CITY OF ALBUQUERQUE



Planning Department Transportation Development Services Section

May 23, 2012

Steven K. Morrow, P.E. Brasher & Lorenz 2201 San Pedro Ne, Bldg 1, Ste. 1200 Albuquerque, NM 87110

Re: Certification for a Permanent Certificate of Occupancy (C.O.)

TownPlace Suites by Marriot [F-17/D072A]

5531 Office Blvd. NE

Engineer's Stamp Dated 05/17/12

Dear Mr. Morrow:

Sincerely

Based upon the information provided in your submittal received 05-23-12, Transportation Development has no objection to the issuance of a <u>Permanent Certificate</u> of Occupancy. This letter serves as a "green tag" from Transportation Development for a <u>Permanent Certificate</u> of Occupancy to be issued by the Building and Safety Division.

If you have any questions, please contact me at (505)924-3630.

Albuquerque

PO Box 1293

NM 87103

www.cabq.gov

E. Salgado-Fernandez, P.E. Senior Traffic Engineer

Development and Building Services

Planning Department

c: Engineer
Hydrology file
CO Clerk

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

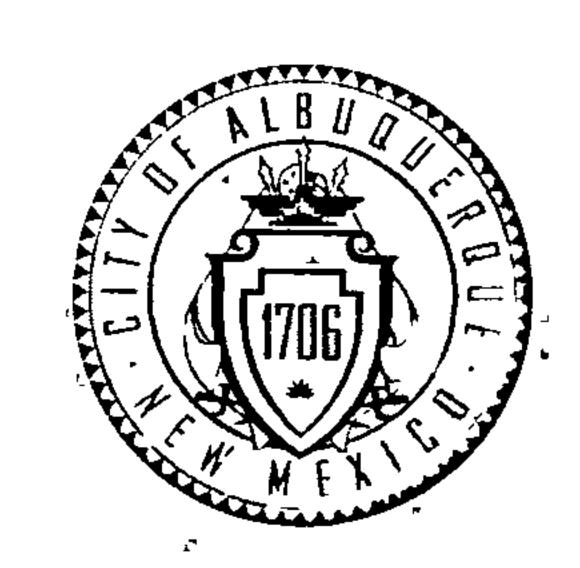
(REV 04/2009)

PROJECT TITLE:	TOWNEPLACE SUITES	BY MAI	RRIOTT		ZONE MAP	P: <u>F17-D072A</u>
DRB#: <u>11 DRB-70035</u>	EPC#:	10EPC-4	40074		WORK ORDE	R#: <u>583083</u>
LEGAL DESCRIPTION:	LOT 4, JEFFER	SON CON	MONS	II		
CITY ADDRESS:	5531 OFFICE B	OULEVA	ARD NE			
ENGINEERING FIRM:	BRASHER & LORENZ,	INC.			CONTACT:	Dennis Lorenz
ADDRESS:	2201 SAN PEDRO NE, E	BUILDIN	G 1, SUIT			388-6088
	ALBUQUERQUE, NEW			•	_	
OWNER:	INTERMOUNTAIN MA	NAGEME	ENT. LLC		CONTACT:	Dave Raymond
	2390 TOWER DRIVE				PHONE:	•
	MONROE, LOUISIANA				ZIP CODE:	
		<u> </u>		•		, 1201
ARCHITECT:	ARCHITECTURE +				CONTACT	Clyde Webb
	514 CENTRAL AVE SW			•	PHONE: 3	
	MONROE, LOUISIANA	- ''			ZIP CODE:	
CITT, SIATE.	MONICOL, LOCIONALIA	•			_ZII CODE	71201
SURVEYOR:	BRASHER & LORENZ,	INC			_CONTACT:	I Armiio
	2201 SAN PEDRO NE, E	•	C 1 CITE	1200	PHONE:	•
	ALBUQUERQUE, NEW				ZIP CODE:	
CITT, STATE	ALBUQUERQUE, NEW	MEXICO	,		ZIP CODE	0/110
CONTR ACTOR.	HARRELL CONTRACT	INC			CONTACT	Brian Reddock
	P.O. BOX 12850	INU			-	
		. T				<u>601-206-7543</u>
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Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following.

- 1 Conceptual Grading and Drainage Plan: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
- 2 Drainage Plans Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
- 3. Drainage Report: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more

CITY OF ALBUQUERQUE



Planning Department Transportation Development Services Section

May 21, 2012

Steven K. Morrow, P.E. Brasher & Lorenz 2201 San Pedro Ne, Bldg 1; Ste. 1200 Albuquerque, NM 87110

Re:

Certification for a 60-dayTemporary Certificate of Occupancy (C.O.)

TownPlace Suites by Marriot [F-17/D072A]

5531 Óffice Blvd. NE

Engineer's Stamp Dated 05/17/12

Dear Mr. Morrow:

Based upon the information provided in your submittal received 05-01-12, Transportation Development has no objection to the issuance of a 60-day <u>Temporary Certificate of Occupancy</u>. This letter serves as a "green tag" from Transportation Development for a 60-day <u>Temporary Certificate of Occupancy</u> to be issued by the Building and Safety Division.

If you have any questions, please contact me at (505)924-3630.

[†] Ålbuquerque

PO Box-1293

Singerely,

NM 87103

www.cabq.gov

/Nild/E. Salgado-Fernandez, P.E.

Senior Traffic Engineer

Development and Building Services

Planning Department

C:

Engineer Hydrology file CO Clerk

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

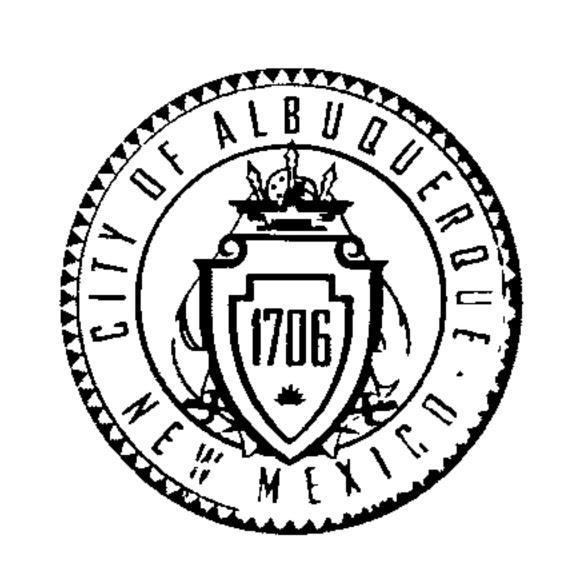
(REV 04/2009)

PROJECT TITLE:	TOWNEPLACE SUITE	ES BY MAR	RIOTT	ZONE MAP:	F17-D072A
DRB#: <u>11 DRB-70035</u>	EPC#:	10EPC-4	0074	WORK ORDER	R#: 583083
					
LEGAL DESCRIPTION:	LOT 4, JEFFE	RSON COM	IMONS II		
CITY ADDRESS:			<u> </u>		
ENGINEERING FIRM:	BRASHER & LORENZ	Z. INC.		CONTACT: D	ennis Lorenz
	2201 SAN PEDRO NE,	<u> </u>			88-6088
	ALBUQUERQUE, NEV			-	····
~ , <u>-</u>		<u> </u>			
OWNER:	INTERMOUNTAIN MA	ANAGEME	NT. LLC	CONTACT: D	ave Raymond
······································	2390 TOWER DRIVE			PHONE: 31	
	MONROE, LOUISIAN	A	· · · · · · · · · · · · · · · · · · ·	ZIP CODE:	
ARCHITECT:	ARCHITECTURE +			CONTACT:	Clyde Webb
	514 CENTRAL AVE SV	W		PHONE: 31	-
	MONROE, LOUISIAN			ZIP CODE:	- · · ·
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SURVEYOR:	BRASHER & LORENZ	7 INC		CONTACT: _	I Armiio
	2201 SAN PEDRO NE,		1 SITE 1200		888-6088
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CONTRACTOR:	HARRELL CONTRAC	TING		CONTACT	Brian Reddock
	P.O. BOX 12850	11110	······································		601-206-7543
	JACKSON, MISSISSIP	PI	· · · · · · · · · · · · · · · · · · ·	ZIP CODE:	<u> </u>
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- 3. Drainage Report: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

CITY OF ALBUQUERQUE



May 21, 2012

Steven K. Marrow, P.E. stevem@brasherlorenz.com

Brasher & Lorenz Consulting Engineers

2201 San Pedro NE Bldg 1 Ste. 1300

Albuquerque, NM 87110

Re: Towneplace Suites by Marriott, 5531 Office Blvd NE,

Request for Permanent C.O. –Approved

Engineer's Stamp dated: 05-13-11, (F17/D072A)

Certification dated: 05-17-12

Dear Mr. Marrow,

Based upon the information provided in the Certification received 05-17-12, the above referenced Certification is approved for a release of a Permanent Certificate of Occupancy by Hydrology.

PO Box 1293

Albuquerque

Hydrology is asking for an electronic copy, in .pdf format, of this certification for our records. This certification can be e-mailed to me at: <u>tsims@cabq.gov</u>.

If you have any questions, you can contact me at 924-3982.

Timothy E. Sims,

Sinderely,

NM 87103

Plan Checker—Hydrology Section Development and Building Services

www.cabq.gov

C: CO Clerk—Katrina Sigala File

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

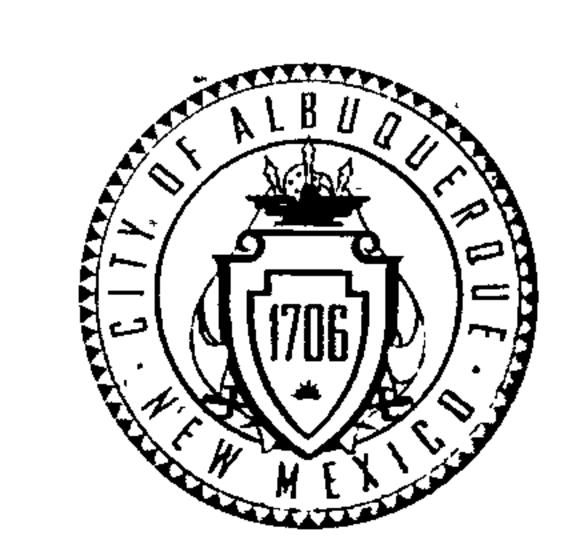
(REV 04/2009)

PROJECT TITLE:	TOWNEPLACE SUITES	BY MARRIOTT	ZONE MAP: <u>F17-D072A</u>
DRB#: <u>11 DRB-70035</u>	EPC#:	10EPC-40074	WORK ORDER#: <u>583083</u>
LEGAL DESCRIPTION:		SON COMMONS II	
CITY ADDRESS:	5531 OFFICE B	OULEVARD NE	
		T	
	BRASHER & LORENZ,		CONTACT: Dennis Lorenz
	•	SUILDING 1, SUITE 1200	PHONE: 888-6088
CHY, STATE: _	<u>ALBUQUERQUE, NEW</u>	MEXICO	ZIP CODE: <u>87110</u>
OWNER:	INTERMOUNTAIN MAI	JACEMENT LIC	COMPACE Davis Davis and
	2390 TOWER DRIVE	NAGENIEN I, LLC	CONTACT: <u>Dave Raymond</u> PHONE: 318-812-7126
	MONROE, LOUISIANA		ZIP CODE: 510-812-7120
CHI, SIAIL.	MONICE, LOCISIANA	_, ,	_ ZIP CODE /1201
ARCHITECT:	ARCHITECTURE +		CONTACT: Clyde Webb
	514 CENTRAL AVE SW		PHONE: 318-387-2800
	MONROE, LOUISIANA		ZIP CODE: 71201
SURVEYOR:	BRASHER & LORENZ,	INC.	CONTACT: L. Armijo
	2201 SAN PEDRO NE, B		PHONE: 888-6088
	ALBUQUERQUE, NEW	······································	ZIP CODE: 87110
		·	
CONTRACTOR:	HARRELL CONTRACT	NG	CONTACT: Brian Reddock
ADDRESS:	P.O. BOX 12850		PHONE: 601-206-7543
CITY, STATE: _	JACKSON, MISSISSIPPI		ZIP CODE: 39236
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Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following

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- 3. Drainage Report. Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

CITY OF ALBUQUERQUE



June 27, 2011

Dennis A. Lorenz, P.E. Brasher & Lorenz, Inc. 2201 San Pedro NE Albuquerque, NM 87110

Re: TOWNEPLACE SITES BY-MARRIOTT

Grading and Drainage Plan

Engineer's Stamp dated 5-13-2011 (F17/D072A)

Dear Mr. Lorenz,

Baséd upon the information provided in your submittal received 6/06/2011, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

This is the plan to certify for release of Certificate of Occupancy and replaces the previously approved plan.

PO Box 1293

- Albuquerque

- Hydrology is requesting that proposed landscape areas be depressed to retain/infiltrate the rain that falls on them.

NM 87103

If you have any questions, you can contact me at 924-3421 or Rudy Rael at 924-3977.

www.cabq.gov

Sincerely,

Paul Olson, P.E., P.E.

Senior Engineer, Planning Dept.

Development and Building Services

RER/PLO

C: Kathy Verhage, DMD

File



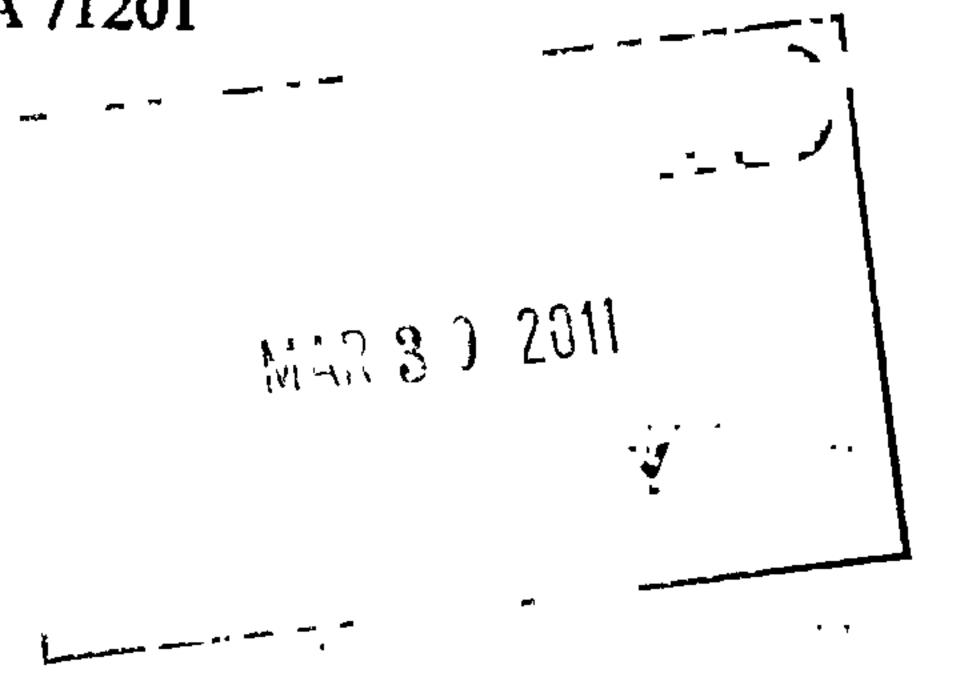
City of Albuquerque
Planning Department
Urban Design & Development Division
P.O. Box 1293
Albuquerque, New Mexico 87103

Date: February 11, 2011

OFFICIAL NOTIFICATION OF DECISION

FILE: Project # 1000319
10EPC-40074 SITE DEVELOPMENTBUILDG PRMT

Intermountain Management, LLC 2390 Tower Drive Monroe, LA 71201



LEGAL DESCRIPTION:

CONSENSUS PLANNING agent for INTERMOUNTAIN MANAGMENT, LLC requests the above action for a portion of lot 4, JEFFERSON COMMONS II, zoned IP, located on OFFICE BLVD BETWEEN COMMONS AVE AND PAN AMERICAN FRONTAGE RD containing approximately 1.9 acres. (F-17) Randall Falkner, Staff Planner

On February 10, 2011, the Environmental Planning Commission voted to APPROVE Project #1000319 / 10EPC-40074, a Site Development-Building Permit, based on the following findings and subject to the following conditions:

FINDINGS:

FINDINGS - 10EPC 40074, February 10, 2011, Site Development Plan for Building Permit

- 1. This is a request for a site development plan for building permit for a portion of Lot 4, Jefferson Commons II. The property is located on the north side of Office Boulevard, between Commons Avenue and the Pan American Freeway (frontage road for I-25). The subject site is included in the Jefferson Commons II Master Development Plan, and is 1.9 acres in size. The subject site occupies a portion (the eastern portion, 1.9 acres) of Lot 4, which is currently vacant. Currently, the western portion of Lot 4 (1.98 acres) is occupied by a restaurant.
- 2. The applicant intends to build a 91-room, 4-story, 53,331 s.f. hotel.
- 3. The subject property is zoned IP. The proposed use is permissive under the current zoning.

Official Notice of Decision Project # 1000319 February 10, 2011 Page 2 of 6

- 4. Three administrative amendments were recently approved (January 2011) to the Jefferson Commons II Master Development Plan to relocate the existing Lot Line between Lots 3 and 4, and to split Lot 4 into 2 lots.
- 5. The site is located within the Established Urban Area of the Comprehensive Plan and within the boundaries of the North Valley Area Plan.
- 6. The Albuquerque/Bernalillo County Comprehensive Plan, the North Valley Area Plan and the City of Albuquerque Zoning Code are incorporated herein by reference and made part of the record for all purposes.
- 7. The request for a site development plan for building permit involves a site development plan for subdivision (Jefferson Commons II Master Development Plan) with development standards. The site development plan for building permit meets the design standards, with some exceptions that are covered by conditions of approval.
- 8. The request furthers the following policies of the Comprehensive Plan and the North Valley Area Plan:
 - a. Policy II.B.5d The request is in accord with surrounding neighborhood values, natural environmental conditions, carrying capacities, and scenic resources. The subject site is surrounded by commercial (several restaurants and a movie theater) and office land uses, and would fit in well with the surrounding neighborhood. The request for a hotel is a projected use in the Jefferson Commons II Master Development Plan. The site plan shows connections to the primary pedestrian way that connect pedestrians throughout the entire Jefferson Commons II development. The request does not exceed height requirements in the IP zone or in the development standards.
 - b. Policy II.B.5e Full urban services are available to the surrounding properties and the request will provide a needed service and infill development on a vacant portion of land, while ensuring the integrity of the existing neighborhood.
 - c. Policy II.B.5i The request will complement residential areas in this area of the City by adding a business that provides jobs and services. The request has been designed to minimize the adverse effects of noise, lighting, pollution, and traffic on the surrounding area.
 - d. Policy II.B.5k The request has been planned to minimize the harmful effects of traffic, and the safety of residential neighborhoods will be protected in transportation planning and operations. Pedestrian paths on the subject site will tie into the primary pedestrian way that is shown on the Jefferson Commons II Master Development Plan. Transit is accessible from the site and the applicant has provided sidewalks and bicycle racks to expand the multi-modal options at this location.

Official Notice of Decision Project # 1000319 February 10, 2011 Page 3 of 6

- e. Policy II.B.5m The request will maintain the unique vistas to the east and west of the property. The building is proposed to be 49 feet high, which is well below the 120 feet which is allowed in the IP Zone and also complies with the 50 feet maximum building height allowed in the development standards of the Jefferson Commons II Master Development Plan.
 - f. North Valley Area Plan Goal 6 The request encourages quality commercial development on a vacant portion of a lot that already has IP Zoning. This type of development is consistent with IP Zoning and is permissive in the IP Zone.
 - g. North Valley Area Plan Goal 11 The request locates commercial development within the I-25 corridor instead of placing this type of development in the lower North Valley.

- 9. There is no known neighborhood/public support or opposition.
- 10. The FAR of 0.64 exceeds the FAR of 0.50 allowed in the development standards in the Jefferson Commons II Master Development Plan. The applicant has provided justification as to why the proposed FAR is appropriate and should be approved.

RECOMMENDATION - 10EPC 40074, February 10, 2011, Site Development Plan for Building Permit

APPROVAL of 10EPC 40074, a site development plan for building permit, for a portion of Lot 4, Jefferson Commons II, based on the preceding Findings and subject to the following Conditions of Approval.

CONDITIONS OF APPROVAL - 10EPC 40074, February 10, 2011, Site Development Plan for Building Permit

- 1. The EPC delegates final sign-off authority of this site development plan to the Development Review Board (DRB). The DRB is responsible for ensuring that all EPC Conditions have been satisfied and that other applicable City requirements have been met. A letter shall accompany the submittal, specifying all modifications that have been made to the site plan since the EPC hearing, including how the site plan has been modified to meet each of the EPC conditions. Unauthorized changes to this site plan, including before or after DRB final sign-off, may result in forfeiture of approvals.
- 2. Prior to application submittal to the DRB, the applicant shall meet with the staff planner to ensure that all conditions of approval are met.
- 3. Parking:

Official Notice of Decision Project # 1000319 February 10, 2011 Page 4 of 6

- a. The dimensions of the handicapped parking sign on Site Details (C3) shall be shown as no less than 12" by 18" per Section 14-16-3-1 (F)(9)(b)(3).
- b. The lower edge of both the handicapped and motorcycle signs on Site Details (C3) shall be no less than four feet above grade per Section 14-16-3-1 (F)(9)(b)(3).
- 4. The light detail on the site detail sheet (A006) shall show the pedestrian lighting as Medallion 2 Series Z26 pedestrian lighting, instead of Z24.

5. Landscaping (Sheet L1):

- a. The installed size of the Pinon shall be a minimum 10' in height, per Section 14-16-3-10 (F)(1).
- b. The total provided landscape beds shall be changed to 16,338 sf.
- c. Under Parking Lot Trees, the number of parking spaces provided by Townplace Suites needs to be changed to 93 spaces.
- d. Zoning has provided the following conditions for landscaping: "A shade tree needs to be moved more to the west in the most northern strip of landscape area to allow a tree to be adjacent to the pedestrian connection; the front landscape buffer needs to have at least 5' placed on the property; the remaining can be located within the right-of-way and will require a variance from the Zoning Hearing Examiner."

6. Pedestrian access:

- a. The new pedestrian way (shown as keyed note 24 on the site development plan for building permit) shall be shown as a new brick pedestrian way to match the existing brick pedestrian way to the northwest.
- b. There shall be a pedestrian connection between the existing brick pedestrian walkway on the far northeast side of the building and the existing sidewalk on the northeast side of the building.
- 7. Transit requests developer to provide at least 70 feet of sidewalk, instead of 30 feet, and relocate the bus pad at the south east end of the sidewalk. The present location shown on the drawing poses sight distance problem for vehicles entering into the Office Blvd. For vehicles entering the access it will be difficult for them to enter with the bus parked for long period of time since it will be a layover bus stop.
- 8. Provide a note on the site plan stating that 0.64 FAR is allowed on Tract 4-B only.
- 9. CONDITIONS FROM CITY ENGINEER, MUNICIPAL DEVELOPMENT and NMDOT:

Official Notice of Decision Project # 1000319 February 10, 2011 Page 5 of 6

- a. The Developer is responsible for permanent improvements to the transportation facilities adjacent to the proposed site development plan, as may be required by the Development Review Board (DRB).
- b. All the requirements of previous actions taken by the EPC and/or the DRB must be completed and/or provided for.
- c. Provide cross access agreements with adjacent property owners.
- d. Site plan shall comply and be designed per DPM Standards.
- 10. Horizontal banding (as required in the Master Development Plan Standards) shall be incorporated into the building, and will contain materials and colors (earth tone) as found in the theaters.
- 11. Lots 3 and 4 shall be replatted at DRB prior to or commensurate with approval of the subject request.

APPEAL: IF YOU WISH TO APPEAL/PROTEST THIS DECISION, YOU MUST DO SO BY **FEBRUARY 25, 2011** IN THE MANNER DESCRIBED BELOW. A NON-REFUNDABLE FILING FEE WILL BE CALCULATED AT THE LAND DEVELOPMENT COORDINATION COUNTER AND IS REQUIRED AT THE TIME THE APPEAL IS FILED. IT IS NOT POSSIBLE TO APPEAL EPC RECOMMENDATIONS TO CITY COUNCIL; RATHER, A FORMAL PROTEST OF THE EPC'S RECOMMENDATION CAN BE FILED WITHIN THE 15 DAY PERIOD FOLLOWING THE EPC'S DECISION.

Appeal to the City Council: Persons aggrieved with any determination of the Environmental Planning Commission acting under this ordinance and who have legal standing as defined in Section 14-16-4-4.B.2 of the City of Albuquerque Comprehensive Zoning Code may file an appeal to the City Council by submitting written application on the Planning Department form to the Planning Department within 15 days of the Planning Commission's decision. The date the determination in question is issued is not included in the 15-day period for filing an appeal, and if the fifteenth day falls on a Saturday, Sunday or holiday as listed in the Merit System Ordinance, the next working day is considered as the deadline for filing the appeal. The City Council may decline to hear the appeal if it finds that all City plans, policies and ordinances have been properly followed. If they decide that all City plans, policies and ordinances have not been properly followed, they shall hear the appeal. Such appeal, if heard, shall be heard within 45 days of its filing.

YOU WILL RECEIVE NOTIFICATION IF ANY PERSON FILES AN APPEAL. IF THERE IS NO APPEAL, YOU CAN RECEIVE BUILDING PERMITS AT ANY TIME AFTER THE APPEAL DEADLINE QUOTED ABOVE, PROVIDED ALL CONDITIONS IMPOSED AT THE TIME OF APPROVAL HAVE BEEN MET. SUCCESSFUL APPLICANTS ARE REMINDED THAT OTHER REGULATIONS OF THE CITY MUST BE COMPLIED WITH, EVEN AFTER APPROVAL OF THE REFERENCED APPLICATION(S).

Official Notice of Decision Project # 1000319 February 10, 2011 Page 6 of 6

Successful applicants should be aware of the termination provisions for Site Development Plans specified in Section 14-16-3-11 of the Comprehensive Zoning Code. Generally plan approval is terminated 7 years after approval by the EPC

Sincerely,

Deborah Stover
Planning Director

DS/rf/mc

cc: Consensus Planning, Inc., 302 8th Street NW, Albuquerque, NM 87102



Phone / Fax (505) 281-1800 Alvarado Office (505) 266-3444

January 27, 1998

Ms. Lisa Ann Manwill Engineering Associate / Hydrology COA Hydrology POBox 1293 Albuquerque, NM 87103

Re: Jefferson Commons II Storm Sewer

Dear Ms. Manwill:

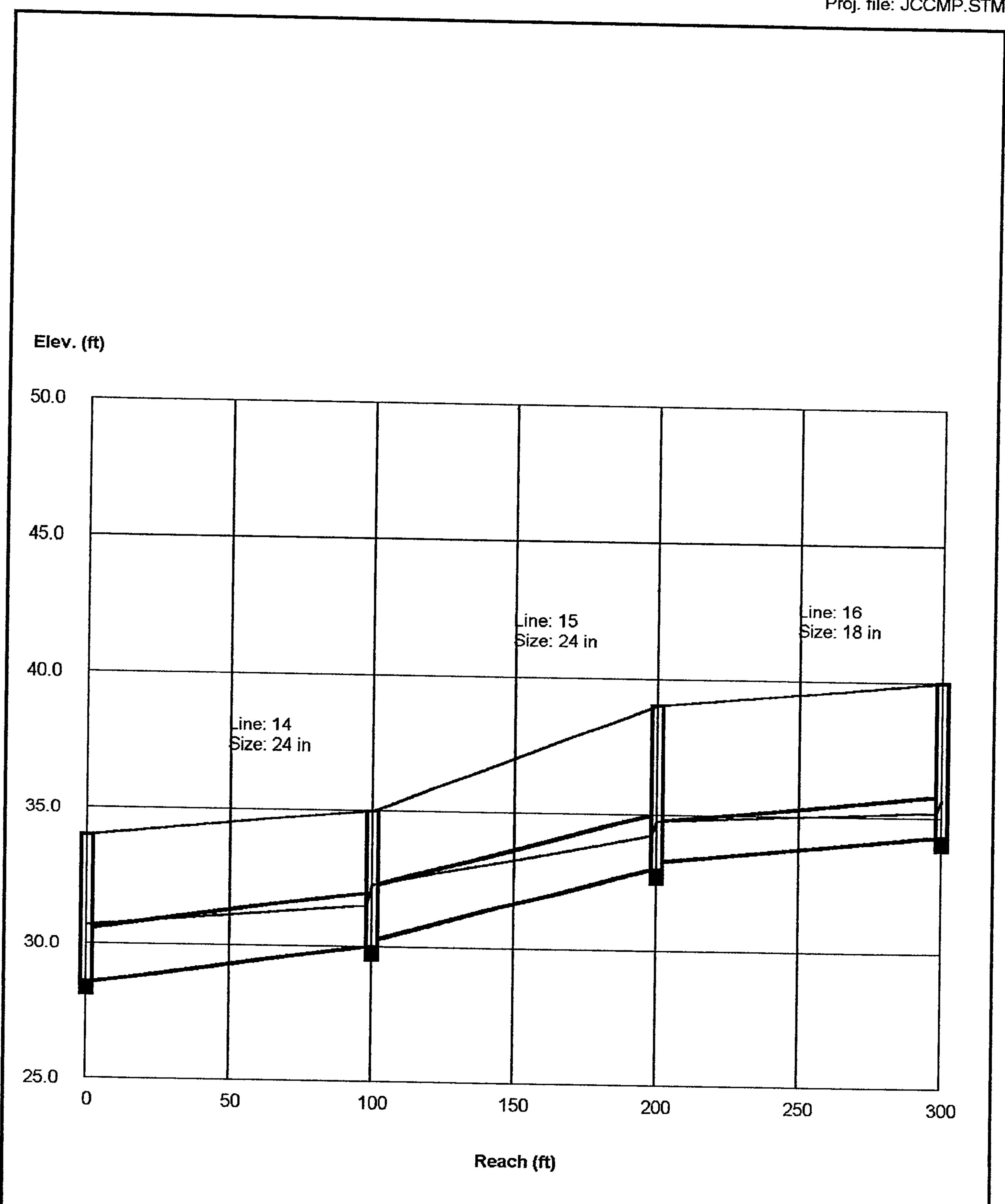
This submittal is to provide documentation of the revision of Lines 15 & 16 for the SS system adjacent to Lots 1 & 6 for the Jefferson Commons II project. Lot 1 is planned for a hotel site, and their engineer, Jeff Motenson, requested that this section of the SS be lowered to accommodate the proposed grades of their site. The line sizes remain the same, with the slope of Line 15 changed from 2.7% to 1%, and the rims of Inlets 4F and 4G lowered.

Please call me at 281-1800 if you have any questions concerning this submittal. Thank you.

Sincerely,

Christopher L. Weiss, P.E.

C.L. Weiss Engineering, Inc.



Oviguil Submittel

Line 14 Q = 18.00 Size = 24 x 24 (Cir) Nv = 0.012 Len = 100.0 JLC = 1.00

Inlet 4D-4E / Downstream	line =	13
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	Invert	Depth	HGL	EGL	Area	Vel	T-W	id	Cover
Dnstrm Upstrm	28.60 30.00	24 18	30.71 31.50	31.22	3.14 2.53	5.73 7.11	0.00 1.73		3.40 3.00
Runoff contribution Time of Inlet Time Intensity	(a) 100 yr ive C x A	(C)	$= 0.00 \\ = 0.00 \\ = 1.11 \\ = 0.00 \\ = 0.00 \\ = 0.00 \\ = 0.00$		Slope of investioned depth latural ground of the latural ground depth latural ground depth latural Qualitional Quality cap	grade linh (in) nd elev. (cfs)	ft) ft)		1.400 1.070 18 35.00 0.00 6.00 28.99
Q Carryo Q Captus	` ,	(cfs)	= 0.00 $= 0.00$ $= 0.00$ $= 0.00$		nlet Type Futter slope Flovidth of Flo	ft/ft)		=	MH 0.00 0.00 0.00

Line 15	Q = 12.00	$Size = 24 \times 24 \text{ (Cir)}$	Nv = 0.012	Len = 100.0	JLC = 1.00
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Inlet 4E-4F / Downstream line = 14

	Invert	Depth	HGL	EGL	Area	Vel	T-W	id	Cover
Dnstrm Upstrm	30.30	24 15	32.29 34.23	32.51 34.77	3.14 2.02	3.82 5.94	1.99 1.95		2.70 4.00
Drainage area (ac) Runoff coefficient (C) Time of conc. (min) Inlet Time (min) Intensity @ 100 yr (in/hr) Cumulative C x A Q = CA x I (cfs)			$= 0.00 \\ = 0.00 \\ = 0.56 \\ = 0.00 \\ = 0.00 \\ = 0.00$	S C N I	lope of invelope energy Critical depth Vatural grou Spstream su Additional Qual-flow cap	grade linh (in) nd elev. (cfs)	ft) ft)		2.700 2.260 15 39.00 0.00 6.00 40.26
Q Carryo Q Captur	` /	(cfs)	= 0.00 $= 0.00$ $= 0.00$ $= 0.00$		nlet Type Sutter slope Cross slope (Vidth of Flo	ft/ft)		===	MH 0.00 0.00 0.00

Original Suburity!
. Line 16 Q = 6.00 Size = 18 x 18 (Cir)

Nv = 0.012 Len = 100.0

JLC = 1.00

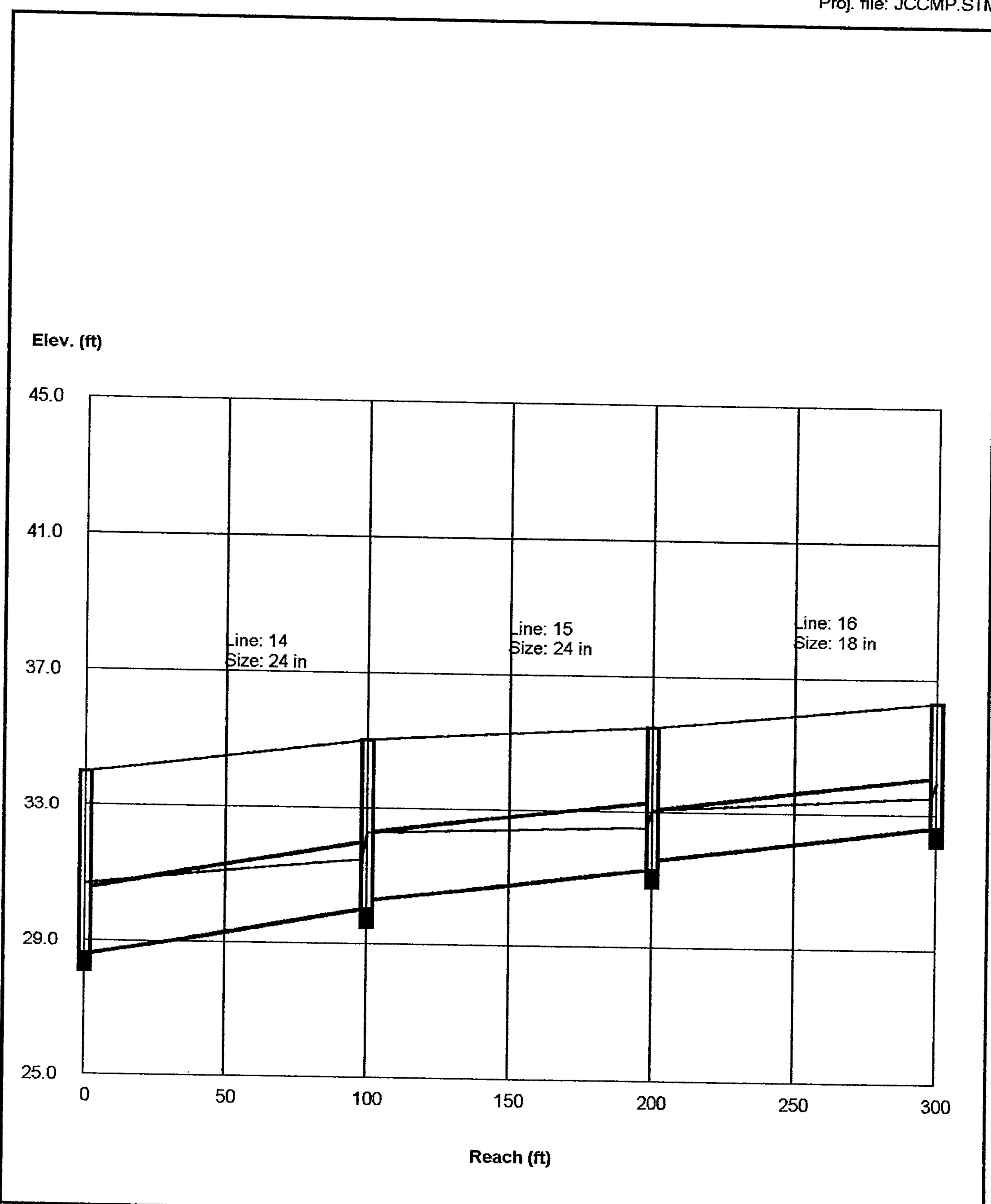
Inlet 4F-4G / Downstream line = 15

	Invert	Depth	HGL	EGL	Area	Vel	T-W	id	Cover
Dnstrm Upstrm	33.30 34.30	18	34.77	34.95	1.76	3.41	1.49		4.20
Cpsum	34.30	11	35.23	35.65	1.16	5.18	1.45		4.20
Drainage	e area (ac)		= 0.00		Slope of inve	ert (%)		=	1.000
	coefficient (•	= 0.00		Slope energy	grade lir	ne (%)	==	0.697
	conc. (min))	= 0.00		•	=	11		
Inlet Time (min)			= 0.00		Natural grou	nd elev. ((ft)	=	40.00
Intensity @ 100 yr (in/hr)			= 0.00		Upstream surcharge (ft)				
	tive C x A		= 0.00		Additional Q (cfs)				
Q = CA	x I (cfs)	ے ہے جی جی جی دید شد شد سند انہ د	= 0.00		Full-flow capacity (cfs)				11.38
Q Catch	ment (cfs)		= 0.00		Inlet Type	هر دی دی دی دی هم جد دندا که کا	- 	==	MH
-	over (cfs)		= 0.00		Gutter slope	(ft/ft)		=	0.00
Q Captu	` /		= 0.00		Cross slope (ft/ft)				
Q Bypas	sed to 15	(cfs)	= 0.00	، سے سے جمع سے جمع جمع سے خطا است	Width of Flo	w (ft)	ے سے بھر جم جم سے ملک شاہ ش		0.00

Otriguial Submitted Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line size (in)	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line slope (%)	HGL down (ft)	HGL up (ft)	Minor loss (ft)	Dns line No.
14	Inlet 4D-4E	18.00	24 c	100.0	28.60	30.00	1.400	30.71	31.50	0.79	13
15	Inlet 4E-4F	12.00	24 c	100.0	30.30	33.00	2.700	32.29	34.23	0.55	14
16	Inlet 4E-4G	12.00	24 c 18 c	100.0	30.30	33.00	2.700	32.29	34.23	0.55	15

NOTES: c = circular; e = elliptical; b = box; Return period = 100 Yrs.; * Indicates surcharge condition.



Inlet 4D-4E / Downstream	line	= 13
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	Invert	Depth	HGL	EGL	GL Area Vel T		T-W	id	Cover	
Dnstrm Upstrm	28.60 30.00	24 18	30.71 31.50	31.22 32.29	3.14	5.73	0.00		3.40	
O Pour III	50.00	10	J1.J0	32.29	2.53	7.11	1.73		3.00	
_	e area (ac)		= 0.00	S	lope of inve	rt (%)		===	1.400	
	oefficient	`	= 0.00	S	lope energy	grade lin	ie (%)	=	1.070	
	conc. (mir	1)	= 1.11	•	•	===	18			
Inlet Tim	` /		= 0.00	N	ft)	===	35.00			
	@ 100 yr	•	= 0.00	J	==	0.00				
	ive C x A		= 0.00	A	=	6.00				
Q = CA	x I (cfs)		= 0.00	F	Full-flow capacity (cfs)					
Q Catchi	ment (cfs)		= 0.00	Iı	ılet Type			=	MH	
Q Carryo	over (cfs)		= 0.00		utter slope	(ft/ft)			0.00	
Q Captui	red (cfs)		= 0.00	C	Cross slope (ft/ft)					
Q Bypas	sed to 13	(cfs)	= 0.00	V	Vidth of Flo	w (ft)			0.00	

*Line 15	Q = 12.00	$Size = 24 \times 24 \text{ (Cir)}$	Nv = 0.012	Len = 100.0	JLC = 1.00

Inlet 4E-4F / Downstream line = 14

Inve	rt Depth	HGL	EGL	Area	Vel	T-Wi	d Cover
Dnstrm 30.30 Upstrm 31.30	— ·	32.29 32.53	32.51 33.07	3.14 2.02	3.82 5.94	1.99 1.95	2.70 2.20
Drainage area Runoff coeffic Time of conc. Inlet Time (mi Intensity @ 10 Cumulative C Q = CA x I (cf	ient (C) (min) n) 0 yr (in/hr) x A	$= 0.00 \\ = 0.00 \\ = 0.56 \\ = 0.00 \\ = 0.00 \\ = 0.00 \\ = 0.00$	S C N L	lope of invelope energy critical depth latural grou lpstream su dditional Qull-flow cap	grade linh (in) nd elev. (rcharge (in) (cfs)	ft) ft)	= 1.000 = 0.560 = 15 = 35.50 = 0.00 = 6.00 = 24.50
Q Catchment (Q Carryover (Captured (fs)	= 0.00 $= 0.00$ $= 0.00$ $= 0.00$		alet Type butter slope Fross slope (Vidth of Flo	(ft/ft)		= MH $= 0.00$ $= 0.00$ $= 0.00$

Revisied Lut 16
Line 16 Q = 6.00

Size = 18×18 (Cir)

Nv = 0.012

Len = 100.0

JLC = 1.00

Inlet 4F-4G / Downstream line = 15

	Invert	Depth	HGL	EGL	Area	Vel	T-W	id	Cover
Dnstrm Upstrm	31.60 32.60	18 11	33.07 33.53	33.25 33.95	1.76 1.16	3.41 5.18	1.49 1.45		2.40 2.20
Runoff c Time of Inlet Tim Intensity	@ 100 yr (ive C x A		$= 0.00 \\ = 0.00 \\ = 0.00 \\ = 0.00 \\ = 0.00 \\ = 0.00$	S C N I	lope of invelope energy critical depth latural grou lpstream su dditional Qull-flow cap	grade linh (in) nd elev. (cfs)	ft) ft)		1.000 0.697 11 36.30 0.00 6.00 11.38
Q Catchment (cfs) Q Carryover (cfs) Q Captured (cfs) Q Bypassed to 15 (cfs)			= 0.00 $= 0.00$ $= 0.00$ $= 0.00$		alet Type butter slope bross slope (Vidth of Flo	ft/ft)		==	MH 0.00 0.00 0.00

Storm Sewer Summary Report

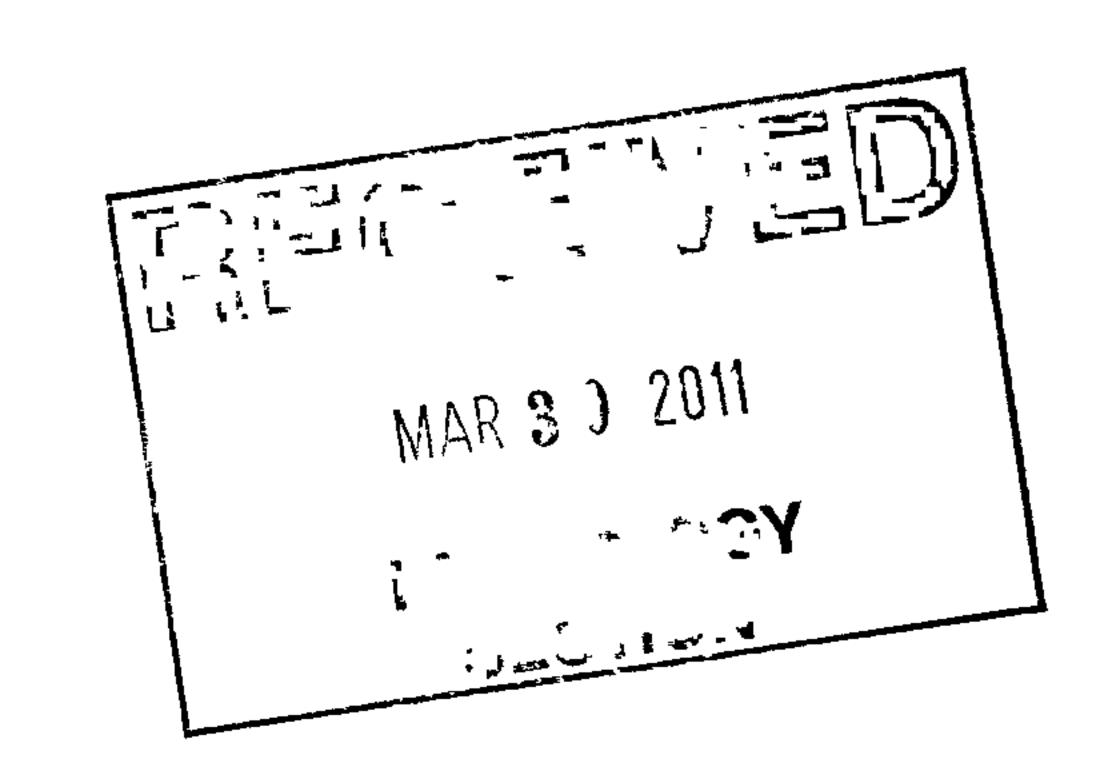
Line No.	Line ID	Flow rate (cfs)	Line size (in)	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line slope (%)	HGL down (ft)	HGL up (ft)	Minor loss (ft)	Dns line No.
14	Inlet 4D-4E	18.00	24 c	100.0	28.60	30.00	1.400	30.71	31.50	0.79	13
15	Inlet 4E-4F	12.00	24 c	100.0	30.30	31.30	1.000	32.29	32.53	0.55	14
15	Inlet 4E-4F Inlet 4F-4G	12.00	24 c 18 c	100.0	30.30	31.30 32.60	1.000	32.29	32.53	0.55	15
PR	OJECT FILE: JCCMP.S		I-D-F F	LE: JC.ID		TOTAL	NO. LINES	S: 16	RUN DAT	E: 01-27	1998

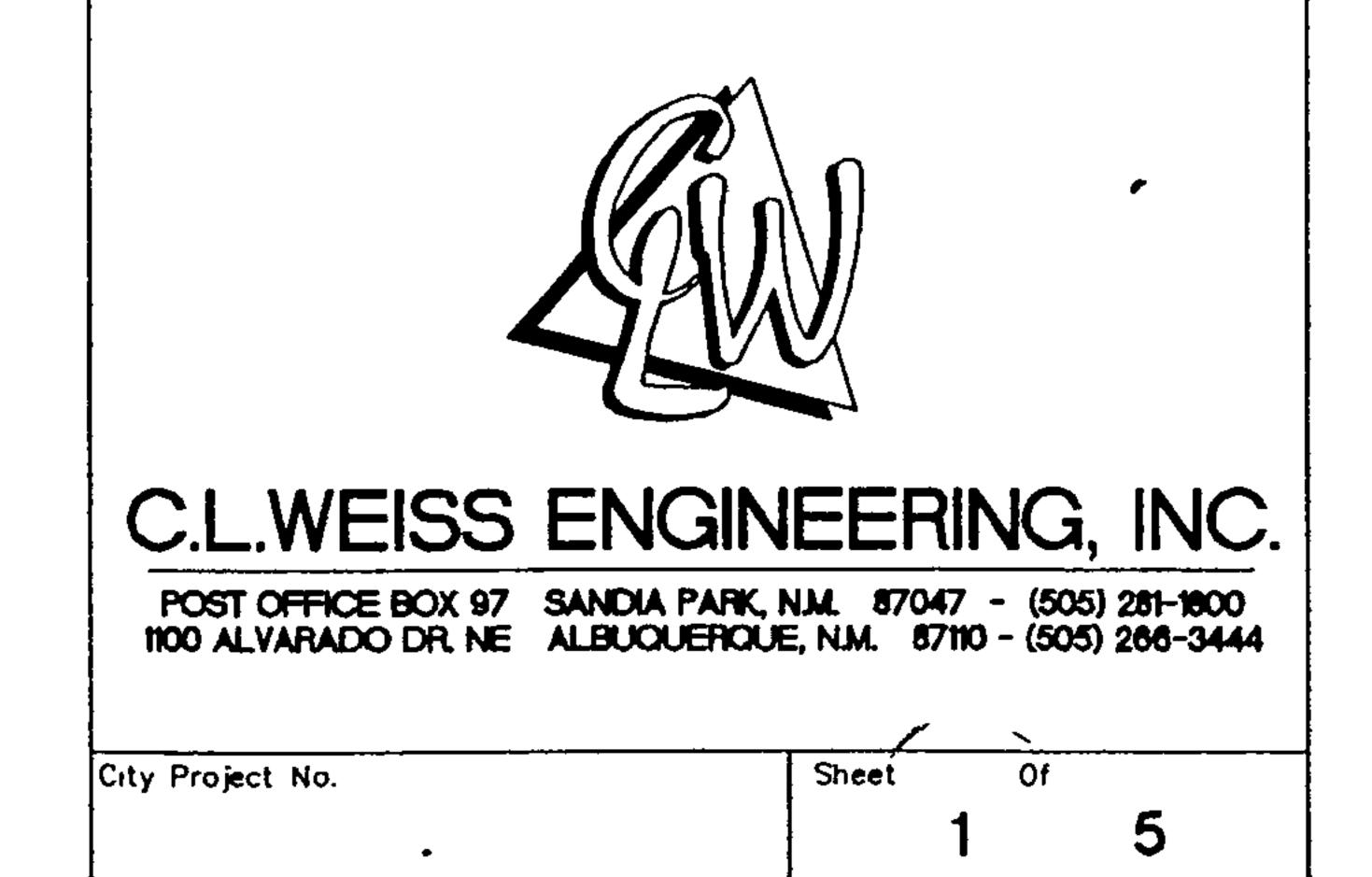
Jefferson Commons II

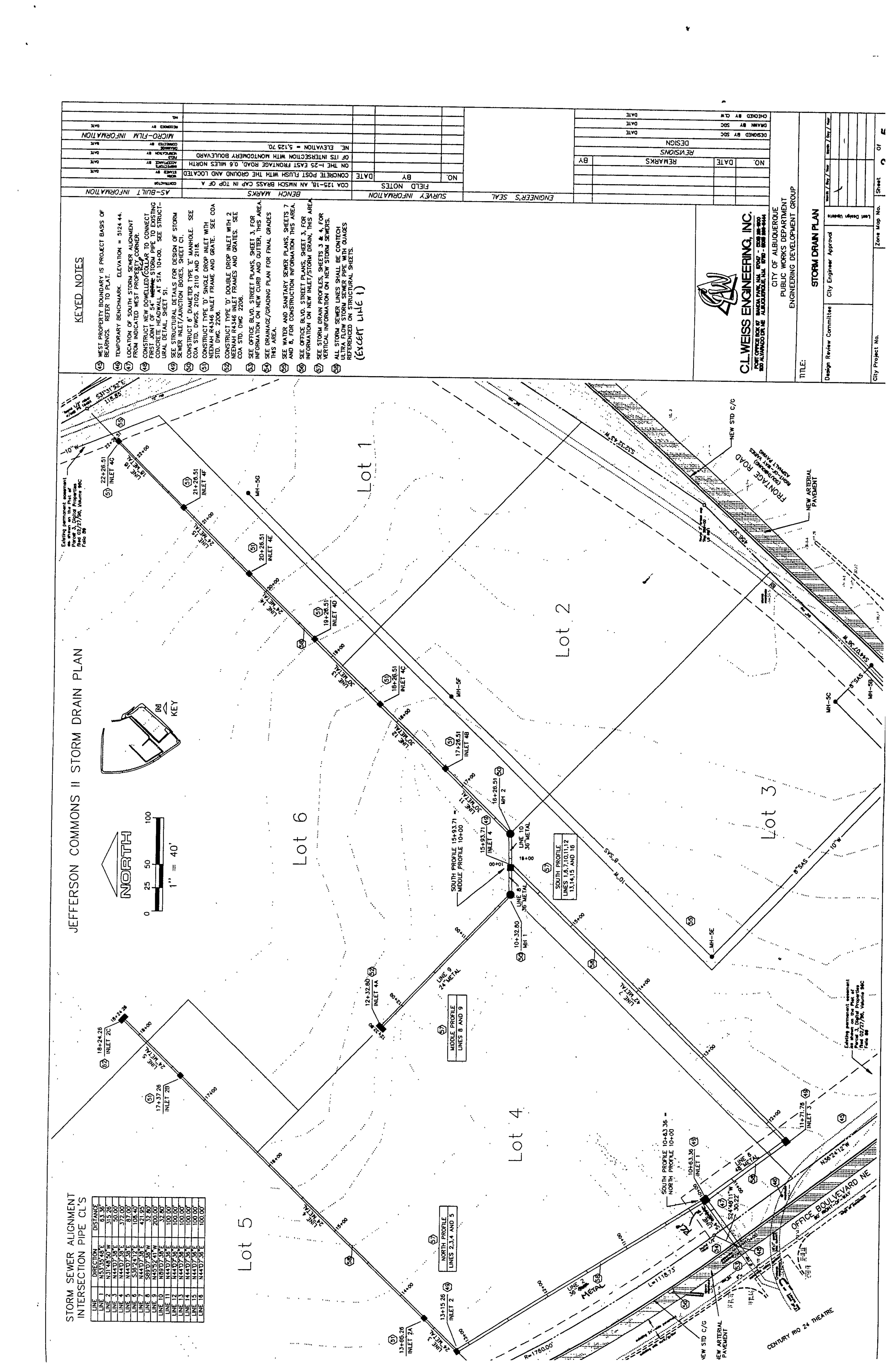
Construction Plans for Private Infrastructure: Onsite Storm Sewer System

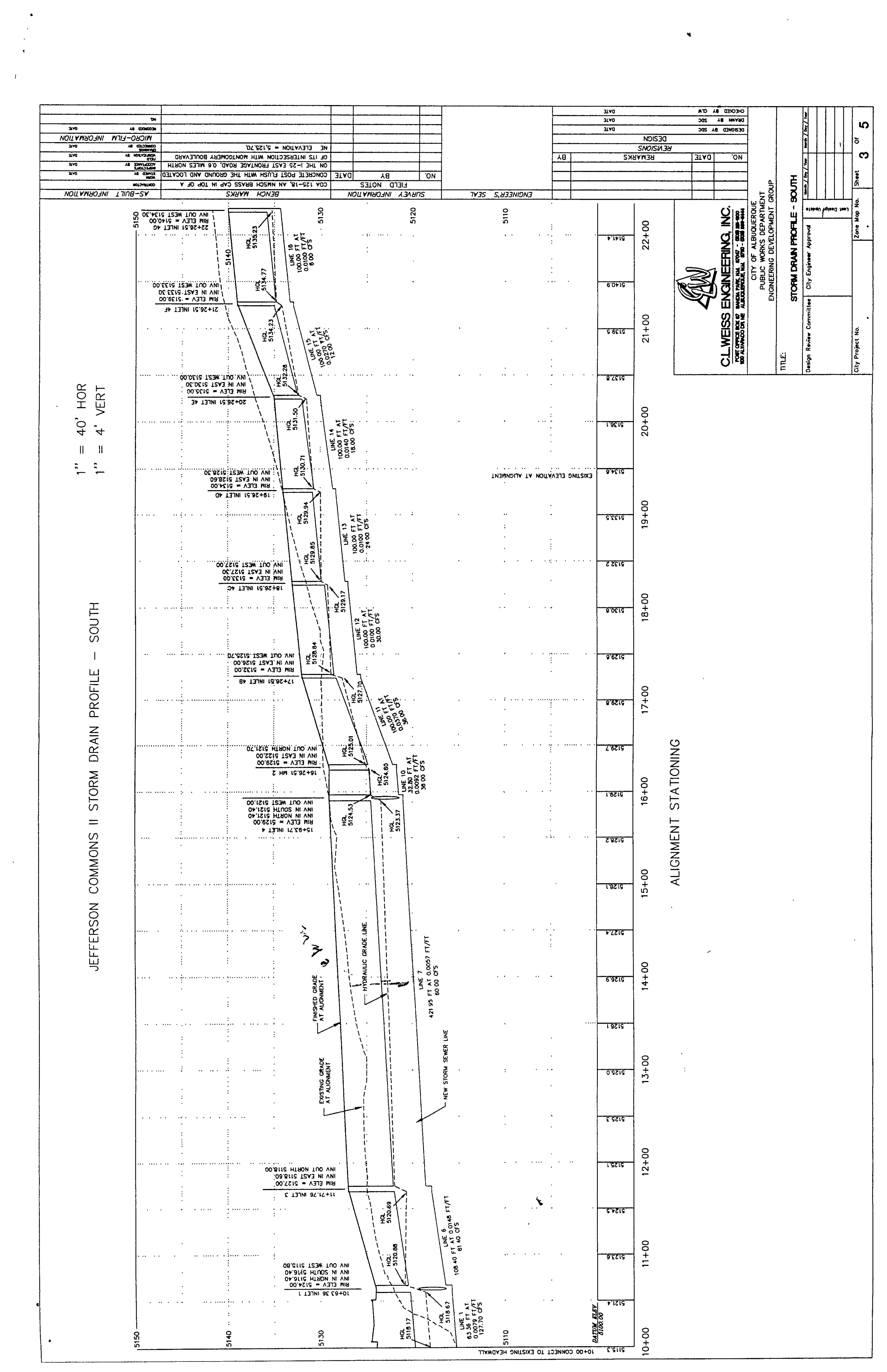
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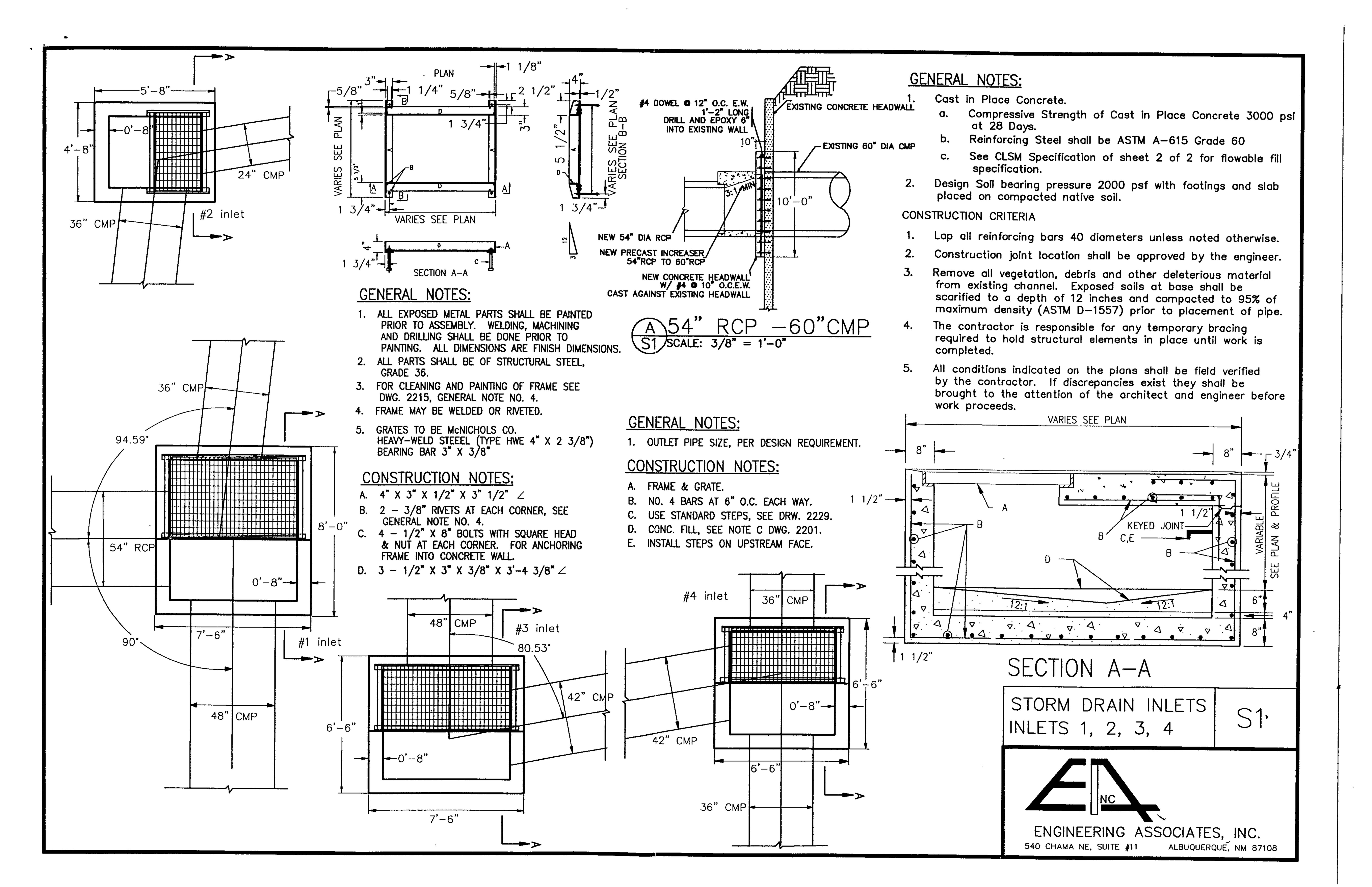
	SHEET NO.
 TITLE SHEET	1 OF 5
STORM DRAIN PLAN	2 OF 5
STORM DRAIN PROFILE - SOUTH	3 OF 5
STORM DRAIN PROFILES - NORTH & MIDDLE	4 OF 5
STORM DRAIN INLETS	5 OF 5











CITY OF ALBUQUERQUE



January 11, 2011

Dennis A. Lorenz, P.E. Brasher & Lorenz, Inc. 2201 San Pedro NE Albuquerque, NM 87110

Re: TOWNEPLACE SITES BY MARRIOTT

Grading and Drainage Plan

Engineer's Stamp dated 12-29-10 (F17/D072A)

Dear Mr. Lorenz,

Based upon the information provided in your submittal received 12-29-10, the above referenced plan is approved for Site Development Plan for Subdivision and Site Development for Building Permit action by the DRB.

PO Box 1293

When submitting for Building Permit please address the following comment:

Albuquerque

- Hydrology is requesting that proposed landscape areas be depressed to retain/infiltrate the rain that falls on them.
- Clarify the type and area of existing 6' drop inlets.

NM 87103

If you have any questions, you can contact me at 924-3695.

www.cabq.gov

P. L .

Sincerely,

Curtis A. Cherne, P.E.

Senior Engineer, Planning Dept.

Development and Building Services

C: file

Brad Bingham

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 04/2009)

PROJECT TITLE:	TOWNEPLACE SUITES	BY MARRIOTT	ZONE MAP: <u>F17-</u> Z	D0774
DRB#: N/A	EPC#:N/A	WC	ORK ORDER#: N/A	
LEGAL DESCRIPTION:	LOT 4 JEFFER!	SON COMMONS II		
CITY ADDRESS:		OULEVARD NE		
ENGINEERING FIRM:	BRASHER & LORENZ,	INC.	CONTACT: <u>Dennis</u>	Lorenz
	2207 SAN PEDRO NE, E			<u>88</u>
CITY, STATE: _	ALBUQUERQUE, NEW	MEXICO	ZIP CODE: <u>871</u>	10
OWNER:	INTERMOUNTAIN MAI	NAGEMENT, LLC	CONTACT: Dave R	avmond
	2390 TOWER DRIVE		PHONE: 318-812	
CITY, STATE: _	MONROE, LOUISIANA		ZIP CODE:7120	
A D CHITTECT				
ARCHITECT:	ARCHITECTURE +		CONTACT: Clyde V	
 -	MONDOE LOUISIANA	·· - · · · · · · · · · · · · · · · ·	PHONE: 318-387	
CHI, STATE:	MONROE, LOUISIANA		ZIP CODE:7120	<u> </u>
SURVEYOR: BRASH	ER & LORENZ, INE		CONTACT: Lenore	Armijo
ADDRESS:	2201 SAN PEDRO NE, B	UILDING 1, SUITE 13	00_ PHONE: <u>888-608</u>	8
CITY, STATE: _	ALBUQUERQUE, NEW	MEXICO	ZIP CODE:871	10
CONTRACTOR:			CONTACT:	
ADDRESS:			PHONE:	,
CITY, STATE:			ZIP CODE:	
	······································	<u>-</u>		<u> </u>
TYPE OF SUBMITTAL:		CHECK TYPE OF AP	PROVAL SOUGHT:	
DRAINAGE RE		SIA/FINANC	CIAL GUARANTEE REL	EASE
DRAINAGE PL			RY PLAT APPROVAL	
	AN RESUBMITTAL		N FOR SUB'D APPROV	
X CONCEPTUAL			R BLDG. PERMIT APPRO)VAL
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· 	17.29.10	BENNI	SCORENZ	
DATE SUBMITTED:	1001-1	_ BY:	- 1 1	

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a dramage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following

- Conceptual Grading and Drainage Plan: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
- Drainage Plans Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
- Drainage Report Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.



1.47.3 3 2011

- Background
- · Basin Analysis
- · Summary of Results
- · Storm Sewer System
- · Plat



Drainage Report

T	1 ^
Figure	12
0 +	

D.R.B. Case No.	97366
D.R.C. Project No.	
Date Submitted:	

EXHIBIT "A" to Subdivision Improvements Agreement

Subdivision Improvements Agreement for:	Preliminary Plat Approval
	Site Development Plan Approval

DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LISTING

Jefferson Commons II (name of project)

Following is a summary of Public/Private Infrastructure required to be constructed or financially guaranteed to be constructed for the above development. This summary is not necessarily a complete listing. During the design process, if the City determines that appurtenant items have not been included in the summary, those items will be included in the listing and related financial guarantee, if the items normally are Subdivider responsibility. In addition, any unforeseen items which arise during construction which are necessary to complete the project and which normally are the Subdivider's responsibility are the responsibility of the Subdivider and will be included in the financial guarantee provided to the City.

Size	Type Improvement	Location	<u>From</u>	To
40'	Driveway Cut	Jefferson	500' N of Frontage Road	
12'	Median Cut	Jefferson	500' N of Frontage Road	
8"	Standard Curb / Gutter	Office (east)	Frontage Road	Singer
8"	Standard Curb / Gutter	Singer (south)	Office	200' w. of
				Jefferson
	Arterial Paving	Singer (south)	Office	200' w. of
				Jefferson
10"	Water Main	Onsite	Office / Frontage	Singer / Jefferson
, 8"	Sanitary Sewer & 5 Manholes	s Onsite	Office / Frontage	1400' into site
/ 18"	Storm Sewer	Office	Vineyard Storm Sewer	24' n. of Vinyard
15'	wide Arterial Paving	Office Blvd.	Frontage Road	Singer

Traffic	Date	Water / Liquid Waste	Date	Parks & Rec.	Date
City Engineer / AMAFCA	Date			DRB Chairman	Date

Figure 12 - Page 8

D.R.B. Case No.	9731do
D.R.C. Project No.	
Date Submitted:	

EXHIBIT "A" to Subdivision Improvements Agreement

Subdivision Improvements Agreement for:	Preliminary Plat Approval
	Site Development Plan Approval

DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LISTING

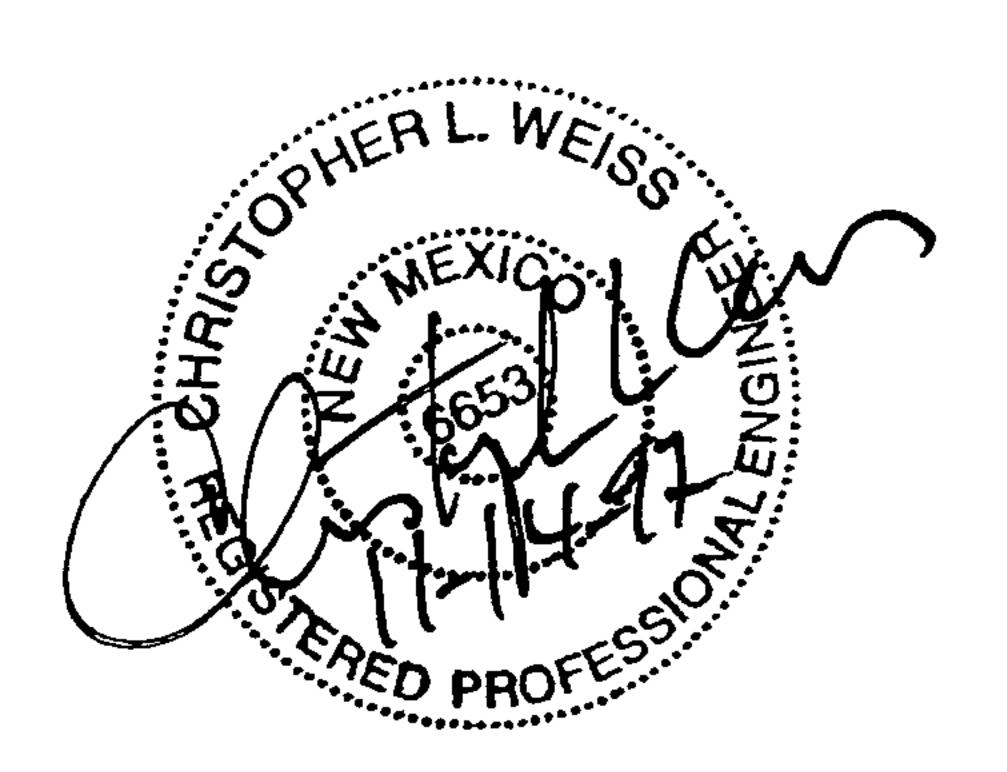
Jefferson Commons II (name of project)

Following is a summary of Public/Private Infrastructure required to be constructed or financially guaranteed to be constructed for the above development. This summary is not necessarily a complete listing. During the design process, if the City determines that appurtenant items have not been included in the summary, those items will be included in the listing and related financial guarantee, if the items normally are Subdivider responsibility. In addition, any unforeseen items which arise during construction which are necessary to complete the project and which normally are the Subdivider's responsibility are the responsibility of the Subdivider and will be included in the financial guarantee provided to the City.

Size	Type Improvement	Location	From	<u>To</u>
54"	RCP Storm Drain 1	Onsite	Office 60" Storm Drain	63' into site
	Inlet / Junction Box 1	Onsite	SD1	
36"	Metal Pipe Storm Drain 2	Onsite	Box 1	315' to Box 2
	Inlet / Junction Box 2	Onsite	SD2	
24"	Metal Pipe Storm Drain 3	Onsite	Box 2	509' to Inlet 2C
48"	Metal Pipe Storm Drain 6	Onsite	Box 1	108' to Box 3
	Inlet / Junction Box 3	Onsite	SD6	
42"	Metal Pipe Storm Drain 7	Onsite	Box 3	422' to Box 4
	Inlet / Junction Box 4	Onsite	SD7	
36"	Metal Pipe Storm Drain 8	Onsite	Box 4	33' to MH1
6' Dia.	MH1	Onsite	Box 4	~~~
24"	Metal Pipe Storm Drain 9	Onsite	MH1	200' to Inlet 4A
36"	Metal Pipe Storm Drain 10	Onsite	Box 4	33' to MH2
6' Dia.	MH2	Onsite	Box 4	
30"	Metal Pipe Storm Drain 12 & 13	Onsite	MH2	200' to Inlet 4D
24"	Metal Pipe Storm Drain 14 & 15	Onsite	Inlet 4D	200' to Inlet 4F
18"	Metal Pipe Storm Drain 16	Onsite	Inlet 4F	100' to Inlet 4G

raffic	Date	Water / Liquid Waste	Date	Parks & Rec.	Date
City Engineer / AMAFCA	Date			DRB Chairman	







Drainage Report

Background

Existing Site

The Jefferson Commons II site is located north of I-25, surrounded by Jefferson St. on the east, Singer Blvd. on the north and Office Blvd. on the west. The 35 acre site is one of the few remaining undeveloped tracts in the immediate area (See Panorama Photo - Site Photos). No improvements have been made to alter the original topography, except for some light grading for a baseball field located in the northern portion of the site.

The SS Map shows the existing topography, which reflects the historic drainage paths formed by offsite/onsite flows. Successive upstream street and SS improvements have intercepted all contributing basins and have isolated the site from offsite storm runoff.

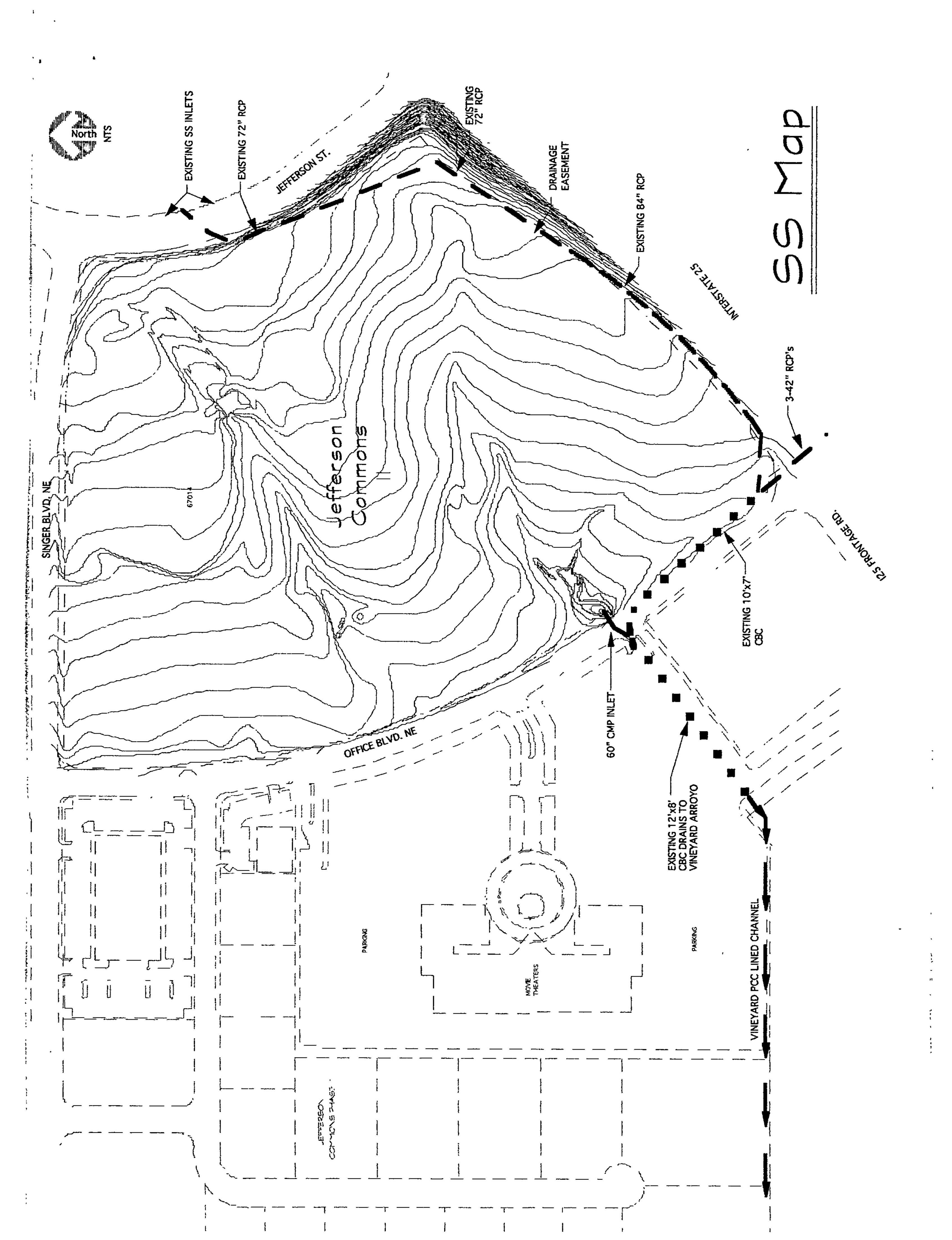
- When Jefferson Street was originally named Kircher Ave., the street alignment gave priority to funneling traffic west onto Singer Blvd., with Kircher Ave. forming a "T" intersection for northbound traffic. Offsite flows previously flooded this intersection, some of which followed Singer Blvd. to the west and some of which crossed the site to flow toward the Vinyard Arroyo. When Kircher Ave. was realigned to give priority to northbound traffic and renamed Jefferson Street, Singer Blvd. became the "T" intersection, with a high point constructed just west of the intersection to serve as a water block for Singer Blvd. Now flows collecting in the Jefferson St./Singer Blvd. intersection are surface routed a short distance south by the Jefferson St. curb and gutter to a series of inlets for capture into a SS system which outflows into the Vineyard Arroyo (See Photo #9 for Jefferson St. inlets). All offsite flows which previously drained down Singer Blvd. or crossed the site are presently intercepted by these inlets.
- The SS system is situated in an easement within the site, generally following the alignment of the Jefferson St. and I-25 Frontage roads before turning north at Office Blvd., and turning west again into the Vineyard Arroyo (See SS Map). This SS system was funded and constructed by AMAFCA and designed by Greiner Engineers (Reference: AMAFCA Vineyard Arroyo). The open channel portion of the Vineyard Arroyo at the outfall of the SS has been recently improved from an unlined arroyo to a concrete lined trapezoidal section, extending from the box culvert to the North Diversion Channel inlet (See Photos #3 \$ 4)

Storm runoff leaving the site historically found outflows into the North Diversion Channel at either the Vineyard Arroyo junction or other inlets to the north. Downstream developments have now routed all flows to defined points at the outfall from Commons Ave. and the Vineyard Arroyo



- Commons Ave. Outlet: Flows from Singer Blvd., and adjacent businesses along the north side of the street, travel west in Singer Blvd. to the intersection with Office Blvd., then south in Office Blvd. to the intersection with Commons Ave. Street flows combine with drainage from the northern portion of the site, which crosses at a dip section in Office Blvd. at the intersection with Commons Ave. (See Photos # 5 &6). Flows are then routed west within Commons Ave. to a rundown inlet into the North Diversion Channel (See Photos #7 & 8);
- Vineyard Arroyo. The remaining site drainage is picked up at an existing pipe culvert in the SW region of the site on the east side of Office Blvd. (See Photo #2). This pipe is connected to the SS box culvert which drains to the Vineyard Arroyo. Storm drainage from the site either follows the existing arroyos to the pipe or is intercepted by the Office Blvd. roadside swales. Street flows are picked up by curb and gutter installed on the west side of the street and routed to a SS inlet located north of the culvert crossing point (See Photo #1).





Basin Analysis

Proposed Site

The development of the Jefferson Commons II site will proceed in stages as each lot within the overall tract is defined by the purchaser's needs, as to building shape and space requirements. Each drainage basin will be defined by the platted lot dimensions, with each lot draining to specific easements providing drainage access across adjoining areas. At this stage, the Site Plan for Subdivision has defined the overall intent as to general land use for Lots 1 - 5 (See Basin Map). More specifically as to land use, Lot 1 is planned for a hotel, Lots 2 through 4 will be occupied by restaurants, while Lots 5 and 6 will be marketed for office clusters. Lots 3 and 5 will be the first two areas to be developed, and as such, have specific building outlines, finished floor elevations and traffic layouts established. Regarding traffic patterns, the office tracts will be separated from the restaurant/hotel area by a 12' wide landscaped buffer zone, with vehicular access crossing at only a few controlled locations.

The land use densities have been established based on the COA requirements for building space, parking requirements and landscaping ratios. Essentially, a ratio of 20% (Land Treatment B) previous and 80% (Land Treatment D) impervious is a realistic design goal. Referencing the Greiner analysis for the Digital Tract A, the anticipated developed flow rate of 127 cfs was generated based on 0% Land Treatment A, 20% Land Treatment B, and 10% Land Treatment C and 70% Land Treatment D. (Reference: Greiner Report - Basin 900, Area = 31.3 ac., Q100 = 127.2 cfs). For the purpose of comparisons, the calculations will reflect both design assumptions, but the final values will depend entirely on the actual construction plans for each lot. Minor peak flow variations to the master plan may occur for each basin, but there is an adequate safety factor to allow for these fluctuations due to a 20% freeboard equivalent factor for the box culvert downstream capacities (Reference: Greiner Report - Exhibit 3).

With these factors in mind, this analysis will present realistic guidelines for follow-up

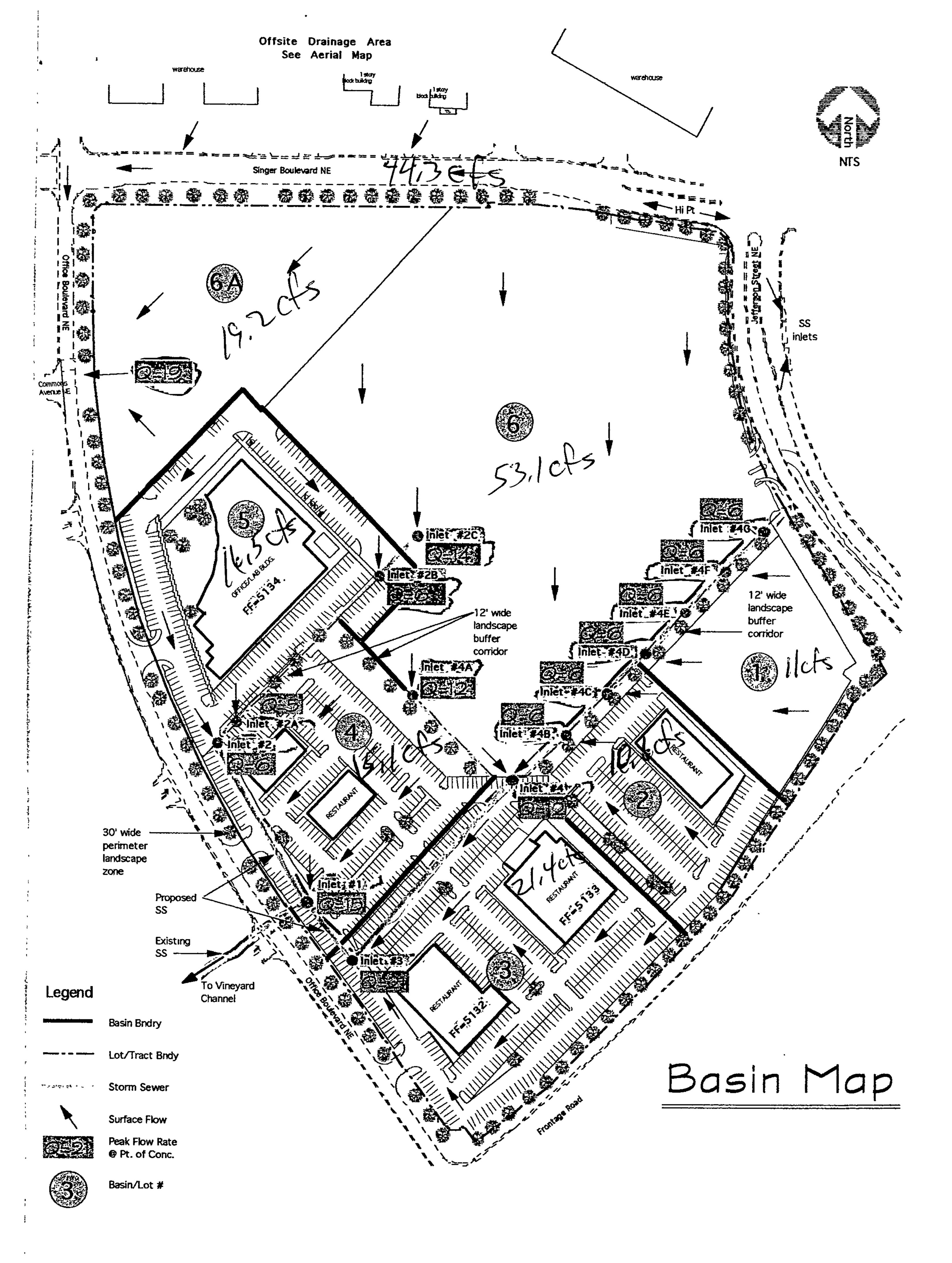
the final flow rates. It is flow factor of developed conditions in the final flow factor of developed conditions.

The lot/basin-by-basin narrative will provide general guidelines to help coordinate of adjacent lot developments within the site. Discontinuous conditions in developments within the site. adjacent lot developments within the site. Rim elevations (See Natural Grnd column) on the Storm Sewer Inventory Report are for general reference to insure that the basin parameters are maintained and that flows are not misdirected to an area unprepared to handle additional storm runoff.



- Basin 1 Lot 1 will drain to the landscape buffer zone common with Basin 6, with flows being collected at inlets situated along the landscaped zone. The development of this lot will require the construction of a the SS Lines # 10 - 16 to intercept these flows, which will additionally provide drainage inlets for Lot 2 and portion of Lot 6.
- Basin 2. Lot 2 will drain to the landscape buffer zone common with Basin 6, with flows being collected at inlets situated along the landscaped zone. If the development of this lot occurs first, it will require the construction of the SS Lines # 10 13 to intercept these flows, which will provide a future connection point for Lot 1 and the upper portion of Lot 6.
- Basin 3. Lot 3 will be one of the first areas to be developed within the overall tract and will require the construction of the southern leg of the site SS Lines #6 7. This reach will handle Lot 3 flows and provide an outlet for Lots 1, 2 and a majority of Lot 6. Flows from Lot 3 will be routed across the parking areas to Inlet #3 and also picked up by a small SS extension needed to intercept roof flows and area drains from each building.
- Basin 4. This area will surface drain directly to the private SS system Inlet #1, which will be connected to the existing 60" culvert crossing Office Blvd.
- Basin 5. Lot 5 will be the first area to be developed within the overall tract and as such, will require the construction of the northern leg of the site SS Lines #1 5. This reach will handle Lot 5 flows and runoff from a portion of Lot 6. The portion of Lot 6 which drains toward the common boundary with Lot 5 will be directed to Inlet #2C located within Lot 6, rather than surface draining to the Lot 5 collection inlets. All flows will be routed to the existing Office Blvd. culvert to discharge into the Vineyard Arroyo SS system.
- Basin GA. A portion of Lot G's natural flow path will outfall into the dip section in Office Blvd. Runoff from this area will pass through Jefferson Commons, Phase I, Basin B, via Commons Street to a concrete channel rundown into the North Diversion Channel (See Photos #5, 6, 7 & 8) See Basin GA calculations comments about downstream capacities. The Greiner Report also acknowledged this corner of the tract would not be picked up by the Vineyard Arroyo system (See Aerial Map Basin 900)
- Basin 6. Flows from Lot 6 will be intercepted at numerous locations. Inlet #2C will collect flows from the area adjacent to Lot 5 and will be constructed as part of the Lot 5 development. Inlet #4A will collect flows from the area adjacent to Lot 4. The development of this portion of Lot 6 will require the construction of a the SS Lines #8 9 to intercept these flows at Inlet #4A. The remainder of Lot 6 will be intercepted by Inlets #4B 4G situated along the landscape zone. The SS lines #10 16 will be constructed by the first adjacent lot to be developed along this reach, either Lot 6 or Lots 1 \ \mathbb{E} 2.





Summary of Results

Drainage management within Basin 6A will involve surface routing across the parking/access areas to the dip section at Office Blvd. & Commons Ave. The developed discharge rate may have to be a controlled release, depending on available downstream capacity (See Basin 6A calcs).

Drainage management within Basins 1 through 6 will be surface routed to a series of SS inlets situated along the lot boundaries and in the landscape buffer zones, for free discharge into the Vineyard Arroyo system.

Parking/Access Areas:

Where flows concentrate on pavement with less than a 1% slope, it is recommended that concrete valley gutters be installed to control the grades and eliminate low spots in the flow paths. Where flows are carried against a curb, a curb and gutter section should be used. All other curbs can be extruded or header curbs.

Landscape Buffer Zones:

The type of landscape material should be adjusted to accommodate the potential of surface flow erosion. While the SS system will be extended out along each landscape leg to reduce the effect of concentrated flows, small diameter gravel associated with SW style landscaping and plastic lining should be restricted to areas not impacted by concentrated flows. For areas dealing with erosive potential, large cobbles, sod or erosion fabrics should be incorporated into the project. Additional protection should be be considered along pavements, footings and curbs to prevent undercutting of improvements.

Main Storm Sewer System (Lines #1, 2, 6 and 7)

The main SS system will be constructed as part of the initial development to serve as the drainage "framework" for the overall tract. This system will be "fixed in place", thus establishing an outfall system from which all the proposed future lots will be provided a connection for either the secondary SS lines or private internal lot systems which pick up roof flows, etc.

Inlet #1: This drop inlet will have 15 sf open grate area available, combined with the junction structure, and be located in the access street area.. The outlet (Line #1), a 54" RCP, will connect to the existing 60" lateral from the box culvert section of the Vineyard Arroyo system.

Inlet #2: This drop inlet will have 5.1 sf open grate area available, combined with the junction structure, and be located in the access street area. It will serve as the juncture structure for the secondary line located in the landscape zone which will be



constructed as part of the development of Lot 5. The outlet (Line #2), a 36" MP, will drain to Inlet #1.

Inlet #3: This drop inlet will have 5.1 sf open grate area available, combined with the junction structure, and be located in the access street area. This junction will also serve as the outfall point for a small SS extension needed to intercept roof flows and area drains from each building in Lot 3 The outlet (Line #6), a 48" MP, will drain to Inlet #1.

Inlet #4: This drop inlet will have 8 sf open grate area available, and be located in the access drive which crosses the landscaped buffer zone. It will serve as the juncture structure for two secondary lines (SS Lines #8 \pounds 9, and #10 - 16) located in the landscape zones and constructed as part of the development of either Lot 6 or Lots 1 \pounds 2. The outlet (Line #7), a 42" MP, will drain to Inlet #3.

When the curb and gutter is completed on the east side of Office Blvd., an additional, single-inlet-will-be-needed to-pick-up the low spot established by the existing pavement. This inlet will match the existing system located on the west curb located north of the 60" lateral (See Photo #1) A 12" dia. lateral connected to existing MH serving the west drop inlet will handle the street flows.

Secondary Storm Sewer System (Lines #3 - 5, and 8 - 16)

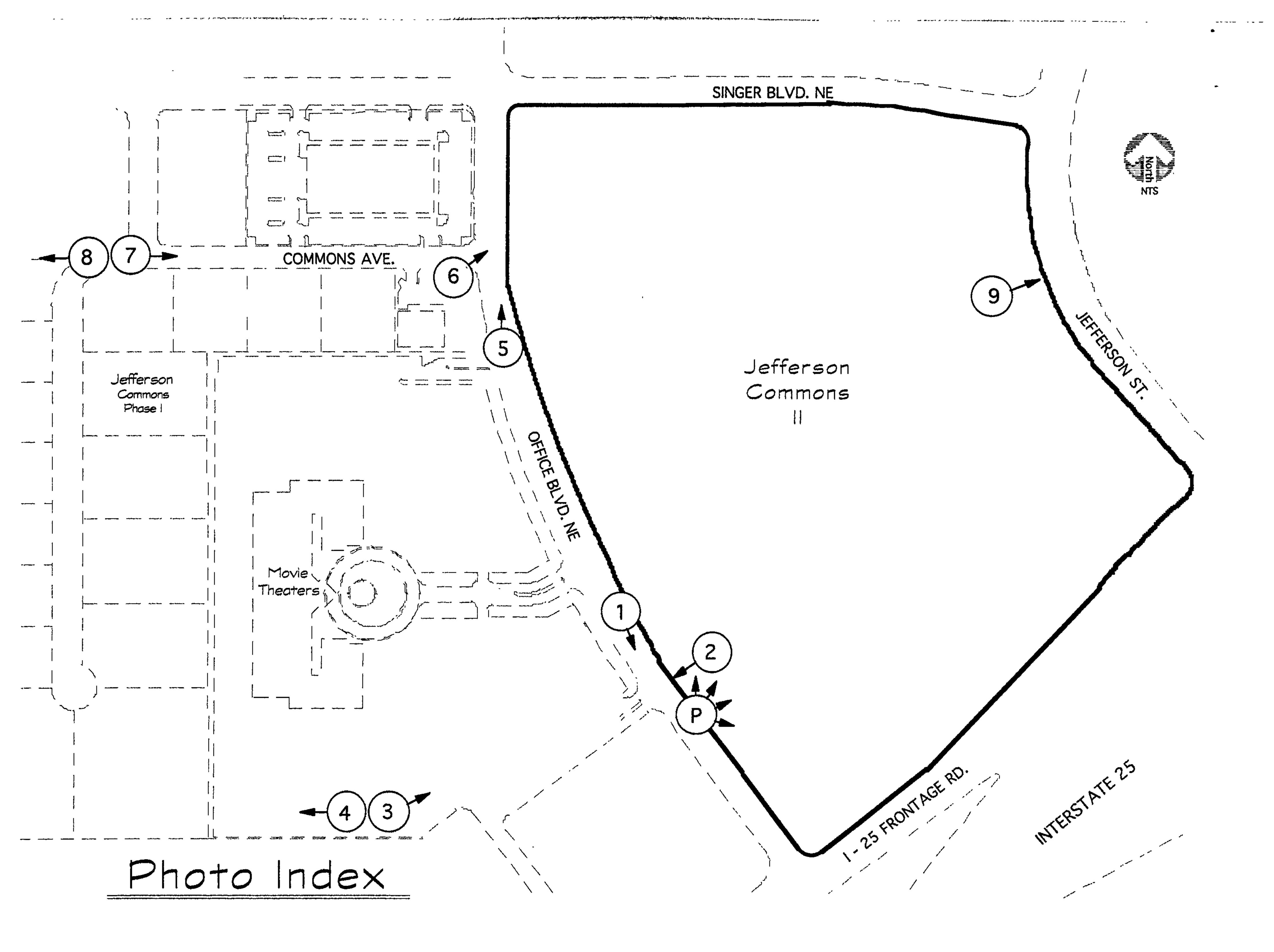
The secondary SS system will be constructed as adjoining lots are scheduled for development. All easements for the SS system will be granted with the plat and the infrastructure agreements will provide the guarantees for future construction, but the system will not be "fixed in place", thus providing a flexibility for drainage variations which will arise from meeting the needs of a specific site plan.

Inlets 2A - 2C: These drop inlets will serve as collection points for flows from Lot 5 and a portion of Lot 6 which adjoins Lot 5. Inlets 2A and 2B will be located within the landscape zone and will function in sump conditions to interrupt any channelization of flows and prevent surface carryover to the next downstream inlet. Inlet 2C will be positioned within Lot 6 to intercept future parking/access surface flows.

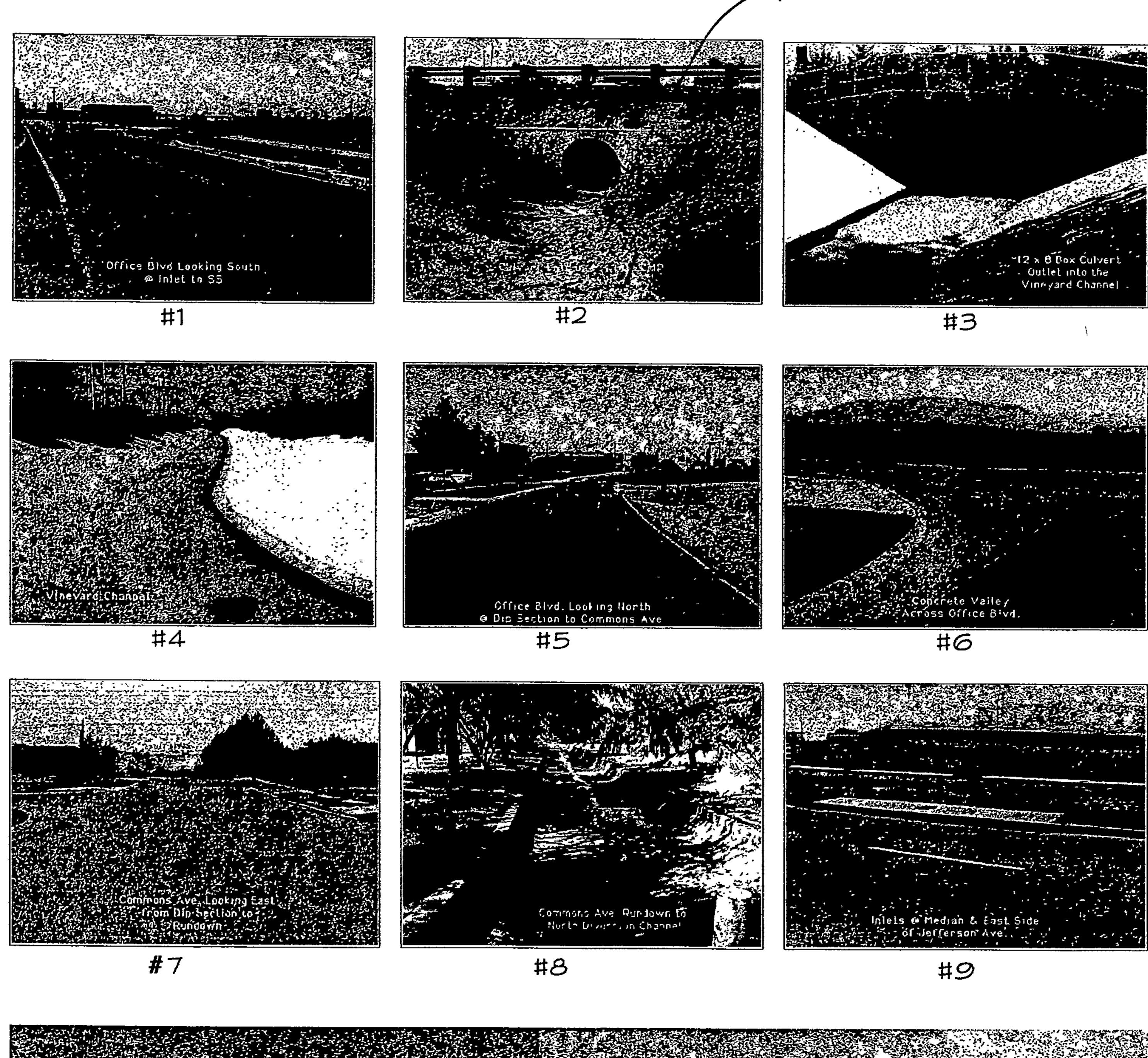
Inlet 4A. – This drop inlet will serve as a collection point for the portion of Lot 6 which adjoins Lot 4. Surface flows will drain to the landscape buffer zone for interception by this inlet, which is situated at a mid-point on the lot boundary.

Inlets 4B - 4G. - These drop inlets will serve as collection points for flows from both sides of the landscape buffer zone, with Lots 1, 2 and 6 contributing to the SS system. All of these inlets will be located within the landscape buffer zone and are planned to function in sump conditions, thereby keeping surface flow concentrations within the landscape zone to a minimum.





Site Photos sir sor





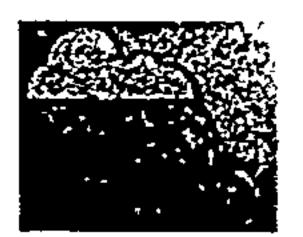


Calculations

The following calculations address the future developed conditions for the Jefferson Commons II Subdivision, encompassing the first phases presently established for Lots 3 and 5.

Two defined drainage outflows for the tract have been established:

- The first outfall involves the northwest corner of the tract. On-site flows combine with runoff with the Singer Blvd. basin at the Office Blvd./Commons Ave. intersection, and are routed west within the existing downstream street/rundown to the North Diversion Channel.
- The second outfall point drains the remaining portion of the development, which is divided into six basins. Runoff is planned to surface drain across future access/parking areas and be collected by a private SS system, which will be connected to the Vineyard Arroyo drainage system at Office Blvd.



AREA OF SITE: 113,296 SF 2.6 Ac. Greiner Master Plan Flows: DEVELOPED FLOWS: **EXCESS PRECIPITATION:** On-Site MP Land Condition On-Site Developed Land Condition Precip. Zone Area a SF Area a SF 0.53 = Area b 22,659 SF Eb Area b 22,659 SF 0.78 =Area c 11,330 SF Ec =Area c SF 1.13 Area d 79,307 SF Ed = 2.12= Area d SF 90,637 Total Area 113,296 SF Total Area 113,296 SF = On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm) Weighted E = EaAa + EbAb + EcAc + EdAd Aa + Ab + Ac + AdMP E 1.75 in. Developed E 1.85 in. On-Site Volume of Runoff: V360 = <u>E*A</u> MP V360 Œ 16551 Developed V360 17485 Œ On-Site Peak Discharge Rate: Qp = QpaAa+QpbAb+QpcAc+QpdAd / 43,560 For Precipitation Zone Qpa 1.56

Basin #1 will drain onto the adjoining landscape buffer zone, with flows intercepted by lines 14 - 16 of the SS system. Four drop inlets, 4D through 4G, will be available to pick up the runoff. If development of Lot 1 precedes other downstream lot activity, the SS system lines #10 through 16 will have to be installed concurrently with Lot 1. Flows within the lot can be routed across the surface by way of the access and parking areas or picked up with extensions of the SS system into the lot area. Should there be any cross drainage onto Lot 2, appropriate easements will have to be established between the respective lot owners.

Qpc.

Qpd |

Developed Qp

Qbb

MP Qp

2.28

10.6 CFS

3.14

4.70

11.0 CFS

Drop inlets within the landscaping area are planned to function in a sump condition, with a minimum head of 0.5'. The inlet grate to be used will be the Neenah Model # R4346, with an open area of 4.7 sf. Assuming a 50% clogging factor, available open area would be 2.4 sf, || for a capacity of up to 8 cfs / inlet. Flow distribution of the inlets in the landscape zone was designed at 6 cfs / inlet, so each inlet will have adequate capacity under the most severe clogging conditions.

AREA OF SITE: 109,253 SF 2.51 Ac. Greiner Master Plan Flows: DEVELOPED FLOWS: EXCESS PRECIPITATION: On-Site MP Land Condition On-Site Developed Land Condition Precip. Zone Area a SF Area a SF Ea 0.53 = Area b 21,850 SF Area b 21,850 Eb 0.78 Area c 10,925 SF Area c SF 1.13 Area d 76,478 =SF Area d 87,403 2.12 = Total Area 109,253 SF Total Area 109,253 On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

Weighted E =

EaAa + EbAb + EcAc + EdAd Aa + Ab + Ac + Ad

MP E 1.75 in. Developed E 1.85 in. On-Site Volume of Runoff: V360 = <u>E*A</u> 12 MP V360 **CF** 15960 Developed V360 16861 **CF** On-Site Peak Discharge Rate: Qp = QpaAa+QpbAb+QpcAc+QpdAd / 43,560 For Precipitation Zone Qpa 1.56 == Qpc 3.14 Qbb 2.28 Qpd 4.70 MP Qp 10.2 CFS Developed Qp

Basin #2 will drain onto the adjoining landscape buffer zone, with flows intercepted by lines 10 - 13 of the SS system. Two drop inlets, 4B and 4C, will be available to pick up the runoff. If development of Lot 2 precedes any portion of Lot 6, the SS system lines #10 through 13 will have to be installed concurrently with Lot 2. Flows within the lot can be routed across the surface by way of the access and parking areas or picked up with extensions of the SS system into the lot area. Should there be any cross drainage onto Lot 3, appropriate easements will have to be established between the respective lot owners.

Total flow to the landscape zone from Lots 1, 2 and a portion of Lot 6 will approach 51 cfs. Distribution among the 6 inlets in the landscape zone provides an interception rate of 6 cfs/ inlet. Inlet #4, located in the access drive at the lowest point of the landscape zone, has an interception capacity of 12 cfs and will provide the final interception for any overflow from the upstream series of inlets.

AREA OF SITE: 220,853 SF = 5.07 Ac.

Greiner Master				DEVELOPED FL	.OW	S:		EXCESS PRE	CIPITATION:
On-Site MF	² Lan	d Condition	· -	On-Site Develor	ped l	and Condition		Precip. Zone	2
Area a	=		SF	Area a	=		SF	Ea =	0.53
Area b	=	44,170	SF	Area b	=	44,170	SF	Eb =	0.78
Area c	=	22,085	SF	Area c	=	0	SF	Ec =	_
Area d	==	154,598	SF	Area d	=	176,683	SF	Ed =	
Total Area	=	220,853	SF	Total Area	=	220,853	SF		

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

Weighted E =

EaAa + EbAb + EcAc + EdAd

Aa + Ab + Ac + Ad

MP E	=	<u></u>	1.75	in.	Developed E	=	· · · · · · · · · · · · · · · · · · ·	1.85	in.
On-Site Volume of	Runc	off: V360 =	=	<u>E*A</u>					
	<u> </u>			12					
MP V360	=		32263	CF	Developed V360	=		34085	CF
		•							
On-Site Peak Discl For Precipitation Zo	harge one	Rate: Qp 2	= QpaAa	+Qpb/	Ab+QpcAc+QpdAd /	43,5	60		
On-Site Peak Discler For Precipitation Zong Qpa	harge one =	- -	= QpaAa	+Qpb/		43,5			
For Precipitation Zo	one	2 1.56	= QpaAa	+Qpb/	Ab+QpcAc+QpdAd /		3.14 4.70		

Basin #3 drains directly to the private SS system Inlet #3, which will be situated in the center of the access street, and be combined into the juncture MH used for the change in direction of the SS line from Line #6 to Line #7. All flows within the basin will either travel to the inlet on the surface by way of the access and parking areas, or be picked up with extensions of the SS system into the lot area. Roof flows and half the parking area will be intercepted by an extension of a private SS. The surface discharge to inlet #3 will be reduced by approximately 12 cfs.

Based on calculations of an inlet situated in a 0.5' sump condition, the open grate area necessary to capture 9 cfs of surface flow from the basin would be 2.6 sf. In order to provide for clogging conditions for a grate in a sump condition, it must be assumed that 50% of the inlet will be restricted (Ref: HEC-12,Section 8.1, Federal Highway Admin.). Therefore, a total open grate area of 5.2 sf will be required to capture this surface discharge. The inlet configured for this structure will have an open area of 5.1 s f (McNichlos Co, Grate Model # HWE - Custom sized to fit inlet structure. See Structural details).

AREA OF SITE: 156,127 SF = 3.58 Ac.

Greiner Master Plan flows:

DEVELOPED FLOWS:

EXCESS PRECIPITATION:

	- 141			DEVELOTED I		J.		LACESS FILE	COPILATION.		
On-Site MF	Lan	d Condition		On-Site Develo	ped l	and Condition		Precip. Zone		2	
Area a	=		SF	Area a	=		SF	Ea =	0.53		
Area b	=	31,225	SF	Area b	=	31,225	SF	Eb =	0.78		
Area c	=	15,613	SF	Area c	=	0	SF	Ec =	1.13		
Area d	=	109,289	SF	Area d	=	124,902	SF	Ed =	2.12		
Total Area	=	156,127	SF	Total Area	=	156,127	SF				

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

Weighted E =

EaAa + EbAb + EcAc + EdAd

Aa + Ab + Ac + Ad

MP E	=		1.75	in.	Developed E	=		1.85	in.
On-Site Volume of I	Runo	ff: V360 =		<u>E*A</u>					
				12					
MP V360	=		22808	CF	Developed V360	=		24096	Œ
On-Site Peak Disch For Precipitation Zo Qpa			= QpaAa	+Qpb/	Ab+QpcAc+QpdAd / Qpc		560 3.14		
Qbb	=	2.28			Qpd	=	4.70		
MP Qp	=		14.6	CFS		=		£15.1_	CFS

Basin #4 drains directly to the private SS system Inlet #1, which is connected to the Vineyard Arroyo at Office Blvd. All flows within the basin will travel to the inlet on the surface by way of the access and parking areas.

Based on the previous calculations of an inlet situated in a 0.5' sump condition, the open grate area necessary to capture 15.1 cfs of surface flow from the basin would be 4.4 sf. In order to provide for clogging conditions for a grate in a sump condition, it must be assumed that 50% of the inlet will be restricted. Therefore, a total open grate area of 8.9 sf will be required to capture this surface discharge. The inlet configured for this structure will have an open area of 15 sf (McNichlos Co, Grate Model # HWE - Custom sized to fit inlet structure. See Structural details).

Basin #5 AREA OF SITE: 173,563 SF 3.98 Ac.

Greiner Master Plan Flows: DEVELOPED FLOWS: **EXCESS PRECIPITATION:** On-Site MP Land Condition On-Site Developed Land Condition Precip. Zone Area a SF Ea = 0.53Area a SF Area b 34,712 SF Area b Eb 34,712 0.78 Area c 17,356 SF Ec = 1.13Area c SF Area d 121,495 SF Ed = 2.12Area d SF 138,851 Total Area 173,563 SF Total Area

173,563

SF

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

Weighted E =

EaAa + EbAb + EcAc + EdAd

Aa + Ab + Ac + Ad

MP E 1.75 in. Developed E 1.85 in. On-Site Volume of Runoff: V360 = <u>E*A</u> MP V360 **CF** 25355 26787 Developed V360 Œ On-Site Peak Discharge Rate: Qp = QpaAa+QpbAb+QpcAc+QpdAd / 43,560 For Precipitation Zone 2 Qpa 1.56 3.14 Qpc Qbb 2.28 4.70 Qpd MP Qp 16.2 CFS (16.8 CFS Developed Qp

Basin # 5 will discharge approximately half of its runoff onto the surrounding access street around the west side of the building for direct routing to Inlet #2. Flow within the access street will be approximately 6 cfs. Based on the previous calculations of an inlet situated in a 0.5' sump condition, the open grate area necessary to capture 6 cfs of surface flow from the basin would be 1.8 sf. In order to provide for clogging conditions for a grate in a sump condition, it must be assumed that 50% of the inlet will be restricted. Therefore, a total open grate area of 3.5 sf will be required to capture this surface discharge. The inlet configured for this structure will have an open area of 5.1 sf (McNichlos Co, Grate Model # HWE - Custom sized to fit inlet structure. See Structural details).

The remainder of the basin (11 cfs) will drain to a landscape zone bordering the common area with Basin #4. These flows will be picked up by two inlets, Inlet 2A and 2B, located within the landscape zone. Each inlet has the capacity to intercept up to 8 cfs under a 50% clogged condition (See calcs - Basin #1). The final inlet on the SS system serving this area will be Inlet #2C, which will pick up flows from a portion of Lot 6 which lies adjacent to the Lot 5 boundary. Estimated flows from this portion of Lot 6 are 14 cfs. A double inlet will be required for Inlet #2C.

2. Basin #6. 3. AREA OF SITE: 548,795 SF 12.6 Ac.

Greiner Master Plan flows: DEVELOPED FLOWS: **EXCESS PRECIPITATION:** On-Site MP Land Condition On-Site Developed Land Condition Precip. Zone Area a SF Area a Ea =SF 0.53 Area b 109,758 SF Area b Eb 109,758 0.78 Area c 54,880 SF Area c Ec =SF 1.13 Area d 384,157 SF Area d 439,037 Ed

548,795

2.12

=

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

548,795

SF

Weighted E =

Total Area

EaAa + EbAb + EcAc + EdAd Aa + Ab + Ac + Ad

Total Area

MP E 1.75 in. Developed E 1.85 in. On-Site Volume of Runoff: V360 = <u>E*A</u> MP V360 80170 Œ Developed V360 84697 **CF** On-Site Peak Discharge Rate: Qp = QpaAa+QpbAb+QpcAc+QpdAd / 43,560 For Precipitation Zone Qpa 1.56 3.14 Qpc Qbb 2.28 Qpd. 4.70 MP Qp 51.2 CFS Developed Qp 53.1 CFS

Basin 6 comprises the largest of the six basins draining to the private SS system. All flows will be directed to one or another of the landscaped buffer zones which boarder the lower portion of the zone. Flows will be directed into the zone to harvest a portion of the runoff for the landscaping, with excess volume being captured by the SS system for routing to the Vineyard Arroyo SS system (See inlet calcs -Basin #1). Both legs of the zone meet at a vehicle access point common with Basin #3, which will be the location for Inlet #4, which serves as the junction structure of the SS lines in the landscape zone. All remaining surface flows which are either not routed to the landscape zone or bypass the other inlets will be picked up by Inlet #4.

Referencing Inlet #4, based on the previous calculations of an inlet situated in a 0.5' sump condition, the open grate area necessary to capture 12 cfs of surface flow from the basin would be 3.5 sf. In order to provide for clogging conditions for a grate in a sump condition, it must be assumed that 50% of the inlet will be restricted. Therefore, a total open grate area of 7 sf will be required to capture this surface discharge. The inlet configured for this structure will have an open area of 8 sf (McNichlos Co, Grate Model # HWE - Custom sized to fit inlet structure. See Structural details).

Estimated flow distribution of Lot 6 has determined a peak flow of 14 cfs intercepting the common boundary of Lot 5, which will be picked up by Inlet #2C (See Basin 5 calcs), and 12 cfs intercepting the common boundary of Lot 4, which will be picked up by Inlet #4A, a double inlet. The remaining runoff from Basin 6 will be intercepted by the SS system common to Lots 1 and 2 (See Basin 1 & 2 calcs).

Total Jefferson Commons II developed runoff from Basins 1 through 6 equals 128 cfs. The Greiner Drainage Master Plan projected a peak flow of 127.2 cfs from Basin 900 (See Aerial Map from Greiner Report). Capacity is available to free discharge into the Vineyard Arroyo system from Basins 1 - 6.

	Basin 6A Mark		
AREA OF SITE:	197,921 SF	= 4.54 Ac.	

Calculations are based on the Drainage Design Criteria for Bernalillo County, Section 22.2, DPM, Vol 2, dated Jan., 1993

Existing Condi	tions			DEVELOPED FL	.OW	S:		EXCESS PRE	CIPITA	TION:
On-Site Exist	ing La	and Condition	<u></u>	On-Site Develo	ped I	and Condition		Precip. Zone		2
Area a	=	0	SF	Area a	=		SF	Ea =	0.53	
Area b	=	138,544	SF	Area b	=	39,584	SF	Eb =	0.78	
Area c	=	59,376	SF	Area c	=		SF	Ec =	1.13	
Area d	=	. 0	SF	Area d	=	158,337	SF	Ed =	2.12	
Total Area	=	197,920	SF	Total Area	=	197,921	SF			

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

Weighted E =

EaAa + EbAb + EcAc + EdAd Aa + Ab + Ac + Ad

Existing E = 0.89 in. Developed E = 1.85 in.

On-Site Volume of Runoff: V360 = $\frac{E^*A}{12}$ Existing V360 = 14597 OF Developed V360 = 30546 OF

On-Site Peak Discharge Rate: Qp = QpaAa+QpbAb+QpcAc+QpdAd / 43,560

For Precipitation Zone 2

 Qpa
 =
 1.56
 Qpc
 =
 3.14

 Qbb
 =
 2.28
 Qpd
 =
 4.70

 Existing Qp
 =
 11.5 CFS
 Developed Qp
 =

Basin 6A is located in the northern portion of the site. Flows from this area drain to a dip section at the intersection of Office Blvd. and Commons Ave. These flows combine with drainage from the Singer Blvd. Basin, which is comprised of Singer Blvd. and adjacent businesses situated along the north side of the street (See Aerial Map for basin definition). Total flow from the Singer Basin is 44.3 cfs, which, when combined with the developed Basin 6A flows, totals 63.5 cfs at the intersection of Office and Commons Ave. Adding the onsite flows from JC I, Basin B, of 30 cfs, total flow draining to the Commons Ave. rundown would be 93.5 cfs. The original drainage plan for the Commons Ave. rundown planned for a total flow of 67 cfs (Jefferson Commons, Phase I, Drainage Plan, Analysis Point B - Future). Because the Singer Basin and JC I, Basin B areas have been fully developed, total Q100 entering the rundown is presently 74.3 cfs from just these two areas, or 7 cfs in excess of the original design. This could be considered to be within an acceptable 10% variation of the accuracy of storm data without raising major concerns about possible flooding at the inlet to the rundown.

19.2 CFS

However, based on the original design parameter's for the capacity of the downstream Commons Ave. drainage system, Basin 6A, JC II, will have to have some degree of detention ponding and controlled release to keep from adding to the flooding potential of the Commons Ave. inlet to the rundown (See Photo #8 - Site Photos). A more detailed drainage analysis, based on as-built conditions of the street, dip section and rundown, should be completed to establish the actual capacity of the downstream system when any phase of Basin 6 is scheduled for development.

AREA OF SITE:		457,380	SF			10.5	Ac.			
		DEVELOPED F					EXCE	SS PR	ECIPIT	ATION
		On-Site Develo	ped	Land Co	ndition			. Zone		2
		Area a	=			SF	•	Ea =	0.53	
		Area b	=		91,476	SF		Eb =		
		Area c	=		0	SF		Ec =	1.13	
		Area d	=		365,904	SF		Ed =	2.12	
		Total Area	=		457,380	SF				
n-Site Weighted Excess Precipitation Weighted E =		•	\c + E	∃dAd						
		EaAa + EbAb + EcA Aa + Ab + Ac +		<u>EdAd</u>						
		EaAa + EbAb + EcA		<u>EdAd</u>	1.85	in.				
Weighted E =		EaAa + EbAb + EcA Aa + Ab + Ac +		<u>EdAd</u>	1.85	in.				
Weighted E =	= <u>E*A</u>	EaAa + EbAb + EcA Aa + Ab + Ac +		<u>dAd</u>						
On-Site Weighted Excess Precipitation Weighted E = On-Site Volume of Runoff: V360 = On-Site Peak Discharge Rate: Qp = Q For Precipitation Zone 2 Qpa = 1.56 Qbb = 2.28	E*A 12	EaAa + EbAb + EcA Aa + Ab + Ac + Developed E Developed V360	-Ad = 43,56		70589					

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Storm Sewer Inventory Report

Line #	Line ID	DnStr line #	Defl angle (deg)		Line size (in)	Line type	Line slop (%)	Drng area (ac)	Runol coeff (C)		Know Q (cfs)	Invert El dn (ft)	invert Ei up (ft)	N valu		nJ-Loss coeff (JLC)	Natura grnd (ft)	Dn line #
1	VA-Inlet 1	0	0	63	54	Circular	0.79	0.00	.00	0	15.1	15.30	15.80	.013	МН	1.0	24.00	Off
2	Inlet 1-2	1	-85	315	36	Circular	1.00	0.00	.00	0	6.0	16.40	19.55	.012	MH	1.0	25.10	1
3	Inlet 2-2A	2	76	50	24	Circular	3.40	0.00	.00	0	5.0	19.80	21.50	.012	МН	1.0	25.40	2
4	Inlet 2A-2B	3	0	372	24	Circular	1.10	0.00	.00	0	6.0	21.70	25.80	.012	МН	1.0	29.00	3
5	Inlet 2B-2C	4	0	87	24	Circular	1.15	0.00	.00	0	14.2	26.00	27.00	.012	МН	1.0	30.00	4
6	Inlet 1-3	1	90	108	48	Circular	1.48	0.00	.00	0	21.4	16.40	18.00	.012	MH	1.0	27.00	1
7	Inlet 3-4	6	-99	422	42	Circular	0.57	0.00	.00	0	12.0	18.60	21.00	.012	МН	1.0	29.00	6
8	Inlet 4-MH	7	-135	33	36	Circular	0.91	0.00	.00	0	0.0	21.40	21.70	.012	мн	1.0	29.00	7
9	MH 1-Inlet	8	45	200	24	Circular	1.00	0.00	.00	0	12.0	22.00	24.00	.013	MH	1.0	31.00	8
10	Inlet 4-MH	7	45	33	36	Circular	0.91	0.00	.00	0	0.0	21.40	21.70	.012	MH	1.0	29.00	7
11	MH2-Inlet 4	10	-45	100	30	Circular	3.70	0.00	.00	0	6.0	22.00	25.70	.012	MH	1.0	32,00	10
12	Inlet 4B-4C	11	0	100	30	Circular	1.00	0.00	.00	0	6.0	26.00	27.00	.012	МН	1.0	33.00	11
13	inlet 4C-4D	12	0	100	30	Circular	1.00	0.00	.00	0	6.0	27.30	28.30	.012	MH	1.0	34.00	12
14	Inlet 4D-4E	13	0	100	24	Circular	1.40	0.00	.00	0	6.0	28.60	30.00	.012	MH	1.0	35.00	13
15	Inlet 4E-4F	14	0	100	24	Circular	2.70	0.00	.00	0	6.0	30.30	33.00	.012	MH	1.D	39.00	14
16	Inlet 4F-4G	15	0	100	18	Circular	1.00	0.00	.00	0	6.0	33.30	34.30	.012	МН	1.0	40.00	15
₽R∩	JECT FILE:	ICCMD	STM			-D-F FILE:		\				TOTA	i All INAD		LIMEC	16 RUN F	\ATE: 4:	1 12

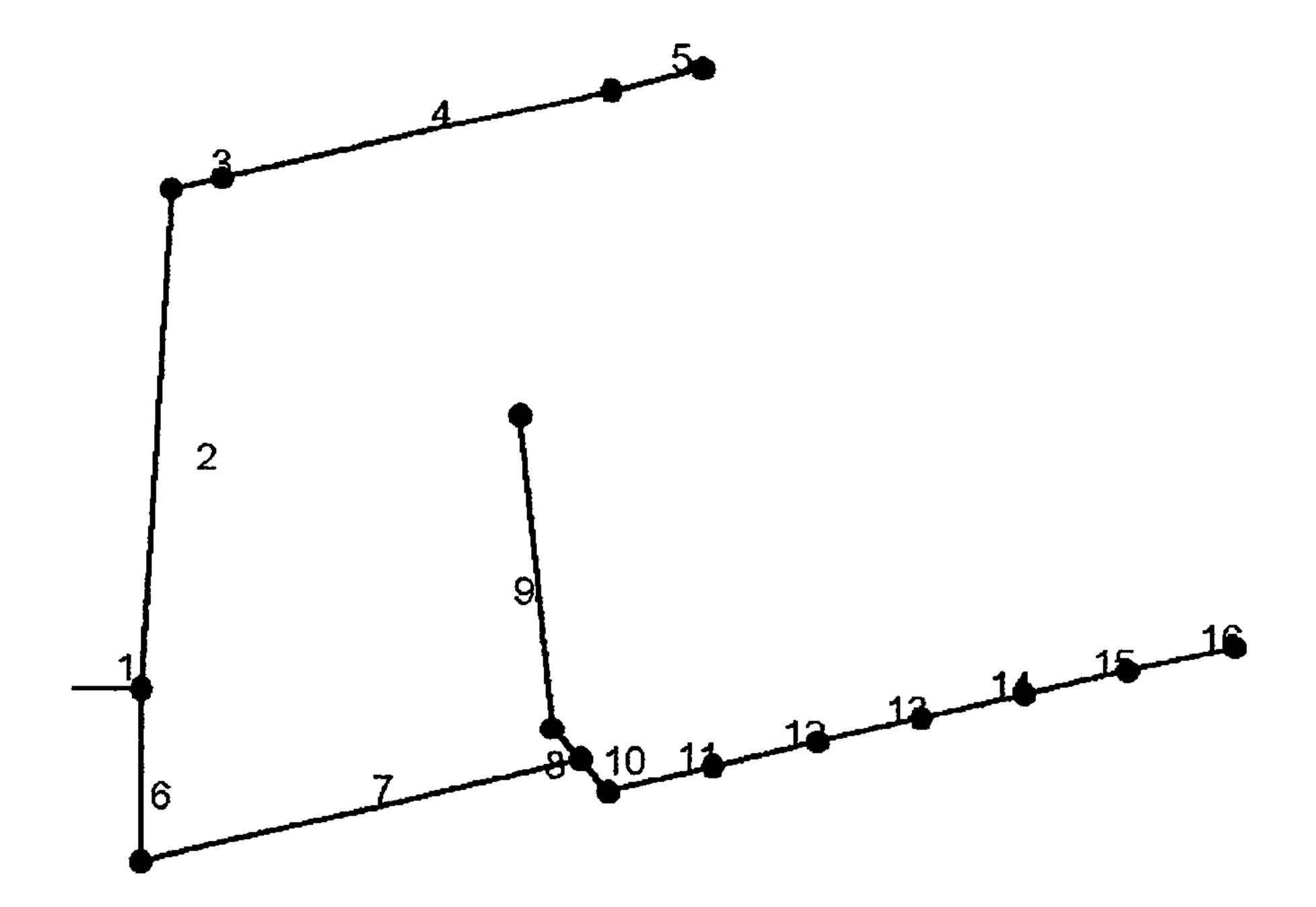
PROJECT FILE: JCCMP.STM

I-D-F FILE: JC.IDF

TOTAL NUMBER OF LINES: 16 RUN DATE: 11-12-

DESIGN CODES: Min. Pipe Size = 12 in; Max. Pipe Size = 96 in; Min. Slope = .2 %; Min. Cover = 2 ft; Inlet N-Values = .016; Average Inlet Throat

Plan View

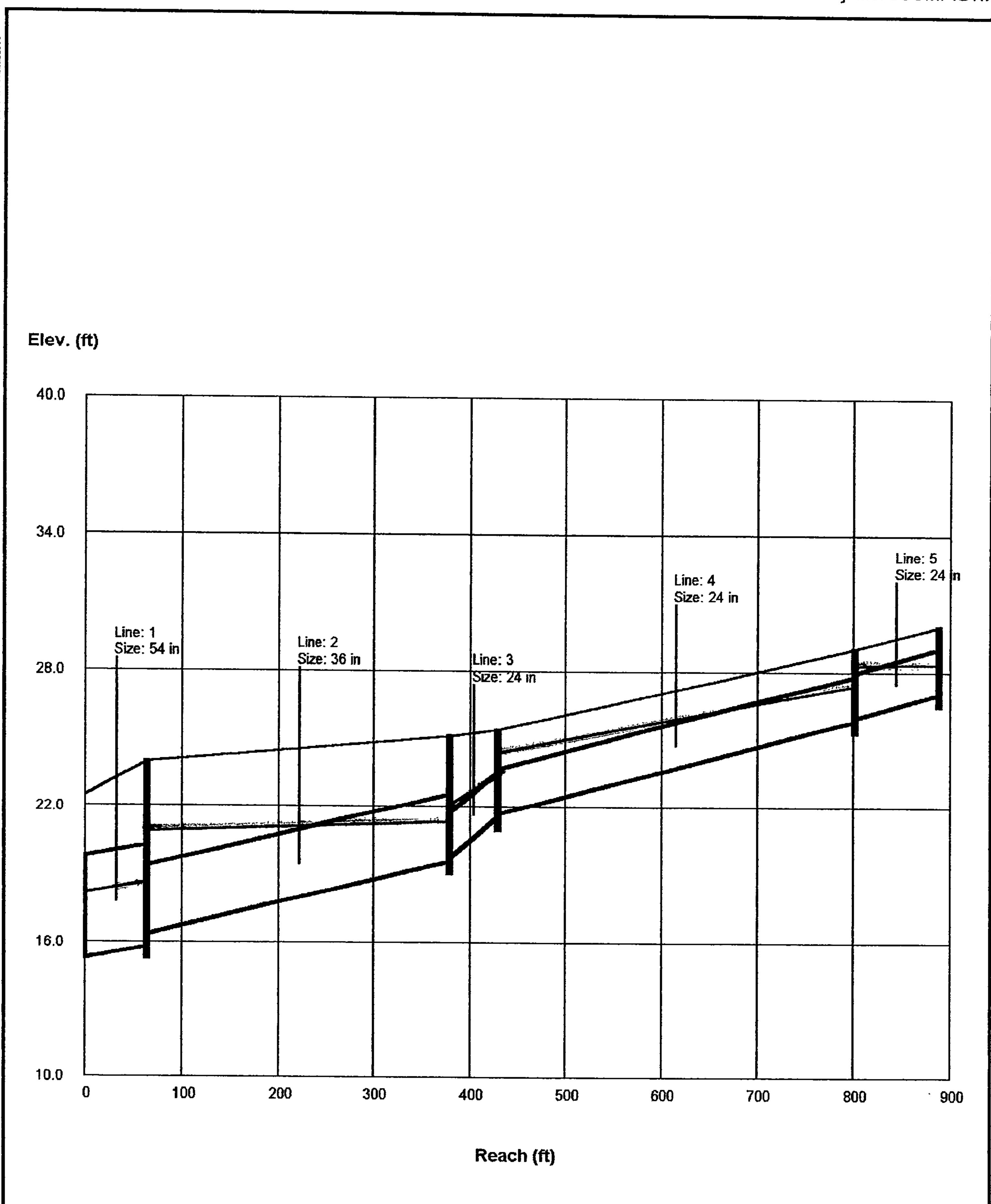


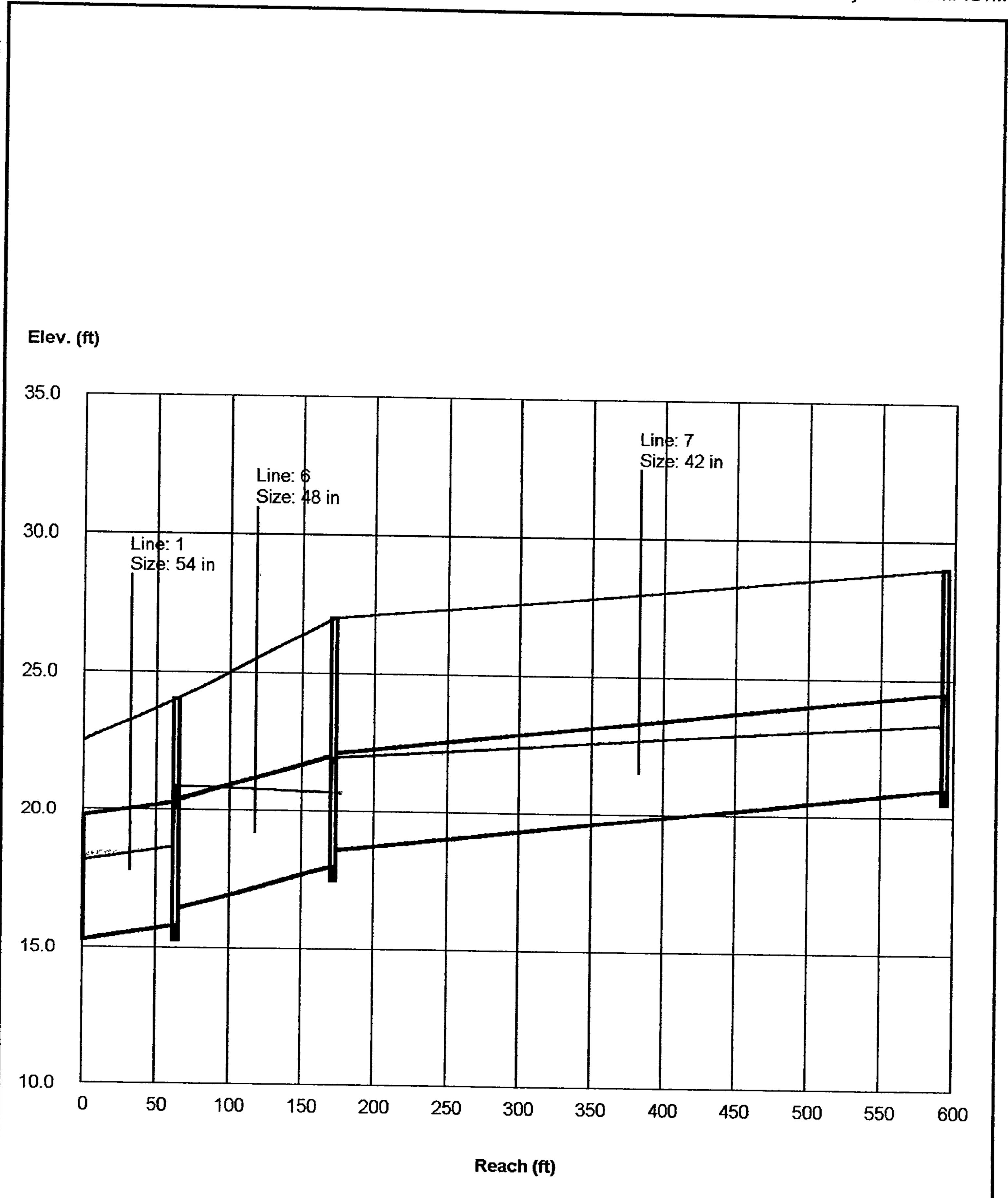
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No. Lines: 16

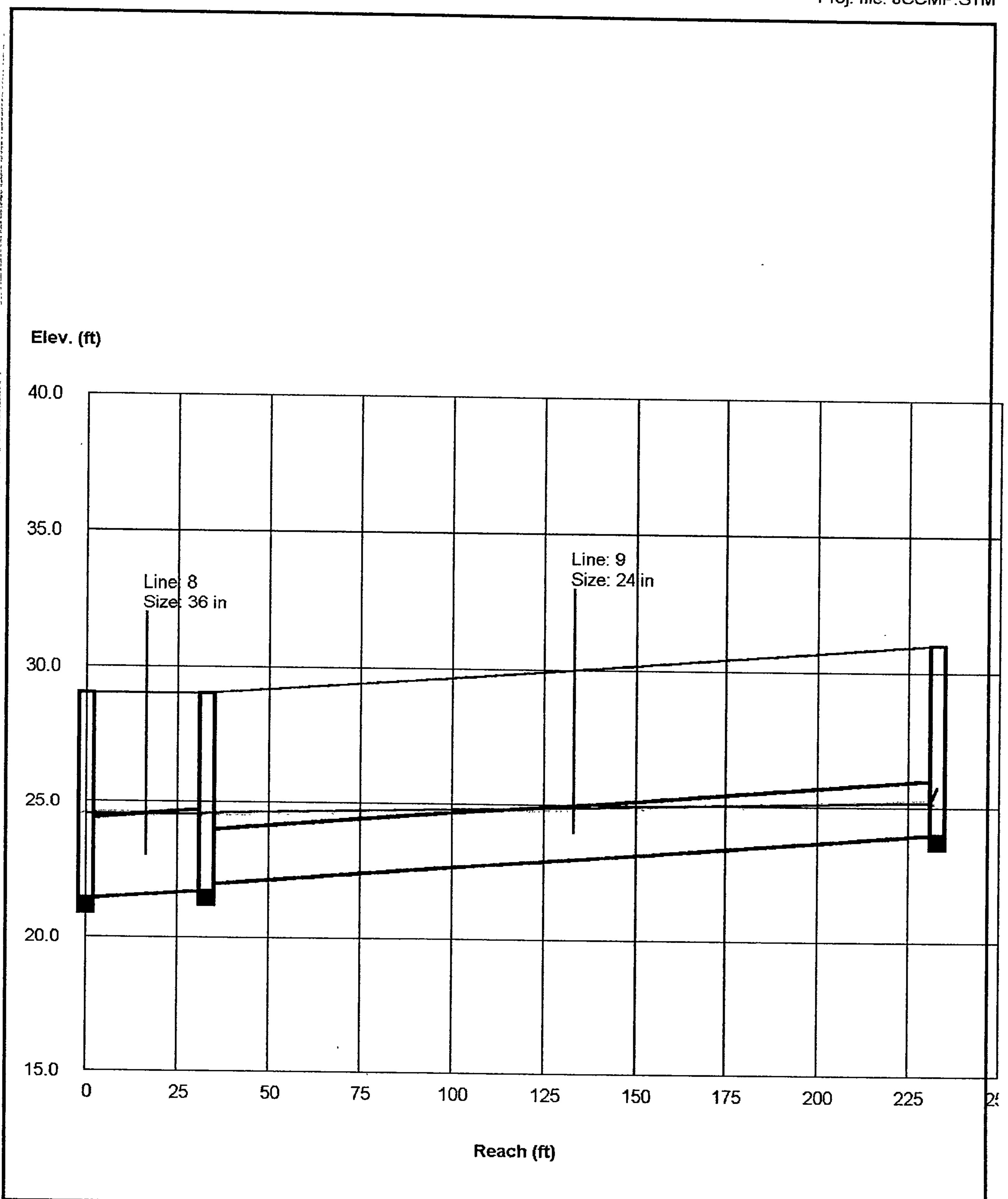
11-12-1997

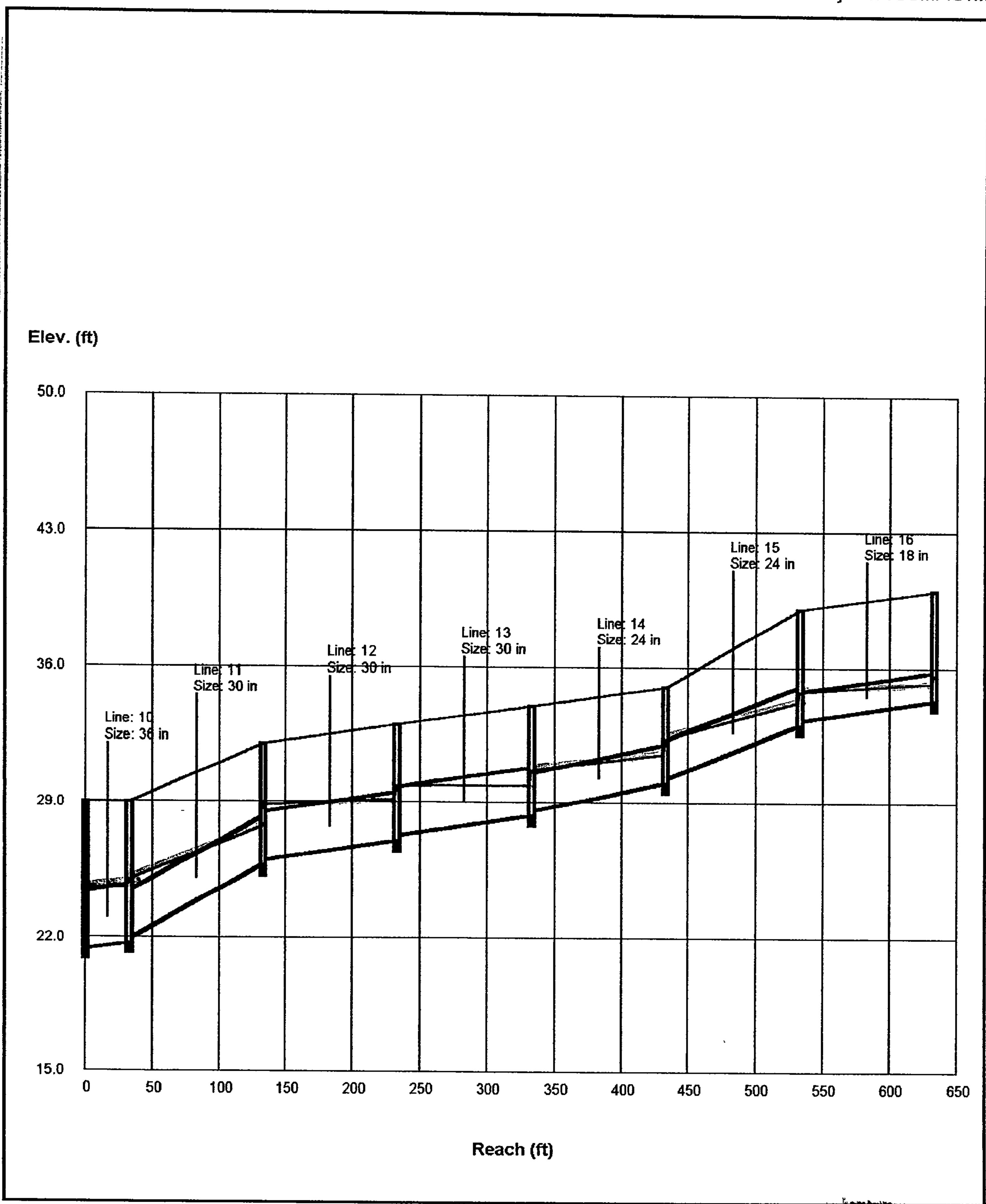




Storm Sewer Profile

Proj. file: JCCMP.STM





Line 1	Q = 12	7.70 S	$Size = 54 \times 54$	(Cir)	Nv = 0.013	Len =	63.4	•	ILC = 1.00
VA-Inlet	1 / Outfall								
	Invert	Depth	HGL	EGL	Area	Vel	T-V	Vid	Cover
Dnstrm	15.30	34	18.17	20.38	10.71	11.93	4.33		2.70
Upstrm	15.80	34	18.67	20.88	10.71	11.93	4.33		3.70
Drainag	e area (ac)	= 0.00		Slope of inve	ert (%)		=	0.789
Runoff	coefficient	(C)	= 0.00		Slope energy	` '	ne (%)		0.789
Time of	conc. (mi	n)	= 6.46		Critical dept	_			39
Inlet Tir	ne (min)		= 0.00		Natural grou	` '	(ft)		24.00
Intensity	y @ 100 y	r (in/hr)	= 0.00		Upstream su		` /		0.00
Cumula	tive C x A	•	= 0.00		Additional C				15.10
Q = CA	x I (cfs)		= 0.00		Full-flow cap	- \ /	s)		174.70
Q Catch	ment (cfs))	= 0.00		Inlet Type	·	~~		MH
Q Carry	over (cfs)		= 0.00		Gutter slope	(ft/ft)			0.00
Ω			= 0.00		•	` /			0.00
Q Captu	nea (cis)		- 0.00		Cross stope ((tt/tt)			$\mathbf{v}.\mathbf{v}$
~ ^	ssed to off $Q = 31.$	site	$= 0.00$ $= 0.00$ $= 0.00$ $= 36 \times 36$	(Cir)	Cross slope (Width of Flo	` /	315.3		0.00 $LC = 1.00$
Q Bypas Line 2	ssed to off	site 20 s	= 0.00	(Cir)	Width of Flo	w (ft)	315.3		0.00
Q Bypas Line 2	ssed to off $Q = 31$.	site 20 s	= 0.00	(Cir)	Width of Flo	w (ft)	315.3 T-V		0.00
Q Bypas Line 2	ssed to off $Q = 31.$ Downstrean	site 20 S n line = 1	= 0.00 ize = 36 x 36		Width of Flo	W (ft) Len =	T-V		0.00 LC = 1.00 Cover
Q Bypas Line 2 Inlet 1-2/	Q = 31. Downstream Invert	site 20 S n line = 1 Depth	= 0.00 ize = 36 x 36 HGL	EGL	Width of Flo	w (ft) Len =			0.00 $LC = 1.00$
Q Bypas Line 2 Inlet 1-2 / Upstrm	Q = 31. Downstream Invert 16.40	20 S n line = 1 Depth 36 22	= 0.00 ize = 36 x 36 HGL 20.88	EGL 21.18 22.12	Nv = 0.012 Area 7.07 4.41	Vel 4.41 7.07	T-V 0.00	Vid	0.00 LC = 1.00 Cover 4.60
Q Bypas Line 2 Inlet 1-2 / Documents Drainage	Q = 31. Downstream Invert 16.40 19.55	20 S n line = 1 Depth 36 22	= 0.00 HGL 20.88 21.34	EGL 21.18 22.12	Nv = 0.012 Area 7.07 4.41 Slope of inve	Vel 4.41 7.07	T-V 0.00 2.94	J	0.00 LC = 1.00 Cover 4.60 2.55
Q Bypas Line 2 Inlet 1-2 / Documents Drainage Runoff control	Q = 31. Downstream Invert 16.40 19.55 e area (ac)	20 S n line = 1 Depth 36 22 (C)	$= 0.00$ $ize = 36 \times 36$ $= 0.88$ $= 21.34$ $= 0.00$	EGL 21.18 22.12	Nv = 0.012 Area 7.07 4.41	\ten = \frac{1}{2} \ten = \frace	T-V 0.00 2.94 1e (%)	J Vid ===	0.00 LC = 1.00 Cover 4.60 2.55 0.999
Q Bypas Line 2 Inlet 1-2/ Dustrm Upstrm Drainage Runoff of Time of	Q = 31. Downstream Invert 16.40 19.55 e area (ac) coefficient	Site 20 S n line = 1 Depth 36 22 (C) n)	= 0.00 ize = 36 x 36 HGL 20.88 21.34 = 0.00 = 0.00	EGL 21.18 22.12	Nv = 0.012 Area 7.07 4.41 Slope of investigations of the Slope energy	W (ft) Len = 1 4.41 7.07 et (%) grade lin h (in)	T-V 0.00 2.94	J Vid ==	0.00 LC = 1.00 Cover 4.60 2.55 0.999 0.298
Q Bypas Line 2 Inlet 1-2/ Document of Inlet Time of Inlet Time Intensity	Q = 31. Downstream Invert 16.40 19.55 e area (ac) coefficient conc. (min ne (min) (@ 100 yr)	20 S n line = 1 Depth 36 22 (C) n) r (in/hr)	$= 0.00$ $ize = 36 \times 36$ $= 20.88$ $= 21.34$ $= 0.00$ $= 0.00$ $= 0.00$ $= 2.83$	EGL 21.18 22.12	Nv = 0.012 Area 7.07 4.41 Slope of investigated depth	Vel Len = Vel 4.41 7.07 et (%) grade lin h (in) nd elev. (T-V 0.00 2.94 (ft)		0.00 LC = 1.00 Cover 4.60 2.55 0.999 0.298 21
Q Bypas Line 2 Inlet 1-2/ Dnstrm Upstrm Drainage Runoff of Inlet Tin Intensity Cumulat	Q = 31. Downstream Invert 16.40 19.55 e area (ac) coefficient conc. (min ne (min) (@ 100 yn tive C x A	20 S n line = 1 Depth 36 22 (C) n) r (in/hr)	= 0.00 ize = 36 x 36 HGL 20.88 21.34 = 0.00 = 0.00 = 0.00 = 2.83 = 0.00	EGL 21.18 22.12	Nv = 0.012 Area 7.07 4.41 Slope of investigation of the Slope energy Critical depth Natural grounds.	Vel Len = Vel 4.41 7.07 et (%) grade lin h (in) nd elev. (rcharge (T-V 0.00 2.94 (ft)		0.00 LC = 1.00 Cover 4.60 2.55 0.999 0.298 21 25.10
Q Bypas Line 2 Inlet 1-2/ Dnstrm Upstrm Drainage Runoff of Inlet Tin Intensity Cumulat	Q = 31. Downstream Invert 16.40 19.55 e area (ac) coefficient conc. (min ne (min) (@ 100 yn tive C x A	20 S n line = 1 Depth 36 22 (C) n) r (in/hr)	= 0.00 ize = 36 x 36 HGL 20.88 21.34 = 0.00 = 0.00 = 2.83 = 0.00 = 0.00 = 0.00	EGL 21.18 22.12	Nv = 0.012 Area 7.07 4.41 Slope of investigated depth Natural ground Upstream sur	Vel Len = Vel 4.41 7.07 rt (%) grade lin h (in) nd elev. (rcharge (cfs)	T-V 0.00 2.94 (ft) ft)	// J	0.00 LC = 1.00 Cover 4.60 2.55 0.999 0.298 21 25.10 0.00
Q Bypas Line 2 Inlet 1-2/ Dustrm Dustrm Drainage Runoff of Inlet Tin Intensity Cumulat Q = CA Q Catch	Q = 31. Downstream Invert 16.40 19.55 e area (ac) coefficient conc. (min ne (min) (@ 100 yn tive C x A x I (cfs) ment (cfs)	20 S n line = 1 Depth 36 22 (C) n) r (in/hr)	= 0.00 ize = 36 x 36 HGL 20.88 21.34 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00	EGL 21.18 22.12	Nv = 0.012 Area 7.07 4.41 Slope of inversions of the Slope energy Critical depth Natural ground Upstream sur Additional Quantity and	Vel Len = Vel 4.41 7.07 rt (%) grade lin h (in) nd elev. (rcharge (cfs)	T-V 0.00 2.94 (ft) ft)	// J	0.00 LC = 1.00 Cover 4.60 2.55 0.999 0.298 21 25.10 0.00 6.00
Q Bypas Line 2 Inlet 1-2/ Dustrm Dustrm Upstrm Drainage Runoff of Inlet Tin Intensity Cumulat Q = CA Q Catch Q Carrye	Q = 31. Downstream Invert 16.40 19.55 e area (ac) coefficient conc. (min ne (min) (@ 100 yn tive C x A x I (cfs) ment (cfs) over (cfs)	20 S n line = 1 Depth 36 22 (C) n) r (in/hr)	= 0.00 ize = 36 x 36 HGL 20.88 21.34 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00	EGL 21.18 22.12	Nv = 0.012 Area 7.07 4.41 Slope of investigated depth Natural ground Upstream sure Additional Quantum Full-flow cap	Vel Vel 4.41 7.07 rt (%) grade line h (in) nd elev. (rcharge (cfs) cacity (cfs)	T-V 0.00 2.94 (ft) ft)	J Vid ===================================	0.00 LC = 1.00 Cover 4.60 2.55 0.999 0.298 21 25.10 0.00 6.00 72.22
Q Bypas Line 2 Inlet 1-2/ Dustrm Dustrm Upstrm Drainage Runoff of Time of Inlet Time Intensity Cumulat Q = CA Q Catch Q Carry Q Captu Q Captu	Q = 31. Downstream Invert 16.40 19.55 e area (ac) coefficient conc. (min ne (min) (@ 100 yn tive C x A x I (cfs) ment (cfs)	20 S n line = 1 Depth 36 22 (C) n) r (in/hr)	= 0.00 ize = 36 x 36 HGL 20.88 21.34 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00	EGL 21.18 22.12	Nv = 0.012 Area 7.07 4.41 Slope of inversion of the stream of the str	Vel Vel 4.41 7.07 et (%) grade lin h (in) nd elev. (rcharge (cfs) pacity (cfs) (ft/ft) (ft/ft)	T-V 0.00 2.94 (ft) ft)	J Vid ===================================	0.00 LC = 1.00 Cover 4.60 2.55 0.999 0.298 21 25.10 0.00 6.00 72.22 MH

Line 3	Q = 25	.20 Si	$ze = 24 \times 24$	(Cir)	Nv = 0.012	Len =	50.0		TLC = 1.00
Inlet 2-2A	4 / Downstre	eam line = 2							
	Invert	Depth	HGL	EGL	Area	Vel	T-W	Vid	Cover
Dnstrm Upstrm	19.80 21.50	24 22	22.12	23.12	3.14	8.02	0.00		3.30
C han in	21.50	22	23.30	24.41	2.98	8.46	1.20		1.90
Drainag	e area (ac)) =	= 0.00		Slope of inve	ert (%)		_	3.400
Runoff	coefficient	(C) =	0.00		Slope energy	` /	ne (%)		2.583
Time of	conc. (mi	n) =	= 2.55		Critical dept	-			22
Inlet Tir	ne (min)	=	0.00		Natural grou	` /	(ft)		25.40
Intensity	y @ 100 y	r (in/hr) =	0.00		Upstream su		` /		0.00
Cumula	tive C x A	<u>-</u>	= 0.00		Additional Q	_ `)		5.00
Q = CA	x I (cfs)		= 0.00		Full-flow cap	~ ` /	s)		45.18
Q Catch	ment (cfs)) =	= 0.00		Inlet Type	· — — — — — — — .	~~~~~~~ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		MH
Q Carry	over (cfs)	=	= 0.00		Gutter slope	(ft/ft)			0.00
_ ~	red (cfs)	=	0.00		Cross slope	` /		===	0.00
Q Captu	()				-	•			^ ^
Q Bypas	ssed to 2		$= 0.00$ $ze = 24 \times 24$	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Width of Flo		27 7 A		T ~ - 1 AA
Q Bypas Line 4	ssed to 2 $Q = 20.$.20 Siz	$ze = 24 \times 24$	(Cir)	Width of Flo	w (ft) Len =	372.0		
Q Bypas Line 4	ssed to $\frac{2}{2}$ $Q = 20.$ B / Downstr	$\frac{20}{\text{ream line}} = 3$	$ze = 24 \times 24$		Nv = 0.012	Len =		J	LC = 1.00
Q Bypas Line 4	ssed to 2 $Q = 20.$	$\frac{20}{\text{ream line}} = 3$	$ze = 24 \times 24$	(Cir)			372.0 T-W	J	
Q Bypas Line 4	ssed to $\frac{2}{2}$ $Q = 20.$ B / Downstr	$\frac{20}{\text{ream line}} = 3$	$ze = 24 \times 24$		Nv = 0.012	Len =		J	LC = 1.00 Cover
Q Bypas Line 4 Inlet 2A-2	Q = 20. B / Downstr Invert	20 Six ream line = 3 Depth	$ze = 24 \times 24$ HGL	EGL	Nv = 0.012	Len =	T-W	J	LC = 1.00
Q Bypas Line 4 Inlet 2A-2 Upstrm	ssed to $\frac{2}{2}$ $Q = 20$ B / Downstr Invert 21.70	24 19	$ze = 24 \times 24$ HGL 24.41	EGL 25.05 28.27	Nv = 0.012 Area 3.14 2.68	Len = 6.43 7.54	T-W	/id	LC = 1.00 Cover 1.70
Q Bypas Line 4 Inlet 2A-2 Dustrum Upstrum Drainage	Q = 20. B / Downstr Invert 21.70 25.80	20 Size ream line = 3 Depth 24 19	ze = 24 x 24 HGL 24.41 27.39	EGL 25.05 28.27	Nv = 0.012 Area 3.14 2.68 Slope of inve	Len = : Vel 6.43 7.54 ert (%)	T-W 0.00 1.61	/id ==	LC = 1.00 Cover 1.70 1.20 1.102
Q Bypas Line 4 Inlet 2A-2 Dustrin Upstrin Drainage Runoff of	Q = 20. B / Downstr Invert 21.70 25.80 e area (ac)	24 19 (C) =	HGL 24.41 27.39 = 0.00	EGL 25.05 28.27	Nv = 0.012 Area 3.14 2.68 Slope of inversions of the slope energy	Len = : Vel 6.43 7.54 ert (%) grade lin	T-W 0.00 1.61	/id ==	LC = 1.00 Cover 1.70 1.20
Q Bypas Line 4 Inlet 2A-2 Dustrm Upstrm Drainage Runoff of Time of	Sed to 2 Q = 20. B / Downstr Invert 21.70 25.80 e area (ac) coefficient	20 Six ream line = 3 Depth 24 19 (C) = (C	ze = 24 x 24 HGL 24.41 27.39 = 0.00 = 0.00	EGL 25.05 28.27	Nv = 0.012 Area 3.14 2.68 Slope of inve	Len = : Vel 6.43 7.54 et (%) grade lin h (in)	T-W 0.00 1.61	/id ===	Cover 1.70 1.20 1.102 0.865
Q Bypas Line 4 Inlet 2A-2 Drainage Runoff of Inlet Tine	Q = 20. Q = 20. B / Downstr Invert 21.70 25.80 e area (ac) coefficient conc. (min	20 Six ream line = 3 Depth 24 19 (C) =	ze = 24 x 24 HGL 24.41 27.39 = 0.00 = 0.00 = 0.48	EGL 25.05 28.27	Nv = 0.012 Area 3.14 2.68 Slope of inversion of the Slope energy Critical depth	Len = : Vel 6.43 7.54 et (%) grade lin h (in) nd elev. (T-W 0.00 1.61 ft)	/id ====================================	LC = 1.00 Cover 1.70 1.20 1.102 0.865 19
Q Bypas Line 4 Inlet 2A-2 Drainage Runoff of Inlet Tin Intensity	Q = 20. Q = 20. B / Downstr Invert 21.70 25.80 e area (ac) coefficient conc. (min ne (min)	20 Six ream line = 3 Depth 24 19 (C) = 1	HGL 24.41 27.39 = 0.00 = 0.00 = 0.48 = 0.00	EGL 25.05 28.27	Nv = 0.012 Area 3.14 2.68 Slope of inversion of the Slope energy Critical depth Natural grounds	Len = 1 Vel 6.43 7.54 et (%) grade lin h (in) nd elev. (etcharge (T-W 0.00 1.61 ft)	/id ====================================	LC = 1.00 Cover 1.70 1.20 1.102 0.865 19 29.00
Q Bypas Line 4 Inlet 2A-2 Drainage Runoff of Inlet Tin Intensity	Q = 20. Q = 20. B / Downstr Invert 21.70 25.80 e area (ac) coefficient conc. (min ne (min) / @ 100 yr tive C x A	20 Six ream line = 3 Depth 24 19 (C) = 1 (C)	ze = 24 x 24 HGL 24.41 27.39 = 0.00 = 0.00 = 0.48 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00	EGL 25.05 28.27	Nv = 0.012 Area 3.14 2.68 Slope of invention of the store energy Critical deption Natural ground Upstream su	Len = 1 Vel 6.43 7.54 et (%) grade lin h (in) nd elev. (etcharge (cfs)	T-W 0.00 1.61 ft) ft)	/id ====================================	LC = 1.00 Cover 1.70 1.20 1.102 0.865 19 29.00 0.00
Q Bypas Line 4 Inlet 2A-2 Dustrin Drainage Runoff of Time of Inlet Time Intensity Cumulat Q = CA Q Catch	Q = 20. Q = 20. B / Downstr Invert 21.70 25.80 e area (ac) coefficient conc. (min ne (min) / @ 100 yr tive C x A x I (cfs) ment (cfs)	20 Six ream line = 3 Depth 24 19 (C) = 1 r (in/hr) = 1	ze = 24 x 24 HGL 24.41 27.39 = 0.00 = 0.00 = 0.48 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00	EGL 25.05 28.27	Nv = 0.012 Area 3.14 2.68 Slope of inversion of the Slope energy Critical deptimatural ground Upstream sure Additional Quantum Sure Sure Sure Sure Sure Sure Sure Sure	Len = 1 Vel 6.43 7.54 et (%) grade lin h (in) nd elev. (etcharge (cfs)	T-W 0.00 1.61 ft) ft)	/id ====================================	LC = 1.00 Cover 1.70 1.20 1.102 0.865 19 29.00 0.00 6.00
Q Bypas Line 4 Inlet 2A-2 Dustrin Drainage Runoff of Time of Inlet Time Intensity Cumulat Q = CA Q Catch	Q = 20. Q = 20. B / Downstr Invert 21.70 25.80 e area (ac) coefficient conc. (min ne (min) / @ 100 yr tive C x A x I (cfs)	20 Six ream line = 3 Depth 24 19 (C) = 1 (in/hr) = 1 = 1	re = 24 x 24 HGL 24.41 27.39 = 0.00 = 0.00 = 0.48 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00	EGL 25.05 28.27	Area 3.14 2.68 Slope of inversion of the store energy Critical deption Natural grout Upstream sure Additional Questional Questiona	Len = 1 Vel 6.43 7.54 ert (%) grade lin h (in) nd elev. (ercharge (efs) eacity (efs) eacity (efs)	T-W 0.00 1.61 ft) ft)	/id ====================================	Cover 1.70 1.20 1.102 0.865 19 29.00 0.00 6.00 25.72
Q Bypas Line 4 Inlet 2A-2 Dustrin Upstrin Drainage Runoff of Time of Inlet Time Intensity Cumulat Q = CA Q Catch Q Carry	Q = 20. Q = 20. B / Downstr Invert 21.70 25.80 e area (ac) coefficient conc. (min ne (min) / @ 100 yr tive C x A x I (cfs) ment (cfs)	20 Six ream line = 3 Depth 24 19 (C) = 1 r (in/hr) = 1	Ee = 24 x 24 HGL 24.41 27.39 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00	EGL 25.05 28.27	Nv = 0.012 Area 3.14 2.68 Slope of inversion of the street of the str	Len = Vel 6.43 7.54 ert (%) grade linh (in) nd elev. (ercharge (cfs) cacity (cfs) (ft/ft)	T-W 0.00 1.61 ft) ft)	/id ====================================	Cover 1.70 1.20 1.102 0.865 19 29.00 0.00 6.00 25.72 MH

Line 5	Q = 14	.20 Si	$ze = 24 \times 24$	(Cir)	Nv = 0.012	Len =	87.0	JLC = 1.00
Inlet 2B-2	C / Downst	ream line = 4	1					
	Invert	Depth	HGL	EGL	Area	Vel	T-Wic	Cover
Dnstrm Upstrm	26.00 27.00	24 16	28.27 28.36	28.59 28.97	3.14 2.28	4.52 6.23	0.00 1.86	1.00 1.00
Runoff of Time of Inlet Time Intensity	e area (accoefficient conc. (minor (minor) y @ 100 y tive C x A x I (cfs)	(C) = (n) = (r (in/hr) = (2) = (2)	= 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00		Slope of inverse Slope energy Critical dept Natural ground Upstream sur Additional Capture Full-flow cap	y grade linh (in) and elev. (archarge (cfs)	ft)	= 1.149 = 0.430 = 16 = 30.00 = 0.00 = 14.20 = 26.27
Q Carry Q Captu	ment (cfs) over (cfs) red (cfs) ssed to 4		= 0.00 = 0.00 = 0.00 = 0.00		Inlet Type Gutter slope Cross slope Width of Flo	(ft/ft)		= MH = 0.00 = 0.00 = 0.00
Line 6	Q = 81.		ze = 48 x 48	(Cir)	Nv = 0.012	Len =	108.4	JLC = 1.00
Inlet 1-3/	Downstream Invert	n line = 1 Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm Upstrm	16.40 18.00	48 32	20.88 20.69	21.53 21.96	12.56 8.97	6.48 9.07	0.00 3.76	3.60 5.00
Runoff of Time of Inlet Time Intensity	(a) 100 yr tive C x A	(C) = (n) = (in/hr) = (in/	= 0.00 = 0.00 = 5.86 = 0.00 = 0.00 = 0.00 = 0.00		Slope of inversion of the Slope energy Critical depth Natural ground Upstream sur Additional Quality Full-flow cap	grade linh (in) nd elev. (cfs)	e (%) ft)	= 1.476 = 0.400 = 32 = 27.00 = 0.00 = 21.40 = 189.06

Inlet Type

Gutter slope (ft/ft)

Cross slope (ft/ft)

Width of Flow (ft)

= MH

= 0.00

= 0.00

= 0.00

Q Catchment (cfs)

Q Carryover (cfs)

Q Captured (cfs)

Q Bypassed to 1 (cfs)

= 0.00

= 0.00

= 0.00

Line 7	Q = 60	.00 S	$ize = 42 \times 42$	(Cir)	Nv = 0.012	Len =	422.0	J	LC = 1.00
Inlet 3-4	Downstream	m line = 6							
	Invert	Depth	HGL	EGL	Area	Vel	T-W	id	Cover
Dnstrm Upstrm	18.60 21.00	40	21.96	22.58	9.50	6.32	3.43		4.90
Channi	21.00	28	23.37	24.53	6.94	8.65	3.27		4.50
	ge area (ac)	•	= 0.00		Slope of inve	ert (%)		===	0.569
	coefficient	\ /	= 0.00		Slope energy	` /	ne (%)		0.362
	conc. (mi	n)	= 3.52		Critical dept	_			28
	me (min)		= 0.00		Natural grou	` /	(ft)		29.00
	y @ 100 y		= 0.00		Upstream su		` /		0.00
	tive C x A	3	= 0.00		Additional Q				12.00
Q = CA	x I (cfs)	=	= 0.00		Full-flow cap	~ ` /	s)		82.20
Q Catcl	ment (cfs)		= 0.00		Inlet Type	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		 =	MH
Q Carry	over (cfs)	=	= 0.00		Gutter slope	(ft/ft)			0.00
_	ired (cfs)		= 0.00		Cross slope	` /			0.00
Q Bypa	ssed to 6	(cfs)	= 0.00		Width of Flo	w (ft)		=	0.00
T.ine &	∩ 12	ሰሰ ር።							
Line 8 Inlet 4-Mi	$Q = 12.$ $\frac{1}{1} / Downs$		ze = 36 x 36	(Cir)	Nv = 0.012	Len =	32.8	J	LC = 1.00
				(Cir)	Nv = 0.012 Area		32.8 T-Wi		Cover
	I 1 / Downs	tream line =	7	EGL	Area	Vel	T-Wi		Cover
Inlet 4-MI	Invert	tream line =	7 HGL						
Inlet 4-MI Dnstrm Upstrm	Invert 21.40	tream line = Depth 36 34	7 HGL 24.53	EGL 24.58	Area 7.07 6.92	Vel 1.70 1.73	T-Wi 0.00	d	Cover 4.60 4.30
Inlet 4-MI Dnstrm Upstrm Drainage	I 1 / Downs Invert 21.40 21.70	tream line = Depth 36 34	7 HGL 24.53 24.54	EGL 24.58 24.59	Area 7.07 6.92 Slope of inve	Vel 1.70 1.73 et (%)	T-Wi 0.00 1.35	d =	Cover 4.60 4.30 0.915
Inlet 4-MI Dustrm Upstrm Drainage Runoff of Time of	Invert 21.40 21.70 e area (ac) coefficient conc. (min	tream line = Depth 36 34 = (C) =	7 HGL 24.53 24.54 = 0.00	EGL 24.58 24.59	Area 7.07 6.92	Vel 1.70 1.73 et (%) grade lin	T-Wi 0.00 1.35	d =	Cover 4.60 4.30 0.915 0.025
Inlet 4-MI Dustrm Upstrm Drainage Runoff of Time of Inlet Tim	Invert 21.40 21.70 e area (ac) coefficient conc. (min ne (min)	tream line = Depth 36 34 = (C) = 1) =	7 HGL 24.53 24.54 = 0.00 = 0.00	EGL 24.58 24.59	Area 7.07 6.92 Slope of inve	Vel 1.70 1.73 rt (%) grade lin 1 (in)	T-Wi 0.00 1.35	d ==	Cover 4.60 4.30 0.915 0.025
Inlet 4-MI Dustrm Upstrm Drainage Runoff of Time of Inlet Tin Intensity	Invert 21.40 21.70 e area (ac) coefficient conc. (min ne (min) (@ 100 yr	tream line = Depth 36 34 (C) = (in/hr) =	7 HGL 24.53 24.54 = 0.00 = 0.00 = 1.11 = 0.00 = 0.00 = 0.00	EGL 24.58 24.59	Area 7.07 6.92 Slope of inventions of the Critical depth	Vel 1.70 1.73 rt (%) grade lin (in) nd elev. (T-Wi 0.00 1.35 ft)	d ===	Cover 4.60 4.30 0.915 0.025 13
Inlet 4-MI Dustrm Upstrm Drainage Runoff of Time of Inlet Tin Intensity Cumulat	Invert 21.40 21.70 e area (ac) coefficient conc. (min ne (min) / @ 100 yr tive C x A	tream line = Depth 36 34 (C) = (in/hr) = (in/hr) =	7 HGL 24.53 24.54 = 0.00 = 0.00 = 1.11 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00	EGL 24.58 24.59	Area 7.07 6.92 Slope of inversions of the Critical depth Natural ground Upstream sur Additional Q	Vel 1.70 1.73 et (%) grade lin (in) nd elev. (rcharge (f	T-Wi 0.00 1.35 ft) ft)	d ==	Cover 4.60 4.30 0.915 0.025 13 29.00
Inlet 4-MI Dustrm Upstrm Drainage Runoff of Time of Inlet Tin Intensity	Invert 21.40 21.70 e area (ac) coefficient conc. (min ne (min) / @ 100 yr tive C x A	tream line = Depth 36 34 (C) = (in/hr) = (in/hr) =	7 HGL 24.53 24.54 = 0.00 = 0.00 = 1.11 = 0.00 = 0.00 = 0.00	EGL 24.58 24.59	Area 7.07 6.92 Slope of inversions of the Critical depth Natural ground Upstream sur	Vel 1.70 1.73 et (%) grade lin (in) nd elev. (rcharge (f	T-Wi 0.00 1.35 ft) ft)	d = = = = = = = = = = = = = = = = = = =	Cover 4.60 4.30 0.915 0.025 13 29.00 0.00
Inlet 4-MI Dustrm Drainage Runoff of Time of Inlet Tim Intensity Cumulat Q = CA Q Catch	Invert 21.40 21.70 e area (ac) coefficient conc. (min ne (min) (@ 100 yr tive C x A x I (cfs) ment (cfs)	tream line = Depth 36 34 (C) = (in/hr) = - - - - - - - - - - - - -	7 HGL 24.53 24.54 = 0.00 = 0.00 = 1.11 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00	EGL 24.58 24.59	Area 7.07 6.92 Slope of inversions of the Critical depth Natural ground Upstream sur Additional Q	Vel 1.70 1.73 et (%) grade lin (in) nd elev. (rcharge (f	T-Wi 0.00 1.35 ft) ft)	d ====================================	Cover 4.60 4.30 0.915 0.025 13 29.00 0.00 0.00 0.00
Inlet 4-MI Dustrm Drainage Runoff of Time of Inlet Tim Intensity Cumulat Q = CA Q Catch Q Carry	Invert 21.40 21.70 e area (ac) coefficient conc. (min ne (min) @ 100 yr tive C x A x I (cfs) ment (cfs) over (cfs)	tream line =	7 HGL 24.53 24.54 = 0.00 = 0.00 = 1.11 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00	EGL 24.58 24.59	Area 7.07 6.92 Slope of inversional depth Natural ground Upstream sur Additional Quality Full-flow cap	Vel 1.70 1.73 et (%) grade line (in) nd elev. (rcharge (forcharge) acity (cfs)	T-Wi 0.00 1.35 ft) ft)	d = = = = = = = = = = = = = = = = = = =	Cover 4.60 4.30 0.915 0.025 13 29.00 0.00 0.00 69.10
Inlet 4-MI Dustrm Drainage Runoff of Time of Inlet Time Intensity Cumulat Q = CA Q Catch Q Carry Q Captu Q Captu	Invert 21.40 21.70 e area (ac) coefficient conc. (min ne (min) @ 100 yr tive C x A x I (cfs) ment (cfs) over (cfs)	Depth 36 34 (C) = (in/hr) = = ==	7 HGL 24.53 24.54 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00	EGL 24.58 24.59	Area 7.07 6.92 Slope of inversions depth Natural ground Upstream surand Additional Quality Full-flow capally and the Type	Vel 1.70 1.73 et (%) grade line (in) nd elev. (rcharge (forcharge) (cfs) acity (cfs) (ft/ft)	T-Wi 0.00 1.35 ft) ft)	d = = = = = = = = = = = = = = = = = = =	Cover 4.60 4.30 0.915 0.025 13 29.00 0.00 0.00 69.10 MH

Line.9	Q = 12.0)0	$Size = 24 \times 24$	(Cir)	Nv = 0.013	Len =	200.0	JLC = 1.0
MH 1-Inle	et 4A / Down	stream lir	ie = 8					
	Invert	Depth	HGL	EGL	Area	Vei	T-Wi	d Cove
Dnstrm	22.00	24	24.59	24.81	3.14	3.82	0.00	5.00
Upstrm	24.00	15	25.23	25.77	2.02	5.94	1.95	5.00
Drainag	e area (ac)		= 0.00		Slope of inve	ert (%)		= 1.000
_	coefficient (= 0.00		Slope energy	` /	ne (%)	= 0.481
Time of	conc. (min)	= 0.00		Critical dept	•	(= 15
	ne (min)		= 0.00		Natural grou	• /	(ft)	= 31.00
Intensity	y @ 100 yr	(in/hr)	= 0.00		Upstream su		` '	= 0.00
_	tive C x A	`	= 0.00		Additional Q	<u> </u>	. — — —	= 12.00
Q = CA	x I (cfs)		= 0.00		Full-flow cap		s)	= 22.62
							~ <i>}</i> 	
Q Catch	ment (cfs)		= 0.00		Inlet Type			= MH
~	over (cfs)		= 0.00		Gutter slope	(ft/ft)		= 0.00
~	red (cfs)		= 0.00		Cross slope (ft/ft)			= 0.00
- -	ssed to 8 (cfs)	= 0.00		Width of Flo		= 0.00	
Line 10 Inlet 4-N/I	Q = 36.0 $H 2 / Downst$		$Size = 36 \times 36$ $= 7$	(Cir)	Nv = 0.012	Len =	32.8	JLC = 1.0
HHOU T-IVII								
	Invert	Depth	HGL	EGL	Area	Vel	T-Wi	d Cove
Dnstrm	21.40	36	24.53	24.94	7.07	5.09	0.00	4.60
	21.40 21.70	36 35	24.53 24.60	24.94 25.01	7.07 7.00	5.09 5.14	0.00 1.06	4.60 4.30
Upstrm	21.70	35	24.60		7.00	5.14		4.30
Upstrm Drainag	21.70 ge area (ac)	35	24.60 $= 0.00$	25.01	7.00 Slope of inve	5.14 ert (%)	1.06	4.30 $= 0.915$
Upstrm Drainag Runoff	21.70 ge area (ac) coefficient (35 (C)	24.60 $= 0.00$ $= 0.00$	25.01	7.00 Slope of inverse Slope energy	5.14 ert (%) grade lin	1.06	4.30 $= 0.915$ $= 0.238$
Upstrm Drainag Runoff Time of	21.70 e area (ac) coefficient (conc. (min	35 (C)	24.60 $= 0.00$ $= 0.00$ $= 3.33$	25.01	7.00 Slope of inverse Slope energy Critical dept	5.14 ert (%) grade lin h (in)	1.06 ne (%)	4.30 = 0.915 = 0.238 = 23
Runoff of Time of Inlet Time	21.70 se area (ac) coefficient (conc. (min ne (min)	(C)	24.60 $= 0.00$ $= 0.00$ $= 3.33$ $= 0.00$	25.01	7.00 Slope of inversion of the Slope energy Critical dept Natural groups	5.14 ert (%) grade lin h (in) and elev.	1.06 ne (%) (ft)	4.30 = 0.915 = 0.238 = 23 = 29.00
Upstrm Drainag Runoff Time of Inlet Tin Intensity	21.70 ge area (ac) coefficient (conc. (min ne (min) y @ 100 yr	(C)	24.60 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00	25.01	7.00 Slope of inversion of the Slope energy Critical dept Natural ground Upstream sur	5.14 ert (%) grade lin h (in) nd elev. crcharge (1.06 ne (%) (ft)	4.30 = 0.915 = 0.238 = 23 = 29.00 = 0.00
Upstrm Drainag Runoff Time of Inlet Tir Intensit Cumula	21.70 se area (ac) coefficient (conc. (min ne (min)	(C)	24.60 $= 0.00$ $= 0.00$ $= 3.33$ $= 0.00$	25.01	7.00 Slope of inversion of the Slope energy Critical dept Natural groups	5.14 ert (%) grade line h (in) nd elev. ercharge () (cfs)	1.06 ne (%) (ft) (ft)	4.30 = 0.915 = 0.238 = 23 = 29.00
Upstrm Drainag Runoff Time of Inlet Tir Intensit Cumula Q = CA	ze area (ac) coefficient (conc. (min me (min) y @ 100 yr tive C x A x I (cfs)	35 (C) (in/hr)	24.60 = 0.00 = 0.00 = 3.33 = 0.00 = 0.00 = 0.00 = 0.00	25.01	7.00 Slope of inversion of the Slope energy Critical dept Natural ground Upstream sur Additional Call-flow cap	5.14 ert (%) grade line h (in) nd elev. ercharge () (cfs)	1.06 ne (%) (ft) (ft)	4.30 = 0.915 = 0.238 = 23 = 29.00 = 0.00 = 0.00 = 69.10
Upstrm Drainag Runoff Time of Inlet Tir Intensity Cumula Q = CA Q Catch	21.70 ge area (ac) coefficient (conc. (min ne (min) y @ 100 yr tive C x A x I (cfs) ment (cfs)	35 (C) (in/hr)	24.60 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00 = 0.00	25.01	7.00 Slope of investigation of the Slope energy Critical dept Natural ground Upstream sur Additional Captural flow captured Type	5.14 ert (%) grade lin h (in) nd elev. charge (cfs) pacity (cf	1.06 ne (%) (ft) (ft)	4.30 = 0.915 = 0.238 = 23 = 29.00 = 0.00 = 0.00 = 69.10 = MH
Upstrm Drainag Runoff Time of Inlet Tin Intensit Cumula Q = CA Q Catch Q Carry	ze area (ac) coefficient (conc. (min me (min) y @ 100 yr tive C x A x I (cfs)	35 (C) (in/hr)	24.60 = 0.00 = 0.00 = 3.33 = 0.00 = 0.00 = 0.00 = 0.00	25.01	7.00 Slope of inversion of the Slope energy Critical dept Natural ground Upstream sur Additional Call-flow cap	5.14 ert (%) grade lin h (in) nd elev. crcharge (cfs) pacity (cf (ft/ft)	1.06 ne (%) (ft) (ft)	4.30 = 0.915 = 0.238 = 23 = 29.00 = 0.00 = 0.00 = 69.10

Width of Flow (ft)

= 0.00

Q Captured (cts) = 0.00Q Bypassed to 7 (cfs) = 0.00

Line 11	Q = 36	.00	$Size = 30 \times 30$	(Cir)	Nv = 0.012	Len =	100.0	•]	Π C = 1.00
MH2-Inlet	4B / Down	nstream line	= 10						
•	Invert	Depth	HGL	EGL	Area	Vel	T-W	id	Cover
Dnstrm Upstrm	22.00 25.70	30 24	25.01 27.70	25.85 28.84	4.91 4.22	7.34 8.53	0.00 1.99		4.50 3.80
Runoff of Time of Inlet Time Intensity Cumulat Q = CA	(a) 100 y tive C x A	(C) n) r (in/hr)	$= 0.00 \\ = 0.00 \\ = 2.78 \\ = 0.00 \\ = 0.00 \\ = 0.00 \\ = 0.00$		Slope of inversion of the Slope energy Critical depth Natural ground Upstream sur Additional Quality Full-flow capable. Inlet Type	grade linh (in) nd elev. (cfs)	ft) ft)		3.700 2.986 24 32.00 0.00 6.00 85.46 MH
Q Carryover (cfs) Q Captured (cfs) Q Bypassed to 10 (cfs)			= 0.00 $= 0.00$ $= 0.00$		Gutter slope Cross slope Width of Flo	(ft/ft)			0.00 0.00 0.00
Line 12	Q = 30	.00 S	ize = 30 x 30	(Cir)	Nv = 0.012	Len =	100.0	J	LC = 1.00
Inlet 4B-40	C / Downsta Invert	ream line = Depth	11 HGL	EGL	Area	Vel	T-W	iA	Cover
Dnstrm Upstrm	26.00 27.00	30 26	28.84 29.17	29.42 29.85	4.91 4.53	6.11	0.00		3.50 3.50
Runoff of Time of Inlet Time Intensity Cumulat	e area (ac) coefficient conc. (min) (a) 100 y ive C x A x I (cfs)	(C) n) r (in/hr)	$= 0.00 \\ = 0.00 \\ = 2.22 \\ = 0.00 \\ = 0.00 \\ = 0.00$		Slope of inversion of the Slope energy Critical depth Natural ground Upstream sur Additional Quantity and Critical Critical depth Natural ground Critical de	grade linh h (in) nd elev. (rcharge (ft) ft)		1.000 0.439 22 33.00 0.00 6.00

Inlet Type

Gutter slope (ft/ft)

Cross slope (ft/ft)

Width of Flow (ft)

= MH

= 0.00

= 0.00

= 0.00

Q Catchment (cfs)

Q Carryover (cfs)

Q Bypassed to 11 (cfs)

Q Captured (cfs)

= 0.00

= 0.00

= 0.00

Line 13	$\mathbf{Q} = 24$	1.00	$Size = 30 \times 30$	(Cir)	Nv = 0.012	Len =	100.0	JLC = 1.0
Inlet 4C-4	D / Downst	tream line =	12					
	Invert	Depth	HGL	EGL	Area	Vel	T-Wic	Cover
Dnstrm Upstrm	27.30 28.30	30 20	29.85 29.94	30.23	4.91 3.41	4.89 7.05	0.00 2.38	3.20
Drainage area (ac) = 0.00 Runoff coefficient (C) = 0.00 Time of conc. (min) = 1.67 Inlet Time (min) = 0.00 Intensity @ 100 yr (in/hr) = 0.00 Cumulative C x A = 0.00 Q = CA x I (cfs) = 0.00 Q Catchment (cfs) = 0.00 Q Carryover (cfs) = 0.00 Q Captured (cfs) = 0.00 Q Bypassed to 12 (cfs) = 0.00					Slope of invert (%) Slope energy grade line (%) Critical depth (in) Natural ground elev. (ft) Upstream surcharge (ft) Additional Q (cfs) Full-flow capacity (cfs) Inlet Type Gutter slope (ft/ft) Cross slope (ft/ft) Width of Flow (ft)			= 1.000 = 0.482 = 20 = 34.00 = 0.00 = 6.00 = 44.43 = MH = 0.00 = 0.00 = 0.00
Line 14	Q = 18	.00 S	ize = 24 x 24	(Cir)	Nv = 0.012	Len =	100.0	JLC = 1.00
Inlet 4D-4	E / Downstr	ream line =	13					
	,							
	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
	Invert 28.60 30.00	Depth 24 18	HGL 30.71 31.50	EGL 31.22 32.29	Area 3.14 2.53	Vel 5.73 7.11	T-Wid 0.00 1.73	Cover 3.40 3.00
Runoff continue of Inlet Tine Intensity	28.60 30.00 e area (ac) coefficient conc. (min ne (min) (@ 100 y	24 18) (C) n) r (in/hr)	30.71	31.22 32.29	3.14	5.73 7.11 ert (%) grade line h (in) nd elev. (rcharge (in) (cfs)	0.00 1.73 ne (%) (ft) ft)	3.40

Cross slope (ft/ft)

Width of Flow (ft)

= 0.00

= 0.00

Q Captured (cfs)

Q Bypassed to 13 (cfs) = 0.00

Line 15	Q = 12	.00 S	ize = 24 x 24	(Cir)	Nv = 0.012	Len =	100.0	JLC = 1.00
Inlet 4E-4]	F / Downstr	eam line =	14					
	Invert	Depth	HGL	EGL	Area	Vel	T-Wic	Cover
Dnstrm Upstrm	30.30	24 15	32.29 34.23	32.51 34.77	3.14 2.02	3.82 5.94	1.99 1.95	2.70 4.00
Runoff of Time of Inlet Time Intensity	(a) 100 y tive C x A	(C) n) r (in/hr)	$= 0.00 \\ = 0.00 \\ = 0.00 \\ = 0.00 \\ = 0.00 \\ = 0.00$		Slope of inversion of the Slope energy Critical dept. Natural ground Upstream sur Additional Capture Full-flow capture of the Slope energy Critical dept. Natural ground Upstream sur Additional Capture of the Slope energy Critical dept. Natural ground Upstream sur Additional Capture of the Slope energy Critical dept.	grade linh (in) and elev. (cfs)	ft) ft)	= 2.700 = 2.260 = 15 = 39.00 = 0.00 = 6.00 = 40.26
Q Catchment (cfs) Q Carryover (cfs) Q Captured (cfs) Q Bypassed to 14 (cfs)			= 0.00 $= 0.00$ $= 0.00$		Inlet Type Gutter slope (ft/ft) Cross slope (ft/ft) Width of Flow (ft)			= MH $= 0.00$ $= 0.00$ $= 0.00$
Line 16	Q = 6.0)0 S	ize = 18 x 18	(Cir)	Nv = 0.012	Len =	100.0	JLC = 1.00
Inlet 4F-40	G / Downsti	ream line =	15					
	Invert	Depth	HGL	EGL	Area	Vel	T-Wic	Cover
Dnstrm Upstrm	33.30 34.30	18 11	34.77 35.23	34.95 35.65	1.76 1.16	3.41 5.18	1.49 1.45	4.20 4.20
Runoff of Time of Inlet Time Intensity	e area (ac coefficient conc. (mi ne (min) (a) 100 y tive C x A x I (cfs)	(C) n) r (in/hr)	$= 0.00 \\ = 0.00 \\ = 0.00 \\ = 0.00 \\ = 0.00 \\ = 0.00 \\ = 0.00$		Slope of inversion of the Slope energy Critical dept Natural ground Upstream sur Additional Capture Full-flow capture of the Slope energy Critical dept Natural ground Upstream sur Additional Capture of the Slope energy Critical dept Natural ground Upstream sur Additional Capture of the Slope energy Critical dept Natural ground Upstream sur Additional Capture of the Slope energy Critical dept Natural ground Upstream sur Additional Capture of the Slope energy Critical dept Natural ground Upstream sur Additional Capture of the Slope energy Critical dept Natural ground Upstream sur Additional Capture of the Slope energy Critical dept Natural ground Upstream sur Additional Capture of the Slope energy Critical dept Natural ground Upstream sur Additional Capture of the Slope energy Critical dept Natural ground Upstream sur Additional Capture of the Slope energy Cap	grade linh (in) ind elev. (cfs)	ft) ft)	= 1.000 = 0.697 = 11 = 40.00 = 0.00 = 6.00 = 11.38

Inlet Type

Gutter slope (ft/ft)

Cross slope (ft/ft)

Width of Flow (ft)

= MH

= 0.00

= 0.00

= 0.00

Q Catchment (cfs)

Q Carryover (cfs)

Q Bypassed to 15 (cfs)

Q Captured (cfs)

= 0.00

= 0.00

= 0.00