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**MASTER DEVELOPMENT DRAINAGE PLAN
FOR
FAIRFAX STATION**

April, 1995

Prepared For:

FAIRFAX DEVELOPMENT L.L.C.
459 Woodmen Road
Colorado Springs, CO 80919
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Prepared By:

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Job No. 8659.00



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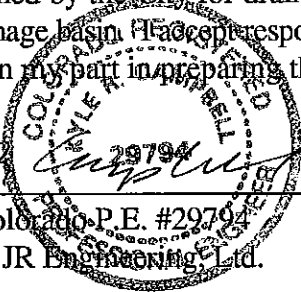
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MASTER DEVELOPMENT DRAINAGE PLAN FOR FAIRFAX STATION

DRAINAGE REPORT STATEMENT

ENGINEER'S STATEMENT:

The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria established by the City for drainage reports and said report is in conformity with the master plan of the drainage basin. I accept responsibility for any liability caused by any negligent acts, errors, or omissions on my part in preparing this report.


Kyle R. Campbell
Kyle R. Campbell, Colorado P.E. #29794
For and On Behalf of JR Engineering, Ltd.

7-28-95
Date

DEVELOPER'S STATEMENT:

I, the developer, have read and will comply with all of the requirements specified in this drainage report and plan.

Business Name: Fairfax Development L.L.C.

By: Worham Ashcroft
Worham Ashcroft

Title: President

Address: 459 Woodmen Road

Colorado Springs, CO 80919

CITY OF COLORADO SPRINGS ONLY:

Filed in accordance with Section 15-3-906 of the Code of the City of Colorado Springs, 1980, as amended.

Bob R. Gill
City Engineer

8/9/95
Date

Conditions:



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MASTER DEVELOPMENT DRAINAGE PLAN FOR FAIRFAX STATION

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MASTER DEVELOPMENT DRAINAGE PLAN FOR FAIRFAX STATION

PURPOSE

This document is the Master Development Drainage Plan for the Fairfax Station Subdivision. The purpose of this report is to identify major drainageways, culvert, storm sewer, and inlet locations, and areas tributary to this site. This report will analyze routing for developed flows and the ability of existing facilities to handle these flows.

GENERAL DESCRIPTION

Fairfax Station is located in Section 1, Township 13 South, Range 66 West of the Sixth Principal Meridian in the City of Colorado Springs, County of El Paso. The site is bounded to the north by Fairfax Park and Prairie Hills Elementary School, to the east by existing Fairfax at Briargate Filing No. 7 and 8, to the south by unplatted land and Cottonwood Creek, and to the west by Fairfax at Briargate Filing No. 1 and proposed Fairfax at Briargate Filing No. 6.

Existing zoning of this property is R-1-6000 with a Design Flexibility Overlay Zone (D.F.O.Z.). Proposed use of this 60.245 acre site is a single-family residential development with public park.

The site was previously owned by Colorado Silica Sand. All mining activity has been stopped, and the only remaining operation is to remove two existing stockpiles of sand from the site prior to development. No utilities currently exist on-site, but connection points were provided at Oyster Bay Drive and Scarborough Drive.

EXISTING DRAINAGE CONDITIONS

The site, after the removal of the existing stockpiles, slopes to the south at existing grades ranging from 2 to 7 percent and consists of sand and native grass vegetation. The average soil condition reflects Hydrologic Group "A" (Blakeland loamy sand) characteristics as determined by the "Soil Survey of El Paso County Area" prepared by S.C.S. (see Appendix). Currently, the site drains as unconcentrated sheet flow in a southerly direction towards undeveloped land to the south and eventually into Cottonwood Creek.

This area was included in the "Cottonwood Creek Drainage Basin Planning Study", prepared by URS Consultants, dated August 1992. Per the DBPS, the unplatted 60± acre site was designed around and assumed to drain south into Cottonwood Creek.

The surrounding developments, Fairfax at Briargate Filing No. 1, 7, and 8 were designed to allow portions of their developed flows to enter the 60 acre site but to restrict any developed flows from the 60 acre site from exiting to the east or west. Therefore, all flows were designed to travel directly to the south to adhere to previous reports.

Off-site drainage to the north (Fairfax at Briargate Filing No. 4) has been previously studied as a part of the Fairfax at Briargate Mini-Master Plan prepared by Obering Wurth and Associates. Unfortunately, this master plan was prepared prior to the adoption of the 1987 City/County Drainage Manual and hence the flows indicated do not reflect current criteria. JR Engineering, Ltd. has updated the flows in these areas per the current criteria in order to examine the impact of the proposed Braddock Drive's easterly connection into Chancellor Drive that will displace an existing 8-foot D-10-R at-grade inlet. This inlet was installed as a part of Fairfax at Briargate Filing No. 1. The existing 18-inch R.C.P. outfall from the 8-foot inlet collects flows from an existing 4-foot inlet at the northwest corner of Chancellor Drive and Braddock Drive and eventually outfalls into the Austin Bluffs Channel.

The subsequent development of Fairfax at Briargate Filing No. 4 included the installation of 12 and 6-foot D-10-R sump inlets with a 21-inch R.C.P. outfall in Herndon Circle to collect approximately 23 acres of residential development (Design Point 1). Upon examination of this system, it was determined that the existing outfall system could not handle even the 5-year storm event due to restrictions in the outfall pipe capacity. Currently, the excess 5 and 100-year flows ($Q_5 = 9$ cfs and $Q_{100} = 44$ cfs) travel southerly from Design Point 1 through an overflow spillway into Telegraph Drive where they head westerly to Chancellor Drive. These flows are joined by Basins OS-6 ($Q_5 = 6$ cfs and $Q_{100} = 10$ cfs), E-5 ($Q_5 = 9$ cfs and $Q_{100} = 18$ cfs), and E-7A ($Q_5 = 5$ cfs and $Q_{100} = 11$ cfs) for a resultant flow at Design Point 4 of $Q_5 = 17$ cfs and $Q_{100} = 36$ cfs. The 5-year flows are well below the street capacity at 4% of $Q_5 = 34$ cfs. The existing 8-foot D-10-R at-grade inlet intercepts $Q_5 = 6$ cfs and $Q_{100} = 7$ cfs which results in $Q_5 = 17$ cfs and $Q_{100} = 27$ cfs continuing to travel southerly down Chancellor Drive below street capacity. Basin OS-7 flows ($Q_5 = 4$ cfs and $Q_{100} = 8$ cfs) travel southerly along the westerly side of existing Chancellor Drive to Design Point 5 where they turn and head westerly down Braddock Drive.

Basins OS-1 ($Q_5 = 2$ cfs and $Q_{100} = 4$ cfs), OS-2 ($Q_5 = 1$ cfs and $Q_{100} = 1$ cfs), and OS-3 ($Q_5 = 3$ cfs and $Q_{100} = 8$ cfs) generate off-site flow from directly north of the site. Basin OS-1 and OS-2 flows travel directly into the Braddock Drive extension. Basin OS-3 flows travel as unconcentrated sheet flow from the Prairie Hills Elementary School playfields southerly across the northerly boundary of Fairfax Station. A portion of the school flows will be intercepted by a proposed chase section that will transfer the flows to Vectra Drive.

The only other off-site flows entering the site that were also accounted for are Basins OS-4 and OS-5 (see Drainage Map Sheet 2 of 3) which are a part of Fairfax at Briargate Filing No.s 7 and 8. Upon completion of the entire site, the proposed drainage will continue to travel in the southerly direction towards Cottonwood Creek.

PROPOSED DRAINAGE CHARACTERISTICS

After construction of this project, drainage on-site will be split into several areas (see Drainage Map). The first phase of this development includes 72 single-family lots. A portion of Fairfax Park (Basin OS-2) releases unconcentrated sheet flow on-site into Basin W. The combined flow of these two basins ($Q_5 = 2$ cfs and $Q_{100} = 4$ cfs) travels southeasterly down the northerly half of Braddock Drive to Design Point 1.

A portion of the elementary school north of the site (Basin OS-3) releases unconcentrated sheet flows on-site into Basin A. The Basin OS-3 flows ($Q_5 = 3$ cfs and $Q_{100} = 8$ cfs) will be partially intercepted by a proposed curb chase section (see Drainage Map, Sheet 2 of 3 for detail). The remainder of the unconcentrated sheet flow will be routed between the homes via a side yard swale. The combined flow of these two basins ($Q_5 = 13$ cfs and $Q_{100} = 27$ cfs) flow in the southerly direction in the northeast half of Vectra Drive towards Oyster Bay Drive where it travels across a proposed crossspan to Design Point 2. Basin B ($Q_5 = 4$ cfs and $Q_{100} = 8$ cfs) develops flows that travel south in the southwest half of Vectra Drive to Design Point 2. These combined flows at Design Point 2 equal $Q_5 = 13$ cfs and $Q_{100} = 27$ cfs. The 5-year street capacity of Oyster Bay Drive at 1% is 17 cfs and the 100-year capacity at 1% is 106 cfs.

Flows from the above mentioned Design Point 1 travel across a proposed crossspan where they are combined with Basin X ($Q_5 = 3$ cfs and $Q_{100} = 6$ cfs). These combined flows travel in a southerly direction on the east half of Braddock Drive until they reach Design Point 3 ($Q_5 = 4$ cfs and $Q_{100} = 8$ cfs). At this point they turn the corner and head east on the north half of Oyster Bay Drive until they reach the proposed crossspan. These flows then combine with Basin E ($Q_5 = 3$ cfs and $Q_{100} = 6$ cfs) and the above mentioned Design Point 2 ($Q_5 = 13$ cfs and $Q_{100} = 27$ cfs). This total flow travels across the crossspan in a southeasterly direction to Design Point 4 ($Q_5 = 17$ cfs and $Q_{100} = 36$ cfs).

The high point in Oyster Bay Drive is designed to keep developed flows from entering Fairfax at Briargate Filing No. 7 (see Drainage Map). However, a portion of this existing subdivisions drainage Basin OS-4 ($Q_5 = 1$ cfs and $Q_{100} = 2$ cfs) combines with Basin C ($Q_5 = 1$ cfs and $Q_{100} = 3$ cfs) to

develop flows east of the high point. These flows are collected in a 2-foot concrete swale located at the rear of the lots as shown in the typical section B-B where they will travel in a southerly direction and eventually enter the north half of Oyster Bay Drive through a curb opening (see Drainage Detail Sheet). Basin D ($Q_5 = 0.3$ cfs and $Q_{100} = 0.5$ cfs) also enters Oyster Bay Drive but on the south half of the tract. These flows will then travel east on Oyster Bay Drive.

Off-site Basin OS-5 ($Q_5 = 1$ cfs and $Q_{100} = 2$ cfs) within Fairfax at Briargate Filing No. 8 combines with Basin F ($Q_5 = 2$ cfs and $Q_{100} = 4$ cfs) and are collected in a concrete swale at the rear of the lots (Section C-C). This combined flow ($Q_5 = 3$ cfs and $Q_{100} = 6$ cfs) travels south in the swale and then west towards Design Point 5 where they enter the proposed residential street through a curb opening.

The flows from Design Point 4 travel south along the east half of the street and combine with Basin G ($Q_5 = 3$ cfs and $Q_{100} = 5$ cfs). These flows travel to Design Point 5 where they are combined with the above mentioned flow through the curb opening. The flow at Design Point 5 totals $Q_5 = 20$ cfs and $Q_{100} = 42$ cfs which is below the street capacity of $Q_5 = 34$ cfs at the proposed 8% grade.

From Design Point 5, the flows travel south along the easterly half of the proposed street where they combine with Basin I ($Q_5 = 3$ cfs and $Q_{100} = 6$ cfs) until they reach the proposed crossspan at the intersection future Scarborough Drive. These flows then head west towards Design Point 6. Flows from Basin H ($Q_5 = 6$ cfs and $Q_{100} = 11$ cfs) and Basin GG ($Q_5 = 1$ cfs and $Q_{100} = 1$ cfs) are combined and travel south within the west half of Street "A". These combined flows are then intercepted by the above mentioned crossspan flow and produce a total flow at Design Point 6 of $Q_5 = 26$ cfs and $Q_{100} = 55$ cfs. These flows then continue to travel west to Design Point 7.

Basin HH ($Q_5 = 2$ cfs and $Q_{100} = 3$ cfs) flows travel south along the east half of Braddock Drive then turn the corner and travel southeast along the north half of future Scarborough Drive. The flow is then joined by Basin Z ($Q_5 = 1$ cfs and $Q_{100} = 2$ cfs) and Basin M ($Q_5 = 4$ cfs and $Q_{100} = 7$ cfs). This total flow $Q_5 = 5$ cfs and $Q_{100} = 10$ cfs continues to travel southeast along the north half of future Scarborough Drive to Design Point 7 where it joins the flow from Design Point 6. The total combined flow at Design Point 7 equals $Q_5 = 30$ cfs and $Q_{100} = 63$ cfs.

Another portion of Fairfax Park (Basin OS-1, $Q_5 = 2$ cfs and $Q_{100} = 4$ cfs) drains as unconcentrated sheet flow on-site into Basin U ($Q_5 = 2$ cfs and $Q_{100} = 3$ cfs). This combined flow of $Q_5 = 3$ cfs and $Q_{100} = 6$ cfs travels west along the north half of Braddock Drive towards Chancellor Drive where it will head south in the proposed crossspan then continue south down Chancellor Drive. Basin V ($Q_5 = 1$ cfs and $Q_{100} = 2$ cfs) also flows west towards Chancellor Drive and then travels south on Chancellor Drive. The total flow that this development contributes to Chancellor Drive equals $Q_5 = 4$ cfs and $Q_{100} = 7$ cfs. Due to the Braddock Drive Extension easterly, the existing 8-foot D-10-R inlet will be removed and replaced with a proposed 16-foot D-10-R inlet further to the north. This new inlet will intercept $Q_5 = 11$ cfs and $Q_{100} = 14$ cfs. The proposed flows from the Braddock Drive Extension combine with the flowby from the 16-foot at-grade inlet for a resultant flow of $Q_5 = 15$ cfs and $Q_{100} = 26$ cfs traveling southerly down Chancellor Drive. This is a net decrease in flows from what is currently discharged at the same design point.

Basin AA ($Q_5 = 2$ cfs and $Q_{100} = 5$ cfs) will be collected at the rear of the lots in a curb type swale as shown in the typical section A-A on the Drainage Map. This swale is only collecting flows from the rear yards of the proposed lots in order to keep all developed flows from entering the rear yards of the existing lots that front onto Chancellor Drive. This flow travels south and then east towards Interlaken Drive where it combines with curb flows at Design Point 8. Basin BB ($Q_5 = 3$ cfs and $Q_{100} = 6$ cfs) flows south along the westerly half of Interlaken Drive to Design Point 8. The combined flow at Design Point 8 equals $Q_5 = 5$ cfs and $Q_{100} = 11$ cfs. This flow continues to travel south along the westerly half of Interlaken Drive where it is joined by Basin KK ($Q_5 = 4$ cfs and $Q_{100} = 8$ cfs) and travels towards Design Point 9B. A proposed 20-foot D-10-R at-grade inlet will intercept all but $Q_5 = 2$ cfs and $Q_{100} = 6$ cfs. The flowby continues to travel to Design Point 10. Basins DD ($Q_5 = 3$ cfs and $Q_{100} = 6$ cfs), EE ($Q_5 = 3$ cfs and $Q_{100} = 6$ cfs) and FF ($Q_5 = 3$ cfs and $Q_{100} = 5$ cfs) combine and create developed flows that travel southwestly along the west half of Braddock Drive towards Design Point 9A. A proposed 20-foot D-10-R at-grade inlet intercepts all but $Q_5 = 2$ cfs and $Q_{100} = 5$ cfs. Basin CC ($Q_5 = 10$ cfs and $Q_{100} = 22$ cfs) develops flow that travels south along the easterly half of Interlaken Drive towards Design Point 9A. A proposed 20-foot D-10-R at-grade inlet intercepts all but $Q_5 = 2$ cfs and $Q_{100} = 5$ cfs. The resultant flow at Design Point 10 equals $Q_5 = 14$

cfs and $Q_{100} = 30$ cfs. The minimum grade on Vectra Drive along Basins EE and FF is 2.5 % which equates to a capacity of $Q_5 = 27$ cfs. The total intercepted flow collected at Design Points 9A and 9B ($Q_5 = 12$ cfs and $Q_{100} = 22$ cfs) is easily carried by a proposed 30-inch R.C.P. at 2% minimum grade.

These flows from Design Point 10 then travel in a southerly direction along the west half of Vectra Drive where they are joined by Basins LL ($Q_5 = 3$ cfs and $Q_{100} = 5$ cfs) and then continue to travel towards Braddock Drive. At this point the flows head east across a future crossspan to Design Point 11A.

Basin JJ ($Q_5 = 1$ cfs and $Q_{100} = 3$ cfs) travels southeasterly along the southwest half of Braddock Drive and crosses a proposed crossspan at the intersection of Braddock Drive and Vectra Drive. The flow continues south down Braddock Drive while being joined by Basin Y ($Q_5 = 9$ cfs and $Q_{100} = 19$ cfs) until it reaches Design Point 11. Basin II ($Q_5 = 7$ cfs and $Q_{100} = 13$ cfs) also contributes to Design Point 11B by traveling south along the east half of Vectra Drive then turning the corner to reach the sump condition.

Basin Q ($Q_5 = 3$ cfs and $Q_{100} = 6$ cfs) flows travel west along the south half of Street "B" then turn south and travels across the future crossspan to Design Point 12. Basin O ($Q_5 = 5$ cfs and $Q_{100} = 9$ cfs) develops flow that travels west along the north half of Street "B" to Design Point 12. The total flow then at Design Point 12 is $Q_5 = 7$ cfs and $Q_{100} = 14$ cfs. With the additional Basin O flows, a proposed 20-foot D-10-R inlet will intercept all but $Q_5 = 1$ cfs and $Q_{100} = 3$ cfs that will enter the unplatted property to the south. Basin R ($Q_5 = 1$ cfs and $Q_{100} = 2$ cfs) contributes to flows that will also enter the unplatted property to the south. Basin P ($Q_5 = 2$ cfs and $Q_{100} = 5$ cfs) also develops flows that travel east along the south half of Braddock Drive to Design Point 13. The total flows at Design Point 13 consist of $Q_5 = 2$ cfs and $Q_{100} = 5$ cfs.

Assuming an even split of 100-year flows at the sump conditions of Design Points 11 and 13, we have a total developed flow of $Q_5 = 32$ cfs and $Q_{100} = 67$ cfs. This flow requires a 20-foot D-10-R sump inlet at each of the two design points.

Basin MM ($Q_5 = 1$ cfs and $Q_{100} = 2$ cfs) produces flows that travel southeast along the south half of future Scarborough Drive crossing a future crossspan towards Design Point 14 where they are combined with flows from Basin T ($Q_5 = 2$ cfs and $Q_{100} = 6$ cfs). This total flow developed at Design Point 14 equals $Q_5 = 3$ cfs and $Q_{100} = 7$ cfs. Again, assuming an even split of flows at Design Points 7 and 14, the sump condition will be required to handle $Q_5 = 31$ cfs and $Q_{100} = 67$ cfs. This flow requires an 8-foot D-10-R sump inlet at each of these Design Points.

Approximately 200 feet east of the previously mentioned sump condition a high point has been designed to prohibit on-site developed flows to travel any further east in Scarborough Drive. Basins J and K, which both produce $Q_5 < 1$ cfs and $Q_{100} < 1$ cfs, are the only basins to allow flows to travel east of the subdivision boundary at Scarborough Drive.

The total flow at Design Point 11 and 13 ($Q_5 = 40$ cfs and $Q_{100} = 82$ cfs) are to be routed via a 42-inch R.C.P. storm system at 0.70% minimum grade. This system heads south within the east half of Vectra Drive then heads east within the north half of Street "B" until it reaches future Scarborough Drive. Flow from Basin L ($Q_5 = 2$ cfs and $Q_{100} = 5$ cfs) is routed to this system via an 18-inch R.C.P. storm pipe. The total flow now within the system continues to travel southeast within the south half of future Scarborough Drive until it reaches the sump condition at Design Points 7 and 14 where it is joined by the developed flows collected by the two future 8-foot D-10-R sump inlets. At this location, a 48-inch R.C.P. storm outfall at 1.0% minimum grade is recommended to carry the total on-site flows ($Q_5 = 69$ cfs and $Q_{100} = 147$ cfs) towards Cottonwood Creek. These flows will continue to travel southerly in the proposed 48-inch R.C.P. to a point where the flows generated by Fairfax at Briargate Filing No. 8 that currently discharges via a 36-inch R.C.P. to Cottonwood Creek are collected into one (1) outfall system. The total discharge into Cottonwood Creek ($Q_5 = 85$ cfs and $Q_{100} = 180$ cfs) will be discharged at the creek bottom onto a 40-foot by 40-foot (40' x 40') rip-rap pad. This proposed system will be located within a public drainage across Vintage property and Ben Brown's property. This system will clean-up the existing drainage problems at the Fairfax at Briargate Filing No. 8 outfall.

HYDROLOGIC CALCULATIONS

Hydrologic calculations were performed using the City of Colorado Springs/El Paso County Drainage Criteria Manual, as revised in November 1991 and October 1994. The Rational Method was used to estimate storm water runoff anticipated from design storms with 5-year and 100-year recurrence interval.

FLOODPLAIN STATEMENT

No portion of this site is within a designated F.E.M.A. floodplain as determined by Flood Insurance Rate Map Community Panel Number 080060-0158B, effective December 18, 1986. See the Appendix for a Floodplain Information Map which shows the location of the site of Fairfax Station.

CONSTRUCTION COST OPINION (Entire Project)

Public Drainage Facilities

Filing No. 1

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>UNIT COST</u>	<u>COST</u>
1.	8' Type D-10-R Curb Inlet	4 EACH	\$2,600/EA	\$ 10,400.00
2.	16' Type D-10-R Curb Inlet	1 EACH	\$5,500/EA	\$ 5,500.00
3.	20' Type D-10-R Curb Inlet	6 EACH	\$6,000/EA	\$ 36,000.00
4.	2' x 3' D-9 Inlet	1 EACH	\$1,000/EA	\$ 1,000.00
5.	Manhole	3 EACH	\$2,500/EA	\$ 7,500.00
6.	18" R.C.P.	290 L.F.	\$22/L.F.	\$ 6,380.00
7.	30" R.C.P.	420 L.F.	\$36/L.F.	\$ 15,120.00
8.	42" R.C.P.	1,165 L.F.	\$60/L.F.	\$ 69,900.00
9.	48" R.C.P.	820 L.F.	\$62/L.F.	\$ 50,840.00
10.	48" R.C.P. Fes	2 EACH	\$1,000/EA	\$ 2,000.00
11.	48" R.C.P Pre-fab Bends	5 EACH	\$1,000/EA	\$ 5,000.00
12.	Rip-Rap	210 C.Y.	\$95/C.Y.	\$ <u>19,950.00</u>
		SUB-TOTAL		\$229,590.00
		10% ENGINEERING		\$ 22,959.00
		10% CONTINGENCIES		\$ <u>22,959.00</u>
		TOTAL		\$275,508.00

DRAINAGE AND BRIDGE FEES

Filing No. 1

A.	Drainage Fees		
	18.674 Acres x \$4,803.00/Acre	=	\$ 89,691.22
B.	Drainage Fees (Interim)		
	18.674 Acres x (5,404.00 - \$4,803.00)/Acre	=	\$ 11,223.07
C.	Bridge Fees		
	18.674 Acres x \$241.00/Acre	=	\$ 4,500.43
D.	Bridge Fees (Interim)		
	18.674 Acres x (\$478.00 - \$241.00)/Acre	=	\$ 4,425.74
E.	Detention Pond Fees		
	18.674 Acres x (\$52.00 + \$291.00)/Acre	=	<u>\$ 6,405.18</u>
	TOTAL	=	\$116,245.64

DRAINAGE AND BRIDGE FEES

Filing No. 2

A.	Drainage Fees		
	17.358 Acres x \$4,803.00/Acre	=	\$ 83,370.47
B.	Drainage Fees (Interim)		
	17.358 Acres x (5,404.00 - \$4,803.00)/Acre	=	\$ 10,432.16
C.	Bridge Fees		
	17.358 Acres x \$241.00/Acre	=	\$ 4,183.28
D.	Bridge Fees (Interim)		
	17.358 Acres x (\$478.00 - \$241.00)/Acre	=	\$ 4,113.85
E.	Detention Pond Fees		
	17.358 Acres x (\$52.00 + \$291.00)/Acre	=	<u>\$ 5,953.79</u>
	TOTAL	=	\$108,053.55

DRAINAGE AND BRIDGE FEES

Filing No. 3

A.	Drainage Fees		
	23.363 Acres x \$4,803.00/Acre	=	\$ 112,212.49
B.	Drainage Fees (Interim)		
	23.363 Acres x (5,404.00 - \$4,803.00)/Acre	=	\$ 14,041.16
C.	Bridge Fees		
	23.363 Acres x \$241.00/Acre	=	\$ 5,630.48
D.	Bridge Fees (Interim)		
	23.363 Acres x (\$478.00 - \$241.00)/Acre	=	\$ 5,537.03
E.	Detention Pond Fees		
	23.363 Acres x (\$52.00 + \$291.00)/Acre	=	<u>\$ 8,013.51</u>
	TOTAL	=	\$145,434.67

JR Engineering, Ltd. cannot and does not guarantee that the construction cost will not vary from these opinions of probable construction costs. These opinions represent our best judgement as design professionals familiar with the construction industry and this development.

SUMMARY

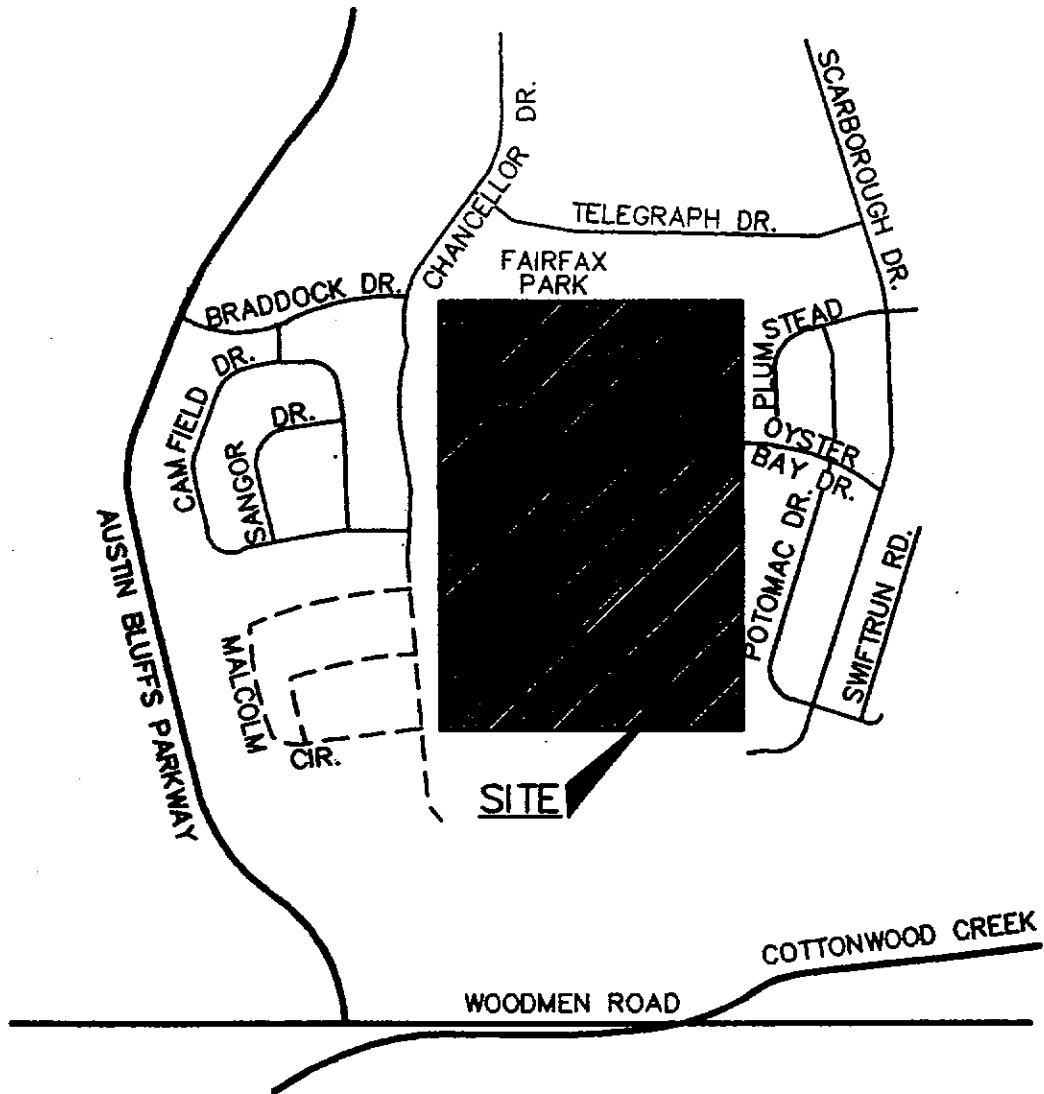
Construction of this site will not adversely affect surrounding developments. In fact, the proposed development of the site will reduce the overall developed flows to Chancellor Drive. The construction of the rear yard concrete swales with curb chase sections will keep any developed flows from Fairfax Station from entering existing residential lots to the east and west. The proposed facilities will be located within a public utility and drainage easement with the sole responsibility for maintenance being vested with the individual property owners. This is a typical statement that is located on the Final Plat Title Sheet. The ultimate storm outfall system will discharge developed flows from this development and Fairfax at Briargate Filing No. 8 directly into Cottonwood Creek via a closed system similar to Fairfax at Briargate Filing No. 9A.

REFERENCES

1. City of Colorado Springs/County of El Paso Drainage Criteria Manual, dated November, 1991.
2. Soils Survey of El Paso County Area, Colorado Soil Conservation Service.
3. "Cottonwood Creek Drainage Basin Planning Study", URS Consultants, August 24, 1992.
4. "Fairfax at Briargate Filing No. 8 Preliminary/Final Drainage Report", JR Engineering, Ltd., May, 1992.
5. "Fairfax at Briargate Filing No. 7, Preliminary/Final Drainage Report", Obering, Wurth & Associates, January, 1987.
6. "Fairfax at Briargate Filing No. 6, Preliminary/Final Drainage Study", JR Engineering, Ltd., February, 1993.
7. "Briargate Subdivision Filing No. 55, Preliminary/Final Drainage Report", JR Engineering, Ltd., May, 1992.

APPENDICES

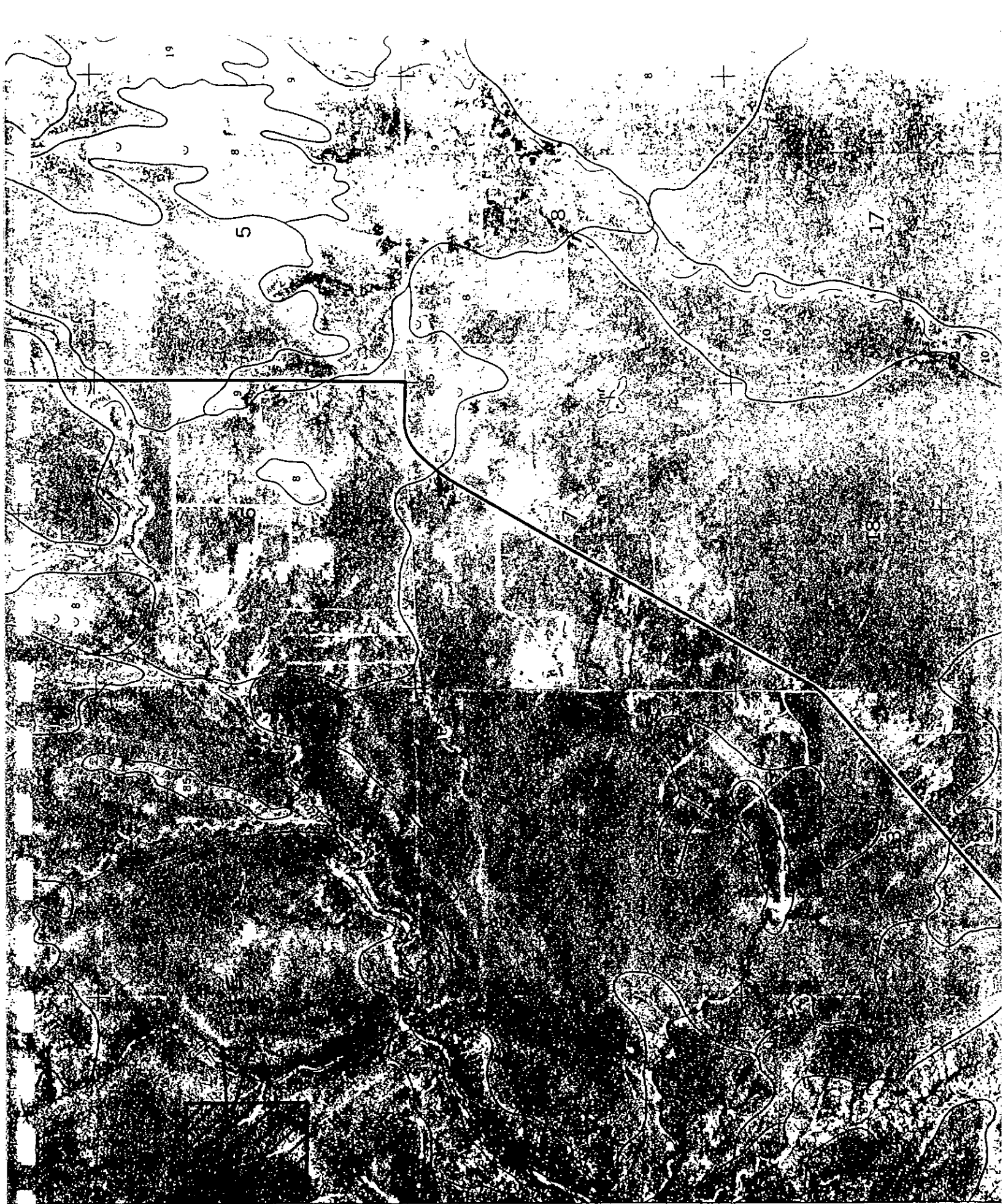
VICINITY MAP



VICINITY MAP
N.T.S



EXHIBIT A
SOIL MAP (S.C.S. SURVEY)
(SHEET NO. 9)



T. 125
T. 135

(Join sheet 8)

F.E.M.A. MAP

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
COLORADO SPRINGS,
COLORADO
EL PASO COUNTY

PANEL 158 OF 625
(SEE MAP INDEX FOR PANELS NOT PRINTED)

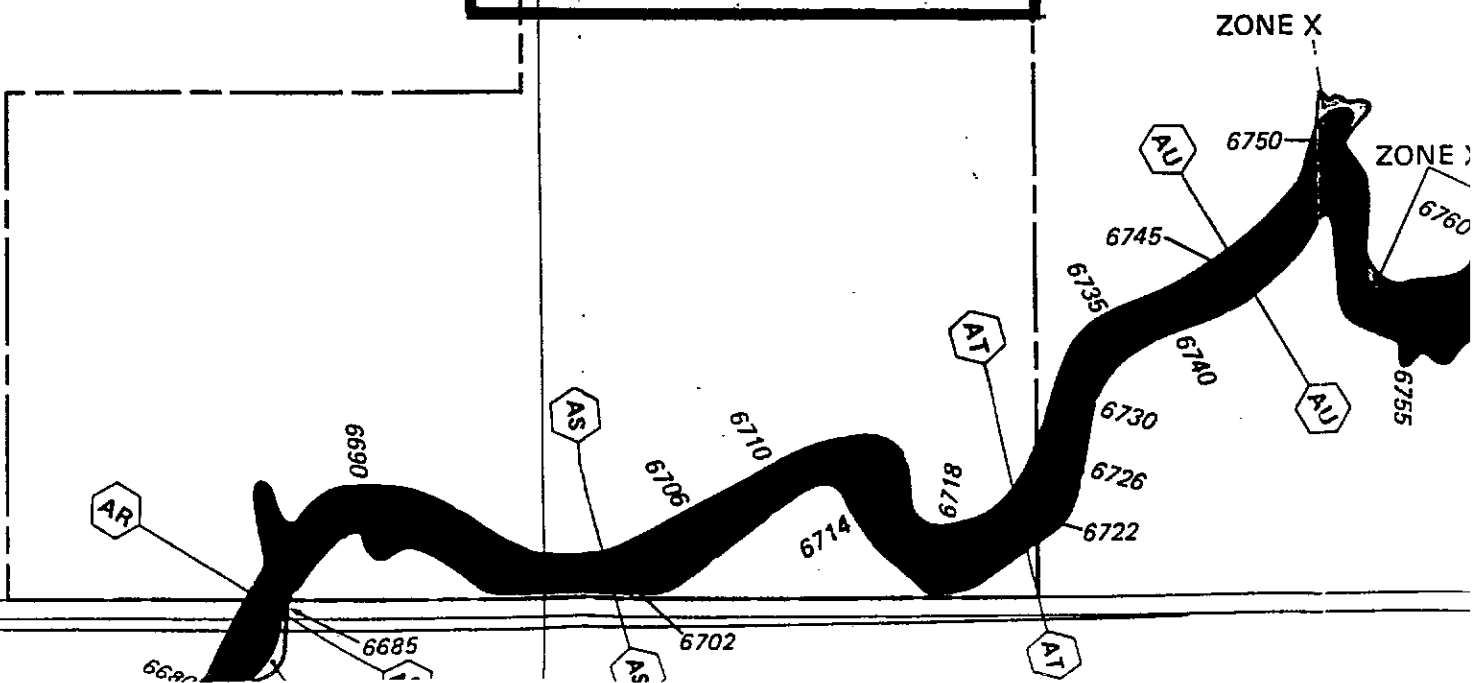
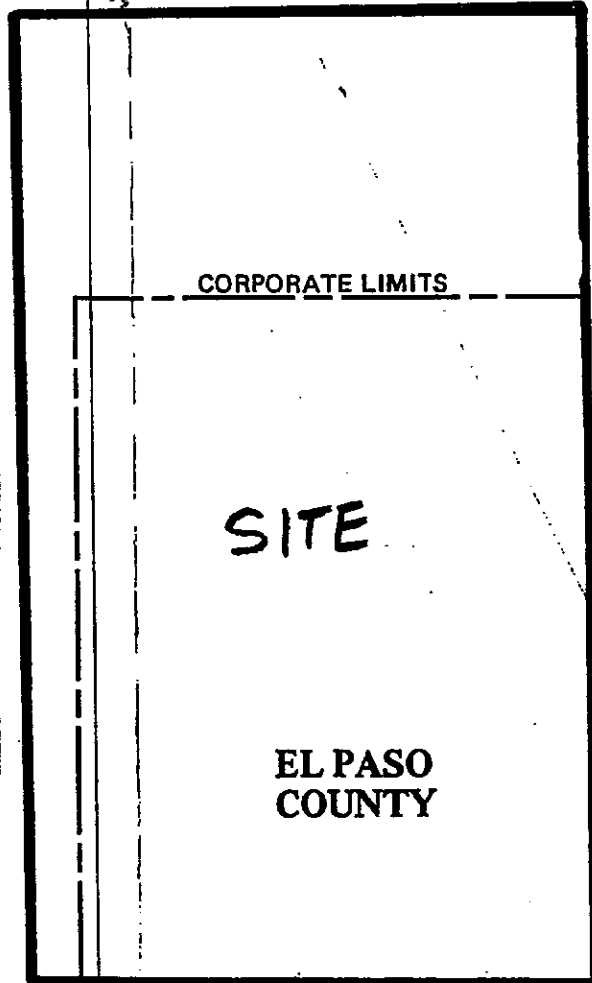


PANEL LOCATION
COMMUNITY-PANEL NUMBER
080060 0158 B

EFFECTIVE DATE:
DECEMBER 18, 1986



Federal Emergency Management Agency



HYDROLOGIC CALCULATIONS

FAIRFAX STATION

(On-Site Area Runoff Coefficient Summary)

BASIN	AREA TOTAL (Ac)	STREETS			OVERLAND			WEIGHTED	
		AREA (Ac)	C(5)	C(100)	AREA (Ac)	C(5)	C(100)	C(5)	C(100)
A	3.9	0.66	0.90	0.95	3.24	0.52	0.62	0.58	0.68
B	2.7	0.42	0.90	0.95	2.28	0.52	0.62	0.58	0.67
C	0.7	0.04	0.90	0.95	0.64	0.52	0.62	0.54	0.64
D	0.1	0.04	0.90	0.95	0.06	0.52	0.62	0.68	0.76
E	1.4	0.42	0.90	0.95	0.98	0.52	0.62	0.63	0.72
F	1.5	0.00	0.90	0.95	1.50	0.52	0.62	0.52	0.62
G	1.0	0.40	0.90	0.95	0.60	0.52	0.62	0.67	0.75
H	3.2	0.64	0.90	0.95	2.56	0.52	0.62	0.60	0.69
I	1.8	0.33	0.90	0.95	1.47	0.52	0.62	0.59	0.68
J	0.1	0.03	0.90	0.95	0.02	0.52	0.62	0.75	0.82
K	0.1	0.03	0.90	0.95	0.02	0.52	0.62	0.75	0.82
L	3.1	0.00	0.90	0.95	3.10	0.25	0.35	0.25	0.35
M	2.1	0.50	0.90	0.95	1.60	0.52	0.62	0.61	0.70
N	1.1	0.00	0.90	0.95	1.10	0.52	0.62	0.52	0.62
O	2.6	0.40	0.90	0.95	2.20	0.52	0.62	0.58	0.67
P	0.8	0.40	0.90	0.95	0.40	0.52	0.62	0.71	0.79
Q	1.2	0.40	0.90	0.95	0.80	0.52	0.62	0.65	0.73
R	0.5	0.10	0.90	0.95	0.40	0.52	0.62	0.60	0.69
S	0.6	0.00	0.90	0.95	0.60	0.52	0.62	0.52	0.62
T	1.0	0.34	0.90	0.95	0.66	0.52	0.62	0.65	0.73
U	0.5	0.41	0.90	0.95	0.09	0.52	0.62	0.83	0.89
V	0.2	0.20	0.90	0.95	0.00	0.52	0.62	0.90	0.95
W	1.0	0.26	0.90	0.95	0.74	0.52	0.62	0.62	0.71
X	1.3	0.50	0.90	0.95	0.80	0.52	0.62	0.67	0.75
Y	5.8	1.34	0.90	0.95	4.46	0.52	0.62	0.61	0.70
Z	0.6	0.00	0.90	0.95	0.60	0.25	0.35	0.25	0.35
AA	1.1	0.00	0.90	0.95	1.10	0.52	0.62	0.52	0.62
BB	1.2	0.40	0.90	0.95	0.80	0.52	0.62	0.65	0.73
CC	6.8	0.83	0.90	0.95	5.97	0.52	0.62	0.57	0.66
DD	1.4	0.35	0.90	0.95	1.05	0.52	0.62	0.62	0.70
EE	1.5	0.35	0.90	0.95	1.15	0.52	0.62	0.61	0.70
FF	1.1	0.37	0.90	0.95	0.73	0.52	0.62	0.65	0.73
GG	0.4	0.00	0.90	0.95	0.40	0.25	0.35	0.25	0.35
HH	0.6	0.05	0.90	0.95	0.55	0.52	0.62	0.55	0.65
II	3.8	0.75	0.90	0.95	3.05	0.52	0.62	0.60	0.69
JJ	0.6	0.21	0.90	0.95	0.40	0.52	0.62	0.65	0.73
KK	2.0	0.37	0.90	0.95	1.63	0.52	0.62	0.59	0.68
LL	1.4	0.27	0.90	0.95	1.13	0.52	0.62	0.59	0.68
MM	0.4	0.13	0.90	0.95	0.27	0.52	0.62	0.64	0.73

FAIRFAX STATION (On-site Area Drainage Summary)

BASIN	AREA TOTAL (Ac)	WEIGHTED		OVERLAND			STREET				Tc TOTAL (min)	INTENSITY		TOTAL FLOWS		
		C(5)	C(100)	C(5)	Length (ft)	Height (ft)	Tc (min)	Length (ft)	Slope (%)	Velocity (fps)		Tc (min)	I(5) (in/hr)	I(100) (in/hr)	Q(5) (c.f.s.)	Q(100) (c.f.s.)
		* For Calcs See Runoff Summary														
A	3.90	0.58	0.68	0.25	200	2.00	22.5	350	1.0%	3.5	1.7	24.1	2.8	4.6	6	12
		0.58	0.68	0.25												
		0.58	0.68	0.25												
		0.58	0.68	0.25												
B	2.70	0.58	0.67	0.25	70	1.75	9.8	400	1.0%	3.5	1.9	25.5	2.7	4.5	4	8
		0.58	0.67	0.25	75	0.75	13.8									
		0.58	0.67	0.25												
		0.58	0.67	0.25												
C	0.68	0.54	0.64	0.25	80	1.60	11.3					11.3	3.9	6.7	1	3
		0.54	0.64	0.25												
		0.54	0.64	0.25												
		0.54	0.64	0.25												
D	0.10	0.68	0.76	0.25	50	0.50	11.2	60	2.0%	4.9	0.2	11.4	3.9	6.7	0.3	0.5
		0.68	0.76	0.25												
		0.68	0.76	0.25												
		0.68	0.76	0.25												
		0.68	0.76	0.25												
E	1.40	0.63	0.72	0.25	80	5.00	7.8	80	0.8%	3.0	0.4	17.3	3.3	5.5	3	6
		0.63	0.72	0.25	60	1.50	9.1									
		0.63	0.72	0.25												
		0.63	0.72	0.25												
F	1.50	0.52	0.62	0.25	24	6.00	2.7	200	4.0%	7.0	0.5	25.2	2.7	4.5	2	4
		0.52	0.62	0.25	100	2.00	12.6	150	5.0%	7.8	0.3					
		0.52	0.62	0.25	40	0.80	8.0	230	1.0%	3.5	1.1					
		0.52	0.62	0.25												
G	1.00	0.67	0.75	0.25	50	1.00	8.9	500	2.0%	4.9	1.7	10.8	4.0	6.9	3	5
		0.67	0.75	0.25				50	2.5%	5.5	0.2					
		0.67	0.75	0.25												
		0.67	0.75	0.25												
H	3.20	0.60	0.69	0.25	35	2.00	5.3	875	4.8%	7.7	1.9	21.0	3.0	5.0	6	11
		0.60	0.69	0.25	75	0.75	13.8									
		0.60	0.69	0.25												
		0.60	0.69	0.25												
		0.60	0.69	0.25												

FAIRFAX STATION

(On-site Area Drainage Summary)

BASIN	AREA TOTAL (Ac)	WEIGHTED		OVERLAND				STREET				Tc TOTAL (min)	INTENSITY		TOTAL FLOWS		
		C(5)	C(100)	C(5)	Length (ft)	Height (ft)	Tc (min)	Length (ft)	Slope (%)	Velocity (fps)	Tc (min)		I(5) (in/hr)	I(100) (in/hr)	Q(5) (c.f.s.)	Q(100) (c.f.s.)	
		* For Calcs See Runoff Summary															
I	1.80	0.59	0.68	0.25	40	0.80	8.0	500	4.8%	7.7	1.1	22.8	2.9	4.7	3	6	
		0.59	0.68	0.25	75	0.75	13.8										
		0.59	0.68	0.25													
		0.59	0.68	0.25													
J	0.05	0.75	0.82	0.25	50	1.00	8.9					8.9	4.2	7.4	0.2	0.3	
		0.75	0.82	0.25													
		0.75	0.82	0.25													
		0.75	0.82	0.25													
K	0.05	0.75	0.82	0.25	50	1.00	8.9					8.9	4.2	7.4	0.2	0.3	
		0.75	0.82	0.25													
		0.75	0.82	0.25													
		0.75	0.82	0.25													
L	3.10	0.25	0.35	0.25	300	6.00	21.9					21.9	2.9	4.8	2	5	
		0.25	0.35	0.25													
		0.25	0.35	0.25													
		0.25	0.35	0.25													
M	2.10	0.61	0.70	0.25	30	2.00	4.7	260	1.0%	3.5	1.2	22.2	2.9	4.8	4	7	
		0.61	0.70	0.25	45	2.00	6.5	260	6.5%	8.9	0.5						
		0.61	0.70	0.25	50	1.00	8.9	100	2.0%	4.9	0.3						
		0.61	0.70	0.25													
N	1.10	0.52	0.62	0.25	100	5.00	9.3					16.8	3.3	5.6	2	4	
		0.52	0.62	0.25	40	1.00	7.4										
		0.52	0.62	0.25													
		0.52	0.62	0.25													
O	2.60	0.58	0.67	0.25	65	2.10	8.7	420	8.3%	10.1	0.7	20.3	3.0	5.0	5	9	
		0.58	0.67	0.25	75	1.50	11.0										
		0.58	0.67	0.25													
		0.58	0.67	0.25													
P	0.80	0.71	0.79	0.25	50	1.00	8.9					8.9	4.2	7.4	2	5	
		0.71	0.79	0.25													
		0.71	0.79	0.25													
		0.71	0.79	0.25													

FAIRFAX STATION

(On-site Area Drainage Summary)

BASIN	AREA TOTAL (Ac)	WEIGHTED		OVERLAND			STREET				Tc	INTENSITY		TOTAL FLOWS		
		C(5)	C(100)	C(5)	Length (ft)	Height (ft)	Tc (min)	Length (ft)	Slope (%)	Velocity (fps)	Tc (min)	TOTAL (min)	I(5) (in/hr)	I(100) (in/hr)	Q(5) (c.f.s.)	Q(100) (c.f.s.)
Q	1.20	0.65	0.73	0.25	50	1.00	8.9	470	8.3%	10.1	0.8	9.7	4.1	7.2	3	6
		0.65	0.73	0.25												
		0.65	0.73	0.25												
		0.65	0.73	0.25												
R	0.50	0.60	0.69	0.25	50	1.00	8.9	190	2.4%	5.4	0.6	9.5	4.1	7.2	1	2
		0.60	0.69	0.25												
		0.60	0.69	0.25												
		0.60	0.69	0.25												
S	0.60	0.52	0.62	0.25	40	1.40	6.6				6.6	4.6	8.3	1	3	
		0.52	0.62	0.25												
		0.52	0.62	0.25												
		0.52	0.62	0.25												
T	1.00	0.65	0.73	0.25	50	0.50	11.2	200	6.5%	8.9	0.4	12.0	3.8	6.5	2	5
		0.65	0.73	0.25				140								
		0.65	0.73	0.25												
		0.65	0.73	0.25												
U	0.50	0.83	0.89	0.25	60	2.00	8.3	550	1.3%	4.0	2.3	10.6	4.0	6.9	2	3
		0.83	0.89	0.25												
		0.83	0.89	0.25												
		0.83	0.89	0.25												
V	0.20	0.90	0.95	0.25							5.0 Min.	5.2	9.0	1	2	
		0.90	0.95	0.25												
		0.90	0.95	0.25												
		0.90	0.95	0.25												
W	1.00	0.62	0.71	0.25	130	1.30	18.1	150	0.8%	3.0	0.8	18.9	3.1	5.2	2	4
		0.62	0.71	0.25												
		0.62	0.71	0.25												
		0.62	0.71	0.25												
X	1.30	0.67	0.75	0.25	50	0.50	11.2	700	0.8%	3.0	3.8	15.1	3.5	5.9	3	6
		0.67	0.75	0.25												
		0.67	0.75	0.25												
		0.67	0.75	0.25												

FAIRFAX STATION

(On-site Area Drainage Summary)

BASIN	AREA TOTAL (Ac)	WEIGHTED		OVERLAND			STREET				Tc TOTAL (min)	INTENSITY		TOTAL FLOWS		
		C(5)	C(100)	C(5)	Length (ft)	Height (ft)	Tc (min)	Length (ft)	Slope (%)	Velocity (fps)		Tc (min)	I(5) (in/hr)	I(100) (in/hr)	Q(5) (c.f.s.)	Q(100) (c.f.s.)
Y	5.80	0.61	0.70	0.25	210	4.20	18.3	500	6.0%	8.6	1.0	24.0	2.6	4.6	9	19
		0.61	0.70	0.25	20	0.70	4.7									
		0.61	0.70	0.25												
		0.61	0.70	0.25												
Z	0.60	0.25	0.35	0.25	115	28.00	5.9					5.9	4.8	8.6	1	2
		0.25	0.35	0.25												
		0.25	0.35	0.25												
		0.25	0.35	0.25												
AA	1.10	0.52	0.62	0.25	60	1.80	8.6	100	1.0%	3.5	0.5	9.0	4.2	7.4	2	5
		0.52	0.62	0.25												
		0.52	0.62	0.25												
		0.52	0.62	0.25												
BB	1.20	0.65	0.73	0.25	50	1.00	8.9	500	3.4%	6.5	1.3	10.2	4.0	7.0	3	6
		0.65	0.73	0.25												
		0.65	0.73	0.25												
		0.65	0.73	0.25												
CC	6.80	0.57	0.66	0.25	230	4.60	19.2	820	3.4%	6.5	2.1	22.7	2.7	4.8	10	22
		0.57	0.66	0.25				300	1.0%	3.5	1.4					
		0.57	0.66	0.25												
		0.57	0.66	0.25												
DD	1.40	0.62	0.70	0.25	120	2.40	13.9	120	1.0%	3.5	0.6	14.4	3.5	6.0	3	6
		0.62	0.70	0.25												
		0.62	0.70	0.25												
		0.62	0.70	0.25												
EE	1.50	0.61	0.70	0.25	120	2.40	13.9	120	1.0%	3.5	0.6	14.4	3.5	6.0	3	6
		0.61	0.70	0.25												
		0.61	0.70	0.25												
		0.61	0.70	0.25												
FF	1.10	0.65	0.73	0.25	100	2.00	12.6	350	3.0%	6.1	1.0	14.1	3.6	6.1	3	5
		0.65	0.73	0.25				300	8.0%	9.9	0.5					
		0.65	0.73	0.25												
		0.65	0.73	0.25												

FAIRFAX STATION (On-site Area Drainage Summary)

BASIN	AREA TOTAL (Ac)	WEIGHTED		OVERLAND				STREET				Tc TOTAL (min)	INTENSITY		TOTAL FLOWS	
		C(5)	C(100)	C(5)	Length (ft)	Height (ft)	Tc (min)	Length (ft)	Slope (%)	Velocity (fps)	Tc (min)		I(5) (in/hr)	I(100) (in/hr)	Q(5) (c.f.s.)	Q(100) (c.f.s.)
GG	0.40	0.25	0.35	0.25	115	28.00	5.9					5.9	4.8	8.6	1	1
		0.25	0.35	0.25												
		0.25	0.35	0.25												
		0.25	0.35	0.25												
HH	0.60	0.55	0.65	0.25							5.0 Min.	5.2	9.0	2	3	
		0.55	0.65	0.25												
		0.55	0.65	0.25												
		0.55	0.65	0.25												
II	3.80	0.60	0.69	0.25	40	0.80	8.0	400	2.7%	5.7	1.2	21.2	2.9	5.0	7	13
		0.60	0.69	0.25	75	1.50	11.0	350	8.0%	9.9	0.6					
		0.60	0.69	0.25				210	4.0%	7.0	0.5					
		0.60	0.69	0.25												
JJ	0.61	0.65	0.73	0.25	50	0.50	11.2	300	0.8%	3.0	1.6	12.9	3.7	6.3	1	3
		0.65	0.73	0.25												
		0.65	0.73	0.25												
		0.65	0.73	0.25												
KK	2.00	0.59	0.68	0.25	100	2.00	12.6	150	3.4%	6.5	0.4	15.2	3.4	5.8	4	8
		0.59	0.68	0.25				200	2.0%	4.9	0.7					
		0.59	0.68	0.25				320	1.0%	3.5	1.5					
		0.59	0.68	0.25												
LL	1.40	0.59	0.68	0.25	110	9.70	8.1	120	8.0%	9.9	0.2	19.4	3.1	5.2	3	5
		0.59	0.68	0.25	75	1.50	11.0	60	4.0%	7.0	0.1					
		0.59	0.68	0.25												
		0.59	0.68	0.25												
MM	0.40	0.64	0.73	0.25	50	0.50	11.2	220	1.0%	3.5	1.0	12.3	3.8	6.5	1	2
		0.64	0.73	0.25												
		0.64	0.73	0.25												
		0.64	0.73	0.25												

FAIRFAX STATION (Off-Site Area Drainage Summary)

BASIN	AREA TOTAL (Ac)	WEIGHTED		OVERLAND			STREET				Tc	INTENSITY		TOTAL FLOWS			
		C(5)	C(100)	C(5)	Length (ft)	Height (ft)	Tc (min)	Length (ft)	Slope (%)	Velocity (fps)	Tc (min)	TOTAL (min)	I(5) (in/hr)	I(100) (in/hr)	Q(5) (c.f.s.)	Q(100) (c.f.s.)	
OS-1	2.70	0.25	0.35	0.25	300	4.00	25.0					25.0	2.7	4.5	2	4	
		0.25	0.35	0.25													
		0.25	0.35	0.25													
		0.25	0.35	0.25													
OS-2	0.90	0.25	0.35	0.25	90	3.60	9.5					27.4	2.6	4.3	1	1	
		0.25	0.35	0.25	200	4.00	17.9										
		0.25	0.35	0.25													
		0.25	0.35	0.25													
OS-3	4.23	0.25	0.35	0.25	300	8.50	19.5					19.5	3.1	5.2	3	8	
		0.25	0.35	0.25													
		0.25	0.35	0.25													
		0.25	0.35	0.25													
OS-4	0.31	0.52	0.62	0.25	30	2.00	4.7	210	1.0%	3.5	1.0	5.7	4.8	8.7	1	2	
		0.52	0.62	0.25													
		0.52	0.62	0.25													
		0.52	0.62	0.25													
OS-5	0.56	0.52	0.62	0.25	40	0.40	10.1	150	5.0%	7.8	0.3	14.1	3.6	6.1	1	2	
		0.52	0.62	0.25	20	4.00	2.6	230	1.0%	3.5	1.1						
		0.52	0.62	0.25													
		0.52	0.62	0.25													
E-5	5.70	0.54	0.63	0.25	300	8.00	19.9					19.9	3.1	5.1	9	18	
		0.54	0.63	0.25													
		0.54	0.63	0.25													
		0.54	0.63	0.25													

FAIRFAX STATION (Off-Site Area Drainage Summary)

BASIN	AREA TOTAL (Ac)	WEIGHTED		OVERLAND			STREET				Tc	INTENSITY		TOTAL FLOWS		
		C(5)	C(100)	C(5)	Length (ft)	Height (ft)	Tc (min)	Length (ft)	Slope (%)	Velocity (fps)	Tc (min)	TOTAL (min)	I(5) (in/hr)	I(100) (in/hr)	Q(5) (c.f.s.)	Q(100) (c.f.s.)
E-6	23.00	0.56	0.66	0.25	180	2.00	20.6	700	4.0%	7.0	1.7	26.5	2.6	4.5	33	68
		0.56	0.66	0.25				130	2.7%	5.8	0.4					
		0.56	0.66	0.25				720	0.8%	3.1	3.8					
		0.56	0.66	0.25												
E-7A	3.80	0.50	0.59	0.25	300	6.00	21.9					21.9	2.8	4.8	5	11
		0.50	0.59	0.25												
		0.50	0.59	0.25												
		0.50	0.59	0.25												
OS-6	1.90	0.77	0.84	0.25	120	3.90	11.8	100	1.0%	3.5	0.5	12.3	3.8	6.5	6	10
		0.77	0.84	0.25												
		0.77	0.84	0.25												
		0.77	0.84	0.25												
OS-7	1.60	0.69	0.76	0.25	40	0.80	8.0	500	2.7%	5.8	1.4	11.3	3.9	6.7	4	8
		0.69	0.76	0.25				550	2.0%	4.9	1.9					
		0.69	0.76	0.25												
		0.69	0.76	0.25												

FAIRFAX STATION

(Off-Site Area Runoff Coefficient Summary)

BASIN	AREA TOTAL (Ac)	STREETS			RESIDENTIAL			PARK			WEIGHTED	
		AREA (Ac)	C(5)	C(100)	AREA (Ac)	C(5)	C(100)	AREA (Ac)	C(5)	C(100)	C(5)	C(100)
OS-1	2.7	0.00	0.90	0.95	0.00	0.52	0.62	2.70	0.25	0.35	0.25	0.35
OS-2	0.9	0.00	0.90	0.95	0.00	0.52	0.62	0.90	0.25	0.35	0.25	0.35
OS-3	4.2	0.00	0.90	0.95	0.00	0.52	0.62	4.20	0.25	0.35	0.25	0.35
OS-4	0.3	0.00	0.90	0.95	0.31	0.52	0.62	0.00	0.25	0.35	0.52	0.62
OS-5	0.6	0.00	0.90	0.95	0.56	0.52	0.62	0.00	0.25	0.35	0.52	0.62
E-5	5.7	0.25	0.90	0.95	5.45	0.52	0.62	0.00	0.25	0.35	0.54	0.63
E-6	23.0	2.50	0.90	0.95	20.50	0.52	0.62	0.00	0.25	0.35	0.56	0.66
E-7A	3.8	0.70	0.90	0.95	1.83	0.52	0.62	1.27	0.25	0.35	0.50	0.59
OS-6	1.9	1.25	0.90	0.95	0.65	0.52	0.62	0.00	0.25	0.35	0.77	0.84
OS-7	1.6	0.70	0.90	0.95	0.90	0.52	0.62	0.00	0.25	0.35	0.69	0.76

RATIONAL METHOD: Q = CIA

BASIN	AREA (acres)	L (ft)	H (ft)	S (%)	V (fps)	Tc (min)	I ₅	I ₁₀₀	SOIL GROUP	LAND USE	C ₅	C ₁₀₀	FLOW	
													Q ₅	Q ₁₀₀
OS-2, W			CA ₅ = 0.85			27.4	2.6	4.3					2	4
			CA ₁₀₀ = 1.03											
			To Design Point 1											
OS-3, A, B			CA ₅ = 4.89			25.5	2.7	4.5					13	27
			CA ₁₀₀ = 5.90											
			To Design Point 2											
OS-2, W, X			CA ₅ = 1.72			27.4 + 3.8 =	2.3	4.0					4	8
			CA ₁₀₀ = 2.01			31.2								
			To Design Point 3											

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PROJECT: FAIRFAX STATION

ENGINEER: KRC DATE: 7/12/95

JOB NO.: 8659.00 PAGE: 1 OF 7

RATIONAL METHOD: Q = CIA

BASIN	AREA (acres)	L (ft)	H (ft)	S (%)	V (fps)	Tc (min)	I ₅	I ₁₀₀	SOIL GROUP	LAND USE	C ₅	C ₁₀₀	FLOW	
													Q ₅	Q ₁₀₀
OS-2, W, X OS-3, A, B, E			CA ₅ = 7.49		31.2 +	2.3	4.0						17	36
			CA ₁₀₀ = 8.92		0.6 =									
					31.8									
To Design Point 4														
+OS-5, F, G			CA ₅ = 9.23		31.8 +	2.2	3.8						20	42
			CA ₁₀₀ = 10.95		1.9 =									
					33.7									
To Design Point 5														
+I, H, GG			CA ₅ = 12.31		33.7 +	2.1	3.8						26	55
			CA ₁₀₀ = 14.52		0.8 =									
					34.5									
To Design Point 6														
+HH, Z, M			CA ₅ = 14.07			34.5	2.1	3.8					30	63
			CA ₁₀₀ = 16.59											
To Design Point 7														

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RATIONAL METHOD: Q = CIA

BASIN	AREA (acres)	L (ft)	H (ft)	S (%)	V (fps)	T _r (min)	I ₅	I ₁₀₀	SOIL GROUP	LAND USE	C ₅	C ₁₀₀	FLOW	
													Q ₅	Q ₁₀₀
AA, BB			CA ₅ = 1.35			10.2	4.0	7.0					5	11
			CA ₁₀₀ = 1.56											
			To Design Point 8											
DD, EE, FF			CA ₅ = 2.50		14.4 +	3.3	5.6						8	16
			CA ₁₀₀ = 2.83		2.1 =									
					16.5									
			To Design Point 9A											
			Proposed 20-foot At-Grade Inlet											
					Q _i (5) = 6 (1.53)				Q _{FR} (5) = 2 (0.61)					
					Q _i (100) = 11 (1.94)				Q _{FR} (100) = 5 (0.89)					

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PROJECT: FAIRFAX STATION

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DATE: 7/12/95

JOB NO.: 8659.00

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RATIONAL METHOD: Q = CIA

BASIN	AREA (acres)	L (ft)	H (ft)	S (%)	V (fps)	Tc (min)	I ₅	I ₁₀₀	SOIL GROUP	LAND USE	C _s	C ₁₀₀	FLOW	
													Q ₅	Q ₁₀₀
AA,BB,KK			CA ₅ = 2.53			10.2 +	3.7	6.3					9	18
			CA ₁₀₀ = 2.92			2.6 +								
						12.8								
						To Design Point 9B								
						Proposed 20-foot At-Grade Inlet								
						Qi (5) = 7 (1.99)							Q _{FB} (5) = 2 (0.54)	
						Qi (100) = 12 (1.97)							Q _{FB} (100) = 6 (0.95)	
			Total Flow at Design Point 10											
			CA ₅ = 3.88 + 0.61 + 0.54 = 5.03				2.7	4.8					14	30
			CA ₁₀₀ = 4.49 + 0.89 + 0.95 = 6.33											
+LL, 11			CA ₅ = 8.14			21.2	2.9	5.0					24	50
			CA ₁₀₀ = 9.90											
						To Design Point 11A (West)								

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PROJECT: FAIRFAX STATION

ENGINEER: KRC DATE: 7/12/95

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RATIONAL METHOD: Q = CIA

BASIN	AREA (acres)	L (ft)	H (ft)	S (%)	V (fps)	Tc (min)	I ₅	I ₁₀₀	SOIL GROUP	LAND USE	C ₅	C ₁₀₀	FLOW		
													Q ₅	Q ₁₀₀	
Y			CA ₅ = 3.54			24.0	2.6	4.6					9	19	
			CA ₁₀₀ = 4.06												
			To Design Point 11B												
			Total Flow to Design Point 11												
			CA ₅ = 3.54 + 81.4			24.0	2.6	4.6					30	64	
			CA ₁₀₀ = 4.00 + 9.90												
			Total Interception by 20-Foot D-10-R Sump Inlet												
P			CA ₅ = 0.57			8.9	4.2	7.4					2	5	
			CA ₁₀₀ = 0.63												
			Total Interception by 20-Foot D-10-R Sump Inlet												
			To Design Point 13												
			Total Pipe Flow			24.0	2.6	4.6						40	82
			CA ₅ = 15.20												
			CA ₁₀₀ = 17.87												

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ENGINEER: KRC DATE: 7/12/95

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RATIONAL METHOD: Q = CIA

BASIN	AREA (acres)	L (ft)	H (ft)	S (%)	V (fps)	Tc (min)	I ₅	I ₁₀₀	SOIL GROUP	LAND USE	C ₅	C ₁₀₀	FLOW			
													Q ₅	Q ₁₀₀		
O, Q			CA ₅ = 2.29			20.3	3.0	5.0						7	14	
			CA ₁₀₀ = 2.62													
			To Design Point 12													
			Proposed 20-Foot At-Grade Inlet													
						Qi (5) = 6 (1.96)								Q _{FB} (5) = 1 (0.33)		
						Qi(100) = 11 (2.02)								Q _{FB} (100) = 3 (0.60)		
			Total Pipe Flow				24.0	2.6	4.6						45	92
			CA ₅ = 17.16													
			CA ₁₀₀ = 19.80													
MM, T			CA ₅ = 0.91			12.3	3.8	6.5						3	7	
			CA ₁₀₀ = 1.02													
			To Design Point 14													

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DATE: 7/12/95

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RATIONAL METHOD: Q = CIA

BASIN	AREA (acres)	L (ft)	H (ft)	S (%)	V (fps)	Tc (min)	I ₅	I ₁₀₀	SOIL GROUP	LAND USE	C ₅	C ₁₀₀	FLOW	
													Q ₅	Q ₁₀₀
Total Pipe Flow														
CA ₅ = 17.16 + 0.78 + 0.91 + 14.07 = 32.92														
CA ₁₀₀ = 19.89 + 1.09 + 1.02 + 16.59 = 38.59														
						34.5	2.1	3.8					69	147
Flows from Fairfax at Briargate Filing No. 8														
CA ₅ = 7.34														
CA ₁₀₀ = 8.68														
Total Outfall to Cottonwood Creek														
						34.5	2.1	3.8					85	180
CA ₅ = 40.20														
CA ₁₀₀ = 47.27														

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PROJECT: FAIRFAX STATION

ENGINEER: KRC DATE: 7/12/95

JOB NO.: 8659.00 PAGE: 7 OF 7

DESIGN POINT 9B
 PROPOSED 20' AT-GRADE INLET

100-YR. FLOW

Q(100)	18	I(100)	6.3		
DEPTH	0.41	Fr	2.58	Inlet size ?	L(i) = 20
SPREAD	14.0	L(1)	27.8	If Li < L(2) then Qi =	13
CROSS SLOP	2.0%	L(2)	16.7	If Li > L(2) then Qi =	12
STREET SLOP	4.0%	L(3)	59.6	FB =	6
				CA(eqv.)=	0.95

5-YR. FLOW

Q(5)	9	I(10)	3.7		
DEPTH	0.32	Fr	2.40	Inlet size ?	L(i) = 20
SPREAD	9.8	L(1)	18.0	If Li < L(2) then Qi =	10
CROSS SLOP	2.0%	L(2)	10.8	If Li > L(2) then Qi =	7
STREET SLOP	4.0%	L(3)	38.6	FB =	2
				CA(eqv.)=	0.54

DESIGN POINT 9A
 PROPOSED 20' AT-GRADE INLET

100-YR. FLOW

Q(100)	16	I(100)	5.6		
DEPTH	0.39	Fr	2.54	Inlet size ?	L(i) = 20
SPREAD	13.0	L(1)	25.5	If $L_i < L(2)$ then	Qi = 13
CROSS SLOP	2.0%	L(2)	15.3	If $L_i > L(2)$ then	Qi = 11
STREET SLOP	4.0%	L(3)	54.6		FB = 5
					CA(eqv.)= 0.89

5-YR. FLOW

Q(5)	8	I(10)	3.3		
DEPTH	0.31	Fr	2.37	Inlet size ?	L(i) = 20
SPREAD	9.3	L(1)	16.9	If $L_i < L(2)$ then	Qi = 9
CROSS SLOP	2.0%	L(2)	10.2	If $L_i > L(2)$ then	Qi = 6
STREET SLOP	4.0%	L(3)	36.2		FB = 2
					CA(eqv.)= 0.61

CHANCELLOR DRIVE - EXISTING INLET (DESIGN POINT #4)
 EXISTING 8' D-10-R AT-GRADE INLET

100-YR. FLOW

Q(100)	34	I(100)	4.0		
DEPTH	0.52	Fr	2.75	Inlet size ?	L(i) = 8
SPREAD	19.5	L(1)	41.3	If Li < L(2) then Qi =	7
CROSS SLOP	2.0%	L(2)	24.8	If Li > L(2) then Qi =	13
STREET SLOP	4.0%	L(3)	88.5	FB =	27
				CA(eqv.)=	6.75

5-YR. FLOW

Q(5)	23	I(10)	2.3		
DEPTH	0.44	Fr	2.64	Inlet size ?	L(i) = 8
SPREAD	15.8	L(1)	32.0	If Li < L(2) then Qi =	6
CROSS SLOP	2.0%	L(2)	19.2	If Li > L(2) then Qi =	10
STREET SLOP	4.0%	L(3)	68.6	FB =	17
				CA(eqv.)=	7.39

DESIGN POINT 12
 PROPOSED 20' AT-GRADE INLET

100-YR. FLOW

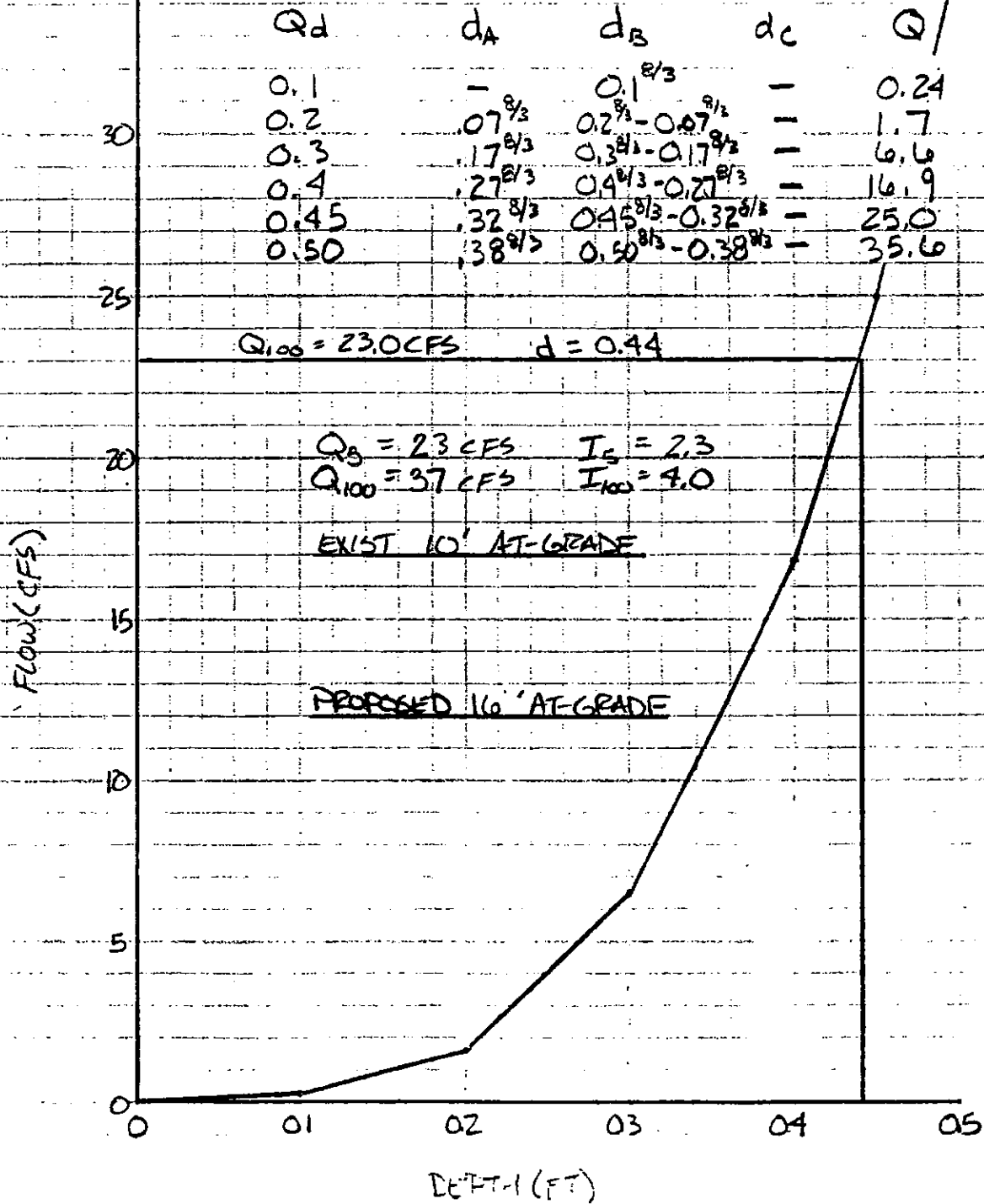
Q(100)	14	I(100)	5.0		
DEPTH	0.46	Fr	1.33	Inlet size ?	L(i) = 20
SPREAD	16.5	L(1)	16.9	If Li < L(2) then Qi =	17
CROSS SLOP	2.0%	L(2)	10.2	If Li > L(2) then Qi =	11
STREET SLOP	1.0%	L(3)	36.3	FB =	3
				CA(eqv.)=	0.60

5-YR. FLOW

Q(5)	7	I(10)	3.0		
DEPTH	0.37	Fr	1.26	Inlet size ?	L(i) = 20
SPREAD	12.3	L(1)	11.9	If Li < L(2) then Qi =	12
CROSS SLOP	2.0%	L(2)	7.1	If Li > L(2) then Qi =	6
STREET SLOP	1.0%	L(3)	25.4	FB =	1
				CA(eqv.)=	0.33

$$Q = 0.56 \frac{\pi}{2} d^{8/3} s^{1/2}$$

$s = 4\%$



$$Q = 0.56 \frac{Q}{\pi} d^{8/3} s^{1/2}$$

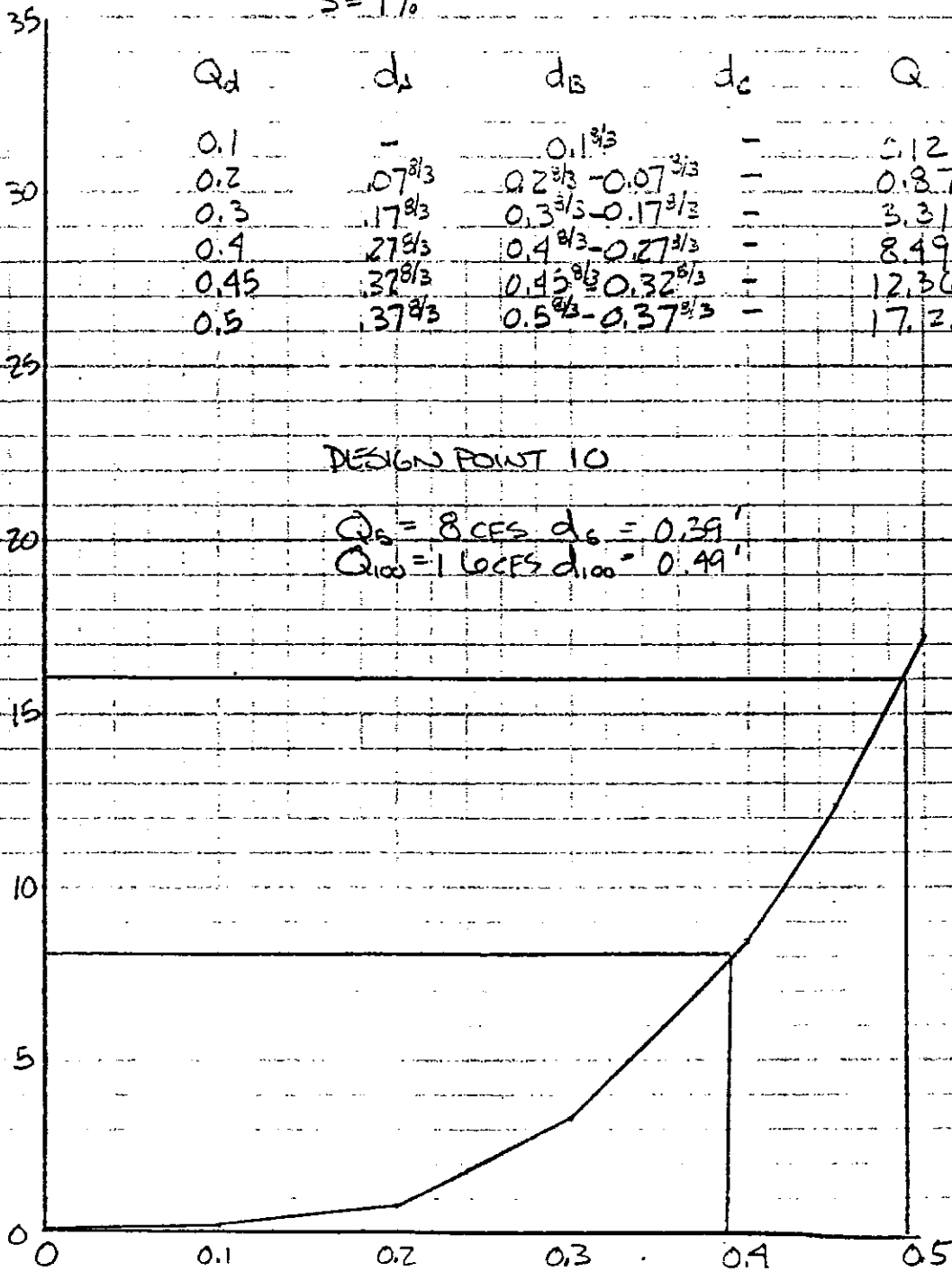
$$s = 1\%$$

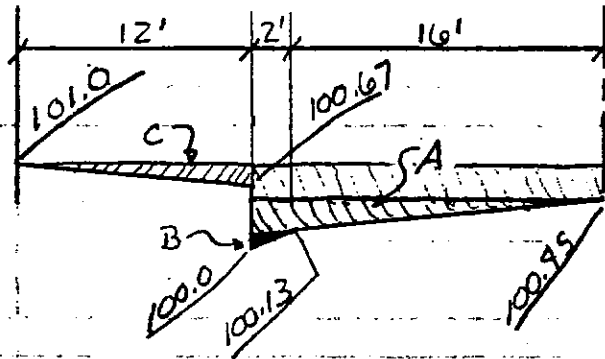
Q_d	d_d	d_B	d_c	Q
0.1	-	$0.1^{3/3}$	-	0.12
0.2	$0.07^{8/3}$	$0.2^{3/3} - 0.07^{3/3}$	-	0.87
0.3	$0.17^{8/3}$	$0.3^{3/3} - 0.17^{3/3}$	-	3.31
0.4	$0.27^{8/3}$	$0.4^{3/3} - 0.27^{3/3}$	-	8.49
0.45	$0.37^{8/3}$	$0.45^{3/3} - 0.32^{3/3}$	-	12.36
0.5	$0.37^{8/3}$	$0.5^{3/3} - 0.37^{3/3}$	-	17.22

DESIGN POINT 10

$$Q_{10} = 8 \text{ CFS } d_c = 0.39'$$

$$Q_{100} = 16 \text{ CFS } d_{100} = 0.49'$$





INITIAL STORM ~ MAX DEPTH = CROWNLINE

$$Q_A = 0.56 \frac{\pi}{\pi} d^{8/3} s^{1/2}$$

$$= 0.56 \left(\frac{50}{.016} \right) (0.32)^{8/3} (s)^{1/2} = 84 s^{1/2}$$

$$Q_B = 0.56 \frac{\pi}{\pi} d^{8/3} s^{1/2}$$

$$= 0.56 \left(\frac{16}{.016} \right) (0.45^{8/3} + 0.32^{8/3}) (s)^{1/2} = 40 s^{1/2}$$

$$Q_B = Q_A + Q_B = 124 s^{1/2} \text{ (EACH SIDE)}$$

MAJOR STORM ~ 1' DEPTH IN GUTTER

$$Q_A = 0.56 \left(\frac{50}{.016} \right) (0.87^{8/3} - 0.55^{8/3}) (s)^{1/2} = 852 s^{1/2}$$

$$Q_B = 0.56 \left(\frac{16}{.016} \right) (1.0^{8/3} - 0.87^{8/3}) (s)^{1/2} = 174 s^{1/2}$$

$$Q_C = 0.56 \left(\frac{36}{.030} \right) (0.33^{8/3}) (s)^{1/2} = 35 s^{1/2}$$

$$Q_{100} = Q_A + Q_B + Q_C = 1061 s^{1/2} \text{ (EACH SIDE)}$$

DRAINAGE MAP

095085217

95 AUG 18 AM 11:03

RECEPTION NBR

R 180476

ARDIS W. SCHMITT
EL PASO COUNTY CLERK & RECORDER

TITLE COMPANY: _____

SUR CHARGE: 1.00

CTF OF MAGISTRY FEES: _____

RECEPTION FEES: 15.00

LAND SURVEY PLATS/INDEX FEES: _____

DOC FEES: _____

MISCELLANEOUS FEES: _____

MINING CLAIM FEES: _____

Bk. 6706
920-922

INITIALS: AK

TOTAL AMOUNT: 16.00

CHECK CASH

DATE: 8-18-95

C&R/013 08/95 REVISED

CROW'S PTG. SVC. - 322-0288

GRANT OF EASEMENT

The undersigned, being the owner(s) of the hereinafter described real property located in the County of El Paso and State of Colorado, for an in consideration of One Dollar and other good and valuable consideration, does hereby grant to the City of Colorado Springs, Colorado, a municipal corporation, an easement for Drainage Facilities over under, and across the following property:

EXHIBIT A (attached hereto)

together with rights of access and egress for the installation, maintenance, repair, and replacement of Drainage Facilities.

The undersigned shall not erect or construct any building or other structure, or drill or operate any well, within the above described property.

The provisions hereto shall inure to the benefit of and bind the heirs, successors, and assigns of the respective parties hereto.

Signed, sealed, and delivered this 30th day of July, 1995.

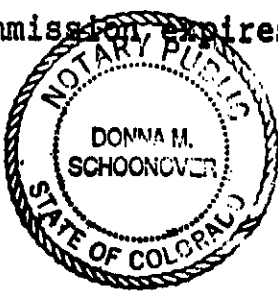
Benjamin D. Brown
In Woodmen Pointe

COUNTY OF EL PASO)
SS
STATE OF COLORADO)

The above and foregoing instrument was acknowledged before me this 30th day of July, 1995, by Benjamin D. Brown.

Witness my hand and notarial seal.

My Commission expires 9/28/98



Donna M. Schoonover
NOTARY PUBLIC

EXHIBIT A

JOB NO. 8659.00 - 14
JULY 12, 1995
PAGE 1 OF 2

LEGAL DESCRIPTION:



A TRACT OF LAND LYING IN THE WEST HALF OF THE WEST HALF OF SECTION 1, TOWNSHIP 13 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF COLORADO SPRINGS, EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 1, TOWNSHIP 13 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, IS ASSUMED TO BEAR N89°29'40"E, HAVING A DISTANCE OF 1320.26 FEET.

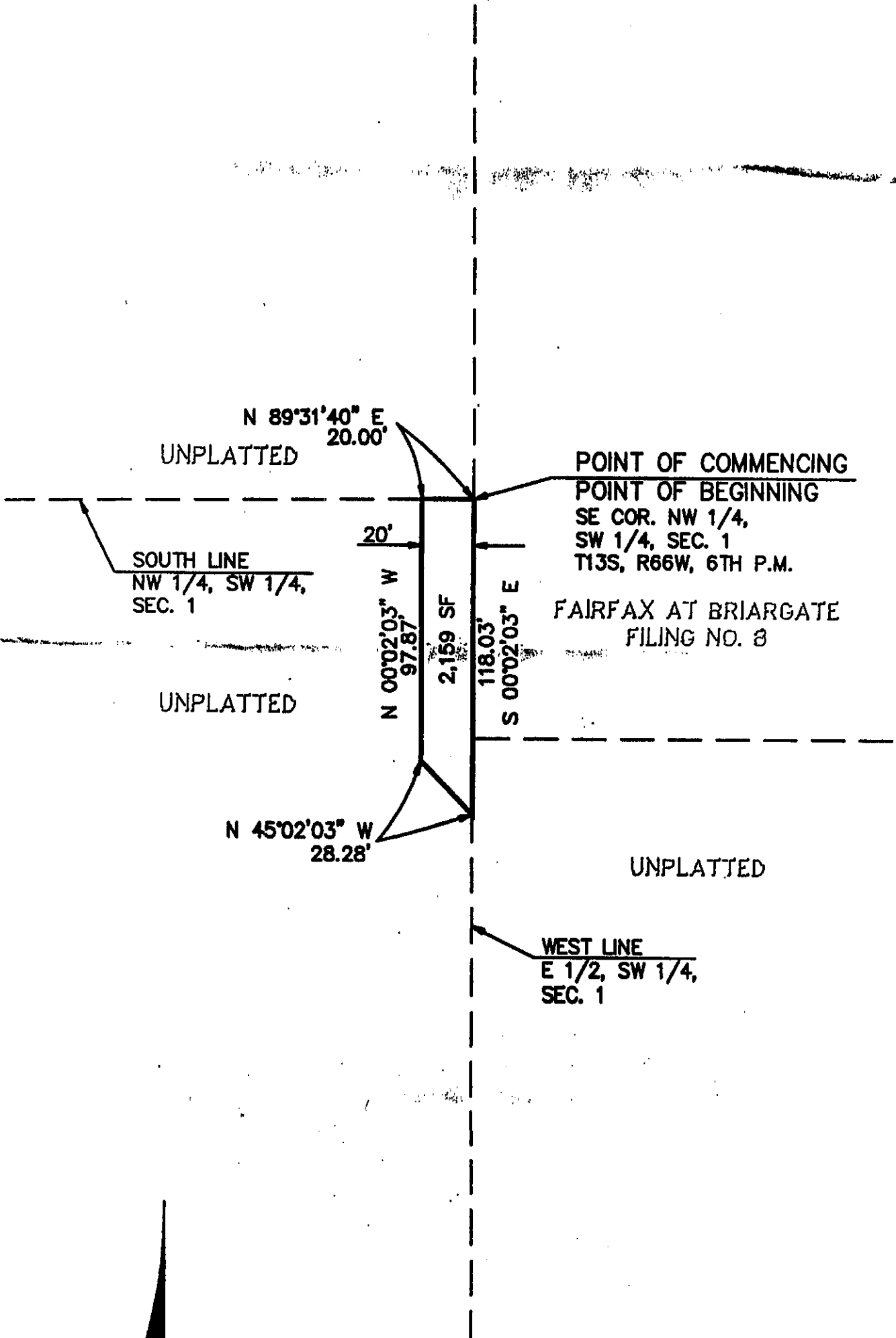
COMMENCING AT THE SOUTHEAST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 1, SAID POINT BEING THE POINT OF BEGINNING; THENCE S00°02'03"E ON THE EASTERLY LINE OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 1, A DISTANCE OF 118.03 FEET; THENCE N45°02'03"W, A DISTANCE OF 28.28 FEET; THENCE N00°02'03"W, A DISTANCE OF 97.87 FEET; THENCE N89°31'40"E ALONG THE SOUTHERLY LINE OF NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 1, A DISTANCE OF 20.00 FEET TO THE POINT OF BEGINNING, CONTAINING 2159 SQUARE FEET.

LEGAL DESCRIPTION STATEMENT:

I, G. LAWRENCE BURNETT, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY STATE THAT THE ABOVE LEGAL DESCRIPTION AND ATTACHED EXHIBIT WERE PREPARED UNDER MY RESPONSIBLE CHARGE AND ON THE BASIS OF MY KNOWLEDGE, INFORMATION AND BELIEF, ARE CORRECT.



G. LAWRENCE BURNETT, PROFESSIONAL LAND SURVEYOR
COLORADO P.L.S. NO. 10376
FOR AND ON BEHALF OF JR ENGINEERING, LTD.

July 12, 1995
DATE



50' 25' 0 50' 100'

SCALE: 1" = 50'

THIS DRAWING DOES NOT REPRESENT
 A MONUMENTED SURVEY AND IS ONLY
 INTENDED TO DEPICT THE ATTACHED

08-18-1995 03:33PM

B. DOUGLAS QUIMBY, ESQ.

719 471 2915 P.01

RECEPTION NBR 095085541
5598

95 AUG 18 PM 3:07

ARDIS W. SCHMITT
EL PASO COUNTY CLERK & RECORDER

R 180551

TITLE COMPANY: _____

SUR CHARGE: 8.00

CTF OF MAGISTRY FEES: _____

RECEPTION FEES: 80.00

LAND SURVEY PLATS/INDEX FEES: _____

DOC FEES: _____

MISCELLANEOUS FEES: _____

MINING CLAIM FEES: _____

*Easement - B.k. 6707
Pg 4-6*

INITIALS: YK

TOTAL AMOUNT: 88.00

2 CHECK CASH 16.00

DATE: 8-18-95

C&R/013 08/95 REVISED
CROWN STG. SUP. ... 199-0100

Book 6707
Page 4

GRANT OF EASEMENT

The undersigned, being the owner(s) of the hereinafter described real property located in the County of El Paso and State of Colorado, for an in consideration of One Dollar and other good and valuable consideration, does hereby grant to the City of Colorado Springs, Colorado, a municipal corporation, an easement for Drainage Facilities over under, and across the following property:

SEE EXHIBIT A ATTACHED HERETO.

together with rights of access and egress for the installation, maintenance, repair, and replacement of Drainage Facilities.

The undersigned shall not erect or construct any building or other structure, or drill or operate any well, within the above described property.

The provisions hereto shall inure to the benefit of and bind the heirs, successors, and assigns of the respective parties hereto.

Signed, sealed, and delivered this 18th day of August, 1995.

THE BRIARGATE JOINT VENTURE, a Colorado general partnership

By: Vintage Communities, Inc., as managing agent

By: Roger G. Hukle, Vice President

COUNTY OF EL PASO)

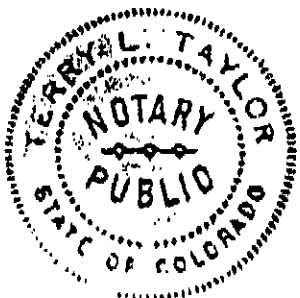
SS

STATE OF COLORADO)

The above and foregoing instrument was acknowledged before me this 18th day of August, 1995, by Roger G. Hukle as Vice President of Vintage Communities, Inc., Managing Agent of The Briargate Joint Venture, a Colorado general partnership.

Witness my hand and notorial seal.

My Commission expires October 19, 1996



Ternal L. Taylor
NOTARY PUBLIC

08-18-1995 03:34PM

B. DOUGLAS QUIMBY, ESQ.

719 471 2915 P.03

JR Engineering, Ltd.EXHIBIT AJOB NO. 8659.00 - 15
JULY 12, 1995
PAGE 1 OF 2**LEGAL DESCRIPTION:**

A 20 FOOT WIDE STRIP OF LAND LYING IN THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 1, TOWNSHIP 13 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF COLORADO SPRINGS, EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS:

THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 1, TOWNSHIP 13 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, IS ASSUMED TO BEAR N89°29'40"E, HAVING A DISTANCE OF 1320.26 FEET.

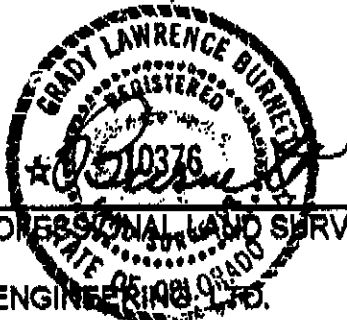
COMMENCING AT THE SOUTHEAST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 1; THENCE S00°02'03"E ALONG THE WEST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER, A DISTANCE OF 103.88 FEET TO THE POINT OF BEGINNING OF THE CENTERLINE OF A 20.00 FOOT WIDE STRIP OF LAND, LYING 10.00 FEET ON EACH SIDE OF THE CENTERLINE DESCRIBED AS FOLLOWS: THENCE S45°02'03"E, A DISTANCE OF 155.42 FEET TO POINT A; THENCE S45°02'03"E, A DISTANCE OF 85.00 FEET; THENCE S00°02'03"E, A DISTANCE OF 280.00 FEET TO THE POINT OF TERMINUS OF THE CENTERLINE OF THE FIRST 20.00 FOOT WIDE STRIP DESCRIBED HEREIN, WHENCE THE POINT OF COMMENCING BEARS N17°05'49"W, A DISTANCE OF 579.38 FEET; ALSO: A STRIP OF LAND 20.00 FEET IN WIDTH AND LYING 10.00 FEET ON EACH SIDE OF THE CENTERLINE DESCRIBED AS FOLLOWS: BEGINNING AT HEREINABOVE DESCRIBED POINT A; THENCE N00°02'03"W, A DISTANCE OF 123.97 FEET TO THE SOUTHERLY LINE OF FAIRFAX AT BRIARGATE FILING NO. 8 AS RECORDED IN PLAT BOOK E-5 AT PAGE 110 OF THE RECORDS OF EL PASO COUNTY, COLORADO, WHENCE THE POINT OF COMMENCING BEARS N50°46'43"W, A DISTANCE OF 141.93 FEET, EXTENDING AND OR SHORTENING THE SIDE LINES OF SAID 20.00 FOOT WIDE STRIP TO INTERSECT (1) THE WEST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 1, (2) TO INTERSECT EACH OTHER, AND (3) TO INTERSECT THE SOUTHERLY LINE OF SAID FAIRFAX AT BRIARGATE FILING NO. 8, SAID TRACT OF LAND CONTAINS 12,605 SQUARE FEET.

LEGAL DESCRIPTION STATEMENT:

I, G. LAWRENCE BURNETT, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY STATE THAT THE ABOVE LEGAL DESCRIPTION AND ATTACHED EXHIBIT WERE PREPARED UNDER MY RESPONSIBLE CHARGE AND ON THE BASIS OF MY KNOWLEDGE, INFORMATION AND BELIEF, ARE CORRECT.



G. LAWRENCE BURNETT, PROFESSIONAL LAND SURVEYOR
COLORADO P.L.S. NO. 10376
FOR AND ON BEHALF OF JR ENGINEERING, LTD.



July 12, 1995
DATE

JR Engineering, Ltd.

4935 North 30th Street
Colorado Springs, Colorado 80919
(719) 593-2593 • FAX (719) 528-8613

FAIRFAX STATION FILING NO. 1 -
OFFSITE DRAINAGE EASEMENT "A"
JOB NO. 8659.00-15
PAGE 2 OF 2
7/11/95

