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DISTRICT SERVICE PLAN

PARKER - JORDAN METROPOLITAN DISTRICT

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PARKER JORDAN METROPOLITAN DISTRICT
SERVICE PLAN

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TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

PARKER JORDAN METROPOLITAN DISTRICT
ARAPAHOE COUNTY, COLORADO

SERVICE PLAN

INTRODUCTION

The following Service Plan has been prepared for the proposed Parker Jordan Metropolitan District, pursuant to the requirements of 1973, C.R.S., 32-1-201, et seq. The proposed Metropolitan District seeks authority to provide services pursuant to 1973, C.R.S., 32-1-1004, as follows:

1. Street Improvement - Through the construction and installation of curbs, gutters, culverts and other drainage facilities and sidewalks, bridges, parking facilities, paving, lighting, grading, landscaping and other street improvements; and

2. Safety Protection - Through traffic and safety controls and devices on streets and highways and at railroad crossings; and

3. Parks or Recreational Facilities or Programs - As specified in Section 32-1-103(14):

> "'Park and recreation District' means a special District which provides parks or recreational facilities or programs within said District."; and

4. Storm, Flood and Surface Water Drainage Facilities - As described in 1973, CRS., 32-1-103(18). The District will not be providing sanitary sewer facilities or services; and

5. Transportation Facilities - The board of a metropolitan District has the power to establish, maintain and operate a system to transport the public by bus, rail or any other means

of conveyance, or any combination thereof, and may contract to provide said services; and

6. Enter Into Contracts - With other governmental agencies for providing common services and facilities pursuant to the Colorado Intergovernmental Relations Act, as defined in 1973, CRS., 29-1-201, et seq.

PROPOSED DISTRICT BOUNDARIES

The proposed District encompasses approximately 1,150 acres located in portions of Sections 29, 30, 32 and 33, Township 5 South, Range 66 West, Arapahoe County, Colorado.

A map showing the boundaries of the proposed District, together with a detailed legal description thereof, is attached and described subsequent herein.

The proposed District boundaries are generally included within the area bounded on the north by East Arapahoe Road, on the west by South Jordan Road, on the south by Arapahoe County Line and on the east by Parker Road.

AVAILABLE UTILITIES

The property is located within the Arapahoe Water and Sanitation District, and it is anticipated that said District will provide water and sanitary sewer services, enabling development of lands within the proposed District.

It should be observed that C.R.S., 1973, 32-1-103(18) is as follows, to-wit:

> "'Sanitation District' means a special District which provides for storm or sanitary sewers, or both, flood and surface drainage, treatment and disposal works and

facilities, and all necessary or proper equipment and appurtenances incident thereto."

Additionally, 32-1-107(2) provides as follows, to-wit:

"No special District may be organized wholly or partly within an existing special District providing the same service. Nothing in this subsection (2) shall prevent a special District providing different services from organizing wholly or partly within an existing special District. A metropolitan District may be organized wholly or partly within an existing special District, but a metropolitan District shall not provide the same service as the existing special District."

The Arapahoe Water and Sanitation District does not provide and has no intention or goal to provide storm, flood and surface drainage amenities and improvements. In order that the proposed Parker Jordan Metropolitan District might be in a position to meet public need for the orderly development of property within the District, it contemplates developing flood and surface water drainage facilities in a comprehensive manner to respond to the unique problems created by Cherry Creek.

PUBLIC NEED - ORDERLY DEVELOPMENT

Orderly development of lands within the proposed District requires a public entity with authority to institute singularly or in cooperation with other public entities planning, construction of roadways, safety devices, park areas, street lighting, flood and surface water drainage facilities as defined by statute and as determined necessary and economically feasible by the board of directors of the proposed Parker Jordan District.

A special district capable of public funding is necessary inasmuch as no other entity, governmental organization or quasi-governmental organization exists within the area to provide for

this development; public funding is obviously necessary to develop facilities and services which the proposed District will have the statutory authority to provide.

The lands within the proposed District have mixed zoning ranging from agricultural to multiuse, P.U.D.

It is proffered that a work force estimated at one person for each 150 square feet of office space and one person for each 1,000 square feet of warehouse and industrial space will be working within the geographical boundaries of the proposed District at full development.

Additionally, it is anticipated that there will be a substantial number of business invitees using the facilities and office structures to be constructed within the proposed District. Information available to the proponents of the proposed District indicates a variety of residential units are planned within the proposed District to provide housing near areas of possible employment and that some 6,000 persons will occupy those premises.

I.

PURPOSES

The orderly development of lands within the proposed District requires the organization of a multi-purpose special district to meet local needs and which entity has the capability of planning and construction of facilities, funding the cost

thereof and providing a reasonable method for retirement of debt in order to accommodate the following, to-wit:

1. Roadway systems contemplated by the Service Plan shall be public dedicated and public non-dedicated roadways to be funded and constructed by the District. Following construction, the public dedicated roadways will be presented to Arapahoe County as part of its highway system for future maintenance and operation and the public non-dedicated roadways may be maintained by private entities or associations. This method of providing for the funding and construction of needed highway facilities currently appears to be the only viable and expeditious way of constructing these systems. In addition, the District contemplates the construction of drainage and retention facilities to provide protection for public roadways and other facilities constructed by the District. The development of drainage facilities may require, if economically viable, participation with other public entities for off-site improvements.

   Landscaping of roadway medians and the maintenance thereof is contemplated by the District to develop an environment within the transporation and work

services areas compatible with sound municipal planning.

Additionally, this Service Plan contemplates that the District, when formed, will have the authority to provide for street lighting within and adjacent to the District for the protection of the facilities of the District and the inhabitants and property owners of the District.

2. Safety protection through traffic and safety controls constructed in accordance with County specifications with District funds. Said facilities, when so constructed, to be conveyed to Arapahoe County as a part of its highway safety system for future maintenance and operation.

3. Interior parkways, greenbelts and recreational amenities to be constructed, owned and maintained by the District.

4. Transporation system or systems as needed in the future to accommodate the needs of the inhabitants of the District and subject to the availability of funding thereof.

5. Storm, Flood and Surface Drainage, including all facilities and appurtenances incident thereto as described in 1973, C.R.S., 32-1-103(18) defining a sanitation District.

The proposed District contemplates and intends to provide only those surface and flood control and drainage facilities which are described in the definition of a sanitation District, and in that vein to implement a comprehensive master plan for Cherry Creek which addresses drainage related problems in a unified manner including erosion sedimentation and flooding. The District shall be subject to any water quality regulations duly adopted by Urban Drainage and Flood Control District, County of Arapahoe, Arapahoe Water and Sanitation District or any other appropriate governmental entities. The District has no purpose or design and seeks no authority to provide sanitary sewer service or facilities. As stated previously, most of the lands lying within the proposed Parker Jordan Metropolitan District are within the geographical boundaries and the service area of the Arapahoe Water and Sanitation District. The proposed Parker Jordan Metropolitan District is seeking the authority for flood and surface drainage programs because the Arapahoe Water and Sanitation District does not so provide and has no intention of providing said services within the boundaries of the proposed District. As stated previously, the statutes so made and

provided (32-1-107(2)) do not prohibit the organization of a special District within the boundaries of an existing special District which does not provide similar services.

Affixed hereto and made a part hereof is a copy of a Resolution adopted by the Board of Directors of the Arapahoe Water and Sanitation District consenting to the exercise by Parker Jordan Metropolitan District of the powers of a sanitation District to the extent necessary to construct flood and surface drainage improvements within the area of the proposed District, which area is also located within the geographical boundaries of the Arapahoe Water and Sanitation District.

The proposed Parker Jordan District, when organized, will cooperate with the Urban Drainage and Flood Control District as described in 1973, C.R.S., 32-11-102, et seq. and the Arapahoe Water and Sanitation District, in regard to design of projects and maintenance of same after construction.

6. Intergovernmental Relationships and Contracts.

Pursuant to constitutional and statutory authority, the District may enter into cooperative contracts with other public entities to maximize

benefits and minimize costs for the general public well-being. It is not possible at this time to contemplate the future need for the development of roadways, the attendant water drainage systems, facilities and culverts, both within and beyond the geographical boundaries of the District, including flood, storm and surface drainage facilities and systems which will inure to the benefit of the District and the protection of its roadway, traffic safety, street lighting, park facilities and other improvements. Accordingly, this Service Plan discloses that the District, when formed, acting by and through its board of directors, reserves unto itself the prerogative of participating with other public entities; namely, special Districts, including the Urban Drainage and Flood Control District, the County of Arapahoe, the State Highway Department and the Federal Highway Administration and any and all other public agencies, in developing highway access and water drainage and flood control facilities, including bank protection, channelization, hydraulic structures and related projects, either adjacent to or generally aligned in a course which affects the general well-being

and the property located within the proposed District.

The constitution of the State of Colorado, Section 18, Article XIV, and Section 2, Article XI, and the statutes of the State of Colorado so made and provided, i.e., 1973, CRS., 29-1-201, et seq., provide for intergovernmental contracts in cooperation between said entities to provide any function, service or facility authorized to each of the cooperating governmental entities, including the participation or sharing of the costs of said project or projects. In the opinion of the board of directors of the Parker Jordan Metropolitan District, if and when organized, such intergovernmental participation is desirable, in the public interest and welfare, and economically feasible, and this Service Plan is a disclosure that the District would have the authority to so participate in said intergovernmental cooperative undertakings, maximizing public interest benefits and minimizing costs.

The funding to provide the above facilities and the authorization to enter into governmental cooperative contracts will require the presentation of said matters to a vote of the electorate on the question of the authorization of the issuance

of general obligation bonds and/or the entering into a contract which pledges the full faith and credit of the District.

It should be borne in mind that the major source of revenue to retire any public debt incurred to provide the above facilities and betterments is from taxation, and this will require, inevitably, the phasing of the projects in order that any debt incurred may be retired with a reasonable mill levy.

Additionally, a viable bond market will require satisfactory evidence of the District's ability to repay bonded debt from existing and projected assessed valuation within the parameters that will produce a reasonable mill levy.

Any participation on behalf of Parker Jordan Metropolitan District in the construction of any of the above facilities which may require the incurring of a debt of the District wherein the full faith and credit of the District is pledged in an amount in excess of 1 1/2 percent of the said District's then assessed valuation (1973, C.R.S., 32-1-1101(2)) can be incurred only after submitting the matter to the electorate and a favorable vote results therefrom.

This Service Plan as heretofore detailed and hereinafter compiled reflects the following, to-wit:

1. There is an existing and projected need for organized service in the area to be served; and
2. The existing service in the area to be served by the proposed special District is inadequate for present and future projected needs; and

3. Adequate service is not and will not be available through existing municipalities, quasi-municipalities or county governments; and

4. The area within the proposed special District has an estimated assessed valuation for the tax year 1984 of 1.5 million dollars.

   Substantial construction and development within portions of the proposed District is contemplated in the immediate future.

   Based upon the existing assessed valuation and the contemplated development therein, the District is capable of providing economic and sufficient services within its proposed boundaries; and

5. The area being included within the proposed special District currently has substantial financial ability and based upon the projected development will have total financial ability to discharge proposed indebtedness; and

6. The projected facilities and service standards of the proposed special District are compatible with standards of adjacent municipalities and special Districts; and

7. The proposal, including the development within the proposed District, is in substantial compliance with the Arapahoe County Master Plan. The proposed special District, based upon the within

Service Plan, contemplates a 55 million dollar bond authorization to be sold as needed and financial viability is warranted. It is estimated that the initial bond issue will approximate 3.3 million.

The primary source for providing of revenues for operating expenses and debt service will be from ad valorem taxes. For this reason, the phasing of debt and development within the District is necessary.

Except for the funding of flood and surface water drainage facilities it is estimated that the development of the Service Plan will require an average mill levy over the term of the bonds of approximately 20 mills.

It is proffered that mill levy of 15 mills will be required for debt service and a projected 5 mill levy for administration, maintenance and operation of the District.

Subsequently herein will be found the estimated costs of initial construction and more definitive detail of facilities to be constructed and a Financial Plan setting forth significant financial details.

Inasmuch as the proposed District is located in an area where there are overlapping taxing entities, none of which

provide the services or facilities of the proposed District, there is hereinafter detailed the names and levies of the overlapping entities for the tax year 1983, to-wit:

OVERLAPPING TAXING ENTITIES FOR

PARKER JORDAN FOR TAX YEAR 1983

Taxing Entity	Mill Levy
Arapahoe County	16.783
Cherry Creek School District No. 5	69.550
Arapahoe County Law Enforcement	5.500
Arapahoe County Regional Library	1.444
Arapahoe Water and Sanitation District	17.000
Parker Fire Protection District	10.398
(Castlewood Fire Protection District)	(8.194)
RTD	-0 -
Urban Drainage and Flood Control District	0.897
TOTAL OVERLAPPING MILL LEVY	121.572
+	
Parker Jordan Estimated Average	20.000
TOTAL MILL LEVY FOR DISTRICT	141.572

II.

CONTENTS OF SERVICE PLAN

The within Service Plan contains by separate exhibits a full legal description of the area to be included within the District; a map reflecting the location of the proposed District; estimate of population is explained in the introduction; land use and

development; a description of the facilities to be constructed and standards of construction; estimated costs of construction of facilities, including engineering services; a Financial Plan including proposed indebtedness, proposed interest rates and discounts and major expenses related to the organization of the District; and a Storm Drainage Analysis.

III

PROPOSED DISTRICT BOUNDARIES

The proposed District boundaries are generally bounded by East Arapahoe Road on the north, by South Jordan Road on the west, Arapahoe County Line on the south, and South Parker Road on the east. A more specific description is as follows:

LEGAL DESCRIPTION:

A PARCEL OF LAND, BEING PORTIONS OF SECTIONS 29, 30, 32 AND 33; TOWNSHIP 5 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF ARAPAHOE, STATE OF COLORADO, BEING MORE PARTICULARY DESCRIBED AS FOLLOWS:

BEGINNING AT THE POINT OF INTERSECTION OF THE NORTHERLY RIGHT-OF-WAY OF EAST ARAPAHOE ROAD WITH THE CENTERLINE OF THE RIGHT-OF-WAY OF SOUTH PARKER ROAD (S.H. #83); THENCE, SOUTHEASTERLY ALONG SAID CENTERLINE OF THE RIGHT-OF-WAY TO THE SOUTH LINE OF THE SOUTHWEST ONE-QUARTER OF SAID SECTION 33; THENCE ALONG THE SOUTHERLY BOUNDARY LINE OF ARAPAHOE COUNTY, SAID LINE CONTIGUOUS WITH THE NORTHERLY BOUNDARY LINE OF DOUGLAS COUNTY THE FOLLOWING TWO (2) COURSES: 1) WESTERLY ALONG THE SOUTH LINE OF SAID SOUTHEAST ONE-QUARTER TO THE SOUTHWEST CORNER OF SAID SECTION 33; 2) THENCE WESTERLY ALONG THE SOUTH LINE OF THE SOUTHEAST ONE-QUARTER OF SAID SECTION 32, TO THE POINT OF INTERSECTION WITH THE CENTERLINE OF SOUTH JORDAN ROAD; THENCE NORTHERLY ALONG SAID CENTERLINE TO THE POINT OF INTERSECTION OF SAID CENTERLINE WITH THE NORTHERLY RIGHT-OF-WAY OF EAST ARAPAHOE ROAD EXTENDED; THENCE EASTERLY ALONG SAID NORTHERLY RIGHT-OF-WAY AND THE EXTENSION THEREOF, TO THE POINT OF BEGINNING AND CONTAINING A TOTAL OF 1,150 ACRES, MORE OR LESS.

The District boundaries are shown on the "Plat Map" (Exhibit "A").

IV

LAND USE AND DEVELOPMENT

At the present time the area is zoned for the following uses with their respective approximate acreages.

TABLE NO. 1

Existing Zoning

Zoning	Approximate Acreage
A -1	94 Acres
B - 1	5 Acres
I - 1	44 Acres
F	243 Acres
M.U. P.U.D.	765 Acres

The existing zoning is shown on the "Zoning Map" (Exhibit "B").

At present less than 10% of the proposed Metropolitan District is developed. When fully buildout the proposed District is expected to contain some 13.5 million square feet of development with a projected assessed value using today values, of approximately 170 million dollars.

V.

FACILITIES TO BE CONSTRUCTED

The service plan for the District outlined herein proposes to provide for the construction of major and minor roadways within public rights-of-way, traffic controls and devices, storm,

flood and surface water drainage facilities, and engineering services.

The Airport Influence Area Transportation Study, prepared by BRW, Incorporated, dated September 1982, was used to prepare the proposed roadway system. The study emphasized the need for a system of principal arterials, minor arterials, collectors and local streets. The study classified East Arapahoe and South Parker Roads as principal arterials and South Jordan and East Dry Creek Roads as minor arterials.

The construction of the streets will be phased to meet the growth and demand for roadway systems. The Preliminary Cost Estimate is included as Appendix "C".

The roadway system shall consist of public roadways, both dedicated and non-dedicated, and has been planned so as to provide for access for all parcels within the proposed District. Public dedicated roadways shall be constructed in accordance with Arapahoe County Standards and Specifications and will be dedicated to the County for perpetual maintenance upon completion of the construction. Public non-dedicated roadways shall be constructed pursuant to Arapahoe County Approvals. Included in the construction of these roadways will be curb and gutter, pedestrian ways, drainage improvements, and landscaping within the rights-of-way. The installation of traffic and safety devices where deemed necessary shall be accomplished within the District boundaries. The devices installed shall include traffic safety barriers at certain intersections, traffic signs, safety

barriers and other like devices when and where required. In addition to the construction of the roadways as shown in Appendix C, improvements in the form of additional traffic acceleration/ deceleration lanes and traffic control improvements may be required to Arapahoe Road and Parker Road which may be constructed by the District.

The District may, in the progression of development, construct storm, flood and surface water drainage facilities in the Cherry Creek Basin or its tributaries, including but not limited to:

1. Development of natural water ways generally following the historic channel alignment.
2. The use of a lined channel which may incorporate grass, rip-rap, timbers, gabions, reinforced earth, concrete, or other channel linings.
3. Structural improvements as, drop structures, culverts, spurdikes.
4. The construction of detention facilities.
5. Regrading and/or dredging of the existing channel.
6. Acquisition of flood prone properties as community park.
7. Selected infill within the flood plan.

Design and construction of any proposed projects or improvements require the review and written approval of the Arapahoe Water and Sanitation District, which approval shall not be unreasonably withheld.

It is intended that the cost of these flood and surface drainage facilities, including selected infill, be apportioned and paid for in an equitable manner among the landowners directly benefiting therefrom. To that end the District through the powers granted in 1973, C.R.S. 32-1-1006 (1) (b) (I) and (II) will divide such District into areas according to the benefits and facilities furnished, to determine the amount of money necessary to be raised by taxation or other rates, fees or charges within each such area to pay for such facilities or services.

VI.

FINANCIAL PLAN

PARKER/JORDAN METROPOLITAN DISTRICT

Estimated Use of Bond Proceeds

Phase I - Dated December 1, 1985	
Construction & Engineering	$2,326,000
Capitalized Interest (2 yrs. @ 12%)	792,000
Organizational Costs	50,000
Underwriting Discount & Other Issuance Costs	132,000
Total Bond Issue	$3,300,000
Phase II - Dated December 1, 1988	
Construction & Engineering	$5,402,000
Capitalized Interest (2 yrs. @ 12%)	1,776,000
Underwriting Discount & Other Issurance Costs	222,000
Total Bond Issue	$7,400,000
Phase III - Dated December 1, 1994	
Construction & Engineering	$4,896,000
Capitalized Interest (2 yrs. @ 12%)	1,632,000
Underwriting Discount & Other Issuance Costs	272,000
Total Bond Issue	$6,800,000

PARKER/JORDAN METROPOLITAN DISTRICT
CALCULATION OF ASSESSED VALUATION

CONSTRUCTION YEAR	ASSESSMENT YEAR	COLLECTION YEAR	----SQUARE FOOTAGE----- RESIDENTIAL	COMMERCIAL	A.V. RESIDENTIAL @ $10 SQ.FT.	A.V. COMMERCIAL @ $13 SQ.FT.	TOTAL ASSESSED VALUATION	CUMULATIVE ASSESSED VALUATION	COLLECTION YEAR
1982	1983	1984							1984
1983	1984	1985						1,500,000	1985
1984	1985	1986						1,700,000	1986
1985	1986	1987	300,000	100,000	3,000,000	1,300,000	4,300,000	6,000,000	1987
1986	1987	1988	400,000	350,000	4,000,000	4,550,000	8,550,000	14,550,000	1988
1987	1988	1989	500,000	400,000	5,000,000	5,200,000	10,200,000	24,750,000	1989
1988	1989	1990	600,000	500,000	6,000,000	6,500,000	12,500,000	37,250,000	1990
1989	1990	1991	600,000	550,000	6,000,000	7,150,000	13,150,000	50,400,000	1991
1990	1991	1992	500,000	600,000	5,000,000	7,800,000	12,800,000	63,200,000	1992
1991	1992	1993		450,000		5,850,000	5,850,000	69,050,000	1993
1992	1993	1994		500,000		6,500,000	6,500,000	75,550,000	1994
1993	1994	1995		550,000		7,150,000	7,150,000	82,700,000	1995
1994	1995	1996		600,000		7,800,000	7,800,000	90,500,000	1996
1995	1996	1997		600,000		7,800,000	7,800,000	98,300,000	1997
1996	1997	1998		600,000		7,800,000	7,800,000	106,100,000	1998
1997	1998	1999		600,000		7,800,000	7,800,000	113,900,000	1999
1998	1999	2000		600,000		7,800,000	7,800,000	121,700,000	2000
1999	2000	2001		600,000		7,800,000	7,800,000	129,500,000	2001
2000	2001	2002		600,000		7,800,000	7,800,000	137,300,000	2002
2001	2002	2003		600,000		7,800,000	7,800,000	145,100,000	2003
2002	2003	2004		600,000		7,800,000	7,800,000	152,900,000	2004
2003	2004	2005		600,000		7,800,000	7,800,000	160,700,000	2005
2004	2005	2006		600,000		7,800,000	7,800,000	168,500,000	2006
2005	2006	2007						168,500,000	2007
2006	2007	2008						168,500,000	2008
2007	2008	2009						168,500,000	2009
2008	2009	2010						168,500,000	2010
2009	2010	2011						168,500,000	2011
2010	2011	2012						168,500,000	2012
2011	2012	2013						168,500,000	2013
2012	2013	2014						168,500,000	2014
		TOTALS	2,900,000	10,600,000					

PARKER/JORDAN METROPOLITAN DISTRICT
ESTIMATED FINANCING PLAN FOR THREE BOND ISSUES

YEAR	ASSESSED VALUATION	MILL LEVY	TAX REVENUES	CAPITALIZED INTEREST	TOTAL REVENUES	OPERATING EXPENSES	TOTAL DEBT SERVICE	ANNUAL SURPLUS	ACCUMULATED SURPLUS	COLLECTION YEAR
1984										1984
1985	1,500,000	20	$30,000		$30,000			$30,000	$30,000	1985
1986	1,700,000	20	34,000	$792,000	826,000	$20,000	$396,000	410,000	440,000	1986
1987	6,000,000	20	120,000		120,000	20,000	396,000	(296,000)	144,000	1987
1988	14,550,000	20	291,000		291,000	20,000	401,000	(130,000)	14,000	1988
1989	24,750,000	20	495,000	1,776,000	2,271,000	20,000	1,293,400	957,600	971,600	1989
1990	37,250,000	20	745,000		745,000	20,000	1,297,200	(572,200)	399,400	1990
1991	50,400,000	20	1,008,000		1,008,000	20,000	1,310,400	(322,400)	77,000	1991
1992	63,200,000	20	1,264,000		1,264,000	20,000	1,316,800	(72,800)	4,200	1992
1993	69,050,000	20	1,381,000		1,381,000	20,000	1,337,000	24,000	28,200	1993
1994	75,550,000	20	1,511,000		1,511,000	20,000	1,364,200	126,800	155,000	1994
1995	82,700,000	20	1,654,000	1,632,000	3,286,000	20,000	2,208,200	1,057,800	1,212,800	1995
1996	90,500,000	20	1,810,000		1,810,000	20,000	2,226,400	(436,400)	776,400	1996
1997	98,300,000	20	1,966,000		1,966,000	20,000	2,285,400	(339,400)	437,000	1997
1998	106,100,000	20	2,122,000		2,122,000	20,000	2,334,800	(232,800)	204,200	1998
1999	113,900,000	20	2,278,000		2,278,000	20,000	2,384,600	(126,600)	77,600	1999
2000	121,700,000	20	2,434,000		2,434,000	20,000	2,458,600	(44,600)	33,000	2000
2001	129,500,000	20	2,590,000		2,590,000	20,000	2,577,600	(7,600)	25,400	2001
2002	137,300,000	20	2,746,000		2,746,000	20,000	2,704,400	21,600	47,000	2002
2003	145,100,000	20	2,902,000		2,902,000	20,000	2,840,400	41,600	88,600	2003
2004	152,900,000	20	3,058,000		3,058,000	20,000	2,996,400	41,600	130,200	2004
2005	160,700,000	20	3,214,000		3,214,000	20,000	3,116,400	77,600	207,800	2005
2006	168,500,000	20	3,370,000		3,370,000	20,000	2,300,400	1,049,600	1,257,400	2006
2007	168,500,000	20	3,370,000		3,370,000	20,000	2,391,400	958,600	2,216,000	2007
2008	168,500,000	20	3,370,000		3,370,000	20,000	2,434,200	915,800	3,131,800	2008
2009	168,500,000	20	3,370,000		3,370,000	20,000	1,086,200	2,263,800	5,395,600	2009
2010	168,500,000	20	3,370,000		3,370,000	20,000	1,126,200	2,223,800	7,619,400	2010
2011	168,500,000	20	3,370,000		3,370,000	20,000	1,154,200	2,195,800	9,815,200	2011
2012	168,500,000	20	3,370,000		3,370,000	20,000	1,255,200	2,094,800	11,910,000	2012
2013	168,500,000	20	3,370,000		3,370,000	20,000	1,264,000	2,086,000	13,996,000	2013
2014	168,500,000	20	3,370,000		3,370,000	20,000	1,344,000	2,006,000	16,002,000	2014
TOTALS				$4,200,000	$68,183,000	$580,000	$51,601,000			TOTALS

PARKER/JORDAN METROPOLITAN DISTRICT
ESTIMATED DEBT SERVICE SCHEDULE

COLLECTION YEAR	1985 $3,300,000 PRINCIPAL	COUPON	INTEREST	DEBT SERVICE	1988 $7,400,000 PRINCIPAL	COUPON	INTEREST	DEBT SERVICE	1994 $6,800,000 PRINCIPAL	COUPON	INTEREST	DEBT SERVICE	TOTAL DEBT SERVICE	COLLECTION YEAR
1984														1984
1985														1985
1986			$396,000	$396,000									$396,000	1986
1987			396,000	396,000									396,000	1987
1988	$5,000	12.00%	396,000	401,000									401,000	1988
1989	10,000	12.00%	395,400	405,400			$888,000	$888,000					1,293,400	1989
1990	15,000	12.00%	394,200	409,200			888,000	888,000					1,297,200	1990
1991	25,000	12.00%	392,400	417,400	$5,000	12.00%	888,000	893,000					1,310,400	1991
1992	30,000	12.00%	389,400	419,400	10,000	12.00%	887,400	897,400					1,316,800	1992
1993	40,000	12.00%	385,800	425,800	25,000	12.00%	886,200	911,200					1,337,000	1993
1994	50,000	12.00%	381,000	431,000	50,000	12.00%	883,200	933,200					1,364,200	1994
1995	65,000	12.00%	375,000	440,000	75,000	12.00%	877,200	952,200			$816,000	$816,000	2,208,200	1995
1996	75,000	12.00%	367,200	442,200	100,000	12.00%	868,200	968,200			816,000	816,000	2,226,400	1996
1997	100,000	12.00%	358,200	458,200	150,000	12.00%	856,200	1,006,200	$5,000	12.00%	816,000	821,000	2,285,400	1997
1998	125,000	12.00%	346,200	471,200	200,000	12.00%	838,200	1,038,200	10,000	12.00%	815,400	825,400	2,334,800	1998
1999	150,000	12.00%	331,200	481,200	250,000	12.00%	814,200	1,064,200	25,000	12.00%	814,200	839,200	2,384,600	1999
2000	200,000	12.00%	313,200	513,200	300,000	12.00%	784,200	1,084,200	50,000	12.00%	811,200	861,200	2,458,600	2000
2001	260,000	12.00%	289,200	549,200	400,000	12.00%	748,200	1,148,200	75,000	12.00%	805,200	880,200	2,577,600	2001
2002	350,000	12.00%	258,000	608,000	500,000	12.00%	700,200	1,200,200	100,000	12.00%	796,200	896,200	2,704,400	2002
2003	450,000	12.00%	216,000	666,000	600,000	12.00%	640,200	1,240,200	150,000	12.00%	784,200	934,200	2,840,400	2003
2004	600,000	12.00%	162,000	762,000	700,000	12.00%	568,200	1,268,200	200,000	12.00%	766,200	966,200	2,996,400	2004
2005	750,000	12.00%	90,000	840,000	800,000	12.00%	484,200	1,284,200	250,000	12.00%	742,200	992,200	3,116,400	2005
2006					900,000	12.00%	388,200	1,288,200	300,000	12.00%	712,200	1,012,200	2,300,400	2006
2007					1,085,000	12.00%	280,200	1,365,200	350,000	12.00%	676,200	1,026,200	2,391,400	2007
2008					1,250,000	12.00%	150,000	1,400,000	400,000	12.00%	634,200	1,034,200	2,434,200	2008
2009									500,000	12.00%	586,200	1,086,200	1,086,200	2009
2010									600,000	12.00%	526,200	1,126,200	1,126,200	2010
2011									700,000	12.00%	454,200	1,154,200	1,154,200	2011
2012									885,000	12.00%	370,200	1,255,200	1,255,200	2012
2013									1,000,000	12.00%	264,000	1,264,000	1,264,000	2013
2014									1,200,000	12.00%	144,000	1,344,000	1,344,000	2014
TOTALS	$3,300,000		$6,632,400	$9,932,400	$7,400,000		$14,318,400	$21,718,400	$6,800,000		$13,150,200	$19,950,200	$51,601,000	TOTALS

ESTIMATED OF COSTS

Following is an estimate of various costs and expenses related to organization and operation of the proposed District:

1.	Organization	$70,000
2.	Engineering	As set forth in Appendix "C"
3.	Legal Services	$20,000 annually
4.	Maximum Interest Rate	18%
5.	Discounts	4%
6.	Management	$48,000 annually
7.	Accounting	$5,000 annually

COST OF FLOOD AND SURFACE DRAINAGE FACILITIES

Because the cost of flood and surface drainage facilities will be apportioned among the land owners benefiting directly therefrom, as described in the last paragraph of Section V-Facilities to be Constructed, the table in this Financial Plan showing the estimated use of bond proceeds does not include bond issues or proceeds for flood and surface drainage facilities because these will not be apportioned over the entire District, but rather will be apportioned and paid for by the land owners directly benefitting therefrom. It is the District's intention to issue those bonds necessary for the surface and storm drainage facilities as those facilities are needed by the adjacent land owners, with proper security provided by the land owners for repayment of the bond issue. These bond issues for storm and surface drainage improvements will be secured in a manner that issuance of the bond will not necessitate a sufficient assessed valuation within the District for their repayment.

APPENDIX "A"

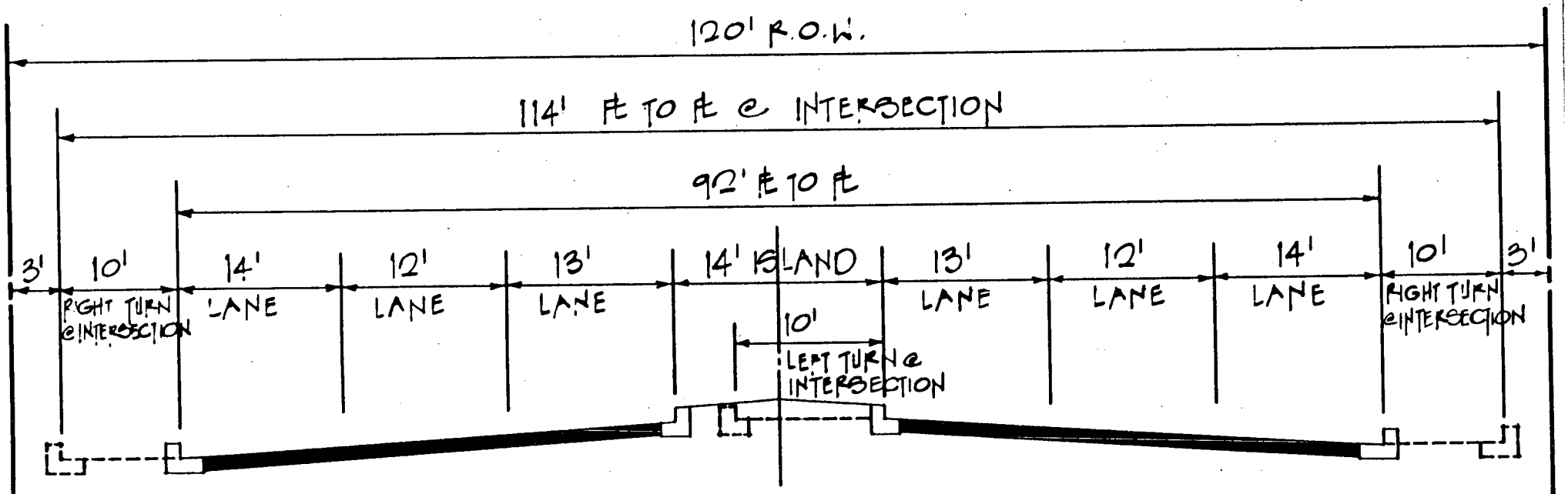
PARKER/JORDAN METROPOLITAN DISTRICT
OWNERSHIP INDEX TABULATION

			Land	Imp.	A.V.
1	Woodco Partnership 3610 E. Tennessee Avenue Denver, CO 80209	A B	15,000 80,240	-0- -0-	4,350 23,270
2	Unknown				
3	M.A.M 5249 S. Joliet Way Englewood, CO. 80111	A	74,490	742,780	237,009
4	Cunningham, Kennith R. and Joanne 6000 S. Ulster Street, #206 Englewood, CO 80112	A	58,810	-0-	17,055
5	McDaniel, Larry and Katherine 37.5% ea. Irons, Jack 25% 9600 E. Arapahoe Road, #280 Englewood, CO 80112	A	56,980	-0-	16,525
6	C. M. Associates 6800 S. Dawson Circle Englewood, CO 80112	A	81,680	426,290	147,312
7	Dewitt, Douglas F. 44 Inverness Drive, Bldg. A Englewood, CO 80112	A	75,270	-0-	21,829
8	Flyckt, Gerald 5100 Havana Street Denver, CO 80239	A	116,310	294,530	119,144
9	Blairfield Properties I 3211 Scott Boulevard, #102 Santa Clara, CA 95051	A B C	61,940 56,450 62,470	-0- -0- -0-	17,963 16,371 18,117
10	Saunders, Richard C. 3013 S. Robin Way Denver, CO 80222	A	69,590	22,180	26,614
11	East Arapahoe Investors c/o Holmquist & Company Greenwood Plaza Terrace Englewood, CO 80112	A	2,590	-0-	752

12	Jordan Road Venture I 8225 E. Orchard Road, #316 Englewood, CO 80111	A	39,310	-0-	11,400
13	Perkins, Ralph S. Jr. and Coyle, William L. and Heyer, Raymond N. 17492 E. Progress Drive Aurora, CO 80015	A	51,680	-0-	14,988
14	Rich & Company 15290 E. Arapahoe Road Englewood, CO 80112	A	39,200	84,350	35,830
15	City of Aurora 1470 S. Havana Street Aurora, CO 80012	A	380,000	-0-	110,200
16	Jordan Road Limited Partnership 6868 S. Rever Parkway, #200 Englewood, CO 80112	A	5,124	-0-	1,486
		B	43,413	5,740	14,255
		C	10,771	-0-	3,124
		D	69,200	78,647	42,876
		E	4,350	-0-	1,262
17	Banbury/Ash Partnershp 5201 S. Franklin Street Littleton, CO 80121	A	181,830	-0-	52,731
		B	732	30,260	7,439
18	Arapahoe Water & Sanitatin District 10701 Melody Drive, #520 Northglenn, CO 80234	A	300	-0-	87
		B	300	-0-	87
		C	300	-0-	87
		D	300	-0-	87
		E	300	-0-	87
		F	300	-0-	87
		G	300	-0-	87
		H	300	-0-	87
		I	300	-0-	87
19	Viehmann, Martin & Associates 2402 E. Arizona Biltmore Cir. Phoenix, AZ 85016	A	220,000	-0-	63,800
		B	67,460	-0-	19,564
		C	34,630	-0-	10,043
		D	5,190	-0-	1,506
		E	4,050	-0-	1,175
20	Bahr, William C. 1/2 Bahr, E. E. and G. M. 1/2 13606 E. Bates Avenue, #411 Aurora, CO 80114	A	8,000	11,873	4,174
21	Schumm, Stanley A. and Ethel R. 1308 Rollingwood Fort Collins, CO 80521	A	29,680	27,369	11,981

22	Viehmann, Martin & Associates 2402 E. Arizona Biltmore Cir. Phoenix, AZ 85016	A	26,480	-0-	7,680	
23	Murdock, Daniel John 6781 S. Parker Road Aurora, CO 80016	A	26,480	35,226	12,959	
24	Viehmann, Martin & Associates 2402 E. Arizona Biltmore Cir. Phoenix, AZ 85016	A	20,160	-0-	5,847	
25	Lillmars, Paul A. and Mary G. 6915 S. Parker Road Aurora, CO	A	20,000	19,116	8,215	
26	Viehmann, Martin & Associates 2402 E. Arizona Biltmore Cir. Phoenix, AZ 85016	A	72,000	54,440	26,553	
27	Union Pacific Land Resources Corp. P. O. Box 2500 Broomfield, CO 80020	A	1,070	-0-	311	M/R
28	Walters-Banbury No. 1 7951 E. Maplewood Avenue, #300 Englewood, CO 80111	A	50,880	-0-	14,756	
		B	22,920	-0-	6,647	
		C	73,440	-0-	21,298	
		D	13,050	-0-	3,785	
		E	30,150	-0-	8,744	
29	Department of Highways 4201 E. Arkansas Avenue Denver, CO 80222	A	300	-0-	87	
30	Dransfeldt, Gunhild R. P. O. Box 16 Parker, CO 80134	A	195	-0-	57	
		B	8,352	-0-	2,423	
		C	60	-0-	18	
		D	3,456	-0-	1,003	
		E	135	-0-	40	
		F	105	-0-	31	
		G	24,768	107,593	30,444	
		H	6,336	-0-	1,838	
		I	480	-0-	140	
		J	8,640	-0-	2,506	
31	Tagawa Rose Farms, Inc. 7711 S. Parker Road Aurora, CO 80016	A	100,000	753,290	247,455	

32	Viehmann Martin & Associates 2402 E. Arizona Biltmore Cir. Phoenix, AZ 85016	A	430	-0-	125
33	Parker Road Associates 425 North New Ballas Road Suite 270 Creve Coeur, Missouri 63141	A	430	-0-	125
	TOTAL ASSESSED VALUE (A.V.)				1,477,925.00

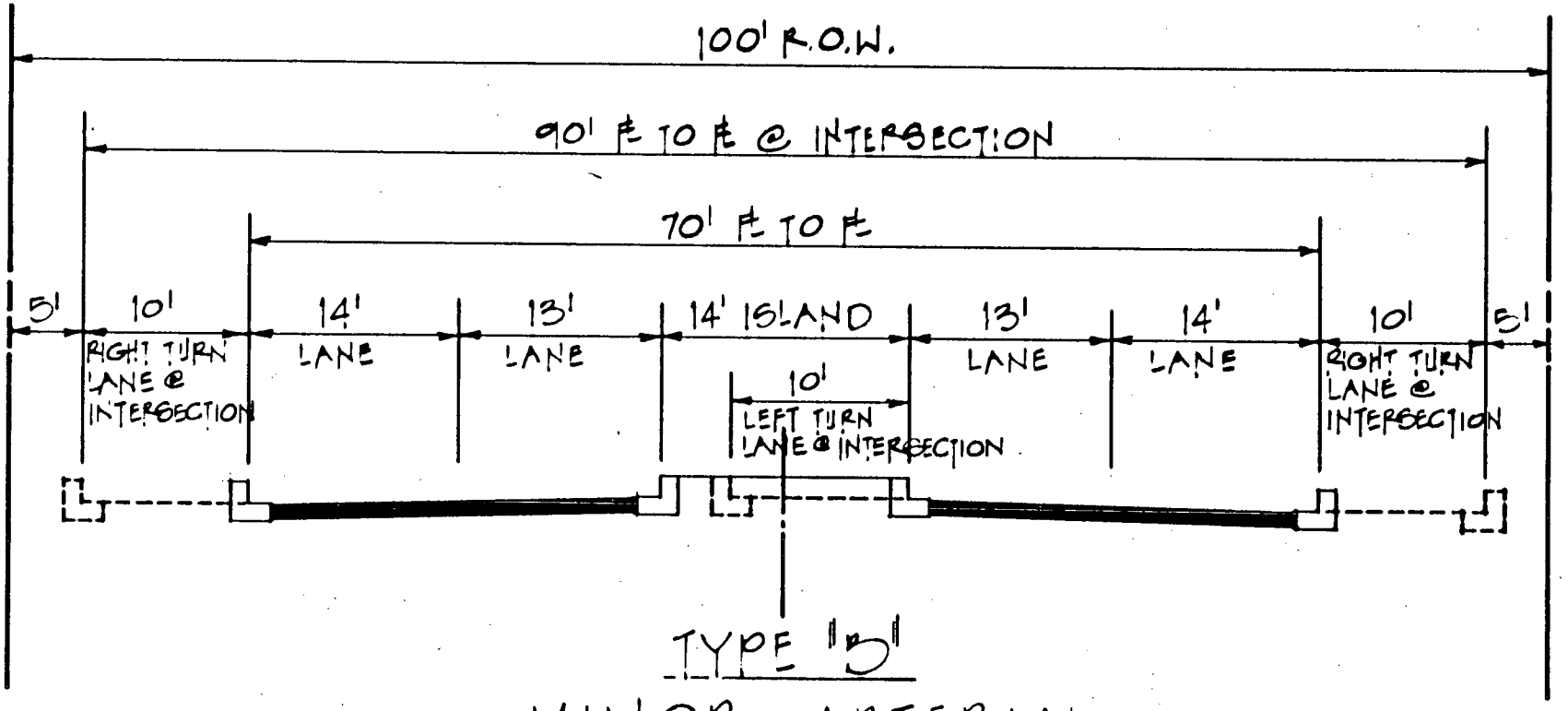


TYPE "A"
PRINCIPAL ARTERIAL

STD. DWG.	DATE
1 OF 4	10-10-83

PARKER-JORDAN METROPOLITAN DISTRICT
APPENDIX "B"

KIRKHAM, MICHAEL AND ASSOCIATES
ARCHITECTS ENGINEERS PLANNERS



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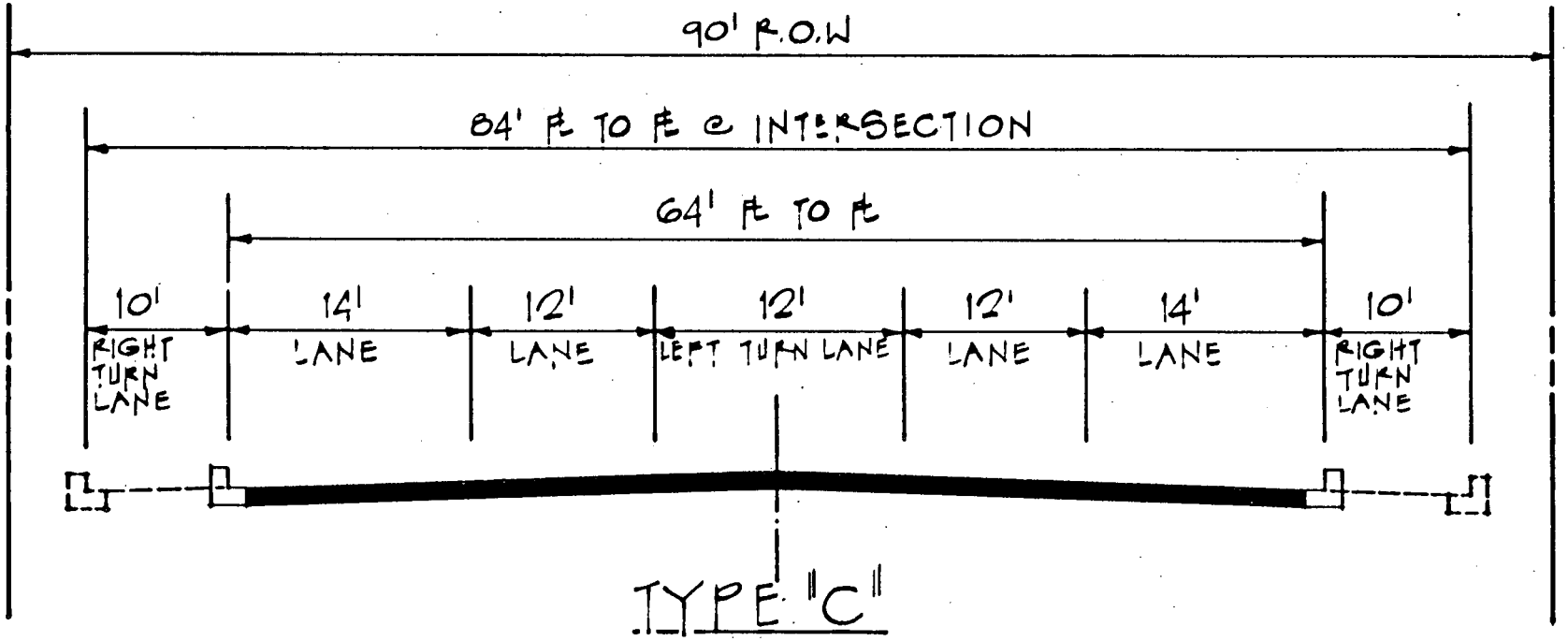
MINOR ARTERIAL



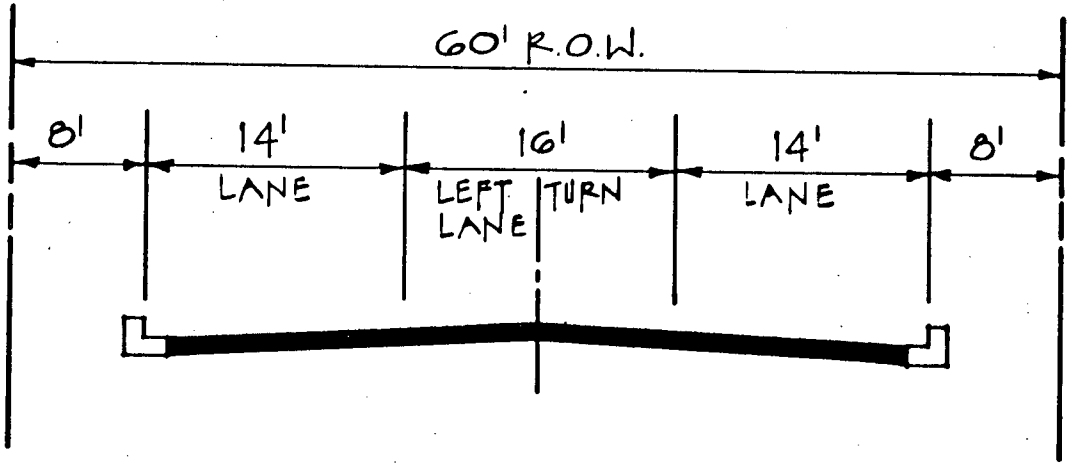
TYPE "C"

MAJOR COLLECTOR STREET

STD. DWG.	DATE
3 OF 4	10-10-83

PARKER-JORDAN METROPOLITAN DISTRICT
APPENDIX "B"

KIRKHAM, MICHAEL AND ASSOCIATES
ARCHITECTS ENGINEERS PLANNERS



TYPE "D"

COLLECTOR STREET

STD. DWG.	DATE
4 OF 4	10-10-83

PARKER-JORDAN METROPOLITAN DISTRICT
APPENDIX "B"

KIRKHAM, MICHAEL AND ASSOCIATES
ARCHITECTS ENGINEERS PLANNERS

PRELIMINARY COST ESTIMATE
PARKER JORDAN METROPOLITAN DISTRICT

1. South Jordan Road

Earthwork	$ 220,000
Storm Sewer	384,300
Curb, Gutter, Sidewalk	420,000
Asphalt, Striping	1,046,000
Landscaping	78,000
Signs, Street Lights, Traffic Signals	436,000
SUB TOTAL	$ 2,584,300
Construction Contingency	387,645
SUB TOTAL	$ 2,971,945
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	$ 416,072
TOTAL	**$ 3,388,017**

2. Dry Creek Road from South Jordan Road to South Parker Road

Earthwork	$ 194,000
Storm Sewer	184,500
Curb, Gutter, Sidewalk	172,200
Asphalt, Striping	492,000
Landscaping	150,000
Signs, Street Lights	159,900
Bridge at Cherry Creek	1,200,000
SUB TOTAL	$ 2,552,600
Construction Contingency	382,890
SUB TOTAL	$ 2,935,490
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	440,323
TOTAL	**$ 3,375,813**

3. South Helena Street/East Costilla Avenue

Earthwork	$ 84,000
Storm Sewer	105,000
Curb, Gutter, Sidewalk	94,500
Asphalt, Striping	281,400
SUB TOTAL	$ 564,900
Construction Contingency	84,735
SUB TOTAL	$ 649,635
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	97,444
TOTAL	**$ 747,080**

4. South Granby Circle/South Fairplay Way

Earthwork	$ 644,000
Storm Sewer	80,000
Curb, Gutter, Sidewalk	162,000
Asphalt, Striping	282,400
SUB TOTAL	$ 1,168,400
Construction Contingency	175,260
SUB TOTAL	$ 1,343,660
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	201,549
TOTAL	**$ 1,545,209**

5. South Ouray Street from South Parker Road to Dry Creek Road

Earthwork	$ 54,000
Storm Sewer	67,500
Curb, Gutter, Sidewalk	60,750
Asphalt, Striping	180,900
SUB TOTAL	$ 363,150
Construction Contingency	54,472
SUB TOTAL	$ 417,622
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	62,643
TOTAL	**$ 480,265**

6. South Ouray Circle from Dry Creek Road to Dry Creek Road

Earthwork	$ 39,000
Storm Sewer	48,750
Curb, Gutter, Sidewalk	43,875
Asphalt, Striping	136,500
SUB TOTAL	$ 268,125
Construction Contingency	40,218
SUB TOTAL	$ 308,134
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	46,251
TOTAL	**$ 354,595**

7. South Nucla Way from South Ouray Cricle to East Costilla Avenue

Earthwork	$ 89,000
Storm Sewer	111,250
Curb, Gutter, Sidewalk	100,125
Asphalt, Stripping	200,000
SUB TOTAL	500,375
Construction Contingency	75,056
SUB TOTAL	$ 575,431
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	86,315
TOTAL	**$ 661,745**

8. Freemont Avenue from South Parker Road to South Nucla Way

Earthwork	$ 35,625
Storm Sewer	33,750
Curb,Gutter, Sidewalk	31,500
Asphalt, Striping	90,000
Sign, Street Light	29,250
SUB TOTAL	$ 220,125
Construction Contingency	33,018
SUB TOTAL	$ 252,143
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	37,971
TOTAL	**$ 291,115**

9. East Easter Circle from South Nucla Way to South Nucla Way

Earthwork	$ 37,000
Storm Sewer	46,250
Curb, Gutter, Sidewalk	41,625
Asphalt, Striping	123,950
SUB TOTAL	$ 248,825
Construction Contingency	37,323
SUB TOTAL	$ 286,149
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	42,922
TOTAL	**329,071**

10. East Freemont Circle from East Easter Circle to East Easter Circle

Earthwork	$ 42,000
Storm Sewer	52,500
Curb, Gutter, Sidewalk	47,250
Asphalt, Striping	140,700
SUB TOTAL	$ 282,450
Construction Contingency	112,367
SUB TOTAL	324,817
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	118,722
TOTAL	**$ 373,540**

11. South Hinsdale Circle from South Ouray Circle to South Ouray Circle

Earthwork	$ 46,000
Storm Sewer	57,500
Curb, Gutter, Sidewalk	51,750
Asphalt, Striping	154,100
SUB TOTAL	$ 309,350
Construction Contingency	46,350
SUB TOTAL	$ 355,350
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	53,302
TOTAL	**$ 408,652**

12. South Buckly Way/East Nichols Way/East Long Way/ East Nichols Way

Earthwork	$ 100,000
Storm Sewer	125,000
Curb, Gutter, Sidewalk	112,500
Asphalt, Striping	335,000
SUB TOTAL	$ 672,500
Construction Contingency	100,875
SUB TOTAL	$ 773,375
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	116,006
TOTAL	**$ 889,381**

13. South Idalia Way/South Idalia Circle/East Jamison Avenue

Earthwork	$ 100,000
Storm Sewer	125,000
Curb, Gutter, Sidewalk	112,500
Asphalt, Striping	335,000
SUB TOTAL	$ 672,500
Construction Contingency	100,875
SUB TOTAL	$ 773,375
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	116,006
TOTAL	**$ 889,381**

14. East Mineral Way from South Jordan Road to East Nichols Way

Earthwork	$ 48,000
Storm Sewer	60,000
Curb, Gutter, Sidewalk	54,000
Asphalt, Striping	160,800
SUB TOTAL	$ 322,800
Construction Contingency (15%)	48,420
SUB TOTAL	$ 371,220
Professional Fees:	
Design Engineering	
Construction Documents	
Traffic Engineering	55,683
TOTAL	**$ 426,903**

15. East Nichols Circle from South Parker Road to South Parker Road

Earthwork	$ 30,000
Storm Sewer	37,500
Curb, Gutter Sidewalk	33,750
Asphalt, Striping	100,500
SUB TOTAL	201,750
Construction Contingency (15%)	30,262
SUB TOTAL	$ 232,012
Professional Fees: Design Engineering Construction Documents Traffic Engineering	34,801
TOTAL	**$ 266,813**

16. Cherry Creek Channel Improvements

Bank Protection, Channelization and Hydraulic Structures	$18,500,00
Construction Contingency	1,500,000
SUB TOTAL	$ 20,000,000
Professional Fees: Design Engineering Construction Documents Traffic Engineering	3,000,000
TOTAL	**$23,000,000**
GRAND TOTAL (ITEMS 1-16)	$37,427,580

PARKER JORDAN METROPOLITAN DISTRICT
STORM DRAINAGE ANALYSIS

INTRODUCTION

This Storm Drainage Analysis was prepared for Parker Jordan Metropolitan District. The proposed District boundaries are generally bounded by East Arapahoe Road on the North, by South Jordan Road on the West, South Parker Road on the East, and Arapahoe County Line on the South.

The intent of this report is to analyze runoff anticipated from the 100 year storm. The entire District is within the Cherry Creek Basin. Cherry Creek flows from South to North between South Jordan Road and South Parker Road. There are several tributaries flowing into Cherry Creek and Cherry Creek flows into the Cherry Creek Reservoir.

CRITERIA

Peak flows developed by the U.S. Army Corps of Engineers in "Flood Plain Information, Cherry Creek", which utilized data from the U.S.G.S. gaging station on East Arapahoe Road at Cherry Creek, were used at design points C-1 and C-10. The Urban Storm Drainage Criteria Manual, Urban Drainage and Flood Control District, was used as a reference for determining the peak runoff for all other design points. The Colorado Urban Hydrograph Procedure was used to calculate the peak flow at these design points, where:

L = length along stream from study point to up stream limits of the basin in miles.

Lca = distance from study point along stream to the centroid of the basin in miles.

A = area of basin in square miles.

tu = time of unit rainfall duration in minutes.

Ct = a coefficient reflecting time to peak.

Cp = a coefficient related to peak rate of runoff.

I = percent of impervious area within basin.

This report analyzed the runoff from the basin using three existing conditions. The basins are about ten percent developed with the remainder of the basins as agricultural or undeveloped.

DRAINAGE ANALYSIS

The Happy Canyon Creek drainage basin was included in a "Flood Hazard Area Delineation Happy Canyon Creek, Badger Creek, Newlin Gulch, Baldwin Gulch, Sulpher Gulch and Tallman Gulch", by Howard, Needles, Tammen & Bergendoff, dated November 1977. The criteria used in the Flood Hazard Area Delineation was used in the calculations for anticipated peak runoff at the design points as shown on the Drainage Map. Happy Canyon Creek is a tributary to Cherry Creek, which flows into the Cherry Creek Reservoir.

There are several other tributaries to Cherry Creek through the proposed District. There are no known flood hazards studies for those tributaries.

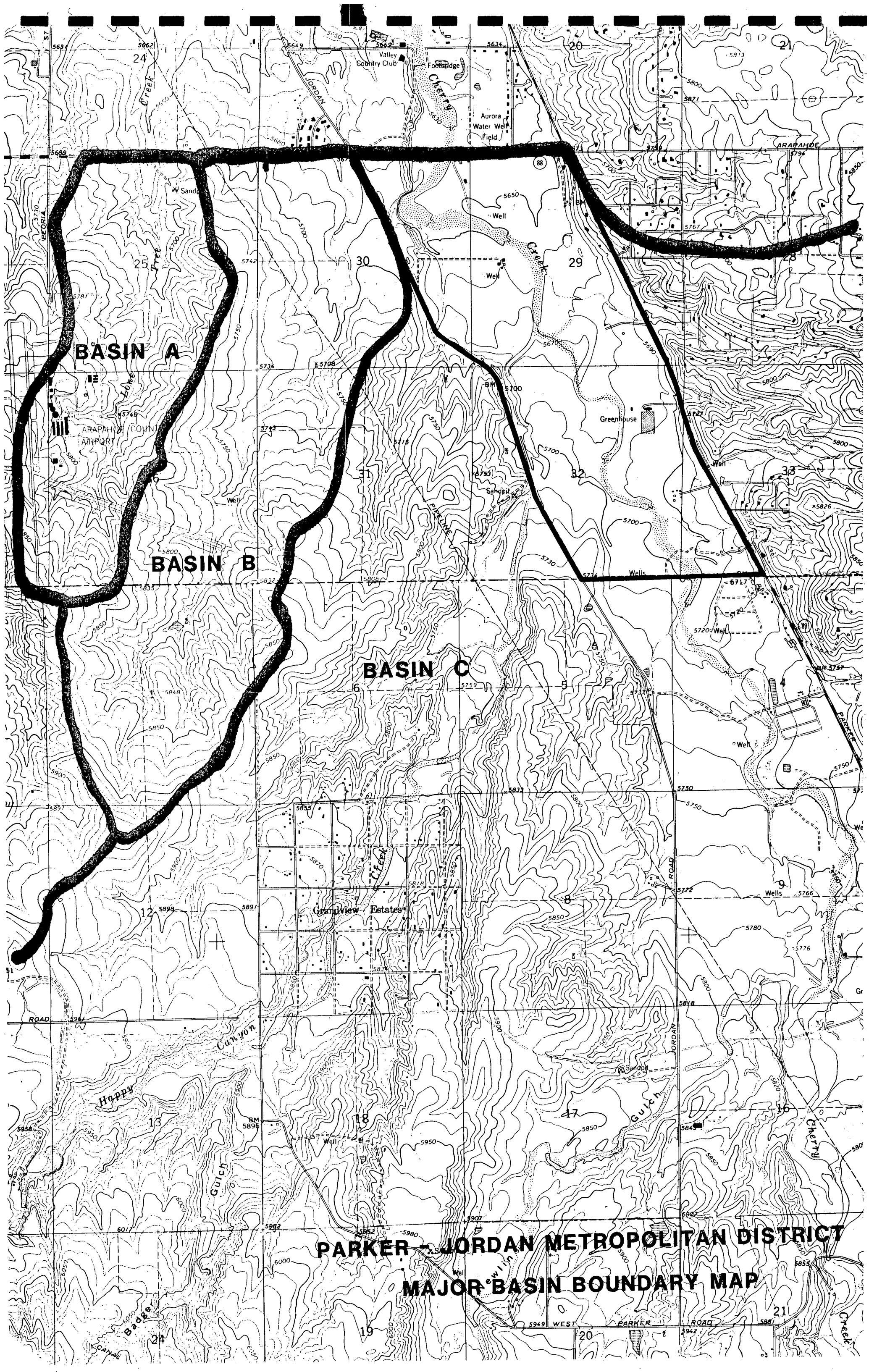
CONCLUSION

The following is a preliminary recommendation for culverts at the design points which will be necessary to construct the proposed roadway system.

Basin "C"

Design Point C - 1 Q = 51,000 cfs	Approximate midway point through proposed District.
Design Point C - 2 Q = 6,364 cfs	Use four 10'x10' box culverts
Design Point C - 3 Q = 190 cfs	Use 54" RCP
Design Point C - 4 Q = 6,179	Confluence with Cheery Creek no street crossing
Design Point C - 8 Q = 597 cfs	Use 78" RCP
Design Point C - 9 Q = 585 cfs	Use 78" RCP
Design Point C - 10 Q = 51,000 cfs	Existing bridge at East Arapahoe Road assumed to be adequate (as per before - referenced U.S. Army Corps of Engineers study)

The above culvert sizes may be revised when final Drainage Reports are submitted for approval. The development may require more ponding and reduce the culvert size in order to prevent downstream flooding. These recommendations are preliminary and are intended to be used as a preliminary guideline for final design.


BASIN A
BASIN B
BASIN C
PARKER - JORDAN METROPOLITAN DISTRICT
MAJOR BASIN BOUNDARY MAP
Valley Country Club
Footbridge
Aurora Water Well Field
ARAPAHOE
Sandpit
Well
BM
Greenhouse
ARAPAHOE COUNTY AIRPORT
PIPELINE
Wells
Grandview Estates
PARKER ROAD
WEST PARKER ROAD
JORDAN
Cherry Creek
Happy Canyon
Badger Gulch
Gulch
Creek
Canal

T(MIN)	EXC PRECIP(IN)	Q(CFS)
0	0.00	0
10	0.01	0
20	0.04	0
30	0.15	2
40	0.95	12
50	0.24	61
60	0.09	147
70	0.06	270
80	0.05	405
90	0.04	524
100	0.03	585
110	0.02	539
120	0.02	457
130	0.02	383
140	0.02	309
150	0.02	244
160	0.01	217
170	0.01	197
180	0.01	180
190	0.00	164
200	0.00	150
210	0.00	136
220	0.00	121
230	0.00	105
240	0.00	88
250	0.00	71
260	0.00	55
270	0.00	40
280	0.00	27
290	0.00	17
300	0.00	13

100 YR STORM
IMP PCT= 20 %
PER PCT= 80 %
IR (1)= 0.50 IN-HR
IR (2)= 0.50 IN-HR
PER DET= 0.40 IN
IMP DET= 0.10 IN
IMP LOSS= 0.16 IN
PRINTOUT STOPS WHEN STORM
HYDROGRAPH DROPS BELOW 10 CFS

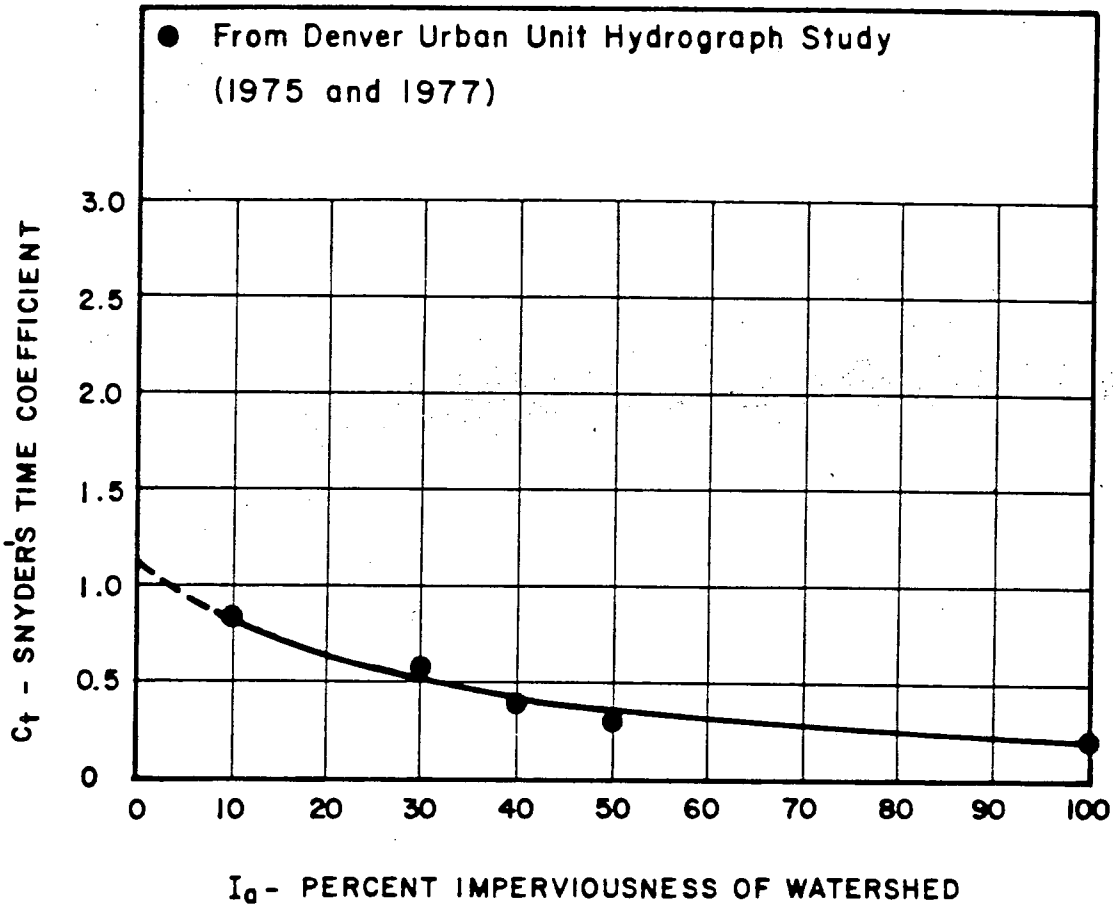


Figure 4-2. RELATIONSHIP BETWEEN C_t AND IMPERVIOUSNESS

1-15-69
Revised 7-15-77 follows Figure 4-1

FIGURE I

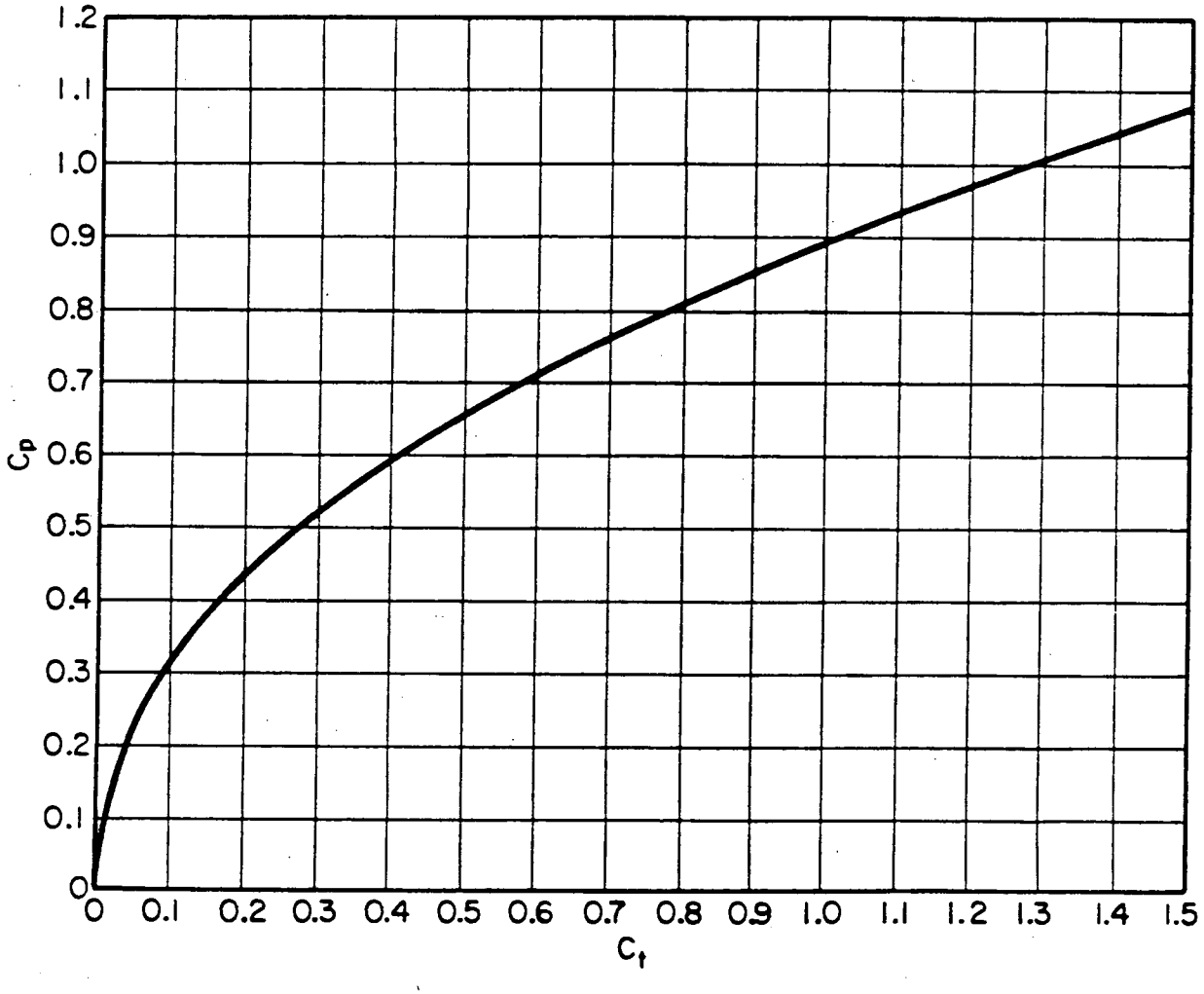


Figure 4-3 RELATIONSHIP BETWEEN C_p AND C_t

1-15-69
Revised 5-15-75 follows Figure 4-2

FIGURE II

ARAPAHOE COUNTY - T 5 S R 67 W

RETURN PERIOD = 2.0 YEARS

DURATION (MIN.)	TOTAL DEPTH (INCHES)	INCREMENTAL DEPTH (INCHES)	DESIGN RAIN (INCHES)	INTENSITY (IN/HR)
10.00	.50	.50	.05	3.02
20.00	.70	.20	.06	2.11
30.00	.86	.15	.20	1.71
40.00	.92	.06	.50	1.38
50.00	.97	.05	.15	1.17
60.00	1.02	.05	.05	1.02
70.00	1.06	.04	.04	.91
80.00	1.10	.04	.04	.82
90.00	1.13	.03	.03	.75
100.00	1.16	.03	.03	.70
110.00	1.19	.03	.03	.65
120.00	1.21	.03	.03	.61
130.00	1.24	.02	.02	.57
140.00	1.26	.02	.02	.54
150.00	1.28	.02	.02	.51
160.00	1.31	.02	.02	.49
170.00	1.33	.02	.02	.47
180.00	1.34	.02	.02	.45
COLUMN SUMS		1.34	1.34	

RETURN PERIOD = 100.0 YEARS

DURATION (MIN.)	TOTAL DEPTH (INCHES)	INCREMENTAL DEPTH (INCHES)	DESIGN RAIN (INCHES)	INTENSITY (IN/HR)
10.00	1.33	1.33	.13	7.97
20.00	1.86	.53	.19	5.58
30.00	2.26	.40	.53	4.52
40.00	2.45	.19	1.33	3.67
50.00	2.61	.16	.40	3.13
60.00	2.74	.13	.16	2.74
70.00	2.86	.12	.12	2.45
80.00	2.97	.11	.11	2.23
90.00	3.07	.10	.10	2.04
100.00	3.16	.09	.09	1.89
110.00	3.24	.08	.08	1.77
120.00	3.32	.08	.08	1.66
130.00	3.39	.07	.07	1.57
140.00	3.46	.07	.07	1.48
150.00	3.53	.07	.07	1.41
160.00	3.59	.06	.06	1.35
170.00	3.66	.06	.06	1.29
180.00	3.71	.06	.06	1.24
		3.71	3.71	

Basin A+B

Figure III

Basin "C"

ARAPAHOE COUNTY - T 5 S R 66 W

RETURN PERIOD = 2.0 YEARS

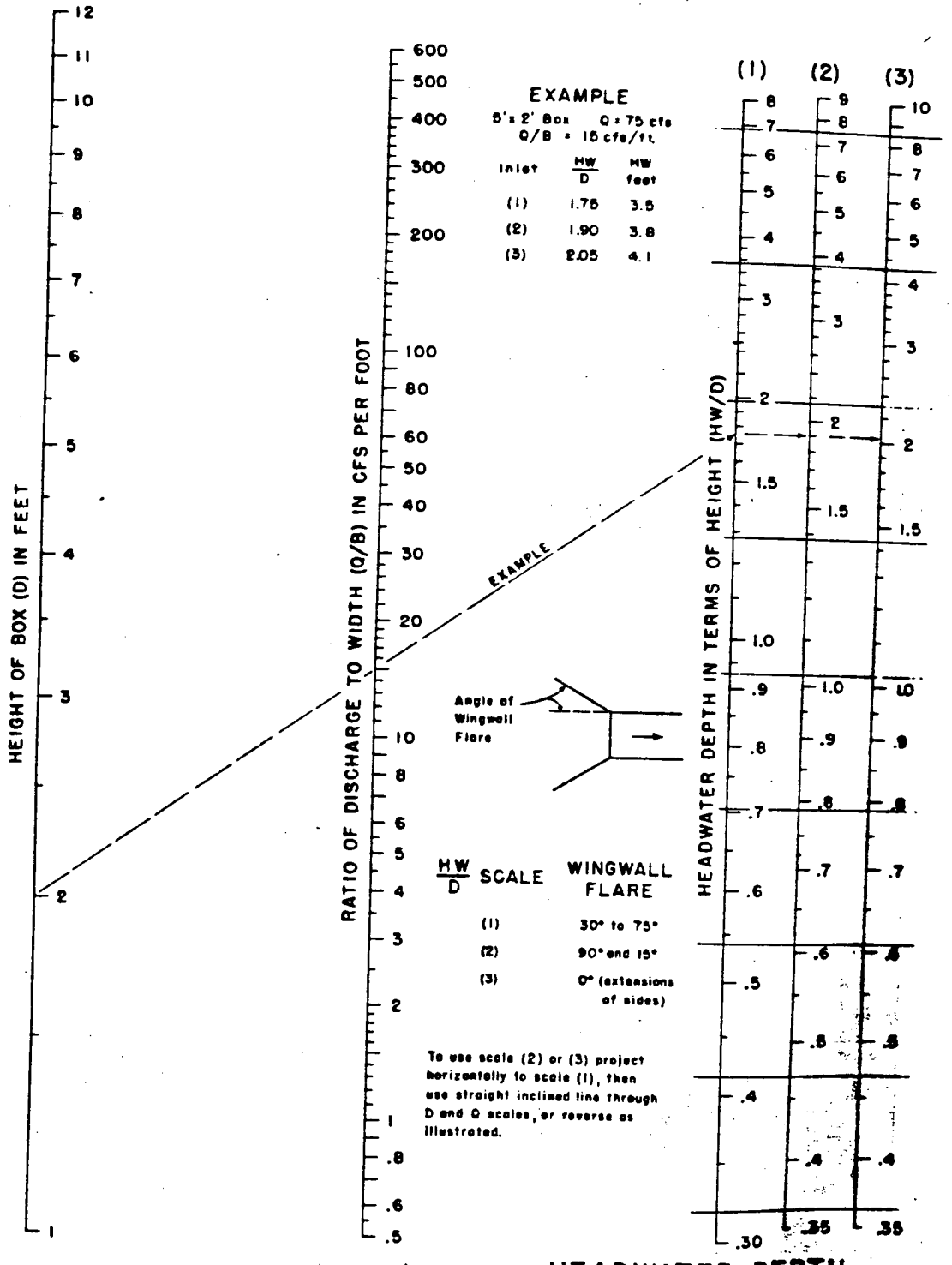
DURATION (MIN.)	TOTAL DEPTH (INCHES)	INCREMENTAL DEPTH (INCHES)	DESIGN RAIN (INCHES)	INTENSITY (IN/HR)
10.00	.44	.44	.35	2.64
20.00	.61	.18	.06	1.94
30.00	.75	.13	.10	1.50
40.00	.81	.06	.04	1.22
50.00	.85	.05	.07	1.04
60.00	.91	.05	.05	.91
70.00	.95	.04	.04	.81
80.00	.99	.04	.04	.74
90.00	1.02	.03	.03	.68
100.00	1.05	.03	.03	.62
110.00	1.08	.03	.02	.58
120.00	1.11	.03	.03	.55
130.00	1.14	.03	.03	.52
140.00	1.16	.03	.03	.50
150.00	1.18	.03	.03	.47
160.00	1.20	.03	.03	.45
170.00	1.22	.02	.02	.43
180.00	1.24	.02	.02	.41
TOTAL RAIN		1.24	1.02	

RETURN PERIOD = 100.0 YEARS

DURATION (MIN.)	TOTAL DEPTH (INCHES)	INCREMENTAL DEPTH (INCHES)	DESIGN RAIN (INCHES)	INTENSITY (IN/HR)
10.00	1.03	1.03	.14	6.20
20.00	1.45	.41	.13	4.34
30.00	1.76	.31	.41	3.52
40.00	1.96	.19	1.13	2.92
50.00	2.11	.16	.71	2.53
60.00	2.25	.14	.16	2.25
70.00	2.38	.13	.13	2.04
80.00	2.49	.12	.12	1.87
90.00	2.60	.11	.11	1.73
100.00	2.70	.11	.13	1.62
110.00	2.79	.09	.09	1.52
120.00	2.88	.09	.09	1.44
130.00	2.96	.08	.08	1.37
140.00	3.04	.08	.08	1.30
150.00	3.11	.08	.08	1.25
160.00	3.19	.07	.07	1.20
170.00	3.26	.07	.07	1.15
180.00	3.32	.07	.07	1.11
TOTAL RAIN		3.32	3.32	

Basin C
Figure III

CHART 1

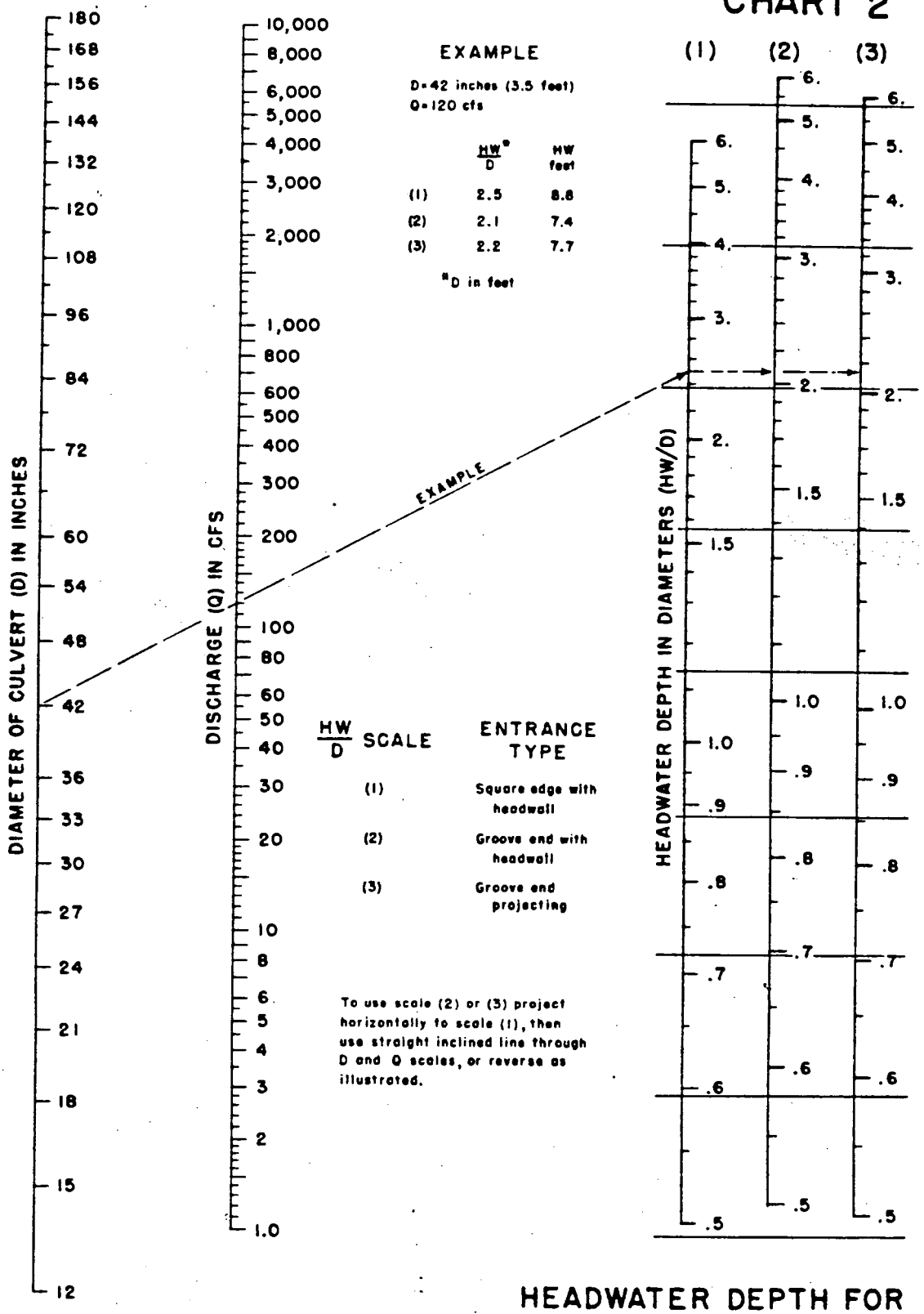


HEADWATER DEPTH FOR BOX CULVERTS WITH INLET CONTROL

BUREAU OF PUBLIC ROADS JAN. 1963

Figure V

CHART 2



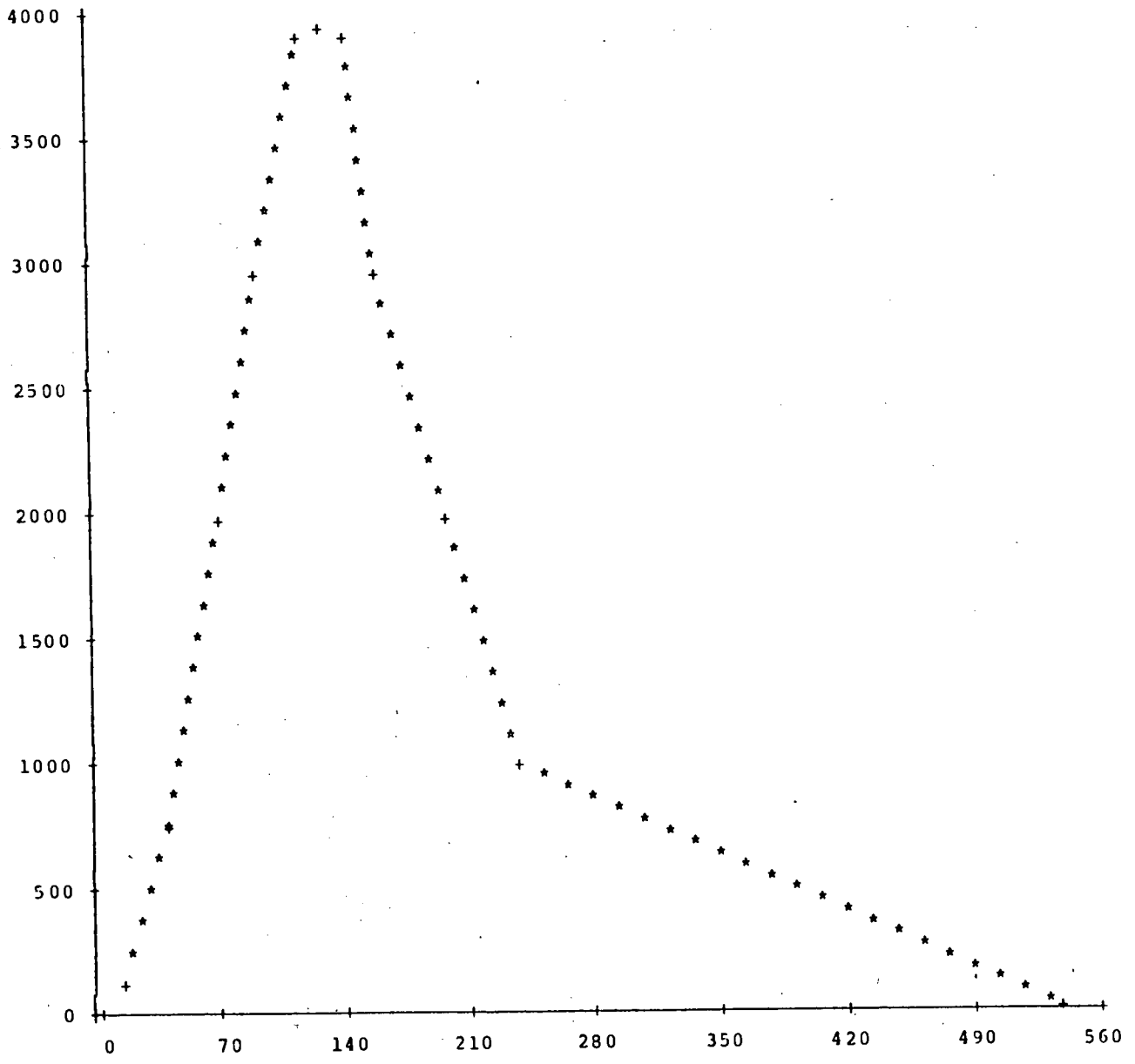
HEADWATER DEPTH FOR CONCRETE PIPE CULVERTS WITH INLET CONTROL

HEADWATER SCALES 2&3
REVISED MAY 1964

BUREAU OF PUBLIC ROADS JAN. 1963

Figure III

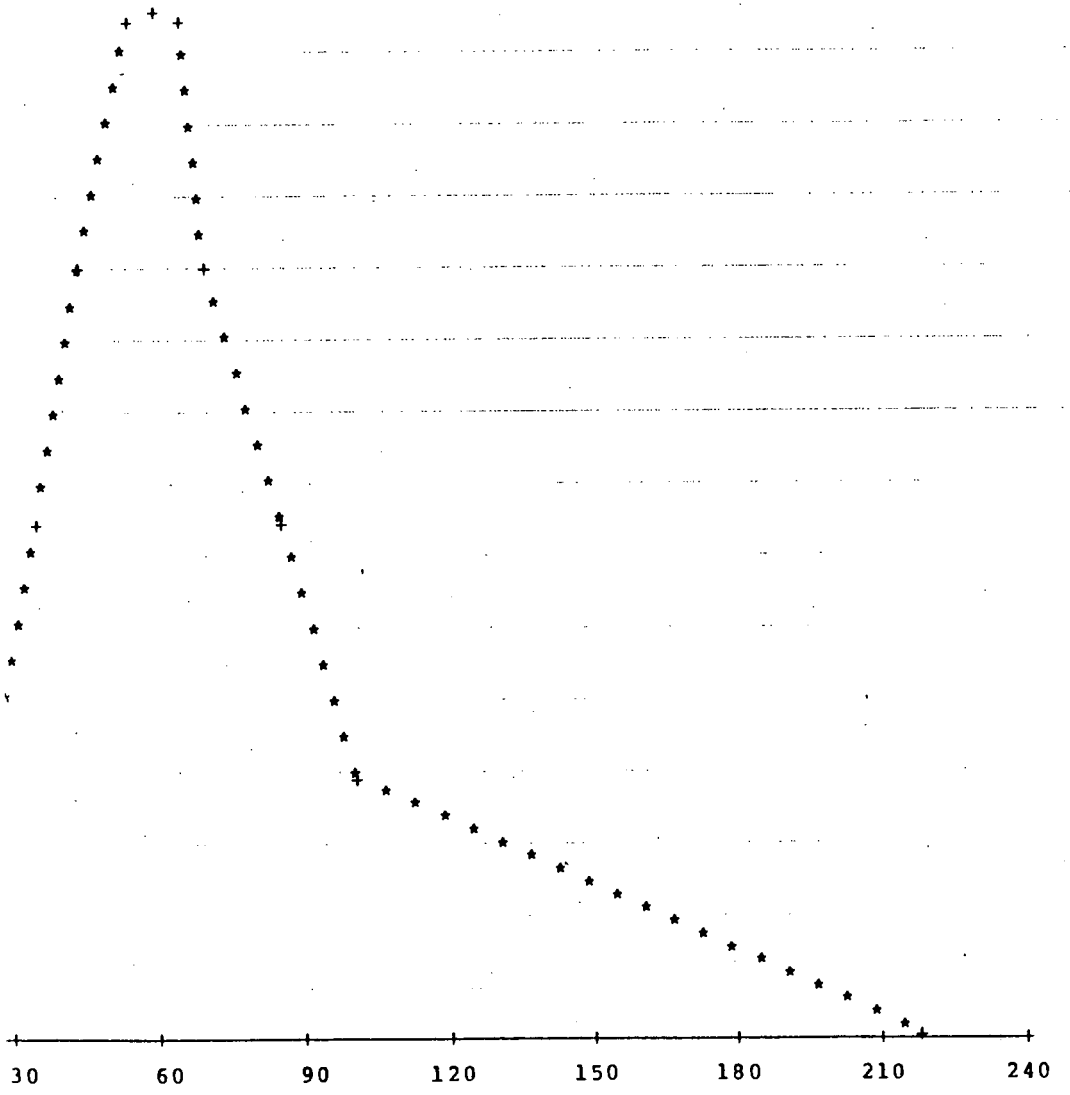
UNITGRAPH DESIGN PT C-2



TP	=	125.45	MIN
QP	=	3930.48	CFS
VOL	=	888.53	A-F
CT	=	0.65	
CP	=	0.74	
L	=	9.05	MI
L(CA)	=	4.74	MI
A	=	16.66	SM

UNITGRAPH DESIGN PT C-6

TP	=	52.78	MIN
QP	=	428.18	CFS
VOL	=	38.40	A-F
CT	=	0.65	
CP	=	0.74	
L	=	1.64	MI
L(CA)	=	1.20	MI
A	=	0.72	SM



0	0.00	0
10	0.01	0
20	0.04	1
30	0.15	4
40	0.95	20
50	0.24	76
60	0.09	154
70	0.06	201
80	0.05	157
90	0.04	107
100	0.03	80
110	0.02	68
120	0.02	58
130	0.02	47
140	0.02	37
150	0.02	27
160	0.01	18
170	0.01	13
180	0.01	11
190	0.00	10

100 YR STORM

IMP PCT=	20 %
PER PCT=	80 %
IR (1)=	0.50 IN-HR
IR (2)=	0.50 IN-HR
PER DET=	0.40 IN
IMP DET=	0.10 IN
IMP LOSS=	0.16 IN

PRINTOUT STOPS WHEN STORM HYDROGRAPH DROPS BELOW 10 CFS

T (MIN)	PRECIP (IN)
0.00	0.00
10.00	0.14
20.00	0.19
30.00	0.41
40.00	1.03
50.00	0.31
60.00	0.16
70.00	0.13
80.00	0.12
90.00	0.11
100.00	0.10
110.00	0.09
120.00	0.09
130.00	0.08
140.00	0.08
150.00	0.08
160.00	0.07
170.00	0.07
180.00	0.07

UNITGRAPH VALUES

T	Q
0.00	0.00
10.00	6.41
20.00	53.08
30.00	119.10
40.00	157.68
50.00	99.04
60.00	54.55
70.00	35.70
80.00	30.06
90.00	24.42
100.00	18.78
110.00	13.14
120.00	7.50
130.00	1.86

T (MIN)	100 YR PRECIP (IN)
0.00	0.00
10.00	0.14
20.00	0.19
30.00	0.41
40.00	1.03
50.00	0.31
60.00	0.16
70.00	0.13
80.00	0.12
90.00	0.11
100.00	0.10
110.00	0.09
120.00	0.08
130.00	0.08
140.00	0.08
150.00	0.08
160.00	0.07
170.00	0.07
180.00	0.07

T(MIN)	EXC PRECIP(IN)	Q(CFS)
0	0.00	0
10	0.01	0
20	0.04	1
30	0.15	6
40	0.95	33
50	0.24	158
60	0.09	414
70	0.06	748
80	0.05	1147
90	0.04	1698
100	0.03	2296
110	0.02	2927
120	0.02	3603
130	0.02	4287
140	0.02	4910
150	0.02	5497
160	0.01	5953
170	0.01	6152
180	0.01	6179
190	0.00	5815
200	0.00	5246
210	0.00	4884
220	0.00	4546
230	0.00	4198
240	0.00	3836
250	0.00	3467
260	0.00	3092
270	0.00	2717
280	0.00	2358
290	0.00	2139
300	0.00	1997
310	0.00	1875
320	0.00	1764
330	0.00	1661
340	0.00	1569
350	0.00	1489
360	0.00	1413
370	0.00	1341
380	0.00	1272
390	0.00	1206
400	0.00	1142
410	0.00	1082
420	0.00	1024
430	0.00	969
440	0.00	915
450	0.00	860
460	0.00	806
470	0.00	752
480	0.00	697
490	0.00	643
500	0.00	587
510	0.00	525
520	0.00	442
530	0.00	204
540	0.00	136
550	0.00	106
560	0.00	84
570	0.00	66
580	0.00	51
590	0.00	40
600	0.00	32

100 YR STORM

IMP PCT=	20 %
PER PCT=	.80 %
IR (1)=	0.50 IN-HR
IR (2)=	0.50 IN-HR
PER DET=	0.40 IN
IMP DET=	0.10 IN
IMP LOSS=	0.16 IN

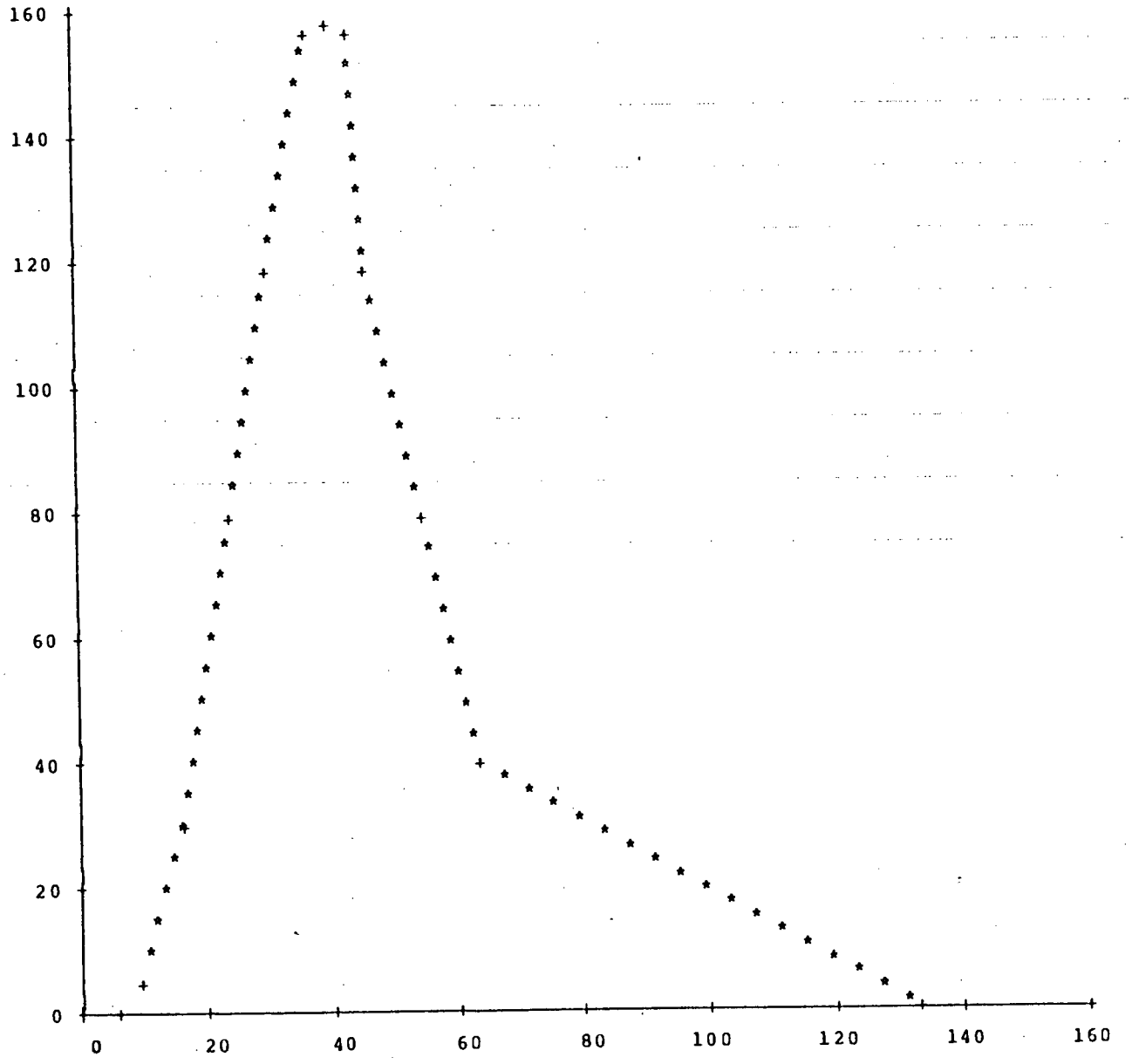
PRINTOUT STOPS WHEN STORM HYDROGRAPH DROPS BELOW 10 CFS

610	0.00	26
620	0.00	20
630	0.00	15
640	0.00	10

UNITGRAPH

DESIGN PT C-7

TP	=	33.83 MIN
QP	=	157.68 CFS
VOL	=	8.53 A-F
CT	=	0.65
CP	=	0.74
L	=	0.87 MI
L(CA)	=	0.42 MI
A	=	0.16 SM



UNITGRAPH VALUES

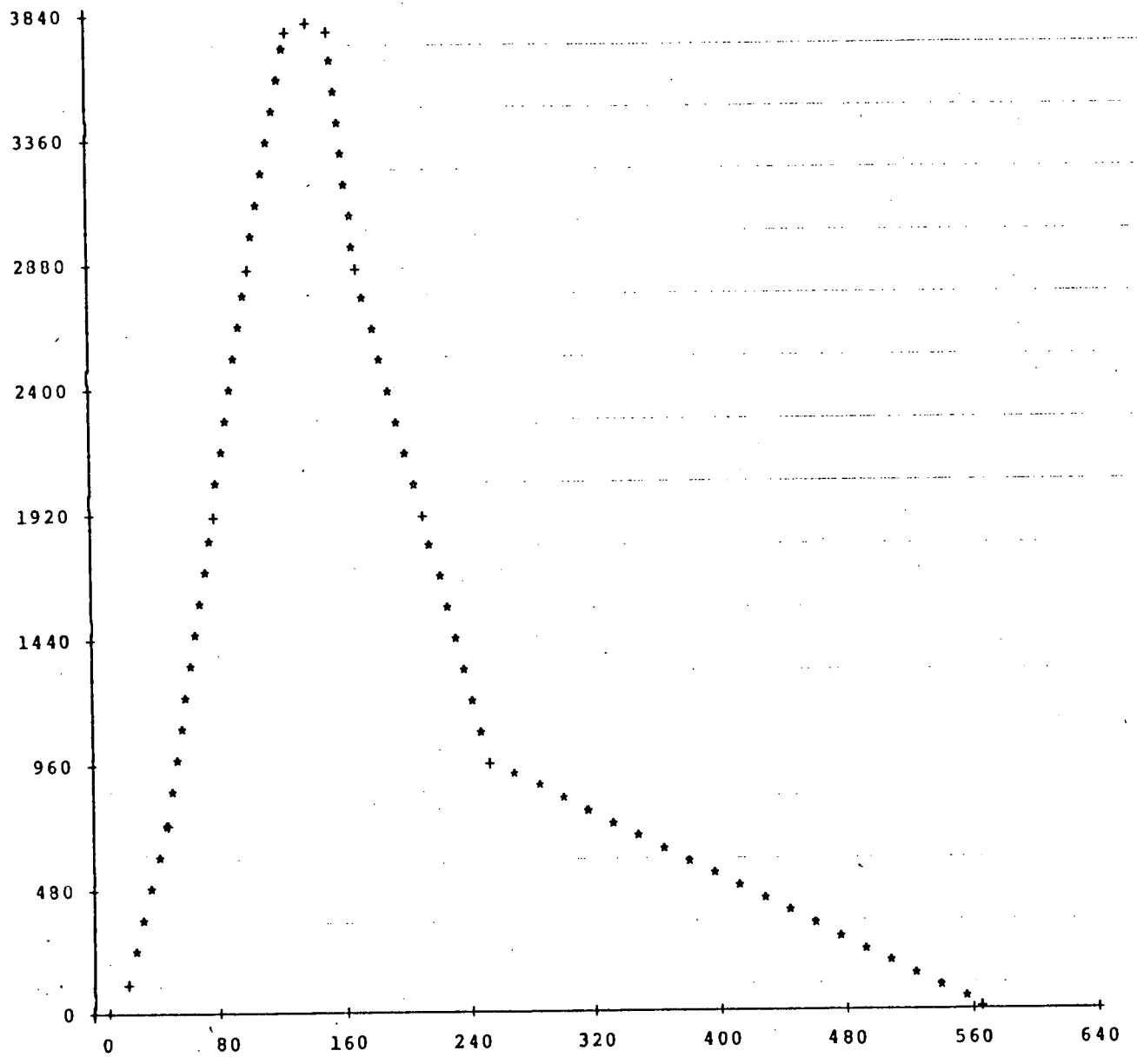
T	Q
0.00	0.00
10.00	18.77
20.00	93.73
30.00	152.36
40.00	74.04
50.00	34.76
60.00	26.98
70.00	19.21
80.00	11.43
90.00	3.66

T (MIN)	100 YR PRECIP (IN)
0.00	0.00
10.00	0.14
20.00	0.19
30.00	0.41
40.00	1.03
50.00	0.31
60.00	0.16
70.00	0.13
80.00	0.12
90.00	0.11
100.00	0.10
110.00	0.09
120.00	0.09
130.00	0.09
140.00	0.08
150.00	0.08
160.00	0.07
170.00	0.07
180.00	0.07

T(MIN)	EXC PRECIP(IN)	Q(CFS)
0	0.00	0
10	0.01	0
20	0.04	1
30	0.15	7
40	0.95	38
50	0.24	120
60	0.09	182
70	0.06	123
80	0.05	77
90	0.04	59
100	0.03	47
110	0.02	34
120	0.02	22
130	0.02	14
140	0.02	12
150	0.02	10

100 YR STORM
IMP PCT= 20 %
PER PCT= 80 %
IR (1)= 0.50 IN-HR
IR (2)= 0.50 IN-HR
PER DET= 0.40 IN
IMP DET= 0.10 IN
IMP LOSS= 0.16 IN
PRINTOUT STOPS WHEN STORM
HYDROGRAPH DROPS BELOW 10 CFS

UNITGRAPH DESIGN PT C-4



TP	=	130.58	MIN
QP	=	3803.63	CFS
VOL	=	896.53	A-F
CT	=	0.65	
CP	=	0.74	
L	=	9.50	MI
L(CA)	=	5.19	MI
A	=	16.81	SM

UNITGRAPH VALUES

T	Q
0.00	0.00
10.00	5.07
20.00	92.44
30.00	289.39
40.00	522.47
50.00	778.04
60.00	1170.56
70.00	1563.08
80.00	1960.50
90.00	2388.84
100.00	2817.18
110.00	3173.34
120.00	3522.96
130.00	3774.51
140.00	3803.63
150.00	3774.51
160.00	3386.47
170.00	2847.45
180.00	2617.99
190.00	2388.52
200.00	2159.05
210.00	1929.59
220.00	1700.12
230.00	1470.65
240.00	1241.19
250.00	1011.72
260.00	928.58
270.00	898.21
280.00	867.83
290.00	837.46
300.00	807.08
310.00	776.71
320.00	746.33
330.00	715.95
340.00	685.58
350.00	655.20
360.00	624.83
370.00	594.45
380.00	564.08
390.00	533.70
400.00	503.32
410.00	472.95
420.00	442.57
430.00	412.20
440.00	381.82
450.00	351.45
460.00	321.07
470.00	290.70
480.00	260.32
490.00	229.94

UNITGRAPH VALUES

T	Q
0.00	0.00
10.00	51.24
20.00	190.85
30.00	441.50
40.00	692.15
50.00	1076.95
60.00	1499.14
70.00	1921.33
80.00	2378.20
90.00	2839.09
100.00	3235.10
110.00	3611.07
120.00	3899.16
130.00	3930.48
140.00	3899.13
150.00	3449.70
160.00	2910.26
170.00	2662.87
180.00	2415.48
190.00	2168.10
200.00	1920.71
210.00	1673.32
220.00	1425.94
230.00	1178.55
240.00	975.81
250.00	943.07
260.00	910.32
270.00	877.58
280.00	844.83
290.00	812.09
300.00	779.34
310.00	746.60
320.00	713.86
330.00	681.11
340.00	648.37
350.00	615.62
360.00	582.88
370.00	550.13
380.00	517.39
390.00	484.65
400.00	451.90
410.00	419.16
420.00	386.41
430.00	353.67
440.00	320.93
450.00	288.18
460.00	255.44
470.00	222.69
480.00	189.95
490.00	157.20

T (MIN)	100 YR PRECIP (IN)
0.00	0.00
10.00	0.14
20.00	0.19
30.00	0.41
40.00	1.03
50.00	0.31
60.00	0.16
70.00	0.13
80.00	0.12
90.00	0.11
100.00	0.10
110.00	0.09
120.00	0.09
130.00	0.08
140.00	0.08
150.00	0.07
160.00	0.07
170.00	0.07
180.00	0.07

T(MIN)	EXC PRECIP(IN)	Q(CFS)
0	0.00	0
10	0.01	0
20	0.04	3
30	0.15	18
40	0.95	99
50	0.24	294
60	0.09	626
70	0.06	1017
80	0.05	1561
90	0.04	2187
100	0.03	2851
110	0.02	3566
120	0.02	4298
130	0.02	4977
140	0.02	5612
150	0.01	6118
160	0.01	6336
170	0.01	6364
180	0.01	5949
190	0.00	5369
200	0.00	4938
210	0.00	4628
220	0.00	4255
230	0.00	3868
240	0.00	3470
250	0.00	3068
260	0.00	2670
270	0.00	2331
280	0.00	2158
290	0.00	2022
300	0.00	1898
310	0.00	1783
320	0.00	1676
330	0.00	1580
340	0.00	1494
350	0.00	1414
360	0.00	1338
370	0.00	1265
380	0.00	1195
390	0.00	1129
400	0.00	1065
410	0.00	1004
420	0.00	945
430	0.00	886
440	0.00	827
450	0.00	768
460	0.00	710
470	0.00	651
480	0.00	592
490	0.00	533
500	0.00	473
510	0.00	410
520	0.00	334
530	0.00	163
540	0.00	112
550	0.00	87
560	0.00	69
570	0.00	54
580	0.00	42
590	0.00	33
600	0.00	26

100 YR STORM

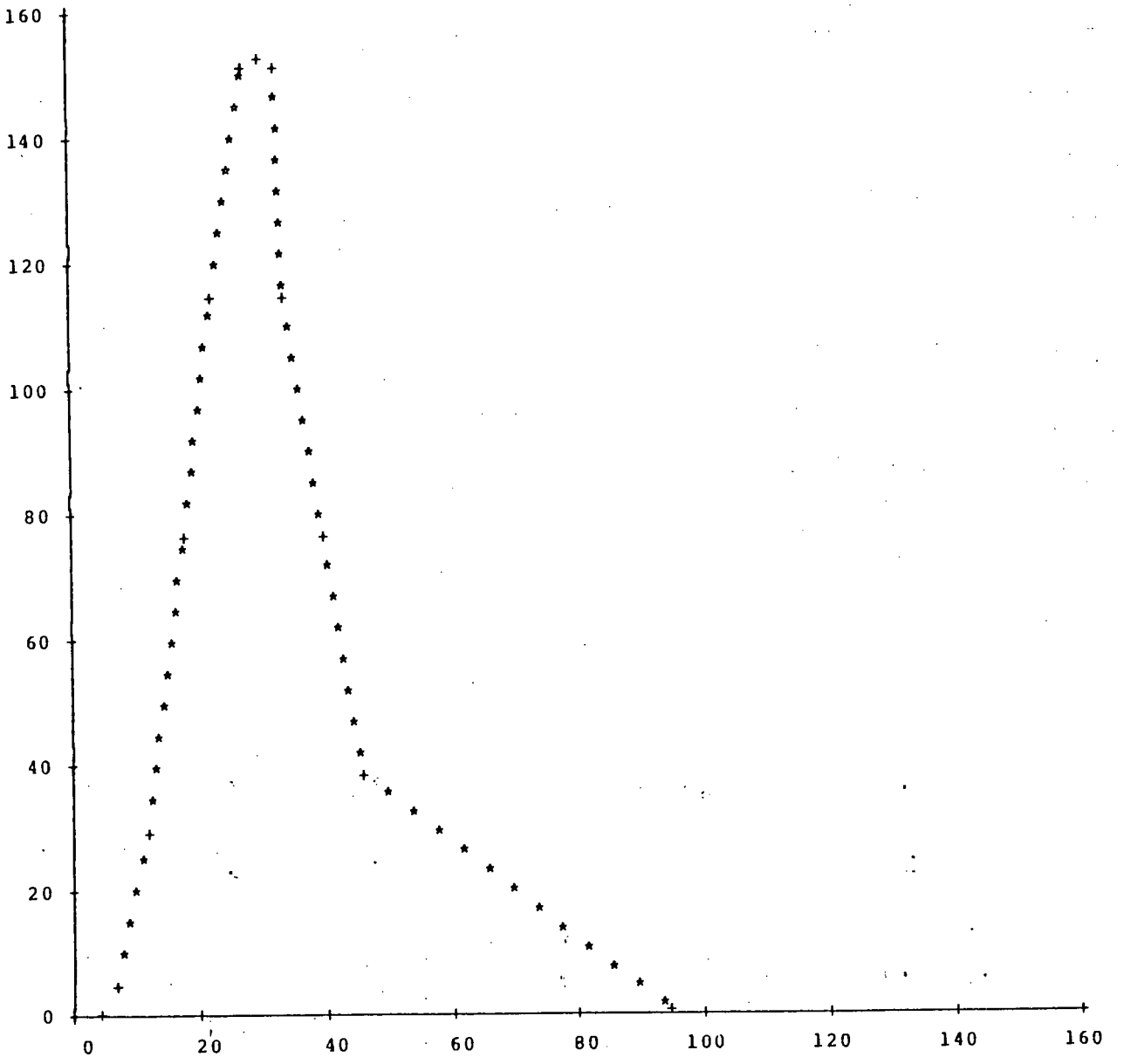
IMP PCT=	20 %
PER PCT=	80 %
IR (1)=	0.50 IN-HR
IR (2)=	0.50 IN-HR
PER DET=	0.40 IN
IMP DET=	0.10 IN
IMP LOSS=	0.16 IN

PRINTOUT STOPS WHEN STORM HYDROGRAPH DROPS BELOW 10 CFS

610	0.00	20
620	0.00	15
630	0.00	11

UNITGRAPH

DESIGN PT C-3



TP	=	25.52	MIN
QP	=	152.36	CFS
VOL	=	5.87	A-F
CT	=	0.65	
CP	=	0.74	
L	=	0.47	MI
L(CA)	=	0.25	MI
A	=	0.11	SM

UNITGRAPH VALUES

T	Q
0.00	0.00
10.00	6.77
20.00	61.55
30.00	157.34
40.00	271.42
50.00	377.92
60.00	428.18
70.00	329.16
80.00	253.70
90.00	183.46
100.00	113.22
110.00	98.73
120.00	89.63
130.00	80.52
140.00	71.41
150.00	62.30
160.00	53.19
170.00	44.08
180.00	34.98
190.00	25.87
200.00	16.76
210.00	7.65

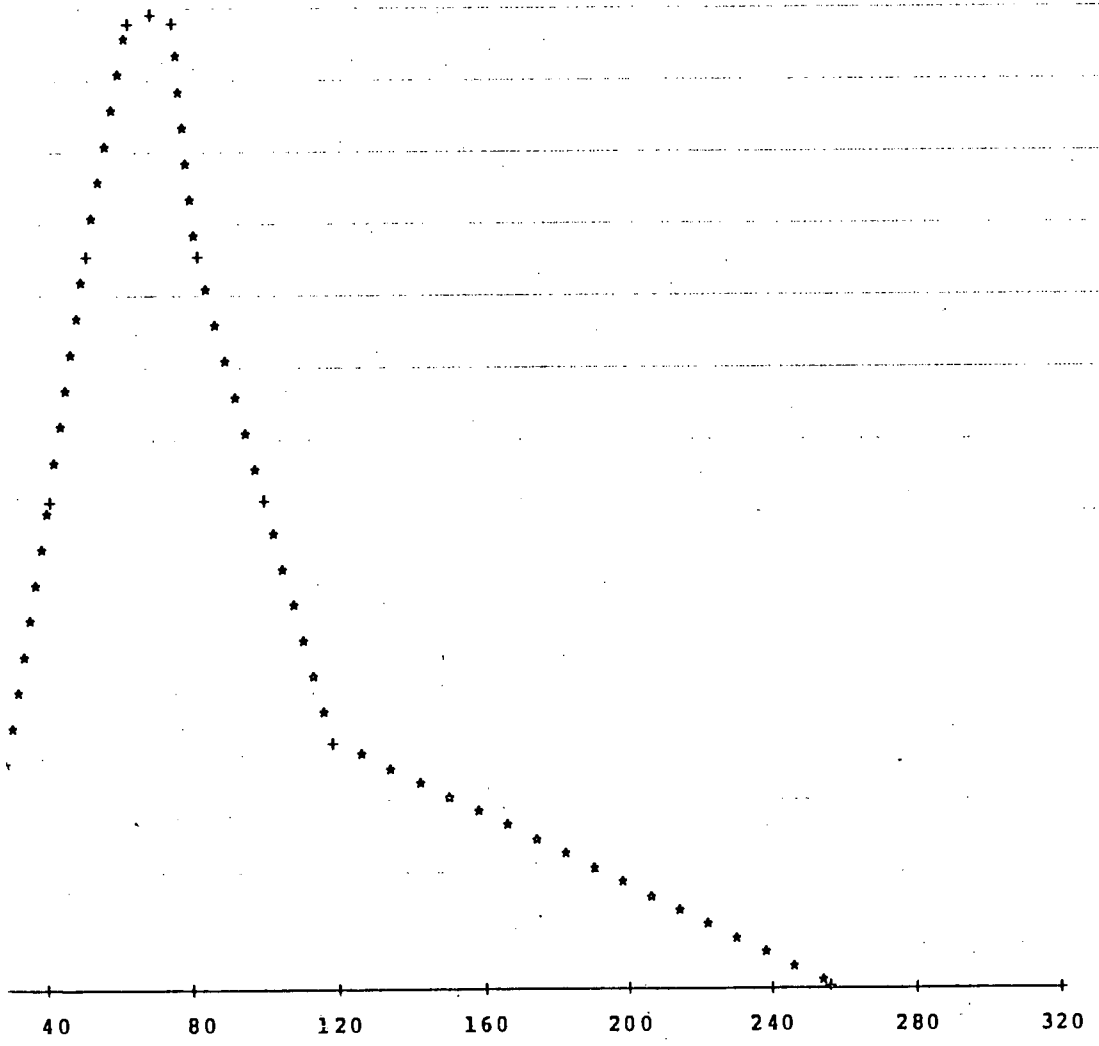
T (MIN)	100 YR PRECIP (IN)
0.00	0.00
10.00	0.14
20.00	0.19
30.00	0.41
40.00	1.03
50.00	0.31
60.00	0.16
70.00	0.13
80.00	0.12
90.00	0.11
100.00	0.10
110.00	0.09
120.00	0.09
130.00	0.08
140.00	0.08
150.00	0.08
160.00	0.07
170.00	0.07
180.00	0.07

T(MIN)	EXC PRECIP(IN)	Q(CFS)
0	0.00	0
10	0.01	0
20	0.04	1
30	0.15	4
40	0.95	24
50	0.24	97
60	0.09	223
70	0.06	377
80	0.05	522
90	0.04	597
100	0.03	525
110	0.02	439
120	0.02	352
130	0.02	266
140	0.02	229
150	0.02	205
160	0.01	184
170	0.01	165
180	0.01	148
190	0.00	131
200	0.00	115
210	0.00	98
220	0.00	80
230	0.00	60
240	0.00	41
250	0.00	25
260	0.00	18
270	0.00	13
280	0.00	10

100 YR STORM
IMP PCT= 20 %
PER PCT= 80 %
IR (1)= 0.50 IN-HR
IR (2)= 0.50 IN-HR
PER DET= 0.40 IN
IMP DET= 0.10 IN
IMP LOSS= 0.16 IN
PRINTOUT STOPS WHEN STORM
HYDROGRAPH DROPS BELOW 10 CFS

UNIT GRAPH DESIGN PT C-9

TP	=	60.87 MIN
QP	=	406.86 CFS
VOL	=	42.67 A-F
CT	=	0.65
CP	=	0.74
L	=	2.21 MI
L(CA)	=	1.50 MI
A	=	0.80 SM



UNITGRAPH VALUES

T	Q
0.00	0.00
10.00	1.74
20.00	37.78
30.00	100.81
40.00	190.91
50.00	288.04
60.00	371.36
70.00	406.86
80.00	342.38
90.00	262.18
100.00	205.58
110.00	148.98
120.00	100.49
130.00	93.11
140.00	85.74
150.00	78.36
160.00	70.98
170.00	63.60
180.00	56.23
190.00	48.85
200.00	41.47
210.00	34.09
220.00	26.71
230.00	19.34
240.00	11.96
250.00	4.58

T (MIN)	100 YR PRECIP (IN)
0.00	0.00
10.00	0.14
20.00	0.19
30.00	0.41
40.00	1.03
50.00	0.31
60.00	0.16
70.00	0.13
80.00	0.12
90.00	0.11
100.00	0.10
110.00	0.09
120.00	0.09
130.00	0.08
140.00	0.08
150.00	0.08
160.00	0.07
170.00	0.07
180.00	0.07