will attenuate the runoff from Grand View, Matchett Village lands and the subject site.

There are no wetlands on the site. Site vegetation consists of native grass, isolated pockets of brush and cottonwood trees.

The subject site is within Zone X as determined by the FIRM Flood Insurance Rate Map (Reference 3).

B. Site:

Historically the site drains in a sheetflow fashion from the east to the west at slopes averaging 0.90 percent to the existing storm sewer manhole at 28 Road (Exhibit 3.0). The east one half of 28 Road from F Road drains into the site and to the existing manhole as well.

III. Proposed Drainage Conditions

A. Changes in Drainage Patterns:

Historic offsite drainage patterns will not be altered. Drainage from areas east of the site shall continue to be intercepted and conveyed by the existing 18-inch diameter storm sewer directly to the existing storm sewer manhole at 28 Road (Exhibit 3.0). Offsite flow from areas north of the site shall continue to be conveyed within the existing drain ditch along 28 Road.

The site is planned for a 11,931 square foot building structure and associated parking lot.

All of the future drainage from improved areas will be redirected by lot grading, curb and gutter and swales to a proposed 12-inch diameter RCP storm sewer and subsequently to the existing storm sewer manhole at 28 Road. The proposed site plan divides the site into 2 sub-basins labeled A1 (1.94 Ac.)and A2 (1.89 Ac.) which represent improved areas (Exhibit 4.0). The surface of other areas of the site not included within these sub-basins

are to be landscaped, used as softball fields or left in there natural state and are not included in the calculations.

Runoff from sub-basin A2 shall be routed to a single combination inlet at design point # 1 (Exhibit 4.0). This runoff shall be conveyed via a 12-inch diameter RCP storm sewer north under the proposed parking area towards design point # 2.

Runoff from sub-basin A1 shall be routed to a single combination inlet at design point # 2 (Exhibit 4.0). This runoff shall combine with runoff from sub-basin A2 and be conveyed via a 12-inch diameter RCP storm sewer north out of the proposed parking area to an interim swale. The interim swale shall shall convey flows to the existing storm sewer manhole at 28 Road and remain in place until the final construction of the City's area wide detention pond.

B. Maintenance Issues:

Access to and through the site shall be by private driveway.

Ownership and responsibility for maintenance of the proposed onsite curb and gutter improvements shall be that of the property owner.

IV. Design Criteria & Approach

A. Hydrology:

The "Stormwater Management Manual, City of Grand Junction, Colorado" (Reference 1) and the "Mesa County Storm Drainage Criteria Manual" (Reference 2) were used as the basis for analysis and facility design.

As the project is a commercial development containing less than 25 acres the "Rational Method" was used to calculate historic and developed flow rates. The minor storm is the 2 year frequency rainfall event and the major storm is the 100 year frequency rainfall event. Detention requirements for this site have been waived. The City's proposed area wide detention pond shall attenuate flows from the site.

Runoff Coefficients to be used in the computations are based on the most recent City of Grand Junction criteria as defined in Reference 1 and shown on Exhibit 5.0, 6.0 and 7.0. Based on the "Soil Survey, Mesa County Area" (Reference 5, Exhibit 2.0) onsite soils are defined as (Bc), Billings silty clay loam, 0 to 2 percent slopes, hydrological soil group "C" (approximately 80 % of the site). The remaining 20% of the site is defined as (Pb) Persayo-Chipeta silty clay loam 2 to 5 % slopes, hydrological soils group "D".

The Intensity Duration Frequency Curves (IDFC) tabulated and shown on Exhibits 5.0 and 6.0 were used for design and analysis.

Times of Concentration were calculated based on the Average Velocities For Overland Flow and the Overland Flow Curves as provided in Reference 1 and shown on Exhibits 7.0 and 8.0. The results of the Tc calculations are shown on Exhibits 10.0 and 11.0.

B. Hydraulics:

All site facilities and conveyance elements are designed in accordance with the City of Grand Junction guidelines as provided in Reference 1.

V. Conclusions

The construction of the parking lot and driveways will require the excavation of a barrow area north of the proposed parking lot. The quantity of fill material sufficient to build up the site to the minimum grades and lines as shown on the Grading and Drainage Plan shall be accrued from the barrow area as agreed to by the City of Grand Junction.

The construction of the church structure and parking lot will result in the disturbance of less than five acres of land therefore a "Construction Stormwater Discharge Permit" is not required. Excavation of the barrow area for the City's area wide detention pond combined with the construction of the church facilities will exceed 5 acres. A permit for the combined activities will be required and should be accrued jointly by the City and the Church. Due to the church's location relative to the proposed area wide detention pond the requirement for interim detention by the church project is mitigated.

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

VI. References

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

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

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

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

APPENDIX

MCSDCM

EXHIBIT 1.0

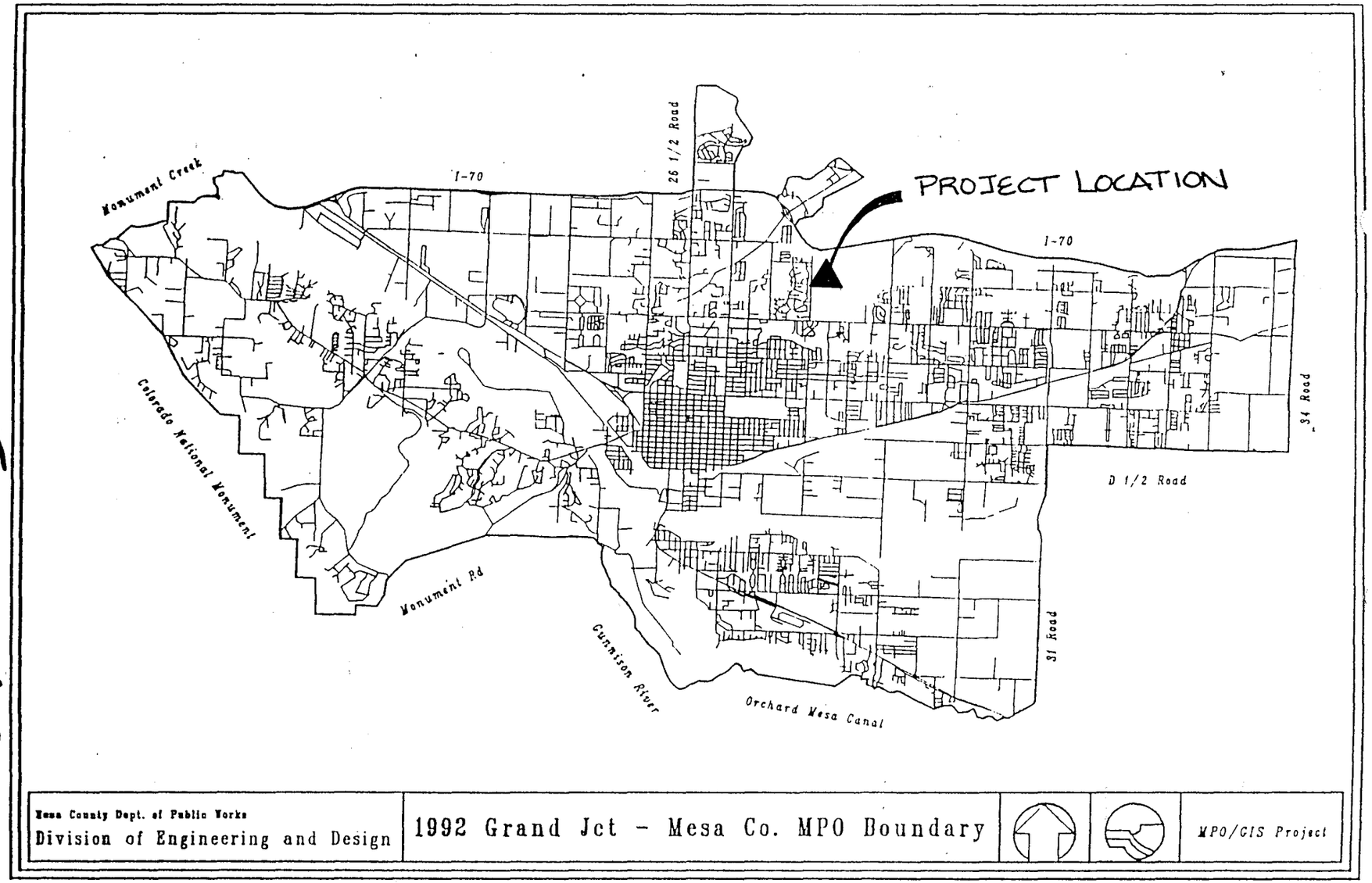
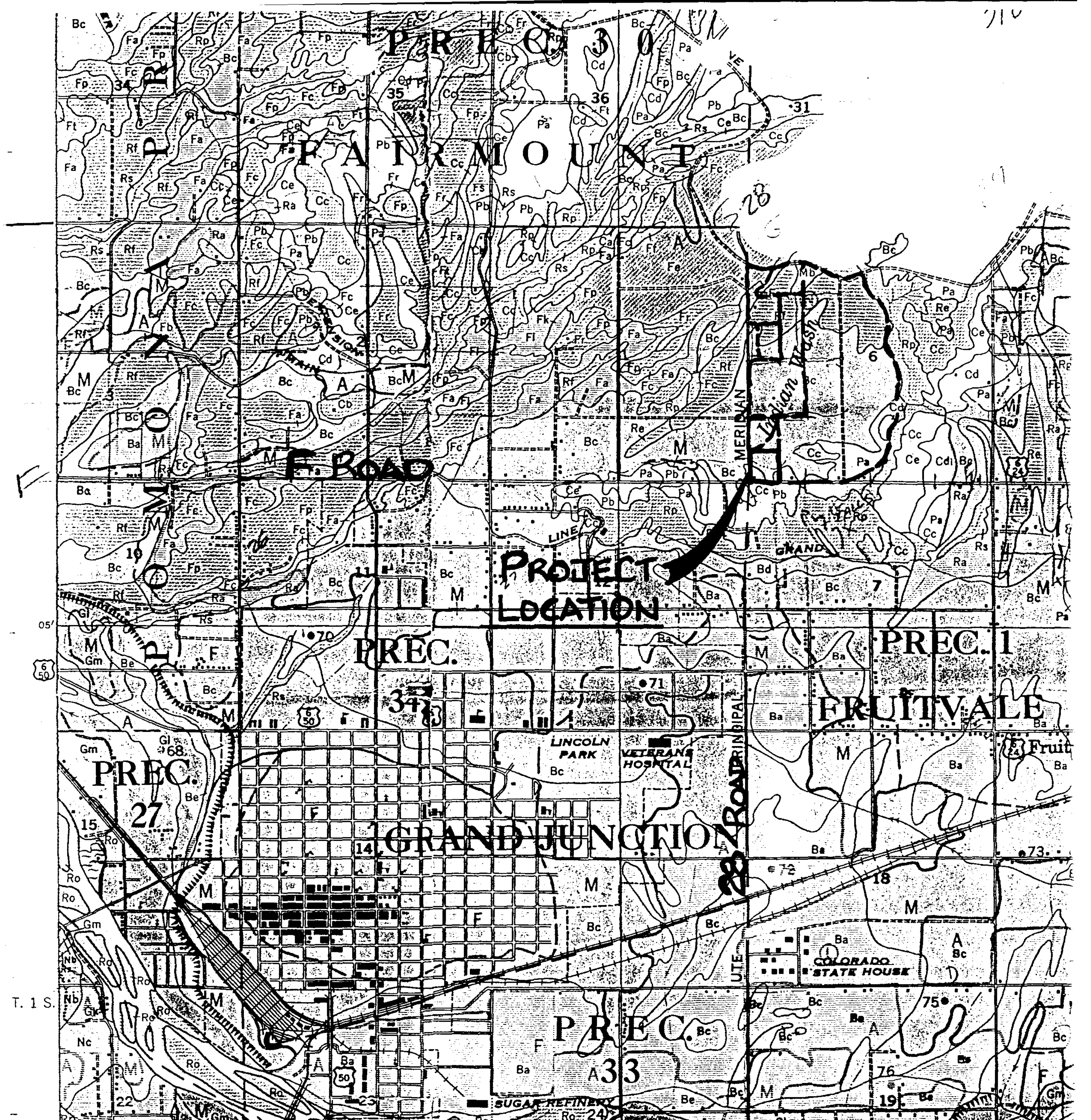


FIG 404



PREC. 30
FAIRMOUNT
F ROAD
PROJECT LOCATION
PREC. 34
PREC. 1
FRUITVALE
PREC. 27
GRAND JUNCTION
28 1/2 ROAD
LINCOLN PARK
VETERANS HOSPITAL
COLORADO STATE HOUSE
PREC. 33
SUGAR REFINERY
PACKING PLANT
COLORADO
GRAVEL PIT
EXHIBIT 2.0

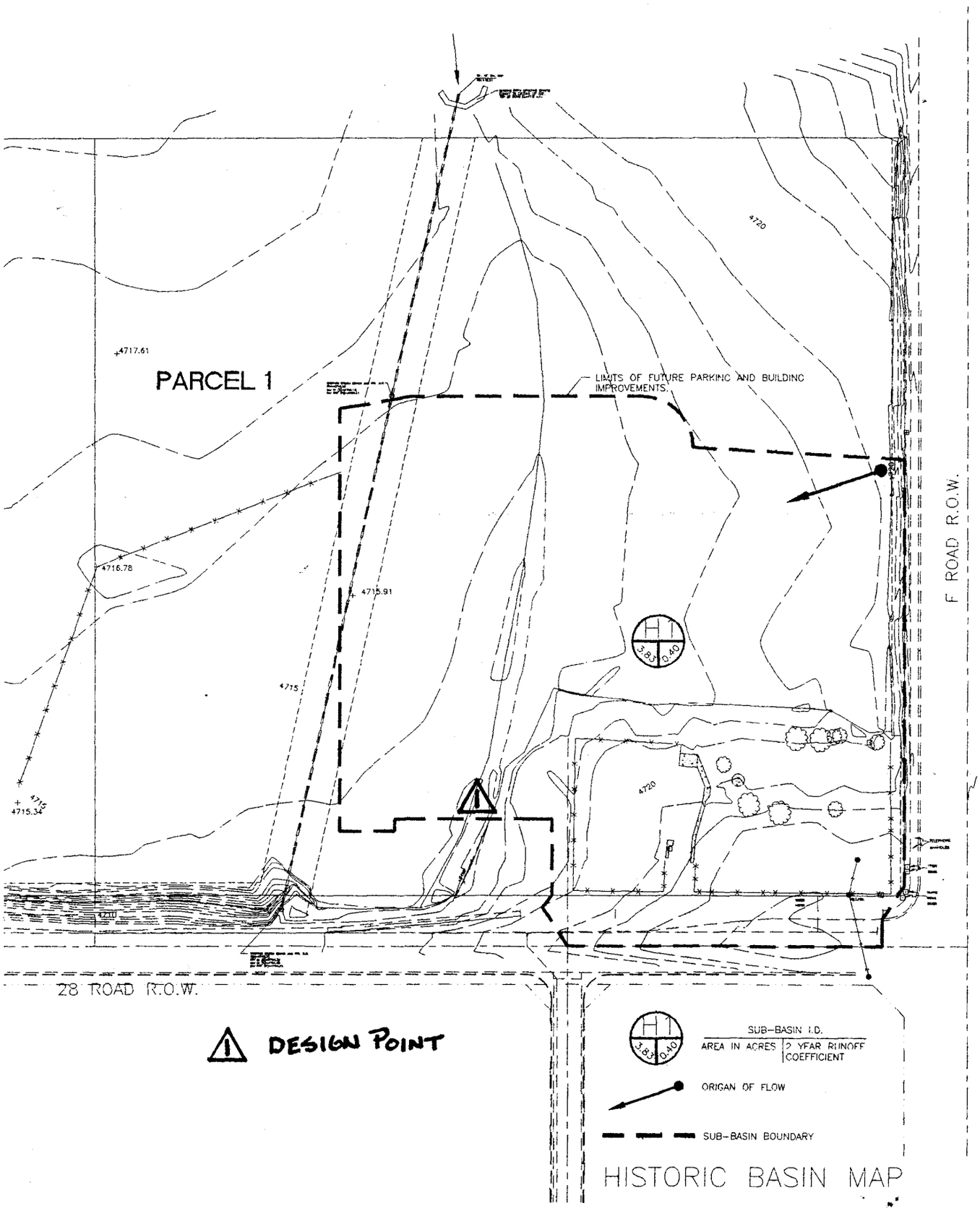
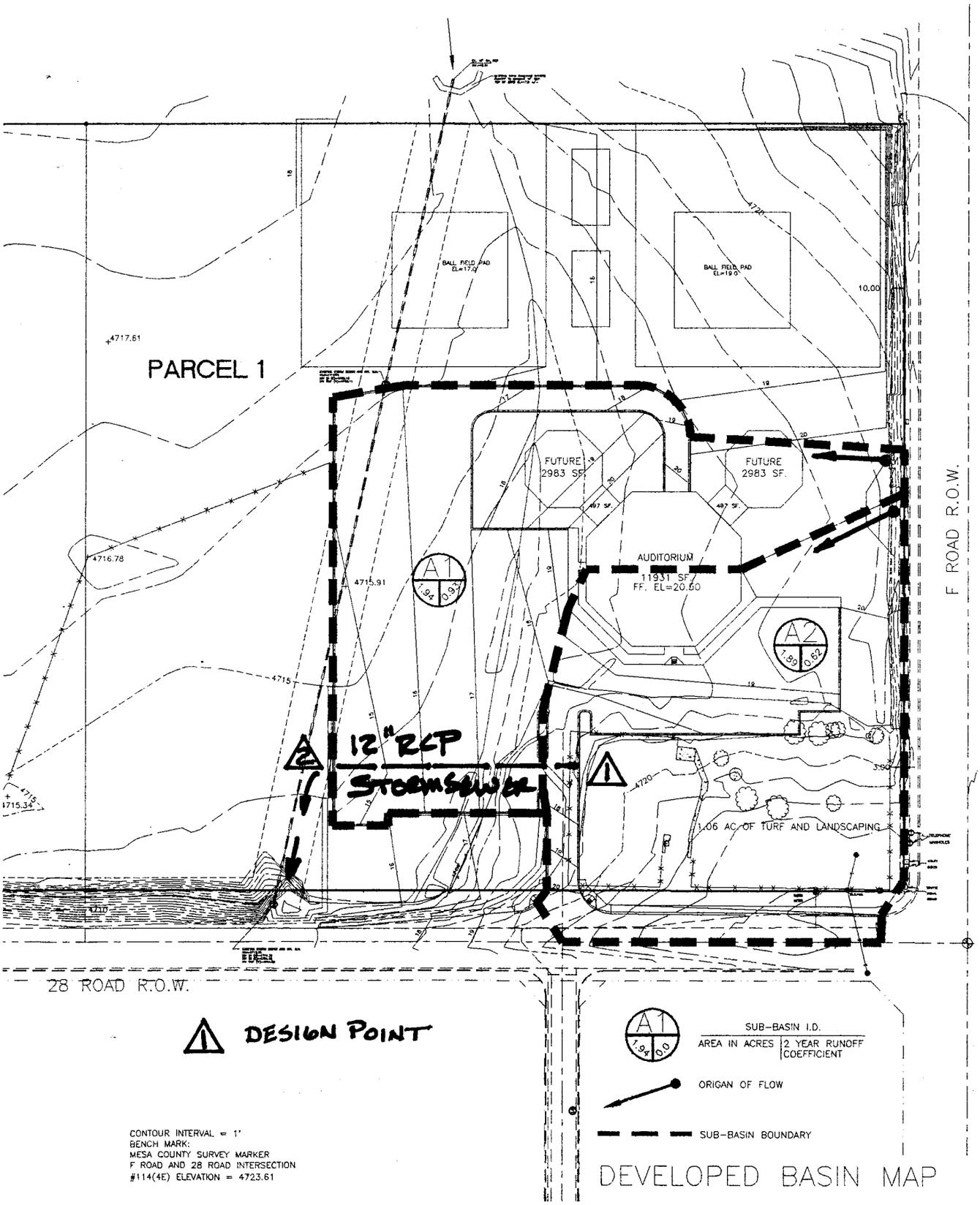

PARCEL 1
LIMITS OF FUTURE PARKING AND BUILDING IMPROVEMENTS.
F ROAD R.O.W.
28 ROAD R.O.W.
4717.61
4716.78
4715.91
4715.34
4720
4715
4710
H1
3.85
0.40
DESIGN POINT
SUB-BASIN I.D.
AREA IN ACRES
2 YEAR RUNOFF COEFFICIENT
ORIGAN OF FLOW
SUB-BASIN BOUNDARY
HISTORIC BASIN MAP

EXHIBIT 3.0



DESIGN POINT

SUB-BASIN I.D.
AREA IN ACRES | 2 YEAR RUNOFF COEFFICIENT

ORIGAN OF FLOW

SUB-BASIN BOUNDARY

CONTOUR INTERVAL = 1'
BENCH MARK:
MESA COUNTY SURVEY MARKER
F ROAD AND 28 ROAD INTERSECTION
#114(4E) ELEVATION = 4723.61

DEVELOPED BASIN MAP

EXHIBIT 4.0

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

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

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

TABLE "B-1"

EXHIBIT 5.0

DATE: **22-Mar-95**
PROJECT: **CHURCH OF THE NAZERENE**
SUBJECT: **FINAL DRAINAGE STUDY**
BASIN I.D.: **"H1" HISTORIC**
HYDROLOGIC SOILS GROUP **"C" & "D"**

COMPOSITE 2 YEAR "C" VALUE

DESCRIPTION	AREA AC.	"C"	"C" x "A"
HISTORIC PASTURE LAND SOILS "Bc" SOIL GROUP "C"	1.94	0.32	0.62
HISTORIC PASTURE LAND SOILS "Pb" SOIL GROUP "D"	1.89	0.48	0.91
SUBTOTALS	3.83		1.53

COMPOSITE = $\frac{\text{"C" x "A"}}{\text{"A"}}$ = $\frac{1.53}{3.83}$ = **0.40**

COMPOSITE 100 YEAR "C" VALUE

DESCRIPTION	AREA AC.	"C"	"C" x "A"
HISTORIC PASTURE LAND SOILS "Bc" SOIL GROUP "C"	1.94	0.38	0.74
HISTORIC PASTURE LAND SOILS "Pb" SOIL GROUP "D"	1.89	0.58	1.10
SUBTOTALS	3.83		1.83

COMPOSITE = $\frac{\text{"C" x "A"}}{\text{"A"}}$ = $\frac{1.83}{3.83}$ = **0.48**

EXHIBIT 6.0

DATE: **22-Mar-95**
PROJECT: **CHURCH OF THE NAZERENE**
SUBJECT: **FINAL DRAINAGE STUDY**
BASIN I.D.: **"A2" DEVELOPED CONDITION**
HYDROLOGIC SOILS GROUP **"D"**

COMPOSITE 2 YEAR "C" VALUE

DESCRIPTION	AREA AC.	"C"	"C" x "A"
GREEN LANDSCAPING SOILS "Pb" SOIL GROUP "D"	1.06	0.38	0.40
BUILDING & PARKING LOT SOILS "Pb" SOIL GROUP "D"	0.83	0.93	0.77
SUBTOTALS	1.89		1.17

COMPOSITE = $\frac{\text{"C" x "A"}}{\text{"A"}}$ = $\frac{1.17}{1.89}$ = **0.62**

COMPOSITE 100 YEAR "C" VALUE

DESCRIPTION	AREA AC.	"C"	"C" x "A"
GREEN LANDSCAPING SOILS "Pb" SOIL GROUP "D"	1.06	0.48	0.51
BUILDING & PARKING LOT SOILS "Pb" SOIL GROUP "D"	0.83	0.95	0.79
SUBTOTALS	1.89		1.30

COMPOSITE = $\frac{\text{"C" x "A"}}{\text{"A"}}$ = $\frac{1.30}{1.89}$ = **0.69**

EXHIBIT 7.0

TABLE "A-1"
INTENSITY-DURATION-FREQUENCY (IDF) TABLE

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

Source: Mesa County 1991

EXHIBIT B.Q

INTENSITY DURATION FREQUENCY CURVES
MESA COUNTY, COLORADO

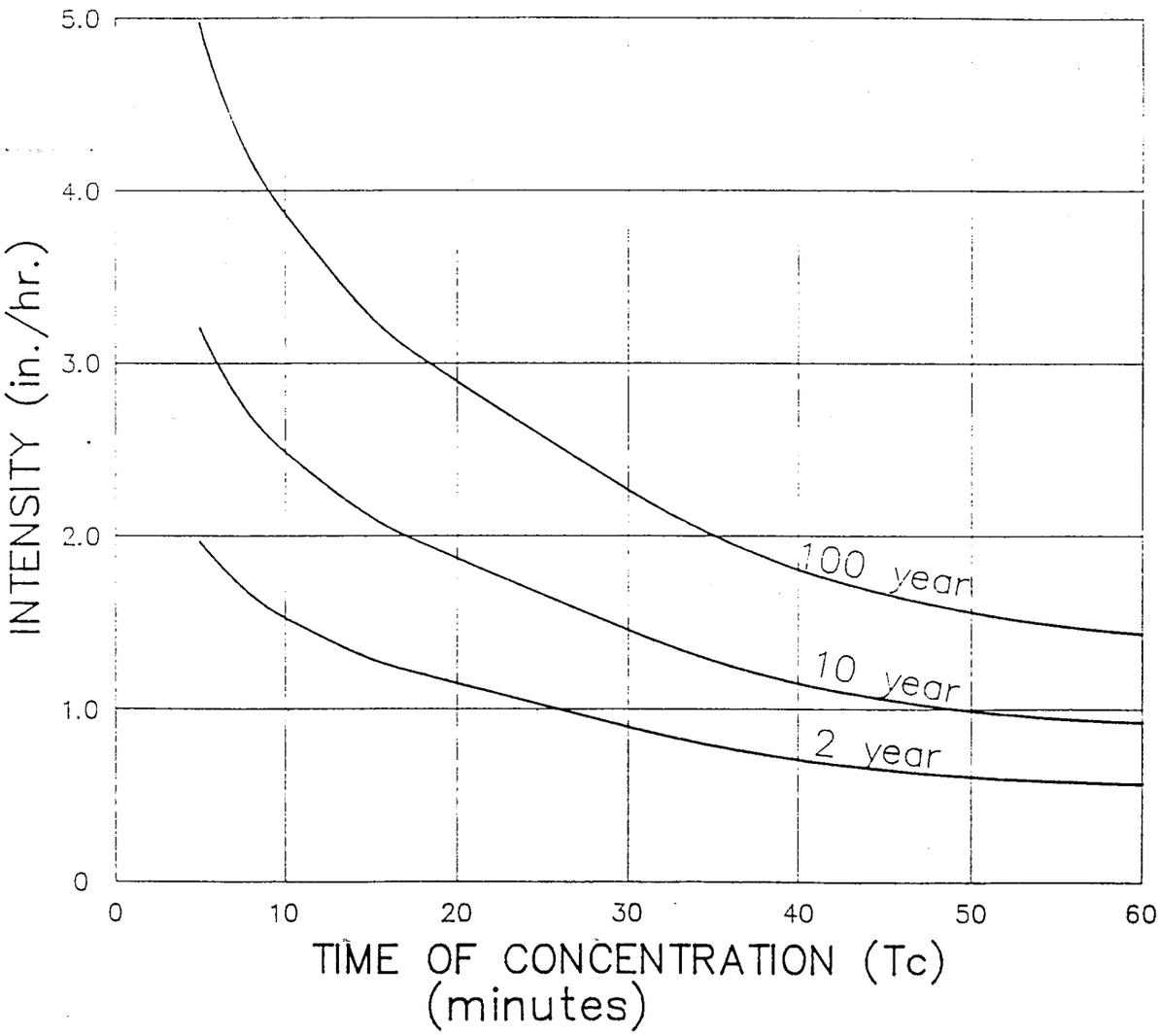
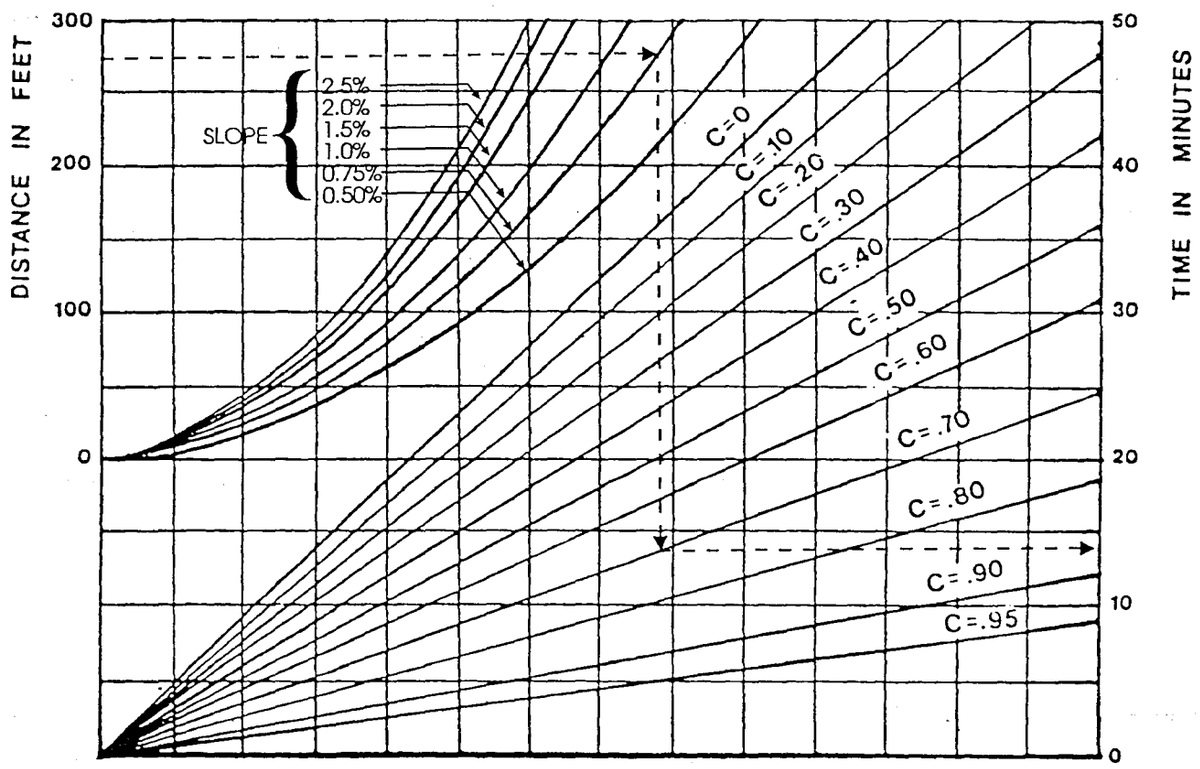


EXHIBIT 9.0

MODIFIED FROM FIGURE 403, MESA COUNTY



THE ABOVE CURVES ARE A SOLUTION OF THE FOLLOWING EQUATION:

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

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

EXHIBIT 10.0

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

REPRODUCED FROM FIGURE 15.2, SCS 1972

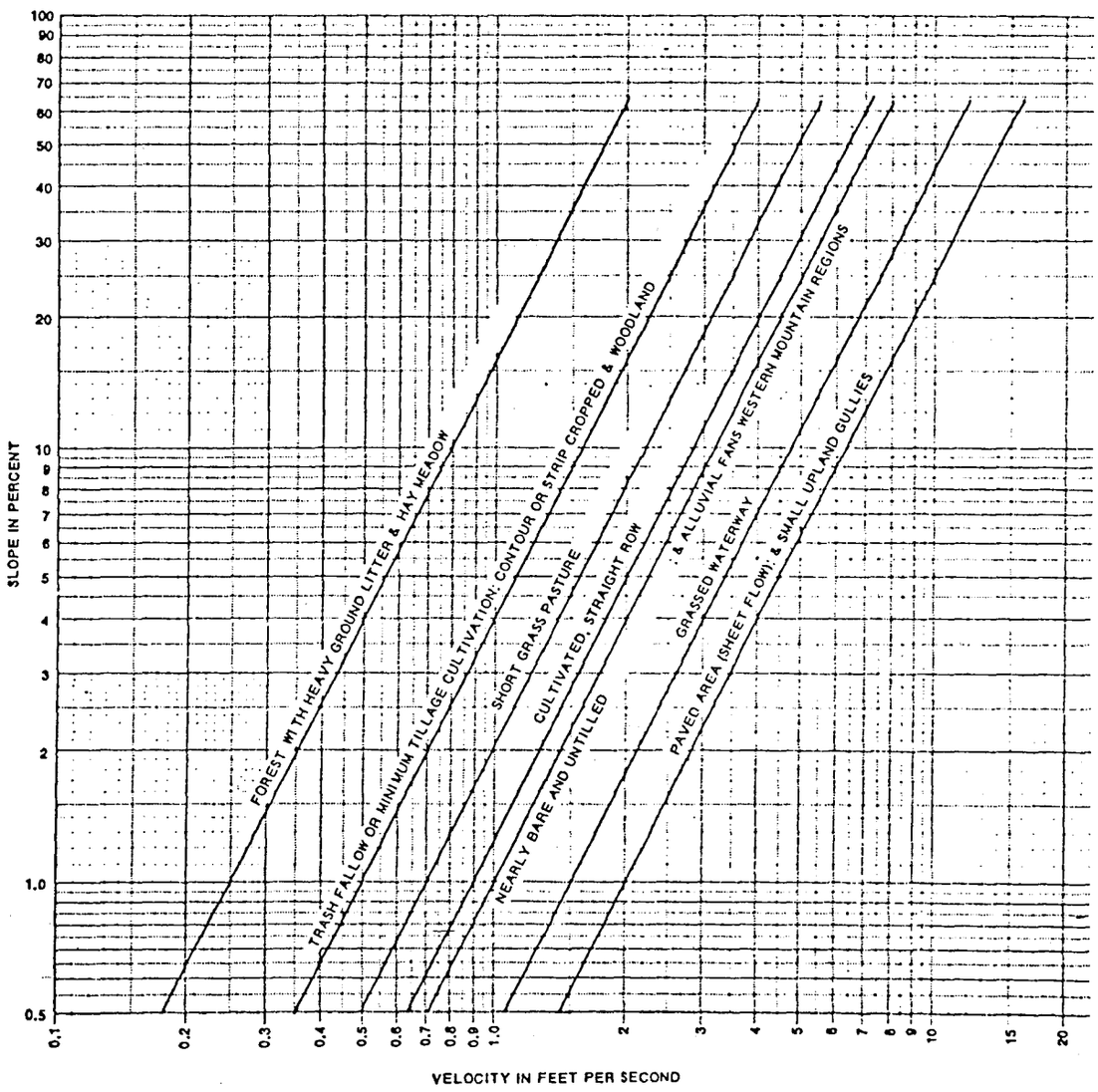


EXHIBIT 11.0

DETERMINATION OF "Ts"	FIGURE "E-3"

TIME OF CONCENTRATION CALCULATIONS

(2 YEAR STORM EVENT)
HISTORIC CONDITION - MESA COUNTY, COLORADO

PROJECT: CHURCH OF THE NAZERENE
JOB # 95004
LANDesign LTD.

DATE:
23-Mar-95

SUB-BASIN DATA			INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME TIME (Tt)				INITIAL	Tc CHECK (URBANIZED BASINS)		FINAL	REMARKS
BASIN	C 2	AREA AC.	LENGTH FT.	SLOPE %	Ti MIN.	LENGTH FT.	SLOPE %	VEL F.P.S.	Tt MIN.	Tc MIN.	TOTAL LENGTH FT.	Tc = (L/180)+10 MIN.	Tc MIN.	
H1	0.40	3.83	300.0	2.00	17.32									OVERLAND SHEETFLOW ACROSS PASTURE
						210.0	0.38	1.66	2.11	19.43	510.00	12.83	19.43	FLOW IN EX. IRRIGATION & DRAIN DITCH TO 28
--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

FORMULAS

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

EXHIBIT 3.11

TIME OF CONCENTRATION CALCULATIONS

(100 YEAR STORM EVENT)
HISTORIC CONDITION - MESA COUNTY, COLORADO

PROJECT: CHURCH OF THE NAZERENE
JOB # 95004
LANDesign LTD.

DATE:
23-Mar-95

SUB-BASIN DATA			INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME TIME (Tt)				INITIAL	Tc CHECK (URBANIZED BASINS)		FINAL	REMARKS
BASIN	C 100	AREA AC.	LENGTH FT.	SLOPE %	Ti MIN.	LENGTH FT.	SLOPE %	VEL F.P.S.	Tt MIN.	Tc MIN.	TOTAL LENGTH FT.	Tc = (L/180)+10 MIN.	Tc MIN.	
H1	0.48	3.83	300.0	2.00	15.34									OVERLAND SHEETFLOW ACROSS PASTURE
						210.0	0.38	1.66	2.11	17.45	510.00	12.83	17.45	FLOW IN EX. IRRIGATION & DRAIN DITCH TO 28
--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

FORMULAS

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

TIME OF CONCENTRATION CALCULATIONS

(2 YEAR STORM EVENT)
DEVELOPED CONDITION - MESA COUNTY, COLORADO

PROJECT: CHURCH OF THE NAZERENE
JOB # 95004
LANDesign LTD.

DATE:
23-Mar-95

SUB-BASIN DATA			INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME TIME (Tt)				INITIAL	Tc CHECK (URBANIZED BASINS)		FINAL Tc	REMARKS
BASIN	C 2	AREA AC.	LENGTH FT.	SLOPE %	Ti MIN.	LENGTH FT.	SLOPE %	VEL F.P.S.	Tt MIN.	Tc MIN.	TOTAL LENGTH FT.	Tc = (L/180)+10 MIN.	MIN.	
A1	0.28	1.94	160.0	0.94	19.06									OVERLAND SHEETFLOW ACROSS TURF AREA TO
						----------	----------	----------	----------	19.06	160.00	10.89	19.06	PARKING LOT (SEE SYSYTEM DESIGN DATA FOR Ti
--	--	--	--	--	--	--	--	--	--	--	--	--	--	---
A2	0.32	1.89	120.0	1.25	14.28									OVERLAND SHEETFLOW ACROSS TURF AREA TO
						----------	----------	----------	----------	14.28	120.00	10.67	14.28	PARKING LOT (SEE SYSYTEM DESIGN DATA FOR Ti
--	--	--	--	--	--	--	--	--	--	--	--	--	--	---

FORMULAS

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

TIME OF CONCENTRATION CALCULATIONS

(100 YEAR STORM EVENT)
DEVELOPED CONDITION - MESA COUNTY, COLORADO

PROJECT: CHURCH OF THE NAZERENE
JOB # 95004
LANDesign LTD.

DATE:
23-Mar-95

EXHIBIT 12.0

SUB-BASIN DATA			INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME TIME (Tt)				INITIAL	Tc CHECK (URBANIZED BASINS)		FINAL Tc	REMARKS
BASIN	C 100	AREA AC.	LENGTH FT.	SLOPE %	Ti MIN.	LENGTH FT.	SLOPE %	VEL F.P.S.	Tt MIN.	Tc MIN.	TOTAL LENGTH FT.	Tc = (L/180)+10 MIN.	MIN.	
A1	0.34	1.94	160.0	0.94	17.66									OVERLAND SHEETFLOW ACROSS TURF AREA TO
						----------	----------	----------	----------	17.66	160.00	10.89	17.66	PARKING LOT (SEE SYSYTEM DESIGN DATA FOR Ti
--	--	--	--	--	--	--	--	--	--	--	--	--	--	---
A2	0.38	1.89	120.0	1.25	13.18									OVERLAND SHEETFLOW ACROSS TURF AREA TO
						----------	----------	----------	----------	13.18	120.00	10.67	13.18	PARKING LOT (SEE SYSYTEM DESIGN DATA FOR Ti
--	--	--	--	--	--	--	--	--	--	--	--	--	--	---

FORMULAS

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

STORM DRAINAGE SYSTEM DESIGN DATA

(2 YEAR STORM EVENT)
DEVELOPED CONDITION - MESA COUNTY, COLORADO

PROJECT: CHURCH OF THE NAZERENE
JOB # 95004
LANDesign LTD.

DATE: 23-Mar-95

LOCATION OR NODE	BASINS	LENGTH FEET	INLET TIME min.	FLOW TIME STREET	FLOW TIME PIPE	Tc min.	COEFF. "C"	INTENSITY "I"	AREA "A" AC.	DIRECT RUNOFF C.F.S.	OTHER RUNOFF C.F.S.	SUM RUNOFF C.F.S.	STREET SLOPE %	STREET CAPACITY ALLOWED C.F.S.	PIPE SLOPE %	PIPE SIZE IN.	PIPE CAPACITY ALLOWED C.F.S.	STREET DESIGN F.P.S.	STREET VELOC. F.P.S.	PIPE DESIGN F.P.S.	PIPE VELOC. F.P.S.	REMARKS
1	A2					14.28	0.62		1.89													OVERLAND SHEET FLOW ACROSS TURF AREA
		365.0		6.40		6.40							0.74	N/A				0.95				FLOW IN CURB AND GUTTER TO STORM SEWER INLET
						20.68	0.62	1.09	1.89	1.3		1.3										FLOW TO STORM SEWER INLET @ ENTRANCE DRIVE
2	A1					19.06	0.93		1.94													OVERLAND SHEET FLOW ACROSS TURF AREA
		63.0		0.64		0.64							2.19	N/A				1.64				FLOW IN CURB AND GUTTER TO STORM SEWER INLET
		237.0		3.56		3.56							1.00	N/A				1.11				FLOW IN CURB AND GUTTER TO STORM SEWER INLET
		292.0		6.24		6.24							0.50	N/A				0.78				FLOW IN CURB AND GUTTER TO STORM SEWER INLET
						29.50	0.93	0.89	1.94	1.6		1.6										FLOW TO STORM SEWER INLET @ NORTH PARKING LOT
2	A2						0.62		1.89													
	A1					29.50	0.93		1.94													
						29.50	0.78	0.89	3.83	2.7		2.7										SUM OF FLOW INTO DETENTION POND

STORM DRAINAGE SYSTEM DESIGN DATA

(100 YEAR STORM EVENT)
DEVELOPED CONDITION - MESA COUNTY, COLORADO

PROJECT: CHURCH OF THE NAZERENE
JOB # 95004
LANDesign LTD.

DATE: 23-Mar-95

LOCATION OR NODE	BASINS	LENGTH FEET	INLET TIME min.	FLOW TIME STREET	FLOW TIME PIPE	Tc min.	COEFF. "C"	INTENSITY "I"	AREA "A" AC.	DIRECT RUNOFF C.F.S.	OTHER RUNOFF C.F.S.	SUM RUNOFF C.F.S.	STREET SLOPE %	STREET CAPACITY ALLOWED C.F.S.	PIPE SLOPE %	PIPE SIZE IN.	PIPE CAPACITY ALLOWED C.F.S.	STREET DESIGN F.P.S.	STREET VELOC. F.P.S.	PIPE DESIGN F.P.S.	PIPE VELOC. F.P.S.	REMARKS
1	A2					13.18	0.69		1.89													OVERLAND SHEET FLOW ACROSS TURF AREA
		365.0		6.40		6.40							0.74	N/A				0.95				FLOW IN CURB AND GUTTER TO STORM SEWER INLET
						19.58	0.69	2.87	1.89	3.7		3.7										FLOW TO STORM SEWER INLET @ ENTRANCE DRIVE
2	A1					17.66	0.95		1.94													OVERLAND SHEET FLOW ACROSS TURF AREA
		63.0		0.64		0.64							2.19	N/A				1.64				FLOW IN CURB AND GUTTER TO STORM SEWER INLET
		237.0		3.56		3.56							1.00	N/A				1.11				FLOW IN CURB AND GUTTER TO STORM SEWER INLET
		292.0		6.24		6.24							0.50	N/A				0.78				FLOW IN CURB AND GUTTER TO STORM SEWER INLET
						28.10	0.95	2.36	1.94	4.3		4.3										FLOW TO STORM SEWER INLET @ NORTH PARKING LOT
2	A2						0.69		1.89													
	A1					28.10	0.95		1.94													
						28.10	0.82	2.36	3.83	7.4		7.4										SUM OF FLOW INTO DETENTION POND

EXHIBIT 14.0

STORM DRAINAGE SYSTEM DESIGN DATA

(2 YEAR STORM EVENT)
HISTORIC CONDITION - MESA COUNTY, COLORADO

PROJECT: CHURCH OF THE NAZERENE
JOB # 95004
LANDesign LTD.

DATE:
23-Mar-95

													STREET		PIPE			STREET		PIPE		
LOCATION OR NODE	BASINS	LENGTH FEET	INLET TIME min.	FLOW TIME STREET	FLOW TIME PIPE	Tc min.	COEFF. "C"	INTENSITY "I"	AREA "A" AC.	DIRECT RUNOFF C.F.S.	OTHER RUNOFF C.F.S.	SUM RUNOFF C.F.S.	SLOPE %	CAPACITY ALLOWED C.F.S.	SLOPE %	SIZE IN.	CAPACITY ALLOWED C.F.S.	DESIGN F.P.S.	VELOC. F.P.S.	DESIGN F.P.S.	VELOC. F.P.S.	REMARKS
1	H1					19.43	0.40	1.13	3.83	1.7		1.7										OVERLAND SHEET FLOW TO EX. IRRIGATION & DRAIN DITCH DISCHARGING TO THE SPRING VALLEY SYSTEM

STORM DRAINAGE SYSTEM DESIGN DATA

(100 YEAR STORM EVENT)
HISTORIC CONDITION - MESA COUNTY, COLORADO

PROJECT: CHURCH OF THE NAZERENE
JOB # 95004
LANDesign LTD.

DATE:
23-Mar-95

													STREET		PIPE			STREET		PIPE		
LOCATION OR NODE	BASINS	LENGTH FEET	INLET TIME min.	FLOW TIME STREET	FLOW TIME PIPE	Tc min.	COEFF. "C"	INTENSITY "I"	AREA "A" AC.	DIRECT RUNOFF C.F.S.	OTHER RUNOFF C.F.S.	SUM RUNOFF C.F.S.	SLOPE %	CAPACITY ALLOWED C.F.S.	SLOPE %	SIZE IN.	CAPACITY ALLOWED C.F.S.	DESIGN F.P.S.	VELOC. F.P.S.	DESIGN F.P.S.	VELOC. F.P.S.	REMARKS
1	H1					17.45	0.48	3.03	3.83	5.6		5.6										OVERLAND SHEET FLOW TO EX. IRRIGATION & DRAIN DITCH DISCHARGING TO THE SPRING VALLEY SYSTEM

EXHIBIT 13.0

Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: EXISITNG CHANNEL

Comment: EXISITING CHANNEL TO MANHOLE AT 28 ROAD

Solve For Discharge

Given Input Data:

Left Side Slope..	68.75:1 (H:V)
Right Side Slope.	25.00:1 (H:V)
Manning's n.....	0.030
Channel Slope....	0.0038 ft/ft
Depth.....	0.80 ft

3- AVERAGE CHANNEL SECTION

Computed Results:

Discharge.....	49.72 cfs
Velocity.....	1.66 fps
Flow Area.....	30.00 sf
Flow Top Width...	75.00 ft
Wetted Perimeter.	75.02 ft
Critical Depth...	0.59 ft
Critical Slope...	0.0198 ft/ft
Froude Number....	0.46 (flow is Subcritical)

→ USE FOR Tc CALCS.

EXHIBIT 15.0

Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: CURB & GUTTER

Comment: SHALLOW GUTTER FLOW

Solve For Discharge

Given Input Data:

Left Side Slope..	0.17:1 (H:V)
Right Side Slope.	12.50:1 (H:V)
Manning's n.....	0.015
Channel Slope....	0.0074 ft/ft
Depth.....	0.08 ft

Computed Results:

Discharge.....	0.04 cfs
Velocity.....	0.95 fps — USE FOR Tc CALCS.
Flow Area.....	0.04 sf
Flow Top Width...	1.01 ft
Wetted Perimeter.	1.08 ft
Critical Depth...	0.07 ft
Critical Slope...	0.0107 ft/ft
Froude Number....	0.84 (flow is Subcritical)

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

EXHIBIT 16.0 DELETED.

EXHIBIT 17.0

Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: CURB & GUTTER

Comment: SHALLOW GUTTER FLOW

Solve For Discharge

Given Input Data:

Left Side Slope..	0.17:1 (H:V)
Right Side Slope.	12.50:1 (H:V)
Manning's n.....	0.015
Channel Slope....	0.0219 ft/ft
Depth.....	0.08 ft

Computed Results:

Discharge.....	0.07 cfs
Velocity.....	1.64 fps — USE FOR Tc CALCS.
Flow Area.....	0.04 sf
Flow Top Width...	1.01 ft
Wetted Perimeter.	1.08 ft
Critical Depth...	0.09 ft
Critical Slope...	0.0100 ft/ft
Froude Number....	1.44 (flow is Supercritical)

EXHIBIT 18.0

Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: CURB & GUTTER

Comment: SHALLOW GUTTER FLOW

Solve For Discharge

Given Input Data:

Left Side Slope..	0.17:1 (H:V)
Right Side Slope.	12.50:1 (H:V)
Manning's n.....	0.015
Channel Slope....	0.0100 ft/ft
Depth.....	0.08 ft

Computed Results:

Discharge.....	0.04 cfs
Velocity.....	1.11 fps — USE FOR Tc CALCS.
Flow Area.....	0.04 sf
Flow Top Width...	1.01 ft
Wetted Perimeter.	1.08 ft
Critical Depth...	0.08 ft
Critical Slope...	0.0105 ft/ft
Froude Number....	0.98 (flow is Subcritical)

EXHIBIT 19.0

Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: CURB & GUTTER

Comment: SHALLOW GUTTER FLOW

Solve For Discharge

Given Input Data:

Left Side Slope..	0.17:1 (H:V)
Right Side Slope.	12.50:1 (H:V)
Manning's n.....	0.015
Channel Slope....	0.0050 ft/ft
Depth.....	0.08 ft

Computed Results:

Discharge.....	0.03 cfs
Velocity.....	0.78 fps — USE FOR Tc CALCS.
Flow Area.....	0.04 sf
Flow Top Width...	1.01 ft
Wetted Perimeter.	1.08 ft
Critical Depth...	0.07 ft
Critical Slope...	0.0110 ft/ft
Froude Number....	0.69 (flow is Subcritical)

EXHIBIT 20.0

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: STORM SEWER

Comment: 12" RCP STORM SEWER CAPACITY CHECK

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0147 ft/ft
Manning's n.....	0.015
Discharge.....	3.78 cfs

Computed Results:

Full Flow Diameter.....	1.00 ft
Full Flow Depth.....	1.00 ft
Velocity.....	4.78 fps
Flow Area.....	0.79 sf
Critical Depth....	0.83 ft
Critical Slope....	0.0146 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	3.78 cfs
QMAX @.94D.....	4.07 cfs
Froude Number.....	FULL

Q_{100} IN PIPE FROM BASIN "A2" AT DESIGN POINT 1 = 3.7 CFS OK

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

EXHIBIT 21.0

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: STORM SEWER

Comment: 12" RCP STORM SEWER @ DESIGN POINT 2

Solve For Full Flow Slope

Given Input Data:

Diameter.....	1.00 ft
Manning's n.....	0.015
Discharge.....	7.40 cfs

Computed Results:

Full Flow Channel Slope	0.0574 ft/ft
Full Flow Depth.....	1.00 ft
Velocity.....	9.42 fps
Flow Area.....	0.79 sf
Critical Depth....	0.98 ft
Critical Slope....	0.0514 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	7.40 cfs
QMAX @.94D.....	7.96 cfs
Froude Number.....	FULL

22.0
EXHIBIT [redacted]

REVIEW COMMENTS

FILE #SPR-95-172 **TITLE HEADING:** Site Plan Review - 1st Church of the Nazarene

LOCATION: NE corner of 28 & Patterson Roads

PETITIONER: Grand Junction 1st Church of the Nazarene

PETITIONER'S ADDRESS/TELEPHONE: 1000 N 9th Street, #8
Grand Junction, CO 81501
245-3125

PETITIONER'S REPRESENTATIVE: Gregory S. Robson, Architect

STAFF REPRESENTATIVE: Bill Nebeker

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.

MESA COUNTY BUILDING DEPARTMENT **9/27/95**
Bob Lee **244-1656**

No comments at this time.

GRAND JUNCTION DRAINAGE DISTRICT **9/29/95**
John L. Ballagh **242-4343**

Although the site is outside the boundaries of the Drainage District the surface waters flow into the Buthorn Drain, a large GJDD facility.

Detention is strongly supported. The Buthorn Drain presently passes 100% of the subsurface waters and return irrigation flows 100% of the time. The system is AT CAPACITY during the 5 year storm events. Improved detention at St. Mary's, additional maintenance of the pipe line and some upsizing all contribute to fewer problems. Undetained flows from this site could cause frequent moderate to severe flooding downstream.

GRAND JUNCTION FIRE DEPARTMENT **10/2/95**
Hank Masterson **244-1414**

1. A fire flow survey is required - submit complete stamped building plans to the Fire Department for this purpose and for our plan review and approval.
2. Preliminary fire flow estimate for the 11,931 s.f. building is 1,500 gallons per minute. The proposed hydrant is adequate for this building. An additional on-site hydrant will be required before future building additions are begun. This hydrant should be located northeast of the northeast addition.
3. Fire Department access is adequate as shown.

COMMUNITY DEVELOPMENT DEPARTMENT **10/6/95**
Bill Nebeker **244-1447**

See attached comments.

WALKER FIELD AIRPORT AUTHORITY **10/3/95**
Dennis Wiss **244-9100**

The proposed building site lies approximately 1 1/5 miles (6,400' plus/minus) south of the approach end of runway 04 and is located inside the Airport's Area of Influence (AOI), Patterson Road being the southernmost edge of the AOI in this area. Since this property does lie within the Airport's AOI it may be subjected to overflight of aircraft and the noise associated with these overflights.

An Avigation Easement is required to be recorded at or before the final zoning approval. Please ensure that a copy of the executed Avigation Easement is forwarded to the Walker Field Airport Authority.

This property falls under the category of compatible land-use with regard to the Airport by virtue of the fact that it is a non-residential structure. The Airport Authority has no objections to this site.

UTE WATER DISTRICT **10/6/95**
Gary R. Mathews **242-7491**

1. Contact with Ute Water is needed to discuss the location of the domestic water meter.
2. Water mains shall be c-900, class 150. Installation of pipe fittings, valves and services including testing and disinfection shall be in accordance with Ute Water standard specifications and drawings.
3. Policies and fees in effect at the time of application will apply.

CITY UTILITY ENGINEER **10/9/95**
Trent Prall **244-1590**

SEWER - CITY

1. Please contact Utility Billing (244-1580) for information regarding plan investment fees for sewer. The following information will be requested by Utility Billing: seating capacity.
2. Please revise quantities in improvement agreement to represent what is depicted on the plan. Item #3 should be 312 L.F. and Item #4 should be 73 L.F.
3. If the City of Grand Junction is to maintain the 8" sewer line, an easement, dedicated to the City of Grand Junction, will be required.

CITY DEVELOPMENT ENGINEER **10/10/95**
Jody Kliska **244-1591**

1. Plans for landscaping are inconsistent with other site plans. The landscape plan appears to meet the Code requirements for parking lot landscaping. The curb, gutter plans need to show all proposed islands.
2. It is not clear how much parking is provided or is required by Code. Please provide dimensions on the parking stalls and aisles. Handicapped parking spaces need to be shown on the plans, as well as signed and marked in accordance with the City Standard Drawings.
3. Excavation of the drainage pond area needs to be done either in accordance with City plans for the pond or if these are not available when construction commences, then excavation must conform as described in the agreement with the City as written by the City Property Agent.

GRAND VALLEY WATER USERS **10/12/95**
Richard Proctor **242-5065**

Grand Valley Water Users Association has two irrigation facilities located within this proposed project area. One is an 18" underground drainage line (as shown on the plans). The second is an open drainage channel facility that runs parallel and adjacent to the east side of 28 Road. A portion of said drainage channel is within the proposed project area. The underground drainage pipeline traverses the full width of the project area from the east boundary to the west boundary where it ties into a manhole at the southern end of the open drainage channel. The manhole is a transition which directs the water flows from the open drainage channel and from underground pipeline westward through a culvert under 28 Road and another underground downstream drainage pipeline.

The Association requires sufficient access to operate and maintain both irrigation drainage facilities. The easements on which said facilities exist are held by the United States and contractually operated and maintained by the Association. The United States Bureau of Reclamation has recently instructed the Association that it is not a good management practice to allow runoff from impervious surfaces such as parking lots and etc., to be channeled into Association controlled irrigation drainage facilities. Such runoff may be subject to National Pollution Discharge Elimination System requirements and incur liability under the National Clean Water Act.

The Association is in the process of determining with the Bureau of Reclamation what process can be established from which to make fair and reasonable decisions to either grant or deny such requests for non-irrigation runoff into Association controlled irrigation drainage facilities. The Bureau of Reclamation will have a part in the decision to accept or reject such runoff into these irrigation drainage facilities.

Nazarene Church Site Plan Review SPR-95-172
Comments from Bill Nebeker
October 5, 1995

1. No site plan was submitted with review. Submit a site plan with dimensioned features per Site Plan Drawing Standards Checklist, including, but not limited to the following:

   a. dimensions of the site boundary with the entire site shown on the plan (Where is the new property line between the church and the detention pond? Where are the ball fields? Are they included in this review?) Include adjacent land use and zoning.

   b. total site acreage

   c. dimension street right of ways adjacent to property

   d. traffic flow patterns & traffic control features

   e. treatment of all surfaces (i.e. asphalt, concrete, grass etc.)

   f. exterior doorways (elevations do not match footprint of building shown on the landscape plan) What do the letters refer to on the elevations?

   g. dimension parking stalls & aisles; Parking spaces required is based on design capacity of the structure (one space per each 3 persons) - what is design capacity for main structure and future add-ons? Where are handicapped spaces?

   h. need better definition of phasing for parking lot paving; Is main driveway from 28 road not included in phase 1? Will phase 1 include landscaping islands, irrigation, landscaping, and lighting in the phase 2 parking area?

   i. any signage proposed for site? Show location of signs, trash receptacles, bike racks, interior walkways inside parking area, any fences or walls?

2. Please explain in greater detail, the uses of the building and site.

3. Landscaping plan does not conform with Section 5-5-1F-2 (Parking lot landscaping & lighting).

   a. what is total interior of parking area (per definition in Section 5-5-1F-2c1 (page 5.33)

   b. dimension all landscaping areas and include totals for perimeter landscaping, interior landscaping and grass areas

c. a 3.5′ berm or landscaped hedge shall be provided along F Road side of the parking lot, as has been done along 28 Road side

d. a rough estimate indicates that an additional 6 trees are needed in the interior of the parking area

e. planting islands shall be at least 9′ wide

f. all landscaped areas adjacent to parking areas shall conform with Section 5-5-1F-2c2

4. Show maximum height of lighting poles and min. and max footcandle power.

5. Is there a proposed security agreement to assure paving within 2 years?

First Church of the Nazarene

Response To Review Comments

November 1, 1995

Mesa County Building Department: (had no comments)

Grand Junction Drainage District: We understand the drainage situation. These drainage needs have been dealt with and the City of Grand Junction will provide drainage, waiving our needs for drainage facilities. See Tim Woodmansee if there are any questions. This is according to the contract for the sale of land to the City that we made this past summer. This land that the City of Grand Junction now owns was purchased from us for the express purpose of a detention pond.

Grand Junction Fire Department: Comments by Hank Masterson do not require action on our part, at least at the present time.

Community Development Department: The following responses to these comments will be listed in accordance with the respective numbers and letters per attached sheet from Bill Nebeker

Number One:

a. The entire site is shown on the plan. It's done on two pages. For new property line see Tim Woodmansee.
b. Total site acreage is 6.213 - see metes and bounds description submitted.
c If this is absolutely necessary, we will submit a topo map at your request.
d. If this is not on the newly submitted site plans, we will follow your guidelines and include what is necessary.
e. The asphalt and concrete are called out on the plans. No grass other than what is presently in the park area.
f. This should be dealt with on site plans. If not, let me know what needs done.
g Our capacity intent is 500 people. Presently we are well below this. No future building plans are known.
h. See site plan. No phase one parking improvements other than road base etc. will be done now. Two year waiver will allow us time to accomplish this.
i. Bill, these issues if not included on site plan, will be addressed as you see fit. We would really appreciate any help to accomplish changes or additions needed without redrawing plans. Our Civil Engineer has already raised their cost 3 1/2 times from original estimate.

Number Two: See "General Project Report". This is all inclusive for intended uses.

Number Three: By the time you receive these comments, you will have had a conversation with Mark Gibbons, our Landscape designer. Please let me know if this conversation does not cover these issues and we will address them.

Walker Field Airport Authority: We will see this is done.

Ute Water District: Pursuant to phone conversation between Clark Childers and Gary Matthews the drawings will not have to be changed. Water meter as described on Landesign drawing UP-1 will need to be relocated back at 28 RD.

City Utility Engineer: We will contact them concerning plan investment fees. We agree with the revised estimates.

City Development Engineer: See new site plans. Please advise to further changes necessary. The church has no responsibility for drainage under contract with the city of Grand Junction. Any excavation done by us on the drainage pond is solely for the purpose of extracting fill dirt for our use. If we use this dirt we must do so according to the plans, dimensions etc.

Grand Valley Water Users: In conversation between Clark Childers and Richard Proctor on 10/26/95 agreement was reached that the issue of Mr. Proctor's concern was between his agency, the City of Grand Junction, and the appropriate government agency.

Grand Junction First Church of the Nazarene

June 20, 1995

RE: Intent for land use of church's property at the Northeast corner of Patterson and 28 Road. This letter is written in conjunction with our petition to annex into the City of Grand Junction.

Initial Building: 12,000 square feet in octagonal shape - It will be a multi-purpose building used for the following:

1. *Sunday worship services*
2. *Sports programs*
3. *Day care facility*
4. *Possible future school (K-12)*
5. *Fellowships and social events*
6. *Concerts*

Subsequent Buildings:

Future plans are for the building of two more octagonal shaped building 6,000 square feet each. These would be used primarily for office and educational space.

Grounds:

1. *Two ball fields*
2. *A park/picnic area with tables and rest rooms*

Drainage:

Drainage requirements will be waived by the City until such a time as the City completes the regional drainage facility on the property they are purchasing from the church.

Parking:

The city will waive the need to pave the parking area for a period of 2 years.

Carl N. Baker, Pastor

STAFF REVIEW

FILE: #ANX-95-109 NAZARENE ZONE OF ANNEXATION & CONDITIONAL USE PERMIT

DATE: July 11, 1995

STAFF: David Thornton

ACTION REQUESTED: Staff requests that Planning Commission approve the Conditional Use permit for a church, day care, and school and recommend to City Council RSF-4 zoning for the Nazarene Annexation.

LOCATION: Northeast corner of 28 Road and Patterson Road

APPLICANTS: The First Church of the Nazarene of Grand Junction
Pastor Carl N. Baker

EXECUTIVE SUMMARY: The First Church of the Nazarene have signed a Power of Attorney for annexation to allow for the development of their property. They have requested that they be allowed to develop to City standards and through the City review process. The Annexation process is before City Council.

EXISTING LAND USE: Vacant

PROPOSED LAND USE:
Church, day Care Facility, School (K-12), and Single Family Residential

SURROUNDING LAND USE
NORTH: Single Family Residential (Grand View Subd)
SOUTH: Single Family Residential (Mantey Heights Subd)
EAST: Agricultural/Vacant (Matchett Farm)
WEST: Multi and Single Family Residential (Spring Valley)

EXISTING COUNTY ZONING: R-2

PROPOSED CITY ZONING: RSF-4

SURROUNDING ZONING
NORTH: Residential Single Family - 5 units per acre (RSF-5)
SOUTH: Residential Single Family - 5 units per acre (RSF-5)
EAST: Planned Residential - 16 and Planned Business (Mesa Co)
WEST: Planned Residential - 8 & RSF-5

STAFF ANALYSIS:
The Nazarene annexation petition is a 100% annexation petition and includes only two parcels. Total area of the annexation

includes two 8.7 acre parcels owned by the Church and 3.27 acres of right-of-way in Patterson Road and 28 Road for a total of 20.68 acres.

The Church is requesting that they be allowed to develop to City standards and through the City review process and are therefore requesting annexation. They are currently working with staff to obtain the necessary approvals to construct a church, day care and school (K-12) facility on the southern 8.7 acre parcel. A Conditional Use permit is required for a church use and a day care use in the RSF-4 zone district. Schools require a Special Use permit in the RSF-4 zone district and therefore is being considered with this Conditional Use Permit request.

Existing zoning in the County is R-2 which allows 3.5 units per acre. The most equivalent straight zone in the City is Residential Single Family with a maximum of 4 units per acre (RSF-4). Please see the table (below) showing the comparisons of RSF-4 with R-2.

Conditional Use Permit Request:

The First church of the Nazarene is requesting a Conditional Use Permit for the southern 8.7 acre parcel in this annexation. The land uses include:

1. Sunday worship services
2. Sports Programs
3. Day Care facility
4. Future (K-12) school
5. Fellowships and social events
6. Concerts

The size of the church will be 12,000 square feet initially plus an additional 12,000 square feet (future) for a total of 24,000 square feet. Additional site features include two ball fields and a park/picnic area.

The church will be required to obtain approval through the City's Site Plan Review for any planning clearance for building permit requested. It is anticipated that on site drainage will be accommodated via the City's regional drainage facility being planned on a portion of this site. The Church has asked that they be given two years to pave their parking area. This will be accommodated through an improvements agreement and guarantee the church will be entering into with the City.

This Conditional Use Permit request for a church, day care, and school in the RSF-4 zone district for the proposed location at the NE corner of 28 Road and Patterson Road meets the general criteria for Conditional Use Permits as stated in Section 4-8 of the Zoning and Development Code.

STAFF RECOMMENDATIONS:

Staff recommends that Planning Commission approve the Conditional Use permit for the First Church of the Nazarene to allow for the church, day care and school uses as proposed for

their site at the NE corner of 28 Road and Patterson Road with the ability up to a total of 24,000 square feet. The Church will have to submit for formal site plan review prior to requesting a building permit for the initial construction and any future expansion. The final site design and construction will be required to meet all zoning and development code requirements including but not limited to the RSF-4 Zone District bulk requirements, landscaping, signage, and parking requirements.

Staff recommends that the RSF-4 zone district be applied to the Nazarene Annexation.

PLANNING COMMISSION MOTIONS:

Mr. Chairman, I move that we approve the Conditional Use Permit for the First Church of the Nazarene to allow for the church, day care and school uses as proposed for their site at the NE corner of 28 Road and Patterson Road with the ability to expand up to a total of 24,000 square feet. Submittal and approval through the site plan review process shall be required prior to the issuance of a building permit for the initial church construction and for any of the future expansion. All Zoning and Development Code requirements shall apply.

Mr. Chairman, on item #ANX-95-109, the Zone of Annexation, I move that we forward this on to City Council with the recommendation of approval that the Nazarene Annexation be zoned Residential Single Family with a maximum of four units per acre (RSF-4).

County/City Zoning Comparison

ANNEXATION: Nazarene

More restrictive

Criteria	Current County Zone - R2 (3.5 units per acre)	Proposed City Zone - RSF-4 (4.0 units per acre)
Land Use Type	Single Family & Duplex Residential, Churches Allowed	*Residential, Churches with Conditional Use Permit*
Minimum Lot Size	*11,000 sq.ft.; 9,900 sq.ft. with sewer *	8,500 sq.ft.
Front Setback for Local Street	*50' from centerline of ROW*	45' from centerline of ROW
Rear Setback	25' from property line	*30' from property line*
Side Setback	*15' from property line*	7' from property line

Note: The land is currently vacant.

DRAFT

Nazarene Church Site Plan Review SPR-95-172
Revised Comments from Bill Nebeker
November 7, 1995

Minimum needed for planning clearance:

1. Submittal of a site plan (this plan could be included on landscape plan or other submitted plans as long as all requested information is submitted.)

   a. dimensions of the site boundary - show all property lines

   b. exterior doorways (elevation drawings do not match the footprint of the building shown on the landscape plan) What do the letters on the elevation drawings refer to?

   c. dimension parking stalls & aisles; show handicapped parking spaces (6 are required) Scaled dimensions show that there is insufficient space north/south through the parking area.)

   d. what does the phase 1 and phase 2 parking development refer to? What is the phasing timeline? Will phase 1 include landscaping islands, irrigation, landscaping and lighting?

   e. are there any proposed signs?, trash receptacles fences or walls?

2. Show maximum height of light poles and minimum and maximum footcandle power.

3. Concerns from fire department must be satisfied before a planning clearance is issued.

4.

Nazarene Church Site Plan Review SPR-95-172
Revised Comments from Bill Nebeker
November 17, 1995

1. Typical parking dimension does not meet code. Minimum space length for 90 degree parking is 18.5 feet. Correct accordingly. (SECTION 5-5-1K).

2. Although not properly drawn, there is room for 5 accessible (handicapped) parking spaces in the location shown on the site plan. These spaces should be striped 8' wide X 18.5' length with an adjacent 5' wide aisle. Two spaces may share an aisle. One of the aisles must be 8' wide. One additional accessible space with a 5' wide aisle is needed. Please show these corrections on the site plan along with revised dimensions for the other 5 spaces. (See City of Grand Junction Engineering Division Exhibit "G" for details.)

3. I'm still looking for information regarding location, maximum height, and minimum and maximum footcandle power of light poles in parking lot.

4. Tim Woodmansee has confirmed that the church owned parcels in Mantey Heights will be used as guarantee for paving of parking lot within 2 years. He is working on the deed for this guarantee. However, what about the guarantee for half street improvements on 28 Road, utilities and on-site landscaping? How will these improvements be guaranteed?

5. **What are figures for landscaping in improvements agreement based on? Have they been modified to reflect the required landscaping? Mark Gibbbons??????????????????**

6. Has complete stamped building plans been submitted to Hank Masterson at the Fire Dept.? Although a planning clearance will be issued before Fire Dept. signs off, a building permit will not be.

7. I will need a revised copy of landscape plan before issuing planning clearance. - **Call into Mark Gibbons**

8. Improvements agreement and Avigation easement (in my file) must be recorded before issuance of a planning clearance.

NOTE: Utility easement that was recorded 11-15-95 is in the correct location. (Verified by Trent Prall & Steve Pace).

CARL BAKER — FAXED 11-17-95
1 PAGE

Nazarene Church Site Plan Review SPR-95-172
Revised Comments from Bill Nebeker
November 17, 1995

LANDESIGN 1. Typical parking dimension does not meet code. Minimum space length for 90 degree parking is 18.5 feet. Correct accordingly. (SECTION 5-5-1K).

LANDESIGN 2. Although not properly drawn, there is room for 5 accessible (handicapped) parking spaces in the location shown on the site plan. These spaces should be striped 8' wide X 18.5' length with an adjacent 5' wide aisle. Two spaces may share an aisle. One of the aisles must be 8' wide. One additional accessible space with a 5' wide aisle is needed. Please show this location on the site plan along with revised dimensions for the other 5 spaces. (See City of Grand Junction Engineering Division Exhibit "G" for details.)

WANDA BURKE ASSOC 3. I'm still looking for information regarding location, maximum height, and minimum and maximum footcandle power of light poles in parking lot. WANDA - BURK ASSO - NEEDS CORRECTIONS

? 4. Tim Woodmansee has confirmed that the church owned parcels in Mantey Heights will be used as guarantee for paving of parking lot within 2 years. He is working on the deed for this guarantee. However, what about the guarantee for half street improvements on 28 Road, utilities and on-site landscaping? How will these improvements be guaranteed? 2. PUT ALL UNDER ONE

MARK GIBBONS 5. **What are figures for landscaping in improvements agreement based on? Have they been modified to reflect the required landscaping? Mark Gibbons?** ONLY NEEDS IF

? 6. Although a planning clearance will be issued before Fire Dept. signs off, a building permit will not be. Before a permit is issued by the County Building Department a complete stamped set of building plans must be submitted to, reviewed and approved by Hank Masterson at the Fire Dept.

MARK GIBBONS 7. I will need a revised copy of landscape plan before issuing planning clearance. - I have a call into Mark Gibbons

BILL NEBEKER 8. Improvements agreement and Avigation easement (in my file) must be recorded before issuance of a planning clearance.

NOTE: Utility easement that was recorded 11-15-95 is in the correct location. (Verified by Trent Prall & Steve Pace).

WANDA - BURK ASSOCIATES

BILL NEBEKER
244-1447

STAFF REVIEW

FILE: #ANX-95-109 NAZARENE ZONE OF ANNEXATION

DATE: August 16, 1995

STAFF: David Thornton

ACTION REQUESTED: The First Church of the Nazarene requests that City Council approve on Second reading the zoning ordinance for the Nazarene Annexation to be Residential Single Family with a maximum of four units per acre (RSF-4) zoning.

LOCATION: Northeast corner of 28 Road and Patterson Road

APPLICANTS: The First Church of the Nazarene of Grand Junction
Pastor Carl N. Baker

EXECUTIVE SUMMARY: The First Church of the Nazarene have signed a Power of Attorney for annexation to allow for the development of their property. They have requested that they be allowed to develop to City standards and through the City review process. The Annexation process is before City Council. The zone district requested for the Nazarene Annexation is RSF-4

EXISTING LAND USE: Vacant

PROPOSED LAND USE:
Church, Day Care Facility, School (K-12), and Single Family Residential

SURROUNDING LAND USE
NORTH: Single Family Residential (Grand View Subd)
SOUTH: Single Family Residential (Mantey Heights Subd)
EAST: Agricultural/Vacant (Matchett Farm)
WEST: Multi and Single Family Residential (Spring Valley)

EXISTING COUNTY ZONING: R-2

PROPOSED CITY ZONING: RSF-4

SURROUNDING ZONING
NORTH: Residential Single Family - 5 units per acre (RSF-5)
SOUTH: Residential Single Family - 5 units per acre (RSF-5)
EAST: Planned Residential - 16 and Planned Business (Mesa Co)
WEST: Planned Residential - 8 units per acre & Residential Single Family - 5 units per acre

STAFF ANALYSIS:
The Nazarene annexation petition is a 100% annexation petition and includes only two parcels. Total area of the annexation includes two 8.7 acre parcels owned by the Church and 3.27 acres of

right-of-way in Patterson Road and 28 Road for a total of 20.68 acres.

The Church is requesting that they be allowed to develop to City standards and through the City review process and are therefore requesting annexation. They are currently working with staff to obtain the necessary approvals to construct a church and a day care facility on the southern 8.7 acre parcel. A Conditional Use Permit was granted by City Planning Commission on July 11, 1995 for a church use, a day care use, and a school (K-12) use in the RSF-4 zone district with the ability to expand up to a total of 24,000 square feet and with the following conditions: 1) Submittal and approval through the site plan review process shall be required prior to the issuance of a building permit for the initial church construction and for any of the future expansion, and 2) All Zoning and Development Code requirements shall apply.

Existing zoning in the County is R-2 which allows 3.5 units per acre. The most equivalent straight zone in the City is Residential Single Family with a maximum of 4 units per acre (RSF-4). Please see the table (below) showing the comparisons of RSF-4 with R-2.

STAFF RECOMMENDATION:

Staff recommends that the RSF-4 zone district be applied to the Nazarene Annexation.

PLANNING COMMISSION RECOMMENDATION:

Planning Commission recommended that the Nazarene Annexation be zoned Residential Single Family with a maximum of four units per acre (RSF-4).

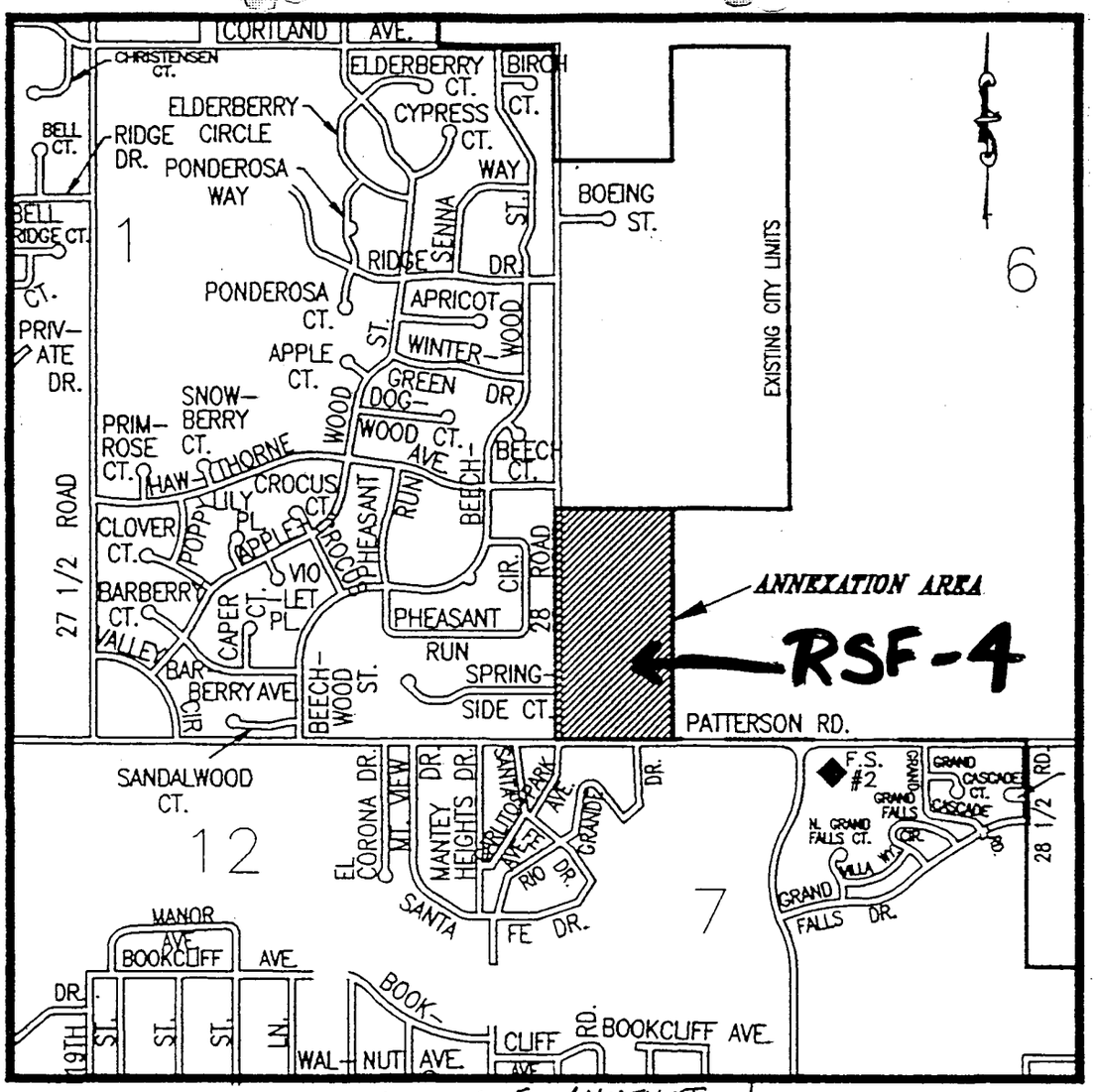
CC Approved 7-0

County/City Zoning Comparison

More restrictive

Criteria	Current County Zone - R2 (3.5 units per acre)	Proposed City Zone - RSF-4 (4.0 units per acre)
Land Use Type	Single Family & Duplex Residential, Churches Allowed	*Residential, Churches with Conditional Use Permit*
Minimum Lot Size	*11,000 sq.ft.; 9,900 sq.ft. with sewer *	8,500 sq.ft.
Front Setback for Local Street	*50' from centerline of ROW*	45' from centerline of ROW
Rear Setback	25' from property line	*30' from property line*
Side Setback	*15' from property line*	7' from property line

Note: All existing homes that have been built with a rear setback of less than 30' from the property line are grandfathered under the City's RSF-4 zone district. A variance to rebuild would be required to reduce rear setback to 25' from the property line if the structure is destroyed by more than 50% of the fair market value.



NAZARENE ANNEXATION

VICINITY MAP

N.T.S.

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

October 12, 1995

Regulatory Branch (199575388)

Mr. Bill Nebeker
City of Grand Junction
Community Development Department
250 North 5th Street
Grand Junction, Colorado 81501

Dear Mr. Nebeker:

We are responding to your request for review for a proposed new church building at the northeast corner of 28 and Patterson roads. The property is located within Section 6, Township 1 South, Range 1 East, Mesa County, Colorado.

Based upon a site inspection by Mr. Randy Snyder of this office on October 11, 1995, and the information you provided, we determined that this project will not require a Department of the Army permit.

We have assigned number 199575388 to this determination. Please refer to this number in any correspondence with this office. If you have any questions, please write to Mr. Snyder or telephone (970) 243-1199.

Sincerely,

Ken Jacobson
Chief, Southwestern Colorado
Regulatory Office
402 Rood Avenue, Room 142
Grand Junction, Colorado 81501-2563

Copy Furnished:
Pastor Carl Baker, First Church of The Nazarene, 1000 North 9th Street, Suite 8, Grand Junction 81501

File Close-out Summary

File #: SPR-95-172

Name: 1st Church of the Nazarene; new church

Staff: Bill Nebeker

Action: Approved; C of O issued for facility

Comments: outstanding DIA

File Turned In: 02-28-97

Table of Contents

File SPR-1995-172
Date 10/599

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
		Receipts for fees paid for anything
X	X	***Submittal checklist**
X	X	***General project report**
		Reduced copy of final plans or drawings
X	X	Reduction of assessor's map
		Evidence of title, deeds
		***Mailing list**
		Public notice cards
		Record of certified mail
X	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
		Individual review comments from agencies
X	X	***Consolidated review comments list**
X	X	***Petitioner's response to comments**
X	X	***Staff Reports**
		***Planning Commission staff report and exhibits**
		***City Council staff report and exhibits**
		***Summary sheet of final conditions**
		***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		E-mail from Bill Nebeker to Bobbie Paulson re: release of funds - 3/19/97	X	X	E-mail to Bobbie Paulson from Bill Nebeker – 3/19/97
X		Letter from Bill Nebeker to Carl Baker re: CUP 1/15/96	X	X	E-mail to Mark Achen from Tim Woodmansee – 12/23/98
X	X	Memo from First Church of the Nazarene – 6/20/95	X	X	Site Plan
X		Handwritten Notes - undated	X		Landscape Plan
X	X	Letter from Ken Jacobson to Bill Nebeker – 10/12/95	X		Utility Plan
X	X	Letter from Bill Nebeker to Brian Walker re: release of deed of trust - 3/1/99	X		Grading and Irrigation Plan
X		Memo from Bill Nebeker to Tim Woodmansee re: release of Deed of Trust - 8/31/98	X	X	APPLICATION AGREEMENT
X	X	File Close-out Summary – 2/28/97			
X	X	Certificate of Occupancy			
X	X	Planning Clearances - **			
X		Memo from Bill Nebeker to Stephanie Nye re: Original Agreements for Site Plan Review - 12/18/95			
X	X	Development Improvement Agreement - **			
X		Memo from Bill Nebeker to Wanda, Burke Assoc. - Lighting Fixture Schedule – Parking Lot			
X	X	Warranty Deed - easement			
X	X	Resolution No. 62-95 - **			
X	X	Final Drainage Report – March, 1995			

AVIGATION EASEMENT

1740081 0139PM 12/18/95
Monika Todd Clk&Rec Mesa County Co
DOCUMENT FEE $ EXEMPT

THIS EASEMENT is made and entered into by and between the WALKER FIELD, COLORADO, PUBLIC AIRPORT AUTHORITY, a body corporate and politic and constituting a political subdivision of the State of Colorado, hereinafter called GRANTEE, and The First Church of the Nazarene of Grand Junction hereinafter, GRANTOR;

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

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

Exhibit A

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

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

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

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

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

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

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal on this 18th day of September, A.D. 1995.

Carl N. Baker

Senior Pastor
(Title)

STATE OF COLORADO)
) ss.
COUNTY OF MESA)

The foregoing instrument was acknowledged before me this 18th day of September, A.D. 1995, by CARL N. BAKER.

My Commission expires: 12-20-95.

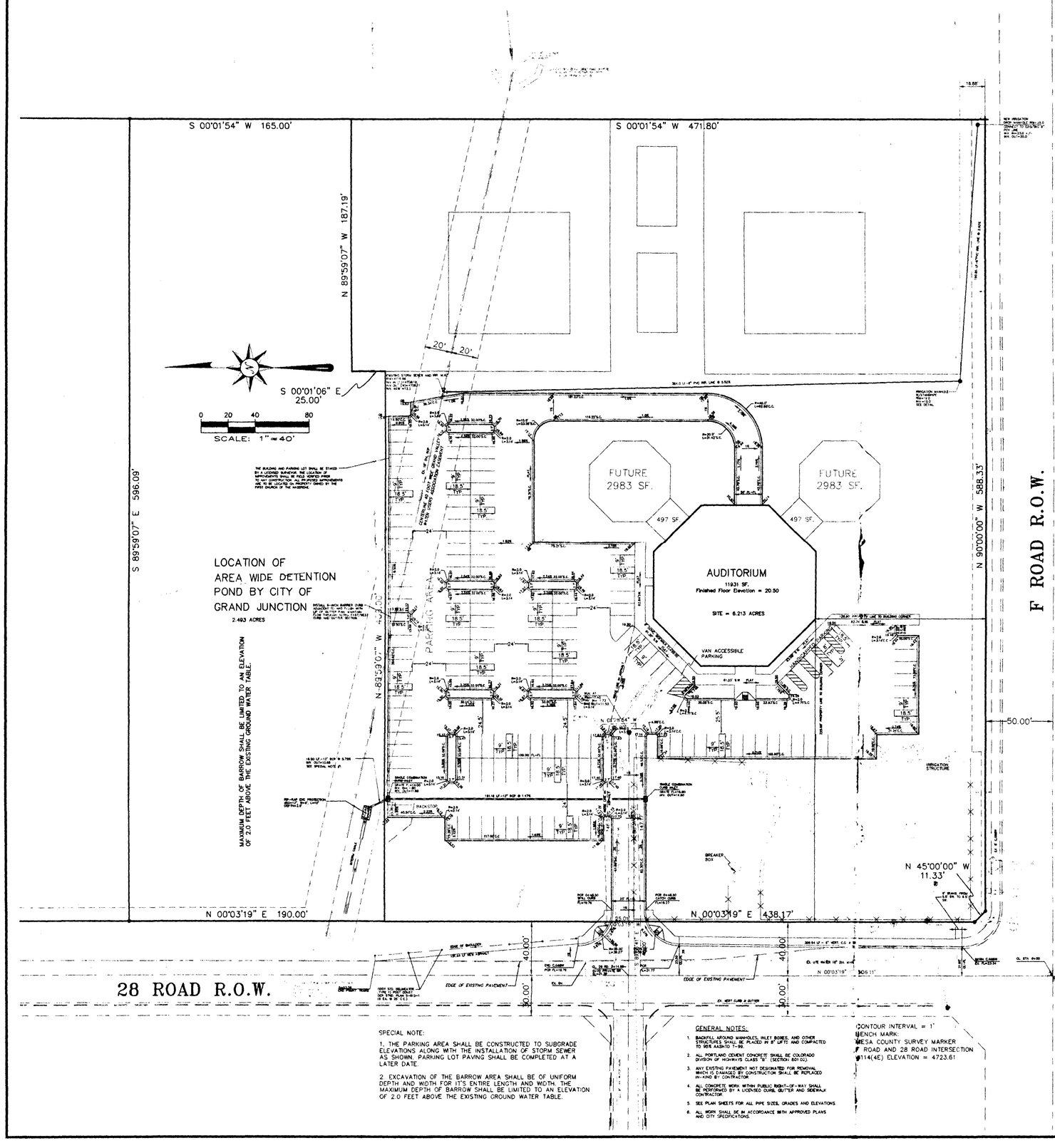
NOTARY PUBLIC
DANIEL M. ROBERTS
STATE OF COLORADO

Notary Public

EXHIBIT "A"

A tract of land located in the West 1/2 of Lot 7, Section 6, Township 1 South, Range 1 East of the Ute Meridian, County of Mesa, State of Colorado, being more particularly described as follows:

Commencing at the Southwest corner of said Section 6 from whence the Northwest Corner of said Lot 7 bears N 00°03'19" E for a basis of bearings with all bearings contained herein being relative thereto; thence N 00°03'19" E along the West line of said Lot 7 a distance of 686.19 feet; thence S 89°59'07" E a distance of 40.00 feet to the True Point of Beginning;
thence S 89°59'07" E a distance of 596.09 feet to a point on the East line of the West 1/2 of said Lot 7;
thence S 00°01'54" W a distance of 636.03 feet to a point on the North right-of-way for F Road as described in Book 1557 at Pages 154-155 in the office of the Mesa County Clerk and Recorder;
thence N 90°00'00 W a distance of 588.33 feet,
thence N 45°00'00" W a distance of 11.33 feet to a point on the East right-of-way for 28 Road;
thence N 00°03'19" E a distance of 628.17 feet to the True Point of Beginning.



SPECIAL NOTE:

1. THE PARKING AREA SHALL BE CONSTRUCTED TO SUBGRADE ELEVATIONS ALONG WITH THE INSTALLATION OF STORM SEWER AS SHOWN. PARKING LOT PAVING SHALL BE COMPLETED AT A LATER DATE.

2. EXCAVATION OF THE BARROW AREA SHALL BE OF UNIFORM DEPTH AND WIDTH FOR IT'S ENTIRE LENGTH AND WIDTH. THE MAXIMUM DEPTH OF BARROW SHALL BE LIMITED TO AN ELEVATION OF 2.0 FEET ABOVE THE EXISTING GROUND WATER TABLE.

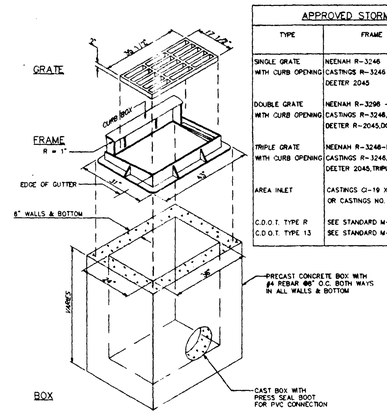
GENERAL NOTES:

1. BACKFILL AROUND MANHOLES, INLET BOXES, AND OTHER STRUCTURES SHALL BE PLACED IN 8" LIFTS AND COMPACTED TO 95% AASHTO T-99.
2. ALL PORTLAND CEVENT CONCRETE SHALL BE COLORADO DIVISION OF HIGHWAYS CLASS "B" (SECTION 601.01).
3. ANY EXISTING PAVEMENT NOT DESIGNATED FOR REMOVAL WHICH IS DAMAGED BY CONSTRUCTION SHALL BE REPLACED IN-KIND BY CONTRACTOR.
4. ALL CONCRETE WORK WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED BY A LICENSED CURB, GUTTER AND SIDEWALK CONTRACTOR.
5. SEE PLAN SHEETS FOR ALL PIPE SIZES, GRADES AND ELEVATIONS
6. ALL WORK SHALL BE IN ACCORDANCE WITH APPROVED PLANS AND CITY SPECIFICATIONS.

CONTOUR INTERVAL = 1'
BENCH MARK:
MESA COUNTY SURVEY MARKER
F ROAD AND 28 ROAD INTERSECTION
#114(4E) ELEVATION = 4723.61

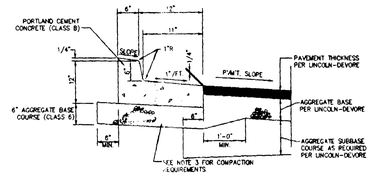
APPROVED STORM DRAIN INLETS

TYPE	FRAME	GRATE TYPE	BOX DIM. INSIDE
SINGLE GRATE	NEENAH R-3246	C,DR,DL,LV	24 X 36"
WITH CURB OPENING	CASTINGS R-3246	C,DR,DL,LV	
	DEETER 2045	C,DR,DL,LV	
DOUBLE GRATE	NEENAH R-3296 - A	C,DR,DL,LV	24" X 73"
WITH CURB OPENING	CASTINGS R-3248,DOUBLE	C,DR,DL,LV	
	DEETER R-2045,DOUBLE	C,DR,DL,LV	
TRIPLE GRATE	NEENAH R-3246-B	C,DR,DL,LV	24" X 110"
WITH CURB OPENING	CASTINGS R-3246,TRIPLE	C,DR,DL,LV	
	DEETER 2045,TRIPLE	C,DR,DL,LV	
AREA INLET	CASTINGS CI-19 X 27	C	20" X 30"
	OR CASTINGS NO. 13	C	19 1/2"x35 1/2"
C.D.O.T. TYPE R	SEE STANDARD M-604-12		
C.D.O.T. TYPE 13	SEE STANDARD M-604-13		



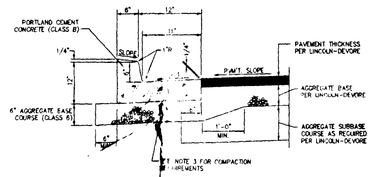
STORM DRAIN INLET WITH CURB OPENING

NO SCALE



SPILL CURB & GUTTER

NO SCALE



CATCH CURB & GUTTER

NO SCALE

HIGH TRAFFIC / ENTRY ROAD	PARKING LOT NO HEAVY TRUCKS OR TRASH TRUCKS
ASPHALT-BASE COURSE	ASPHALT-BASE COURSE
3-INCHES OF ASPHALTIC CONCRETE PAVEMENT	3-INCHES OF ASPHALTIC CONCRETE PAVEMENT
ON 11-INCHES OF ABC	ON 9-INCHES OF ABC
ON MIRAFI 500X	ON MIRAFI 500X
ON 8-INCHES OF RECOMPACTED NATIVE MATERIAL.	ON 8-INCHES OF RECOMPACTED NATIVE MATERIAL.
IF UNSTABLE SOILS CONDITIONS ARE PRESENT	IF UNSTABLE SOILS CONDITIONS ARE PRESENT
3-INCHES OF ASPHALTIC CONCRETE PAVEMENT	3-INCHES OF ASPHALTIC CONCRETE PAVEMENT
ON 4-INCHES OF ABC	ON 4-INCHES OF ABC
ON BIAXIAL GEOGRID	ON BIAXIAL GEOGRID
ON 6-INCHES OF ABC	ON 4-INCHES OF ABC
ON MIRAFI 500X	ON MIRAFI 500X
ON 8-INCHES OF RECOMPACTED NATIVE MATERIAL.	ON 8-INCHES OF RECOMPACTED NATIVE MATERIAL.

11/22/95 REV. PARKING DIMENSIONS
REVISED 10/23/95: ADD LANDSCAPE CURBS & GRADES

CITY OF GRAND JUNCTION

APPROVED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.

BY: [signature] DATE: 11-5-95

ACCEPTED AS CONSTRUCTED

BY: _____ DATE: _____

12-5-95 Bill N. [illegible]

SITE PLAN

CURB, GUTTER & PAVING PLAN

FIRST CHURCH OF THE NAZERENE

LANDesign

ENGINEERS • SURVEYORS • PLANNERS

200 NORTH 6TH STREET SUITE 102
GRAND JUNCTION, COLORADO 81501 (303) 244-9180

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

PROJECT NO. 95004-40	DESIGNED	DRAWN	CHECKED	SHEET	OF
DATE: MAY, 1995	MJS	MDS		CGP1	1

FILE COPY