Storm Water Management Program

For the Cities of

Ceres

Oakdale

Patterson

Riverbank

Report of Waste Discharge

March 10, 2003

Under the California State Water Resources Control Board
General Permit for Small Cities
Adopted _____ date

Co - Permittees Fact Sheet

City of Ceres – Lead Contact Agency

Contact Person:	Joe Hollstein, Public Works Director
Address:	2220 Magnolia St.
	Ceres, CA 95307
Phone:	209/ 538-5789
Population (2002)	35,656

City of Oakdale

Contact Person:	John Word, Public Works Director
Address:	455 South Fifth Ave.
	Oakdale, CA 95361
Phone:	209/ 847-4245
Population (2002)	16,218

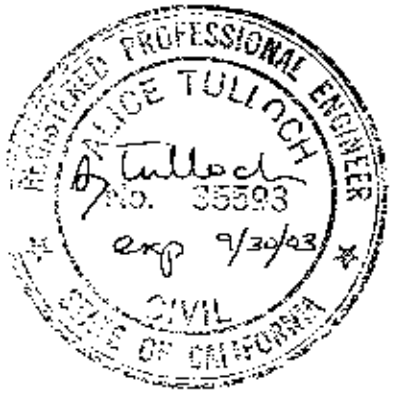
City of Patterson

Contact Person:	Michael Willett, Deputy Public Works Director
Address:	33 S. Del Puerto Ave., P O Box 667
	Patterson, CA 95363
Phone:	209/ 892-2041
Population (2002)	13,027

City of Riverbank

Contact Person:	Robert Meleg, Public Works Director
Address:	6707 Third St.
	Riverbank, CA 95367
Phone:	209/ 869-7128
Population (2002)	17,004

Storm Water Management Program prepared by:
Tulloch Engineering
Alice Tulloch, RCE # 35593, exp. 9/30/03



State Water Resources Control Board
NOTICE OF INTENT
TO COMPLY WITH THE TERMS OF THE GENERAL PERMIT FOR
STORM WATER DISCHARGES FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

I. NOI Status

Mark Only One Item 1. [X] New Permittee 2. [ ] Change of Information WDID #: _____

II. Agency Information

A. Agency: City of Ceres			
B. Contact Person: Joe Hollstein	C. Title: Public Works Director		
D. Mailing Address: 2220 Magnolia St.	E. Address (Line 2):		
F. City: Ceres,	State: CA	G. Zip: 95307	H. County: Stanislaus
I. Phone: 209/538-5789	J. FAX:	K. Email Address:	

L. Operator Type (check one)
1. [X] City 2. [ ] County 3. [ ] State 4. [ ] Federal 5. [ ] Special District 6. [ ] Government Combination

III. Permit Area

City of Ceres

IV. Boundaries of Coverage (include a site map with the submittal)

City limits of the city. (Map is included in the Storm Water Management Program.)

V. Billing Information

A. Agency: City of Ceres			
B. Contact Person: Joe Hollstein	C. Title: Public Works Director		
D. Mailing Address: 2220 Magnolia St.	E. Address (Line 2):		
F. City: Ceres	State: CA	G. Zip: 95307	H. County: Stanislaus
I. Phone: 209/538-5789	J. FAX:	K. Email Address:	

J. Population 35,656

Please check the appropriate box on the right and submit the corresponding fee. Check(s) should be made payable to the SWRCB.

SWRCB Tax ID is: 68-0281986

- [ ] Population greater than 250,000 ..... $20,000
- [ ] Population between 200,000 and 249,999 ..... $17,500
- [ ] Population between 150,000 and 199,999 ..... $15,000
- [ ] Population between 100,000 and 149,999 ..... $12,500
- [ ] Population between 75,000 and 99,999 ..... $10,000
- [ ] Population between 50,000 and 74,999 ..... $7,500
- [X] Population between 25,000 and 49,999 ..... $5,000
- [ ] Population between 10,000 and 24,999 ..... $3,000
- [ ] Population between 1,000 and 9,999 ..... $2,000
- [ ] Population between 0 and 1,000 ..... $1,000
- [ ] K – 12 School District ..... Exempt

VI. Discharger Information (check applicable box(es) and complete corresponding information)

1. [ ] Applying for Individual General Permit Coverage

2. [X] Applying for a permit with one or more co-permittees

The undersigned agree to work as co-permittees in implementing a complete small MS4 storm water program. The program must comply with the requirements found in Title 40 of the Code of Federal Regulations, parts 122.32. Attach additional sheets if necessary. Each co-permittee must complete an NOI.

Lead Agency: City of Ceres	Signature
Agency: City of Oakdale	Signature
Agency: City of Patterson	Signature
Agency: City of Riverbank	Signature

3. [ ] Separate Implementing Entity (SIE)

A. Agency			
B. Contact Person		C. Title	
D. Mailing Address		E. Address (Line 2)	
F. City	State: CA	G. Zip	H. County
I. Phone	J. FAX	K. Email Address	

H. Operator Type (check one)
1. [ ] City 2. [ ] County 3. [ ] State 4. [ ] Federal 5. [ ] Special District 6. [ ] Government Combination

Minimum Control Measures being implemented by the SIE (check all that apply)

[ ] Public Education [ ] Public Involvement [ ] Illicit Discharge/Elimination
[ ] Construction [ ] Post Construction [ ] Good Housekeeping

"I agree to coordinate with the agency identified in Section II of this form and comply with its qualifying storm water program. I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. Additionally, I certify that the provisions of the permit, including the development and implementation of a Storm Water Management Program, will be complied with."

N. Signature of Official _____ Date _____

VII. Storm Water Management Plan (check box)

[X] The SWMP is attached.

VIII. Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. Additionally, I certify that the provisions of the permit, including the development and implementation of a Storm Water Management Program, will be complied with."

A. Printed Name: JOE HOLSTEIN

B. Title: DIRECTOR OF PUBLIC WORKS

C. Signature: _____ D. Date: 3-12-03

VI. Discharger Information (check applicable box(es) and complete corresponding information)

1. [ ] Applying for Individual General Permit Coverage

2. [X] Applying for a permit with one or more co-permittees

The undersigned agree to work as co-permittees in implementing a complete small MS4 storm water program. The program must comply with the requirements found in Title 40 of the Code of Federal Regulations, parts 122.32. Attach additional sheets if necessary. Each co-permittee must complete an NOI.

Lead Agency: City of Ceres	Signature:
Agency	Signature
Agency	Signature
Agency	Signature

3. [ ] Separate Implementing Entity (SIE)

A. Agency			
B. Contact Person		C. Title	
D. Mailing Address		E. Address (Line 2)	
F. City	State: CA	G. Zip	H. County
I. Phone	J. FAX	K. Email Address	

H. Operator Type (check one)

1. [ ] City 2. [ ] County 3. [ ] State 4. [ ] Federal 5. [ ] Special District 6. [ ] Government Combination

Minimum Control Measures being implemented by the SIE (check all that apply)

[ ] Public Education [ ] Public Involvement [ ] Illicit Discharge/Elimination
[ ] Construction [ ] Post Construction [ ] Good Housekeeping

"I agree to coordinate with the agency identified in Section II of this form and comply with its qualifying storm water program. I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. Additionally, I certify that the provisions of the permit, including the development and implementation of a Storm Water Management Program, will be complied with."

N. Signature of Official Date

VII. Storm Water Management Plan (check box)

[X] The SWMP is attached.

VIII. Certification

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A. Printed Name: Tim Kerr

B. Title: City Manager

C. Signature: X D. Date: 3/10/03 X

State Water Resources Control Board
NOTICE OF INTENT
TO COMPLY WITH THE TERMS OF THE GENERAL PERMIT FOR
STORM WATER DISCHARGES FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

I. NOI Status

Mark Only One Item 1.[X] New Permittee 2.[ ] Change of Information WDID #: _____

II. Agency Information

A. Agency: City of Oakdale			
B. Contact Person: John Word	C. Title: Utilities Superintendent		
D. Mailing Address: 455 South Fifth Ave.	E. Address (Line 2):		
F. City: Oakdale,	State: CA	G. Zip: 95361	H. County: Stanislaus
I. Phone: 209/847-4245	J. FAX:	K. Email Address:	

L. Operator Type (check one)
1.[X] City 2.[ ] County 3.[ ] State 4.[ ] Federal 5.[ ] Special District 6.[ ] Government Combination

III. Permit Area

City of Oakdale

IV. Boundaries of Coverage (include a site map with the submittal)

City limits. (Map is included in the Storm Water Management Program.)

V. Billing Information

A. Agency: City of Oakdale			
B. Contact Person: John Word	C. Title: Utilities Superintendent		
D. Mailing Address: 455 South Fifth Ave.	E. Address (Line 2):		
F. City: Oakdale	State: CA	G. Zip: 95361	H. County: Stanislaus
I. Phone: 209/847-4245	J. FAX:	K. Email Address:	

L. Population: 16,218

Please check the appropriate box on the right and submit the corresponding fee. Check(s) should be made payable to the SWRCB.

SWRCB Tax ID is: 68-0281986

[ ] Population greater than 250,000	$20,000
[ ] Population between 200,000 and 249,999	$17,500
[ ] Population between 150,000 and 199,999	$15,000
[ ] Population between 100,000 and 149,999	$12,500
[ ] Population between 75,000 and 99,999	$10,000
[ ] Population between 50,000 and 74,999	$7,500
[ ] Population between 25,000 and 49,999	$5,000
[X] Population between 10,000 and 24,999	$3,000
[ ] Population between 1,000 and 9,999	$2,000
[ ] Population between 0 and 1,000	$1,000
[ ] K – 12 School District	Exempt

VI. Discharger Information (check applicable box(es) and complete corresponding information)

1. [ ] Applying for Individual General Permit Coverage

2. [X] Applying for a permit with one or more co-permittees

The undersigned agree to work as co-permittees in implementing a complete small MS4 storm water program. The program must comply with the requirements found in Title 40 of the Code of Federal Regulations, parts 122.32. Attach additional sheets if necessary. Each co-permittee must complete an NOI.

Lead Agency: City of Ceres	Signature
Agency: City of Oakdale	Signature
Agency: City of Patterson	Signature
Agency: City of Riverbank	Signature

3. [ ] Separate Implementing Entity (SIE)

A. Agency			
B. Contact Person	C. Title		
D. Mailing Address	E. Address (Line 2)		
F. City	State: CA	G. Zip	H. County
I. Phone	J. FAX	K. Email Address	

H. Operator Type (check one)
1. [ ] City 2. [ ] County 3. [ ] State 4. [ ] Federal 5. [ ] Special District 6. [ ] Government Combination

Minimum Control Measures being implemented by the SIE (check all that apply)

[ ] Public Education [ ] Public Involvement [ ] Illicit Discharge/Elimination
[ ] Construction [ ] Post Construction [ ] Good Housekeeping

"I agree to coordinate with the agency identified in Section II of this form and comply with its qualifying storm water program. I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. Additionally, I certify that the provisions of the permit, including the development and implementation of a Storm Water Management Program, will be complied with."

N. Signature of Official Date

VII. Storm Water Management Plan (check box)

[x] The SWMP is attached.

VIII. Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. Additionally, I certify that the provisions of the permit, including the development and implementation of a Storm Water Management Program, will be complied with."

A. Printed Name: JOHN WORD

B. Title: UTILITY SUPERINTENDENT

C. Signature: John Word D. Date: 3-12-03

State Water Resources Control Board
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SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

I. NOI Status

Mark Only One Item 1. [x]New Permittee 2. [ ]Change of Information WDID #:

II. Agency Information

A. Agency: City of Patterson			
B. Contact Person: Michael Willett		C. Title: Deputy Public Works Director	
D. Mailing Address: 33 S. Del Puerto Ave.		E. Address (Line 2): P O Box 667	
F. City: Patterson	State: CA	G. Zip: 95363	H. County: Stanislaus
I. Phone: 209/ 892-2041	J. FAX	K. Email Address	

L. Operator Type (check one)
1. [X] City 2. [ ] County 3. [ ] State 4. [ ] Federal 5. [ ] Special District 6. [ ] Government Combination

III. Permit Area

City of Patterson

IV. Boundaries of Coverage (include a site map with the submittal)

City limits. (Map is included in the Storm Water Management Program.)

V. Billing Information

A. Agency: City of Patterson			
B. Contact Person: Michael Willett		C. Title: Deputy Public Works Director	
D. Mailing Address: P O Box 667		E. Address (Line 2)	
F. City: Patterson	State: CA	G. Zip: 95363	H. County: Stanislaus
I. Phone: 209/892-2041	J. FAX	K. Email Address	

L. Population 13,027

Please check the appropriate box on the right and submit the corresponding fee. Check(s) should be made payable to the SWRCB.

SWRCB Tax ID is: 68-0281986

[ ] Population greater than 250,000	$20,000
[ ] Population between 200,000 and 249,999	$17,500
[ ] Population between 150,000 and 199,999	$15,000
[ ] Population between 100,000 and 149,999	$12,500
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[ ] Population between 50,000 and 74,999	$7,500
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VI. Discharger Information (check applicable box(es) and complete corresponding information)

1. [ ] Applying for Individual General Permit Coverage

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Lead Agency: City of Ceres	Signature
Agency: City of Oakdale	Signature
Agency: City of Patterson	Signature
Agency: City of Riverbank	Signature

3. [ ] Separate Implementing Entity (SIE)

A. Agency			
B. Contact Person		C. Title	
D. Mailing Address		E. Address (Line 2)	
F. City	State: CA	G. Zip	H. County
I. Phone	J. FAX	K. Email Address	

L. Operator Type (check one)
1. [ ] City 2. [ ] County 3. [ ] State 4. [ ] Federal 5. [ ] Special District 6. [ ] Government Combination

Minimum Control Measures being implemented by the SIE (check all that apply)

[ ] Public Education [ ] Public Involvement [ ] Illicit Discharge/Elimination
[ ] Construction [ ] Post Construction [ ] Good Housekeeping

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M. Signature of Official _____ Date _____

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A. Printed Name: _____

B. Title: _____

C. Signature: _____ D. Date: _____

State Water Resources Control Board
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SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

I. NOI Status

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II. Agency Information

A. Agency: City of Riverbank			
B. Contact Person: Robert Meleg		C. Title: Public Works Director	
D. Mailing Address: 6707 Third St.		E. Address (Line 2):	
F. City: Riverbank	State: CA	G. Zip: 95367	H. County: Stanislaus
I. Phone: 209/869-7128	J. FAX:	K. Email Address:	

L. Operator Type (check one)
1. [X] City 2. [ ] County 3. [ ] State 4. [ ] Federal 5. [ ] Special District 6. [ ] Government Combination

III. Permit Area

City of Riverbank

IV. Boundaries of Coverage (include a site map with the submittal)

City limits (Map is included in the Storm Water Management Program.)

V. Billing Information

A. Agency: City of Riverbank			
B. Contact Person: Robert Meleg		C. Title: Public Works Director	
D. Mailing Address: 6707 Third St.		E. Address (Line 2):	
F. City: Riverbank	State: CA	G. Zip: 95367	H. County: Stanislaus
I. Phone: 209/869-7128	J. FAX:	K. Email Address:	

L. Population: 17,004

Please check the appropriate box on the right and submit the corresponding fee. Check(s) should be made payable to the SWRCB.

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Lead Agency	Signature
City of Ceres	
Agency: City of Oakdale	Signature: for
Agency: City of Patterson	Signature:
Agency: City of Riverbank	Signature: Robert C. Meley

3. [ ] Separate Implementing Entity (SIE)

A. Agency			
B. Contact Person	C. Title		
D. Mailing Address	E. Address (Line 2)		
F. City	State: CA	G. Zip	H. County
I. Phone	J. FAX	K. Email Address	

H. Operator Type (check one)
1. [ ] City 2. [ ] County 3. [ ] State 4. [ ] Federal 5. [ ] Special District 6. [ ] Government Combination

Minimum Control Measures being implemented by the SIE (check all that apply)
[ ] Public Education [ ] Public Involvement [ ] Illicit Discharge/Elimination
[ ] Construction [ ] Post Construction [ ] Good Housekeeping

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N. Signature of Official _____ Date _____

VII. Storm Water Management Plan (check box)

[x] The SWMP is attached.

VIII. Certification

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A. Printed Name: _____

B. Title: _____

C. Signature: Robert C. Meley D. Date: 3/13/03

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete.

I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

For those parts of the SWMP referring to the **City of Ceres**

Joe Hollstein, Public Works Director — Date: 3-12-03

For those parts of the SWMP referring to the **City of Oakdale**

John Word, Utility Superintendent — Date: 3-10-03

For those parts of the SWMP referring to the **City of Patterson**

Mike Willett, Deputy Public Works Director — Date: 3-10-03

For those parts of the SWMP referring to the **City of Riverbank**

Robert Meleg, Public Works Director — Date: 3-11-03

Introduction and
Association as Co-Permittees

2 Storm Water Systems Descriptions
And Needs Assessment

3 Storm Water Management Program

4 5-Year Work Plan Budget

5 Performance Measurement and Reporting

6 Acknowledgements

7 Appendices

8

Section 1 – Introduction and Association as Co-Permittees

Note, as of March 10, 2003: This Storm Water Management Program is based on the provisions of the Draft California State Water Resources Control Board General Permit for Small Cities, which had not yet been adopted as of February 4, 2003. Under the direction given by the SWRCB on its website, the Co-Permittees are submitting the Draft NOI and this SWMP to the SWRCB as their form of compliance with 40 DFR Part 122 et seq.

This Storm Water Management Program (SWMP) describes the stormwater quality management activities proposed by the Cities of Ceres, Oakdale, Patterson and Riverbank, California, ("Cities") in compliance with the federal stormwater quality regulations, 40 CFR Part 122 et seq. (Phase II), Porter-Cologne Water Quality Control Act § 13376, and with the State Water Resources Control Board General Permit for Small Cities No. CAS000004, adopted 4/10/03. These four cities are filing the Notice of Intent to participate the State's General Permit as co-permittees.

Ceres and Riverbank are listed in Attachment 1 of the SWRCB General Permit as operators of automatically designated Small MS4s. Oakdale and Patterson are listed in Attachment 2 of the SWRCB General Permit as operators of traditional Small Municipal Separate Storm Sewer Systems (MS4) in accordance with designation criteria based on high growth rate, high population density, significant contributors to interconnected permitted MS4 or discharge to sensitive water body, or significant contributor of pollutants to waters of the US.

Extract of Attachment 2

City	Justification	Details
Oakdale	• High Growth • Discharge to sensitive water body • High Population Density	• 29.6% over 10 yrs • Stanislaus River on 303d list for pesticides & unknown toxicity • Urban cluster
Patterson	• High Growth • Discharge to sensitive water body • High Population Density	• 34.5% over 10 yrs • San Joaquin River listed on 303d for pesticides & unknown toxicity • Urban cluster

The federal and state regulations require designated MS4s to develop a plan to undertake six Minimum Control Measures (MCMs). The permittees are also required to demonstrate a 5-year workplan with a reasonable budget for the activities. The stormwater pollution prevention plan must also include appropriate performance measures for the workplan. This report describes the control measures, workplan, and budget and performance measures for the four Cities.

The Minimum Control Measures include:

1. Public Outreach and Education
2. Public Participation and Involvement
3. Illicit Discharge Elimination
4. Construction Site BMPs Over 1 Acre
5. Post Construction BMPs
6. Municipal Activities

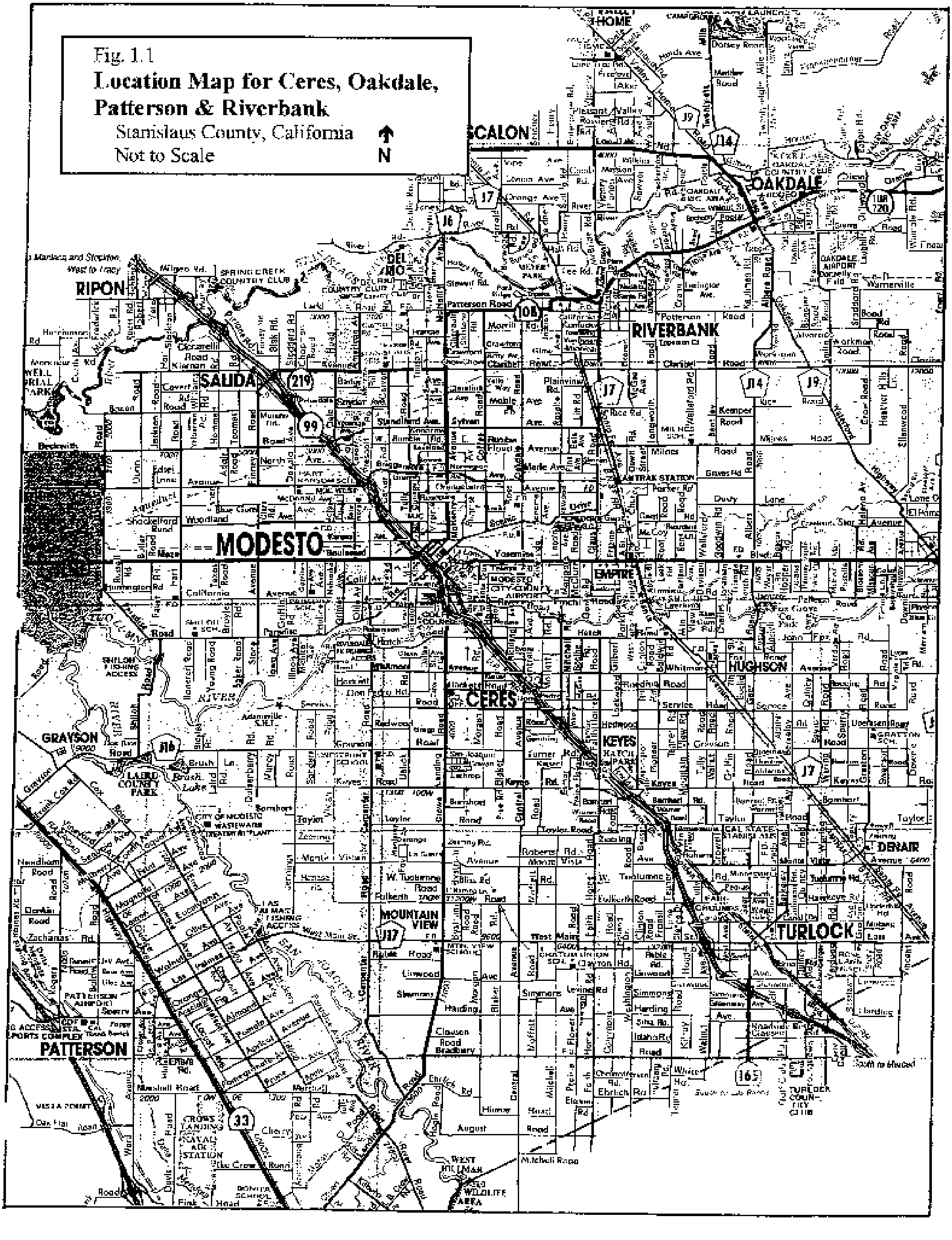
The four cities all provide positive storm drainage to their communities. The storm drainage systems include pipelines, local and regional detention and retention basins, as well as discharges to waters of the United States. Storm drainage serves residential, commercial, industrial, park and undeveloped land uses. The cities are full service municipalities providing water, sewer, storm drainage, streets and parks services to their communities.

The objectives of this Stormwater Pollution Prevention Plan are:

- To meet the requirements of 40 CFR Part 122, Porter-Cologne Water Quality Control Act § 13376, and the SWRCB General Permit # CAS000004.
- To address stormwater quality concerns specific to each community.
- To provide a plan consistent with each community's values and means.
- To involve the community in development and implementation of the plan in order to meet the requirements in the most cost-effective manner.

The four cities are aware that other communities in Stanislaus County will be subject to the Phase II storm water permitting requirements. The City of Modesto is a Phase I municipal permittee. Stanislaus County, the cities of Turlock, Delhi, and Hughson, and the unincorporated communities of Empire, Keyes and Salida will be Phase II small municipal permittees. Staff of the County and Turlock have indicated that these entities did not wish to associate for purposes of permit compliance. The four cities are those that wished to associate. Appendix A is a copy of the Memorandum of Understanding adopted by the four cities to implement this application as co-permittees. Figure 1.1 is a location map of the four cities in Stanislaus County.

Fig. 1.1
Location Map for Ceres, Oakdale, Patterson & Riverbank
Stanislaus County, California
Not to Scale



Section 2 – Storm Water Systems Descriptions and Needs Assessment

This section describes the cities, their storm drainage systems, any stormwater quality concerns, projected growth, and demographics. This section also describes the current status of stormwater quality control measures implemented by the cities. This section comprises the needs assessment for each City's Storm Water Management Plan, based on their current activities and the presence of potentially polluting factors in their storm water system. Generalized information and anecdotal reports from field crews were used to assess the storm runoff pollution potential in each city and to formulate the first 5-year Pollution Prevention Work Plan described in Section 3. In each city, there is not enough site-specific information currently available to identify specific pollutant sources and their loading.

This section also describes the receiving streams associated with each city, the nature of the particular watersheds, especially regarding the upstream and downstream water quality. This description includes reference to any 303(d) listings of pollutants of concern to the Basin Plan.

CERES

1. Description of the City

Storm Water Infrastructure

The Ceres stormwater system is composed of neighborhood collections systems, 33 detention/retention basins, approximately 100 rockwells, 33 stormwater pump stations, stormwater trunks and 27 discharge points to receiving streams and irrigation canals. Stormwater is disposed of by percolation, and by discharge to 4 Turlock Irrigation District canals (Lateral 2, Ceres Main Lateral #1, and the Delmas Ditch), and to the Tuolumne River, which is tributary to the San Joaquin River. Discharge to TID canals from detention basins begins as soon as significant storm runoff arrives at a detention basin. The majority of storm runoff in the City goes through a storm basin; only a limited number of neighborhoods have direct discharge to the river or canal. Discharge to TID facilities is permitted under an Agreement between TID and the City (See Appendix B). Appendix C tabulates Ceres' drainage areas, their type of disposal and their acreage.

The City's design standard for stormwater facilities is based on the Rational Method and the Stanislaus County 1976 Storm Drainage Design Manual. Detention/retention facilities are designed for a 50-year, 24-hour storm. Most of the City's system operates within this standard. Some older areas have flooding problems in storms that exceed ½-inch per hour. Storm inlet plugging and street ponding are generally cleared within a half-day by operational crews response. During the 170-year storms of 1997, the most significant problem experienced by the City's stormwater system was the large amount of infiltration to the sewer system that caused high flow problems through the wastewater treatment plant. The City eliminates any illegal discharges to the stormwater system whenever they are found.

The City of Ceres does not operate any combined sewer and stormwater pipelines or discharges. The only treatment received by the separate stormwater system occurs in a limited manner at the detention and retention basins.

Storm Water Operations and Maintenance

The City conducts a variety of municipal operations that have a relationship to storm water quality, including stormwater, water, sewer, street sweeping, leaf and limb program, streets maintenance, parks maintenance, fire fighting, and fleet operations. Many of these operations have current service standards that have a beneficial effect on storm water quality. Most of these municipal operations are housed at the Corporation Yard at 3420 Harold Street, Ceres.

1. Storm Drainage

Overall the Ceres' storm drainage system is in good condition. Storm water lift stations and pipelines are cleaned and repaired as needed. Drain inlets and rockwells are cleaned once a year before the beginning of winter. Storm basins receive spring weed spraying, disking or mowing, and rockwell cleaning. Dual use basins receive post-storm litter removal. Storm basins may experience significant nuisance water from irrigation overwatering, neighborhood car washing etc. Storm basins have not been monitored for metals accumulation.

In 1995, the City contracted with Lew-Garcia-Davis, to prepare a Storm Drain Study and Master Plan, addressing the storm drainage infrastructure needs for the community based on the 1993 General Plan. It provides recommendations for resolving existing system deficiencies and providing service to newly developing areas.

2. Water and Sewer Field Operations

Sewer collection and water distribution operations respond to water line breaks and sewer backups as needed. The City has an established procedure for responding to sewer spills that might impact storm drains. Generally during a sewer spill, catch basins are sandbagged to prevent release to receiving streams, spilled sewage is vacuumed up and transported to the wastewater treatment plant, and the street is disinfected with household chlorine solution.

The Waste Water Treatment Plant operates under an NPDES permit issued by the Central Valley Regional Water Quality Control Board. The City's WWTP has two industrial pretreatment permittees. The WWTP is an industrial activity subject to the Phase I requirements for a storm water permit, under the CVRWQCB's General Permit for industrial activities. However, the WWTP has full tailwater control for the 100-year storm and is therefore exempt from participation in the SWRCB Industrial General Permit.

The City does have a water conservation program that includes a certain amount of public education and information. This program can be expanded to include storm water quality messages for the community.

3. Streets

Asphalt maintenance activities include overlays, pothole patching and crack sealing. Currently, the City's capital program does not include reconstruction of streets. Streets operations include street lighting and traffic signals and signage.

4. Street Sweeping, Leaf and Limb Program

Street sweeping is performed by a contractor. Residential streets are swept every 2 weeks. Commercial and industrial areas are swept twice a week. The collected street sweepings are hauled to a compost facility.

The Leaf and Limb Program is also performed by a contractor. Leaves and limbs are set out in street piles in residential areas for bi-weekly pickup during winter months. The collected leaves and limbs are hauled to the compost facility. Street piles are a potential source of organic material in storm runoff.

The City's AB 939 solid waste program includes a bulky item pickup program. Homeowners can call the solid waste hauler twice a year for a bulky item pickup. The County conducts a household hazardous waste disposal program available to residents of Ceres.

5. Parks maintenance

The City operates 10 parks and recreational facilities. Parks maintenance includes the application of fertilizer and pesticides, mowing, pruning, parking lot sweeping, and litter removal. Some storm basins are dual use basins, used for recreation purposes. Chemical usage is conducted at agronomic rates and at appropriate times to minimize chemical release in runoff.

6. Fire fighting

The City is responsible for fire fighting within City limits. Fire fighting can result in runoff of excess fire fighting water to storm drains. The potential for fire fighting water containing pollutants has not been assessed, but is not expected to be a significant source.

7. Fleet

The City operates a fleet of sedan, work trucks, and heavy equipment for its other Public Works, Municipal Utilities Department, Fire, Police and Parks functions. The fleet is operated and maintained at the Corporation Yard. Vehicle maintenance is conducted under cover. Vehicle washing occurs on a paved area, equipped with an oil separator. No fuel tanks are located at the Corporation Yard. Gas, diesel and CNG fueling is provided at a contractor's facility.

The City does not operate a transit system itself. Bus service is franchised to Storer Transportation, located on their own site.

8. Corporation Yard

The City's Corporation Yard, is the home of vehicle maintenance, building maintenance, streets, water, sewer and storm drain operations. The Corp. Yard would benefit from a detailed review of its activities and their potential for exposing deleterious materials to storm runoff. For example, the containment of paving materials, industrial

chemicals, batteries, vehicle drips, and painting materials. Part of the Corporation Yard is unpaved. Runoff percolates into the yard's surface or flows to the adjacent street's curb and gutter. The City does not have a formal storm water quality training program for its field employees.

Storm Water Quality

Field crews report that the stormwater system experiences a small amount of stormwater quality incidents each year. Dumping of used crankcase oil or household chemicals into storm drains may occur at times anywhere in town. A few illegal connections of house sewers to storm drains have been found and were eliminated. There have been no confirmed reports of drug lab dumping, RV holding tank dumping, or vehicle steam cleaning. In the past, there has been at least one report of catering truck cooking oil dumping onto street drainage. If a complaint of storm drain dumping is received, the City's street crews respond as appropriate.

The City 's land uses include residential, commercial and industrial areas. These land uses have the potential to generate pollutants. Examples of community activities that have a high likelihood to be contributing to runoff pollution include automobile maintenance and washing, general home/building and landscape maintenance, pest control, restaurants, aging sewers, pet waste disposal, municipal infrastructure maintenance, industrial activities, new development and redevelopment.

The City of Ceres does not conduct any specific or routine monitoring of storm water quality. No particular chronic or acute concerns have been identified with Ceres' storm water quality to date. City staff has not observed that the following non-stormwater discharges or flows (as defined in the draft General Permit section D.2.c(6)) are significant contributors of pollutants to their MS4:

1. water line flushing
2. landscape irrigation
3. diverted stream flows
4. rising ground waters
5. uncontaminated ground water infiltraton to separate storm sewers
6. uncontaminated pumped ground waters
7. discharges from potable water sources
8. foundation drains
9. air conditioning condensation
10. irrigation water
11. springs
12. water from crawl space pumps
13. footing drains
14. lawn watering
15. individual residential car washing
16. flows from riparian habitats and wetlands, and
17. dechlorinated swimming pool discharges

Projected Community Growth

Ceres is mostly a residential community, with a downtown commercial core, some arterial commercial areas, and a small industrial area. The City's population was

34,609 in the 2000 US Census, and estimated at 35,656 by the DOF in 2002. It has been growing at about 3.3 % per year. The Stanislaus County Council of Governments projects a 2020 population of 60,000. The City's 1996 General Plan anticipates future growth of the City to a population of 51,200 in 2005 and 73,200 by 2015. However, the City is now growing at a slower rate than these projections. The General Plan targets both residential and jobs growth, with an emphasis on regional commercial development as community goals. The plan for future stormwater infrastructure anticipates that new development will construct and dedicate necessary storm drainage infrastructure.

The community is diverse, both in an economic and ethnic sense. The two most commonly used languages are English and Spanish.

Funding of Storm Water Activities

Stormwater operations and maintenance costs are funded by the General Fund, Gas Tax, the Water Fund and the Sewer Fund, typically about $250,000/year.

New storm drainage infrastructure is constructed by developers in accordance with City design standards, and then dedicated to the City. Capital funding for rehabilitation of existing storm drainage facilities is provided by local transportation, Gas Tax, and the Water and Sewer Funds. The CIP funding level for stormwater purposes varies depending on annual priorities.

Legislative Authority for Storm Water Activities

Ceres is a general law city, empowered to provide public works services, collect service fees, and to set regulations related to storm water quality. The City establishes an annual budget based on established service standards for storm drainage.

The City does have an ordinance (Ord. 13.18), Urban Runoff Quality Control, that regulates discharges to the storm drainage system and establishes enforcement provisions. The Municipal Code may need to be updated to incorporate measures relevant to the SWRCB General Permit for the purpose of controlling and improving the City's storm water quality. Examples of topics to be evaluated are the prohibition on pollutant discharges to the storm drainage system, construction activity procedures and fees, and the enforcement protocol for violations.

2. Receiving Streams

Storm Runoff

The Ceres' stormwater system discharges to 2 locations on the Tuolumne River, and to 25 locations along TID canals, which then discharge to the San Joaquin River. Because the Tuolumne and San Joaquin Rivers are major watersheds of the State, the City's stormwater discharge is considered to be a minor percentage of the river's storm event flow. No data is available on the quantity of non-storm runoff from Ceres.

Figure 2.1 provides the topography in the vicinity of Ceres, and shows its proximity to the Tuolumne River.

Receiving Stream Quality

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Figure 2.1 provides the topography in the vicinity of Ceres, and shows its proximity to the Tuolumne River.

Receiving Stream Quality

The City of Ceres discharges its storm water to the Tuolumne and San Joaquin River. The Tuolumne River is listed as an impaired water body on the 1998 California 303(d) list by the Central Valley Regional Water Quality Control Board. Table 2.1 is an extract of the relevant 303(d) listing information.

The 303(d)-listed pollutants of concern in the rivers to which Ceres' storm water system is tributary are chlorpyrifos, DDT, diazinon, electrical conductivity, Group A pesticides, mercury, organic enrichment, unknown toxicity, boron, selenium, dioxin, furans, and PCBs. Of these, only chlorpyrifos, diazinon, organic enrichment and unknown toxicity are shown as potentially related to urban runoff and storm sewers. To the extent that the City's runoff is a source of these pollutants or stressors, Ceres may be called on the future to participate in TMDL proceedings to reduce the load of these pollutants to the river. Chlorpyrifos is the most widely used pesticide in the US. It is used in agriculture, commercial and residential landscaping, and as a termiticide. Diazinon is a dormant spray pesticide used in orchards and on backyard fruit trees, and has been documented as being present in urban runoff in other cities in the San Joaquin Valley. Organic enrichment occurs when dissolved nutrients, such as nitrate, potassium or phosporus are contained in discharges to a river, causing reduced dissolved oxygen in the stream. Organic enrichment usually is present in urban runoff due to garden fertilizers, animal waste, and trash washed off streets. The sources of unknown toxicity have yet to be determined for the San Joaquin valley's stream. It is possible that toxicity to aquatic wildlife occurs due to a combination of pollutants and stressors in runoff to the streams. The mitigation of unknown toxicity by the CVRWQCB will take a coordinated effort by scientists, dischargers and wildlife agencies. The elimination of other known pollutants and stressors will likely be the CVRWQCB's first approach to addressing toxicity on a regional basis.

Related Regulatory Activities on the Tuolumne River

The Tuolumne River is a critical waterway of the State, and is the subject of a number of varied water quality activities. MID and TID have been closely involved in the river's water quality by means of their FERC[1] license renewal process. The City of Modesto holds a Phase 1 Storm Water NPDES permit, relevant to their discharges of storm water to the Tuolumne River. The Tuolumne is tributary to the San Joaquin River, the Delta and San Francisco Bay. This means that the Tuolumne River's water quality is also a concern of the Bay-Delta proceedings of the SWRCB, for both water quality and quantity. The efforts of regulatory agencies and responsible parties to address other water quality impairments in the San Joaquin River watershed will have a relationship to the quality of Ceres' storm water runoff over time. Therefore, the City will need to remain involved in regional water quality issues to make sure the City's Storm Water Management Program is coordinated with regulatory actions for multiple pollutants.

[1] Federal Energy Regulatory Commission

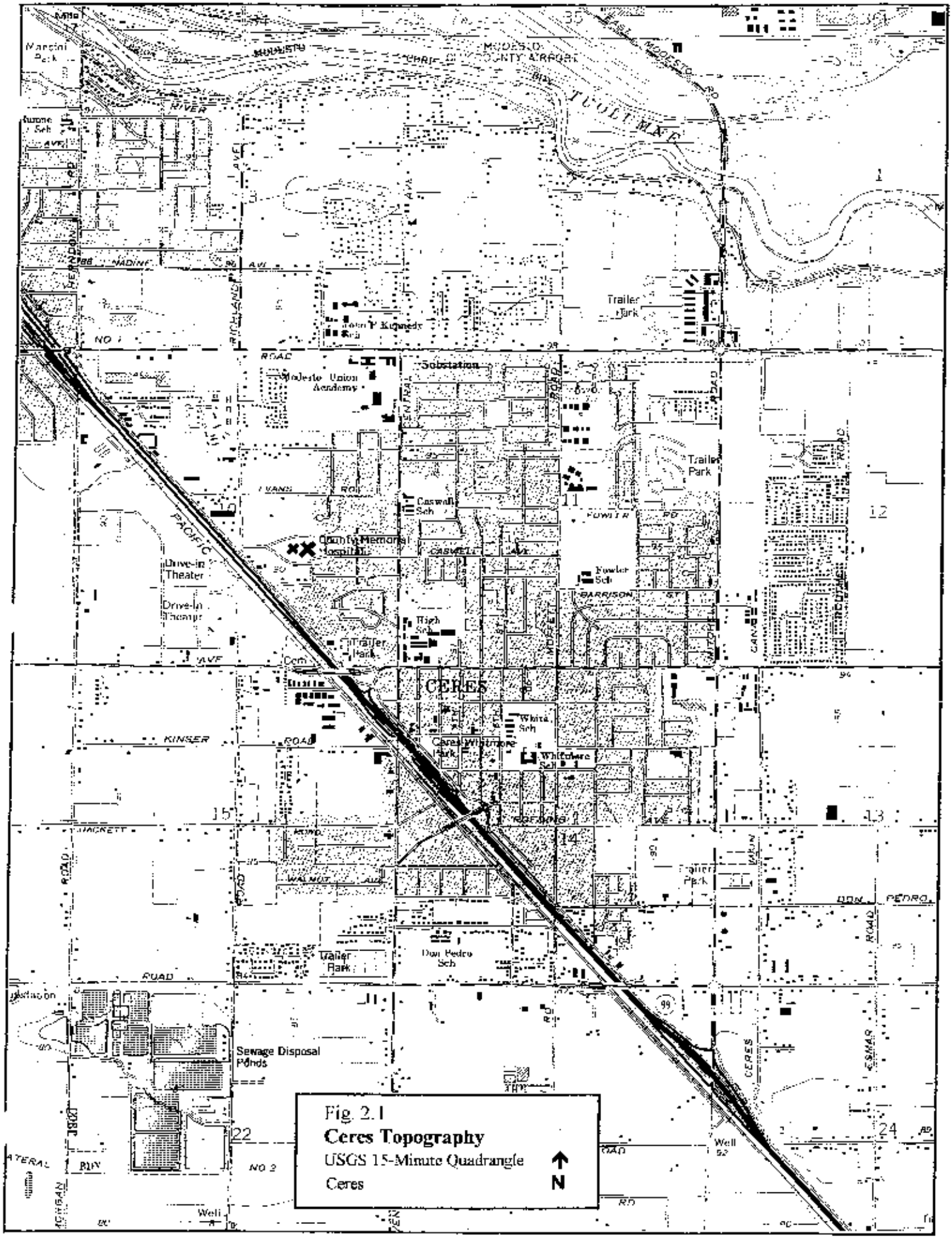
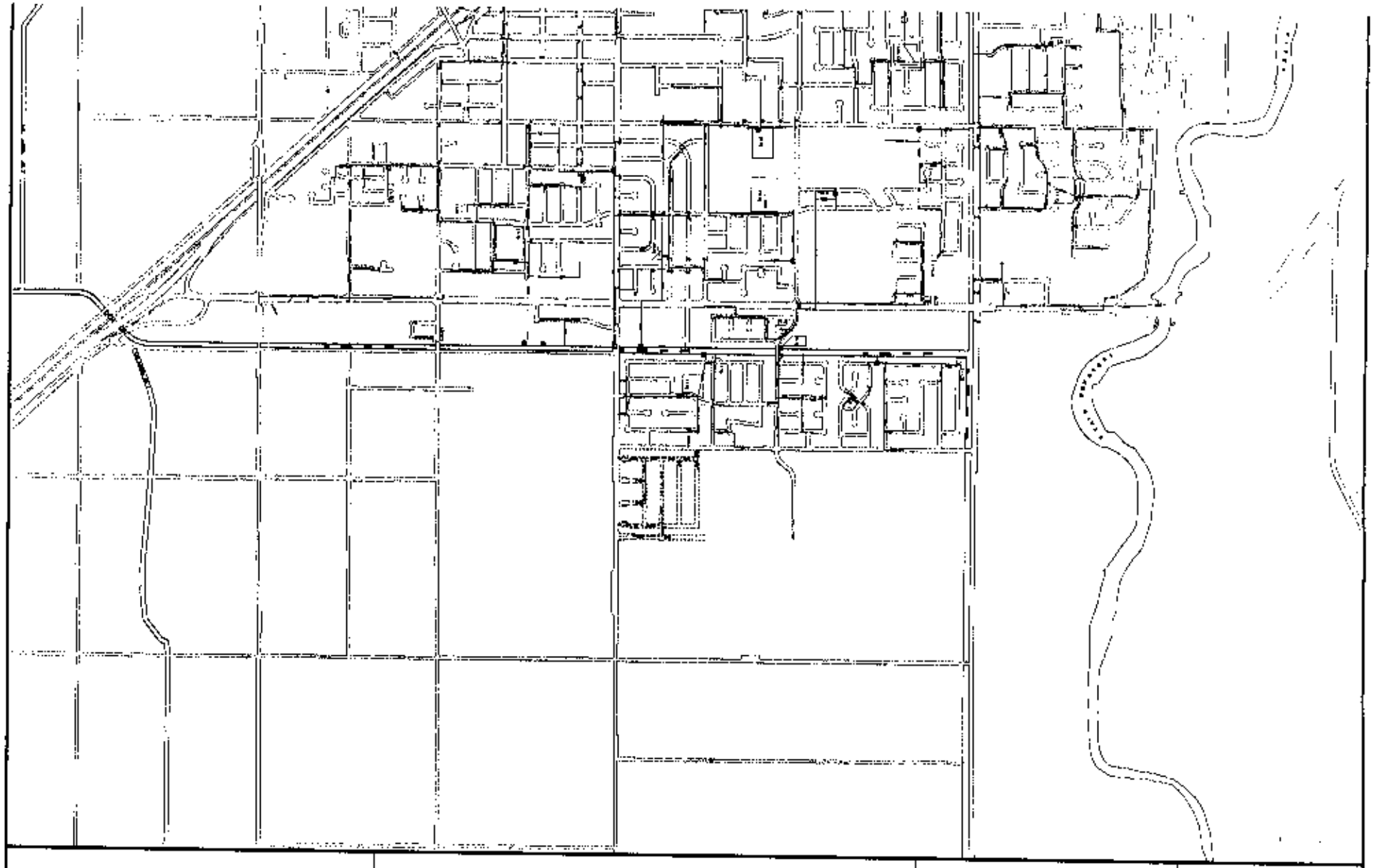


Fig. 2.1
Ceres Topography
USGS 15-Minute Quadrangle
Ceres



INDEX NO.

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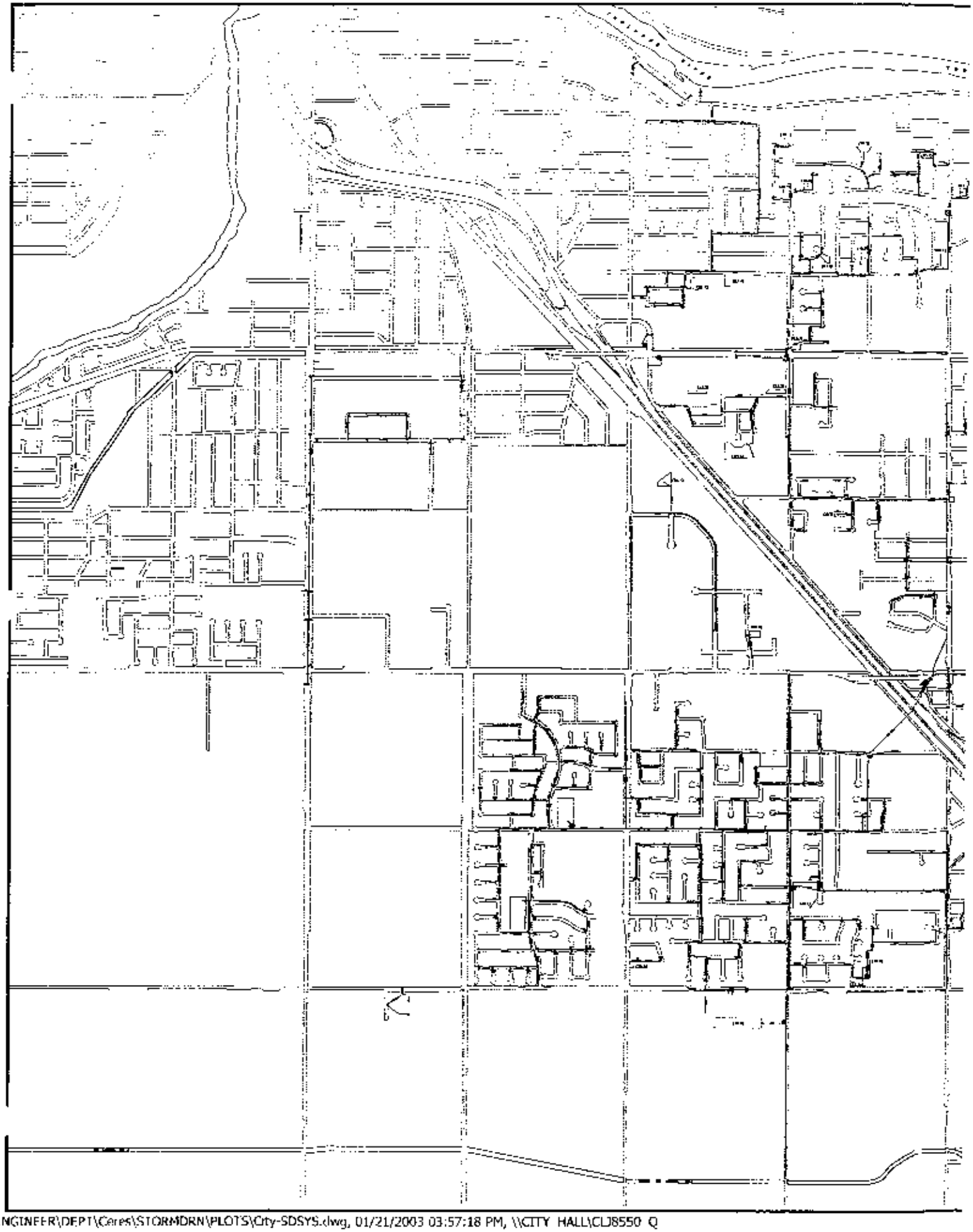

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OAKDALE

1. Description of the City

Storm Water Infrastructure

The Oakdale stormwater system is composed of neighborhood collection systems, 22 detention or retention basins, 8 stormwater pump stations, about 200 rockwells, stormwater trunks and 9 discharge points to receiving streams and irrigation canals. Stormwater is disposed of by percolation, and by discharge to the Stanislaus River, a tributary to the San Joaquin River, and to an Oakdale Irrigation District (OID) canal. The collection system has both direct discharge to the river, and discharge after residence in a stormwater basin. A portion of storm runoff in the City goes through a storm basin before discharge to a stream or canal.

The storm drain system is a patchwork of different methods due to the history in the community. The old downtown area used to pump or go by gravity to OID canals. In the 1980s, OID converted many canals to pipeline sized for irrigation purposes. The City then began to redirect storm runoff to new pipelines to the river, to the sanitary sewer or to rockwells, depending to the particular circumstances of each effected drainage area.

The City's design standard for stormwater facilities is based on the Rational Method and the Stanislaus County 1976 Storm Drainage Design Manual. Detention/retention facilities are designed for a 10-year, 24-hour storm. Most of the City's system operates within this standard. The City's design standard for stormwater storage facilities is a 10-year, 24-hr storm. New pipelines are evaluated on a case-by-case basis due to the patchwork history of the system. New development is required to provide detention basins or in-line storage, sized for a 24- hr delay before discharge to the river. Some older areas have flooding problems in storms that exceed ½-inch per hour. Storm inlet plugging and street ponding are generally cleared within a half-day. During the 170-year storms of 1997, few problems were encountered in the City. The City has an active practice of eliminating any illegal discharges to the stormwater system whenever they are found.

The City does have a number of locations were stormwater is piped to the sanitary sewer. These have occurred as the City converted from OID canal discharge, when the only viable solution was to go to the sanitary sewer due to isolation or adverse topography. Approximately 10% of Oakdale's stormwater service area drains to a sanitary sewer. The WWTP has an average daily flow of 1.6 MGD, and peak wet weather flow of 7 MGD. The WWTP provides secondary level of treatment and percolation ponds with no direct discharge to the river. The only treatment received by the separate stormwater system occurs in a limited manner at the detention and retention basins.

Storm Water Operations and Maintenance

The City conducts a variety of municipal operations that have a relationship to storm water quality, including stormwater, water, sewer, street sweeping, fall leaf pickup, streets maintenance, parks maintenance, fire fighting, fleet operations and an airport.

Many of these operations have current service standards that have a beneficial effect on storm water quality. Most of these municipal operations are housed at the Corporation Yard at 455 Fifth Street in Oakdale.

1. Storm Drainage

The storm drainage system is in a good condition of repair and maintenance. Storm water lift stations and pipelines are cleaned and repaired as needed. Many drain inlets and rockwells are cleaned once a year before the beginning of winter. Rockwells are rehabilitated or replaced as needed. Storm basins receive spring weed spraying, disking or mowing, and rockwell cleaning. Dual use basins receive post-storm litter removal, weekly mowing and litter pickup. Storm basins experience very little nuisance water from irrigation overwatering, neighborhood car washing etc. Nuisance water generally percolates and does not require pumping out. Storm basins have not been monitored for metals accumulation.

2. Water and Sewer

Sewer collection and water distribution operations respond to sewer backups and water line breaks as needed. Sewer spills or water line breaks are occasional to rare. The City has a written procedure for responding to sewer spills that might impact storm drains. Generally during a sewer spill, catch basins are sandbagged to prevent release to receiving streams, spilled sewage is vacuumed up and transported to the wastewater treatment plant, and the street is disinfected with household chlorine solution.

The Waste Water Treatment Plant operates under a WDR permit issued by the Central Valley Regional Water Quality Control Board. The WWTP is an industrial activity subject to the Phase I storm water regulations. However, Oakdale's WWTP is exempt from the SWRCB General Industrial Permit due to its containment of 100-year storm runoff from its site under its WDR permit.

The City does have a water conservation program that includes a certain amount of public education and information. This program can be expanded to include storm water quality messages for the community.

3. Streets

Asphalt maintenance activities include overlays, and chip and cape sealing. Streets operations include street lighting and traffic signals and signage. The City contracts out for its signal maintenance.

4. Street sweeping, garden refuse and fall leaf pickup

Street sweeping is performed by a city crews. Residential and industrial streets are swept every week. Commercial and downtown areas are swept three times a week. The collected street sweepings are hauled to a by a solid waste contractor to their facilities.

In the fall, leaves are picked up from street piles and composted at the City's WWTP. The City's AB 939 solid waste program includes a bulky item pickup program. Homeowners can call the solid waste hauler twice a year for a pickup. The County operates the household hazardous waste program with collection at various times and places around the county.

5. Parks maintenance

The City of Oakdale operates 25 parks and recreational facilities. Parks maintenance includes the application of fertilizer and pesticides, mowing, pruning, parking lot sweeping, and litter removal. Some storm basins are dual use basins, used for recreation purposes. Chemical fertilizer and pesticide usage is conducted at agronomic rates and at appropriate times to minimize chemical release in runoff.

6. Fire fighting

The City is responsible for fire fighting within City limits. Fire fighting can result in runoff of excess fire fighting water to storm drains. The potential for fire fighting runoff to contain pollutants has not been assessed, but is not expected to be a significant source.

7. Fleet

The City operates a fleet of sedans, work trunks, and heavy equipment for its other Public Works, Fire, Police and Parks functions. The fleet is operated and maintained at the Corporation Yard. Most vehicle repairs are performed under cover. Some vehicle washing occurs at an outdoor wash rack at the Corp. Yard, equipped with an oil water separator. Some vehicle washing occurs at commercial carwashes or at the Fire Department. Fleet fueling is provided by the Fire Department.

The City does not operate a transit system itself. Bus service is franchised to Storer Transportation, located on their own site in Riverbank.

8. Corporation Yard

The City's Corporation Yard, is the home of Public Works, and the Building and Planning Departments. The Corp. Yard would benefit from a review of its activities and their potential for exposing deleterious materials to storm runoff. For example, the containment of paving materials, industrial chemicals, batteries, vehicle drips, painting materials. The City does not have a formal training storm water quality program for its field employees. Runoff from the corp. yard goes to city streets and storm drain system. The Corp. Yard is mostly paved.

The Corporation Yard is an industrial activity subject to the Phase I storm water regulations. However, Oakdale's Corp. Yard exempt from the SWRCB General Permit because there is no bus repair.

9. Airport

The City does own and operate a non-commercial airport. The airport participates in the General Stormwater Permit for Industrial Activities, Permit Number 5S50S005019.

Storm Water Quality

Field crews report that the stormwater system experiences a small amount of stormwater quality incidents each year. Dumping of used crankcase oil or household chemicals into storm drains may occur at times at various places around town. A few illegal connections of house sewers to storm drains are found and eliminated every year.

There have been no confirmed reports of drug lab dumping, RV holding tank dumping, catering truck cooking oil dumping or vehicle steam cleaning. If a complaint of storm drain dumping is received, public works staff responds.

The City 's land uses include residential, commercial and industrial areas. These land uses have the potential to generate pollutants. Examples of community activities that have a high likelihood to be contributing to runoff pollution include automobile maintenance and washing, general home/building and landscape maintenance, pest control, restaurants, aging sewers, pet waste disposal, municipal infrastructure maintenance, industrial activities, new development and redevelopment.

The City does not conduct any specific or routine monitoring of storm water quality. No particular chronic or acute concerns have been identified with Oakdale's storm water quality to date. City staff has not observed that the non-stormwater discharges or flows, as defined in the General Permit section D.2.c(6) are significant contributors of pollutants to their MS4. (See list of 17 non-stormwater discharges under the Ceres section.)

Projected Community Growth

Oakdale is mostly a residential community, with a downtown commercial core, some arterial commercial areas, and a small industrial area. The City's population was 15,503 in the 2000 US Census, and estimated by DOF in 2002 at 16,218. The Stanislaus County Council of Governments projects a 2020 population of 26,500. The City's General Plan anticipates future growth of the City to a population of 28,777 in 2015. The General Plan targets both residential and jobs growth as community goals. The plan for future stormwater infrastructure anticipates that new development will provide the necessary infrastructure, which will incorporate more storm water quality control features.

The community is diverse, both in an economic and ethnic sense. English and Spanish are the most commonly used languages.

Funding of Storm Water Activities

Stormwater operations and maintenance costs are funded by the Sewer/Sanitation Fund and the General Fund, typically $78,000/year.

New storm drainage infrastructure is constructed by developers in accordance with City design standards, and then dedicated to the City. Some ongoing O&M costs for newly developing areas are covered by assessment districts, managed by the City. Capital funding for rehabilitation of existing storm drainage facilities is provided by the Sewer Sanitation Fund or the Redevelopment Agency, on an as-needed basis.

Legislative Authority for Storm Water Activities

Oakdale is a general law, empowered to provide public works services, collect service fees, and set regulations related to storm water quality. The City establishes an annual budget based on established service standards for storm drainage. The Municipal Code will need to be updated to incorporate a variety of measures for the purpose of controlling and improving the City's storm water quality. Examples of topics to be included are prohibition on pollutant discharges to the storm drainage system, and an enforcement protocol for violations.

The City of Oakdale does have an ordinance that regulates discharges to the sanitary sewer system, establishes an industrial pretreatment program, and establishes an enforcement provisions. However, the City's ordinances do not provide regulations on prevention and enforcement for storm water quality.

2. Receiving Streams

Storm Runoff

The Oakdale stormwater system discharges to 9 locations on the Stanislaus River, and to 35 locations along Oakdale Irrigation District (OID) canals and pipelines, which then discharge to the Stanislaus River. Because the Stanislaus River is a major watershed of the State, the City's stormwater discharge is considered to be a minor percentage of the river's storm event flow. No data is available on the quantity of non-storm runoff from Oakdale.

Figure 2.2 provides the topography in the vicinity of Oakdale, and shows its proximity to the Tuolumne River.

Receiving Stream Quality

The City of Oakdale discharges its storm water to the Stanislaus River, a tributary of the San Joaquin River. The Stanislaus River is listed as an impaired water body on the 1998 California 303(d) list by the Central Valley Regional Water Quality Control Board. Table 2.1 is an extract of the relevant 303(d) listing information.

The 303(d)-listed pollutants of concern in the rivers to which Oakdale's storm water system is tributary are chlorpyrifos, DDT, diazinon, electrical conductivity, Group A pesticides, mercury, organic enrichment, unknown toxicity, boron, selenium, dioxin, furans, and PCBs. Of these, only chlorpyrifos, diazinon, organic enrichment and unknown toxicity are shown as potentially related to urban runoff and storm sewers. To the extent that the City's runoff is a source of these pollutants or stressors, Oakdale may be called on the future to participate in TMDL proceedings to reduce the load of these pollutants to the river. Chlorpyrifos is the most widely used pesticide in the US. It is used in agriculture, commercial and residential landscaping, and as a termiticide. Diazinon is a dormant spray pesticides used in orchards and on backyard fruit trees, and has been documented as being present in urban runoff in other cities in the San Joaquin Valley. Organic enrichment occurs when dissolved nutrients, such as nitrate, potassium or phosporus are contained in discharges to a river, causing reduced dissolved oxygen in the stream. Organic enrichment usually is present in urban runoff due to garden fertilizers, animal waste, and trash washed off streets. The sources of unknown toxicity have yet to be determined for the San Joaquin valley's stream. It is possible that toxicity to aquatic wildlife occurs due to a combination of pollutants and stressors in runoff the streams. The mitigation of unknown toxicity by the CVRWQCB will take a coordinated effort by scientists, dischargers and wildlife agencies. The elimination of other known pollutants and stressors will likely be the CVRWQCB's first approach to addressing toxicity on a regional basis.

Related Regulatory Activities on the Stanislaus River

The Stanislaus River is a relatively pristine waterway of the State, and is the subject of a number of varied water quality activities. Oakdale Irrigation District and South San Joaquin Irrigation District have been closely involved in the river's water quality. The Stanislaus is tributary to the San Joaquin River, the Delta and San Francisco Bay. This means that the Stanislaus River's water quality is also a concern of the Bay-Delta proceedings of the SWRCB, for both water quality and quantity. The efforts of regulatory agencies and responsible parties to address other water quality impairments in the San Joaquin River watershed will have a relationship to the quality of Ceres' storm water runoff over time. Therefore, Oakdale will need to remain involved in regional water quality issues to make sure the City's Storm Water Management Program is coordinated with regulatory actions for multiple pollutants.

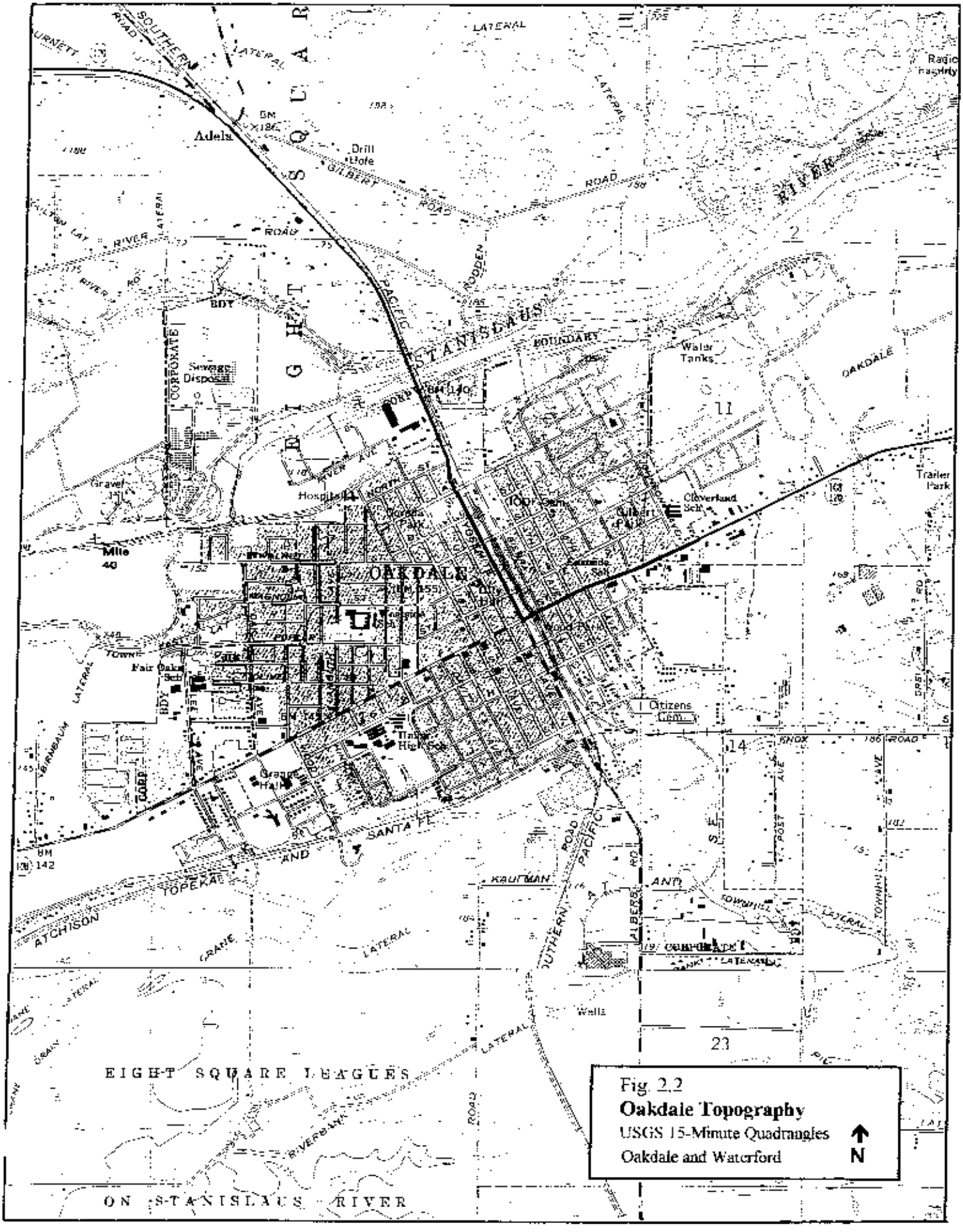

Fig. 2.2
Oakdale Topography
USGS 15-Minute Quadrangles
Oakdale and Waterford
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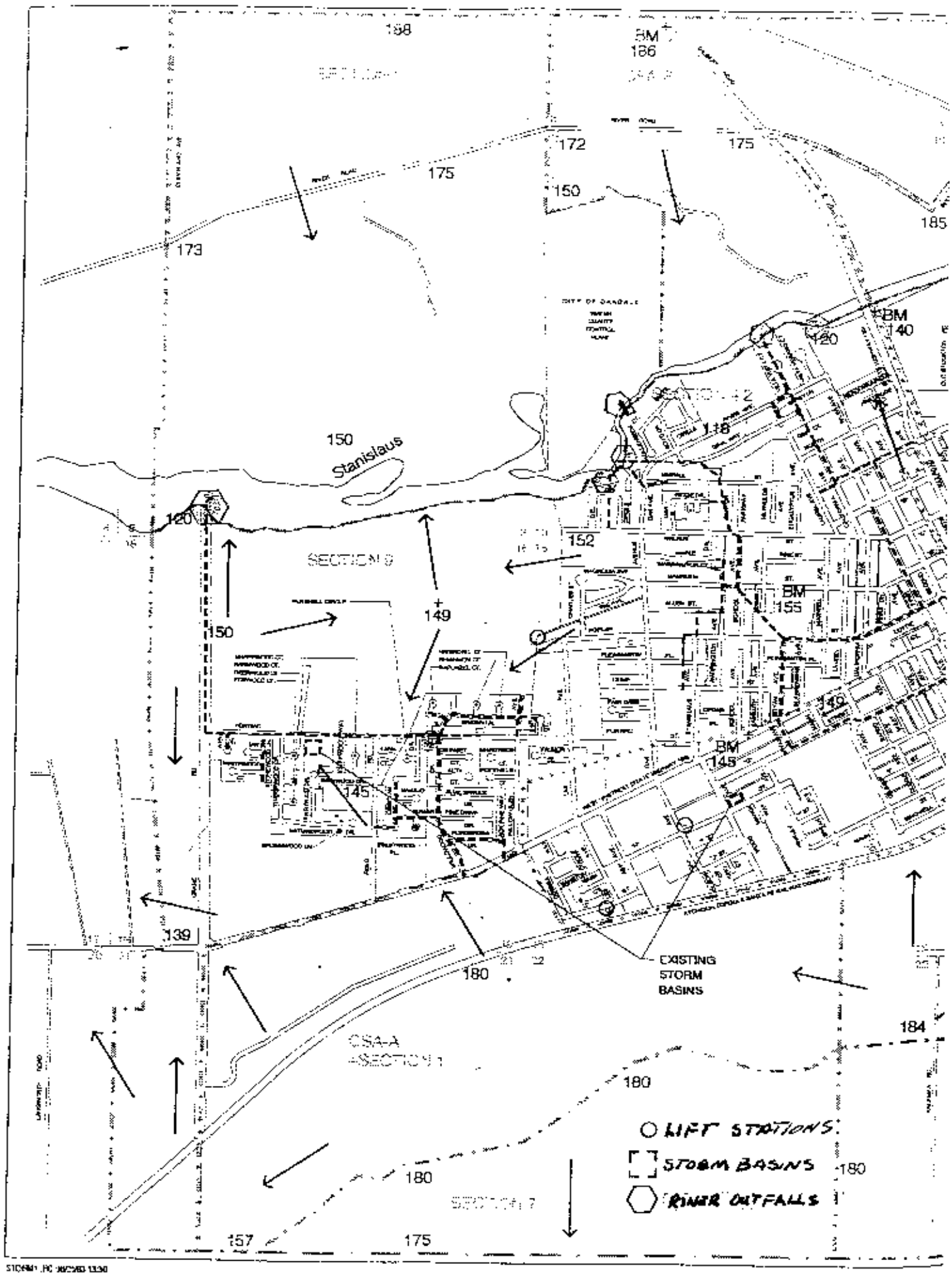
BM 186
175
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173
BM 140
120
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Stanislaus
120
152
SECTION 8
BM 155
149
150
145
BM 145
139
180
EXISTING STORM BASINS
CSA-A
SECTION 1
184
180
LIFT STATIONS
STORM BASINS
RIVER OUTFALLS
180
SECTION 7
157
175

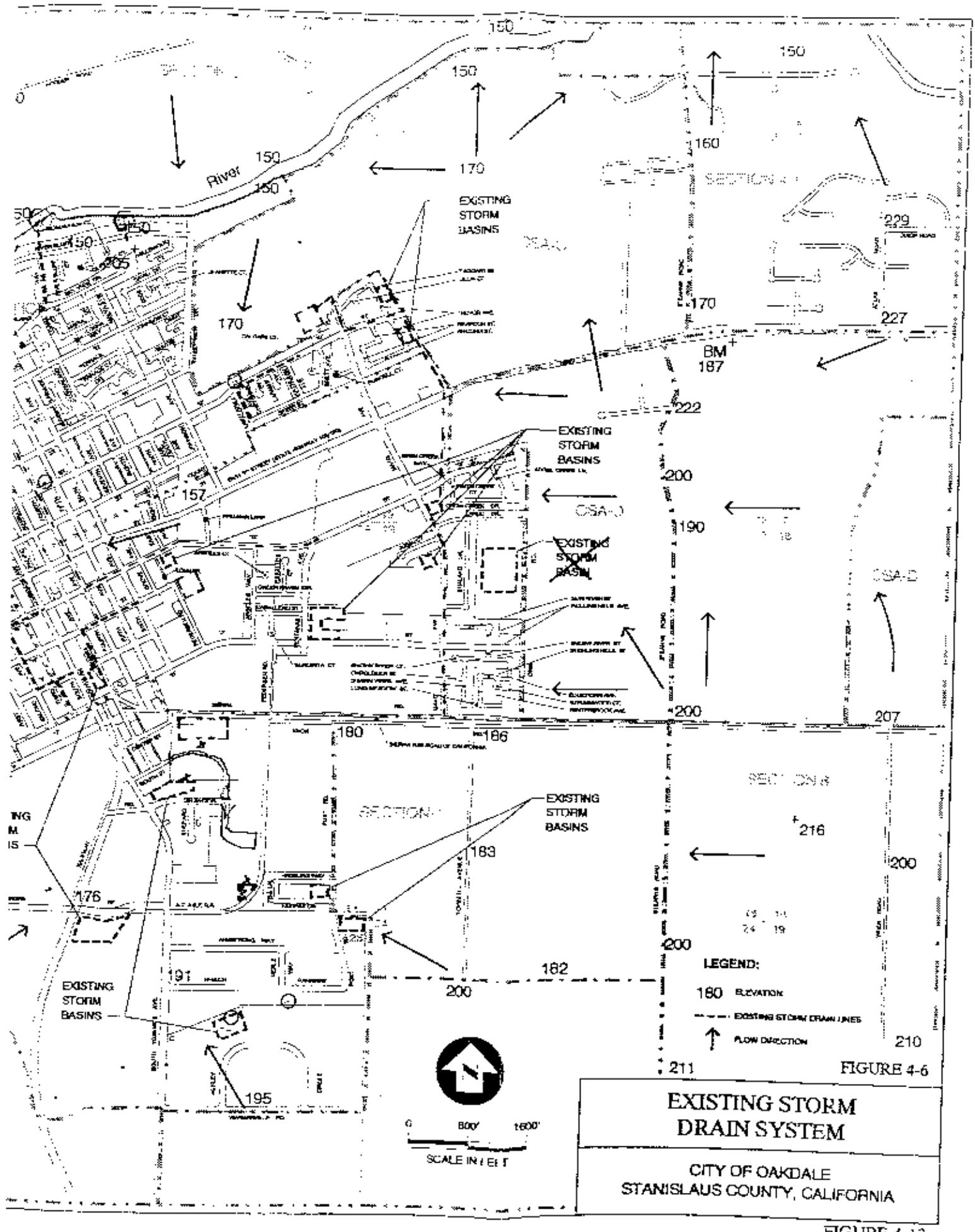

FIGURE 4-6

EXISTING STORM DRAIN SYSTEM

CITY OF OAKDALE
STANISLAUS COUNTY, CALIFORNIA

FIGURE 4-13

PATTERSON

1. Description of the City

Storm Water Infrastructure

The Patterson stormwater system is composed of neighborhood collections systems, 14 detention/retention basins, 5 stormwater pump stations, stormwater trunks and numerous discharge points to receiving streams and irrigation canals. Stormwater is disposed of by percolation, and by discharge to Salado Creek, Patterson Irrigation District canals and the San Joaquin River. Only part of the city's total storm runoff goes through a storm basin. Parts of the city's neighborhoods have direct discharge to the creek or the canal. Discharge to the PID canal eventually discharges to Del Puerto Creek, a tributary of the San Joaquin River.

Near the City's I-5 Gateway development area, there is a section of County development that discharges to Black Gulch, which is a tributary of Salado Creek above the City of Patterson's service area. Runoff from this developed County area has an influence on the stream hydrology through Patterson.

The City of Patterson has prepared two storm drainage master plans to address stormwater infrastructure needs of the community. In 1992, the Patterson Storm Water Master Plan was prepared by Santina & Thompson Inc, to develop alternatives to mitigate flooding along Salado Creek and Black Gulch within the existing city. The preferred alternative identified $20M in improvements to construct piped storm drains within town and open channel and green belt floodways in undeveloped areas. Since 1992, some of these improvements have been constructed. Some improvements depend on cooperation with other entities such as the USA Corp of Engineers.

In 2001, Stoddard & Assoc. was engaged to prepare the Master Storm Drainage Plan, City of Patterson, Western Expansion Area to preplan storm drainage facilities for the 1,400 acre Gateway planning area, immediately west of the existing city, clustered around the Highway I-5 interchange. This area has been and is expected to be the focus of new residential and industrial development in Patterson. The plan includes 100-year, 24-hour detention facilities, pipelines and pump stations designed to retard flow to Salado Creek, which is already at capacity for 5-year storms. Improvements will be funded mostly by new development.

The City's design standard for stormwater facilities is based on the Rational Method and the Stanislaus County 1976 Storm Drainage Design Manual. Detention/retention facilities are designed for a 10 or 50-year, 24-hour storm, depending on the criteria in the County Design Manual. Most of the City's system operates within this standard. Some older areas of town have flooding problems in storms that exceed ½-inch per hour. During typical storms, storm inlet plugging and street ponding are generally cleared within a half-day by operational crews response. The City is working with the property owner at the intersection of Ward and Sperry Streets to redirect uncontrolled farm runoff from outside city limits that can flood the intersection. This runoff is causing silting problems in the city's storm drains down gradient of the intersections.

During the 170-year storms of 1997, city crews observed that surface flow crossed over between Del Puerto Creek and Salado Creek at Highway 33. Del Puerto Creek is the next easterly-draining watershed in the Coast Range, north of Salada Creek and Black Gulch. Normally, Del Puerto Creek drainage has no pathway through Patterson. Highway 33 acts as a barrier to surface flow, especially if the pipeline under the road becomes plugged.

During average storms, the City's WWTP receives infiltration from storm runoff. But over the last few years, the City has had a project to eliminate infiltration to the WWTP. The City has an active practice of eliminating any illegal discharges to the stormwater system whenever they are found.

The City does not operate any combined sewer and stormwater pipelines or discharges. The only treatment received by the separate stormwater system occurs in a limited manner at the detention and retention basins.

Municipal Operations and Maintenance

The City of Patterson conducts a variety of municipal operations that have a relationship to storm water quality, including stormwater, water, sewer, street sweeping, garden refuse pickup, fall leaf pickup, streets maintenance, parks maintenance, fire fighting, and fleet operations. Many of these operations have current service standards that have a beneficial effect on storm water quality. Most of these municipal operations are housed at the Corporation Yard at 420 South 4th Street, Patterson.

1. Storm Drainage

The storm drainage system is in a good condition of repair and maintenance. Storm water lift stations and pipelines are cleaned and repaired as needed. Many drain inlets and rockwells are cleaned once a year before the beginning of winter. Storm basins receive spring weed spraying, disking or mowing. Dual use basins receive post-storm litter removal. Storm basins experience minor nuisance water from irrigation overwatering, neighborhood car washing etc. Storm basins have not been monitored for metals accumulation.

2. Water and Sewer

Sewer collection and water distribution operations respond to sewer backups and water line breaks as needed. The City does not have an established procedure for responding to sewer spills that might impact storm drains. Generally during a sewer spill, catch basins are sandbagged to prevent release to receiving streams, spilled sewage is vacuumed up and transported to the wastewater treatment plant, and the street is disinfected with household chlorine solution.

The Waste Water Treatment Plant operates under a WDR permit issued by the Central Valley Regional Water Quality Control Board. The WWTP is an industrial activity subject to the Phase 1 requirements for a storm water permit, under the CVRWQCB's General Permit for industrial activities.

The City does have a limited water conservation program that includes a certain amount of public education and information. This program can be expanded to include storm water quality messages for the community.

3. Streets

Asphalt maintenance activities include overlays, pothole patching and crack sealing. The City's capital program includes reconstruction of streets as funding allows. Streets operations include street lighting and signage. Caltrans is responsible for traffic signal maintenance.

4. Street sweeping, garden refuse and fall leaf pickup

Street sweeping is performed by city crews. Residential streets are swept every week. Commercial and industrial areas are swept twice a week. The collected street sweepings are hauled to a compost facility.

Garden refuse pickup is performed by contract. Garden refuse is set out in toters in residential areas for weekly pickup. The collected garden refuse are also hauled to a compost facility.

In the fall, leaves are picked up from street piles and composted. The City's AB 939 solid waste program includes a bulky item pickup program. Homeowners can call the solid waste hauler twice a year for a pickup. The County conducts a household hazardous waste disposal program available to residents of Patterson.

5. Parks maintenance

The City of Patterson operates 16 parks and recreational facilities. Parks maintenance includes the application of fertilizer and pesticides, mowing, pruning, parking lot sweeping, and litter removal. Nine storm basins are dual use basins, used for recreation purposes. Chemical usage is conducted at agronomic rates and at appropriate times to minimize chemical release in runoff.

6. Fire fighting

The City is responsible for fire fighting within City limits. Fire fighting can result in runoff of excess fire fighting water to storm drains. The potential for fire fighting runoff to contain pollutants has not been assessed, but is not expected to be a significant source.

7. Fleet

The City operates a fleet of sedans, work trunks, and heavy equipment for its other Public Works, Fire, Police and Parks functions. The fleet is operated and maintained at the Corp. yard, usually under cover. Vehicle washing occurs where at an outdoor vehicle wash station that drains to a catch basin, which is cleaned on a regular basis. The vehicle wash station does not have an oil water separator. Gasoline and diesel fueling is provided at a contractor's gas station, not at the Corp Yard.

The City does not operate a transit system itself. Bus service is franchised to Storer Transportation, located on their own site.

8. Corporation Yard

The City's Corporation Yard is the home of several operating divisions including water, sewer, storm drain, fleet, streets, building maintenance, sweeping, and parks. The Corp. Yard would benefit from a review of its activities and their potential for exposing deleterious materials to storm runoff. For example, the containment of paving materials,

industrial chemicals, batteries, vehicle drips, painting materials. The City does not have a formal training storm water quality program for its field employees. The Corp Yard is paved. Drainage is discharged to regular storm drains.

Storm Water Quality

Field crews report that the stormwater system experiences a small amount of stormwater quality incidents each year. Dumping of used crankcase oil or household chemicals into storm drains may occur at times anywhere in town. The Hartley storm water lift station has been experiencing a number of incidents of dumped crankcase oil. The City and the Housing Authority are working on a bi-lingual public information program to eliminate oil dumping in the neighborhood that this lift station serves. A few illegal connections of house sewers to storm drains are found and eliminated every year. There have been no confirmed reports of drug lab dumping, RV holding tank dumping, catering truck cooking oil dumping or vehicle steam cleaning. If a complaint of storm drain dumping is received, the City's public works staff responds.

The City does have an ordinance that regulates discharges to the sanitary sewer system, and establishes enforcement provisions. However, the City's ordinances do not provide regulations on prevention and enforcement for storm water quality.

The City 's land uses include residential, commercial and industrial areas. These land uses have the potential to generate pollutants. Examples of community activities that have a high likelihood to be contributing to runoff pollution include automobile maintenance and washing, general home/building and landscape maintenance, pest control, restaurants, aging sewers, pet waste disposal, municipal infrastructure maintenance, industrial activities, new development and redevelopment.

The City does not conduct any specific or routine monitoring of storm water quality. No particular chronic or acute concerns have been identified with Patterson's storm water quality to date. City staff has not observed that the non-stormwater discharges or flows, as defined in the General Permit section D.2.c(6) are significant contributors of pollutants to their MS4. (See list of 17 non-stormwater discharges under the Ceres section.)

Projected Community Growth

Patterson is mostly a residential community, with a downtown commercial core, the Gateway multiple land-use new development area near Highway I-5, and a small industrial area. The City's population was 11,606 in the 2000 US Census, and estimated by DOF in 2002 at 13,027. The Stanislaus County Council of Governments projects a 2020 population of 18,500. The City's 1992General Plan anticipates future growth of the City to a population of 30,000 in 2020, assuming a 6% growth rate, especially in the Gateway planning area. The General Plan targets both residential and jobs growth as community goals. The plan for future stormwater infrastructure anticipates detention basins, pipelines, and delayed pumping to prevent flooding on Salado Creek. Funding will be mostly from new development.

The community is diverse, both in an economic and ethnic sense. English and Spanish are both widely spoken in the community. Approximately 60% of the population commutes to the Bay Area for work.

Funding of Storm Water Activities

Stormwater operations and maintenance costs are funded by a combination of General Fund, Water Fund, Sewer Fund and drainage assessment districts revenues. New storm drainage infrastructure is constructed by developers in accordance with City design standards, and then dedicated to the City. Some ongoing O&M costs for newly developing areas are covered by assessment districts, managed by the City. Capital funding for rehabilitation of existing storm drainage facilities is provided by the Sewer Fund as needed when funding is available.

Legislative Authority for Storm Water Activities

Patterson is a general law, empowered to provide public works services, collect service fees, and set regulations related to storm water quality. The City establishes an annual budget based on established service standards for storm drainage. The Municipal Code will need to be updated to incorporate a variety of measures for the purpose of controlling and improving the City's storm water quality. Examples of topics to be included are prohibition on pollutant discharges to the storm drainage system, and an enforcement protocol for violations.

2. Receiving Streams

Storm Runoff

The Patterson stormwater system discharges to Salado Creek PID and the San Joaquin River. Black Gulch is a tributary of Salado Creek, as described above. PID discharges to Del Puerto Creek to the north. Salado Creek and Black Gulch are small watersheds, mostly dry in summer. The City's stormwater discharge is considered to be a major part of the creek's runoff during storms, but a minor percentage of the San Joaquin River's storm event flow. No data is available on the quantity of non-storm runoff from Patterson.

Figure 2.3 provides the topography in the vicinity of Patterson, and shows its proximity to the San Joaquin River.

Receiving Stream Quality

The City of Patterson discharges its storm water to the San Joaquin River. The San Joaquin River is listed as an impaired water body on the 1998 California 303(d) list by the Central Valley Regional Water Quality Control Board. Table 2.1 is an extract of the relevant 303(d) listing information.

The 303(d)-listed pollutants of concern in the rivers to which Patterson's storm water system is tributary are chlorpyrifos, DDT, diazinon, electrical conductivity, Group A pesticides, mercury, organic enrichment, unknown toxicity, boron, selenium, dioxin, furans, and PCBs. Of these, only chlorpyrifos, diazinon, organic enrichment and unknown toxicity are shown as potentially related to urban runoff and storm sewers. To the extent that the City's runoff is a source of these pollutants or stressors, Patterson may be called on the future to participate in TMDL proceedings to reduce the load of these pollutants to the river. Chlorpyrifos is the most widely used pesticide in the US. It is

used in agriculture, commercial and residential landscaping, and as a termiticide. Diazinon is a dormant spray pesticides used in orchards and on backyard fruit trees, and has been documented as being present in urban runoff in other cities in the San Joaquin Valley. Organic enrichment occurs when dissolved nutrients, such as nitrate, potassium or phosporus are contained in discharges to a river, causing reduced dissolved oxygen in the stream. Organic enrichment usually is present in urban runoff due to garden fertilizers, animal waste, and trash washed off streets. The sources of unknown toxicity have yet to be determined for the San Joaquin valley's stream. It is possible that toxicity to aquatic wildlife occurs due to a combination of pollutants and stressors in runoff the streams. The mitigation of unknown toxicity by the CVRWQCB will take a coordinated effort by scientists, dischargers and wildlife agencies. The elimination of other known pollutants and stressors will likely be the CVRWQCB's first approach to addressing toxicity on a regional basis.

Related Regulatory Activities on the San Joaquin River

The San Joaquin River is a critical waterway of the State, and is the subject of a number of varied water quality activities. The San Joaquin River is tributary to the Delta and San Francisco Bay. This means that the San Joaquin River's water quality is a concern of the Bay-Delta proceedings of the SWRCB, for both water quality and quantity. The efforts of regulatory agencies and responsible parties to address other water quality impairments in the San Joaquin River watershed will have a relationship to the quality of Patterson's storm water runoff over time. Therefore, the City will need to remain involved in regional water quality issues to make sure the City's Storm Water Management Program is coordinated with regulatory actions for multiple pollutants.

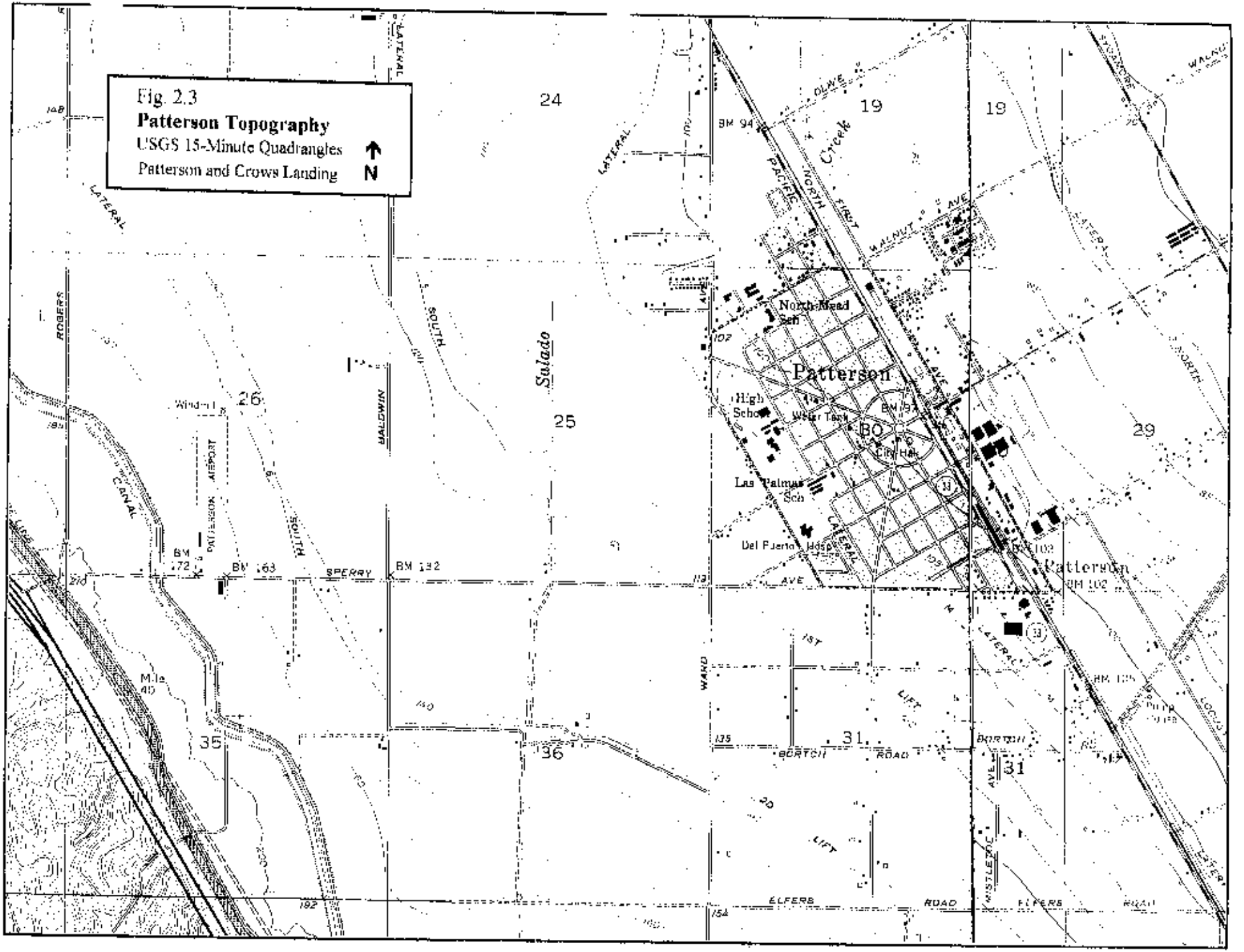
Fig. 2.3
Patterson Topography
USGS 15-Minute Quadrangles
Patterson and Crows Landing
N
Patterson
North Main Sch
High School
Water Tank
City Hall
Las Palmas Sch
Del Puerto Hospital
Salado
Creek
Patterson
BM 102
BM 94
BM 97
BM 172
BM 163
BM 132
BM 105
Mile 40
Windmill
PATTERSON AIRPORT
SPERRY
BALDWIN
ROGERS
CANAL
LATERAL
PACIFIC
NORTH
FIRST
OLIVE
WALNUT
AVE
WARD
LIFT
BORTON
ROAD
ELFERS
MISTLETOE
24
25
26
29
19
35
36
31

RIVERBANK

1. Description of the City

Storm Water Infrastructure

The Riverbank storm drainage system is composed of neighborhood storm water collection pipelines (12 to 54-inch), 6 detention and retention basins, approximately 100 rockwells, 7 stormwater pump stations, 7 discharge points to the Stanislaus River and one discharge to the Modesto Irrigation District (MID) Main Canal, that also discharges to the Stanislaus River just west of Riverbank. Another discharge point, to MID's Lateral 6, is under construction to serve the Cross Roads development area. The Stanislaus River is tributary to the San Joaquin River and the Delta. Discharge to the MID canal from detention basins begins after a 24-hour delay. The majority of storm runoff in the City has direct discharge to the river; only a limited number of neighborhoods have detention basins before discharge to the river or canal. Discharge to MID facilities is permitted under an Agreement between MID and the City (See Appendix D).

Storm runoff from the large cannery in the middle of town and a few blocks of the old downtown area, approximately 60 acres in total, are directly discharged to sanitary sewer lines. This increases flows to the Wastewater Treatment Plant but within the limits of the plant's ability to accept. The City would like to eliminate this inflow to the WWTP to recapture the corresponding treatment capacity for new development, but there is not a clear hydraulic solution given the topography of the old downtown area.

The City is preparing a new Storm Drainage Master Plan, that details the city's drainage areas, proposes solutions to existing deficiencies and preplans drainage facilities for new development areas. The Master Plan should be completed sometime in 2003. The Plan includes maps of each drainage area, which will be helpful for implementation activities under this Storm Water Management Plan.

The only treatment received by the separate stormwater system occurs in a limited manner at the detention and retention basins.

The City's design standard for stormwater facilities is based on the Rational Method and the Stanislaus County 1976 Storm Drainage Design Manual. Detention/retention facilities are designed for a 50-year, 24-hour storm. Most of the City's system operates within this standard. Some older areas have flooding problems in storms that exceed ½-inch per hour. Storm inlet plugging and street ponding are generally cleared within a few hours by operational crews response. During the 170-year storms of 1997, the City experienced few problems with street flooding.

The City is in the process of developing a Storm Drainage Master Plan to guide infrastructure for new development up to a population of 50,000. This Plan will address pipeline and storm basin facilities for newly developing areas, as well as identifying projects to remedy existing system flooding deficiencies. The Plan anticipates that design standards for new development will include measures to reduce the potential for pollution from the new areas. In addition, the Plan evaluates the system improvements that would be needed to route substantially all of the storm runoff from existing City rights-of-way through master storm water detention basins, if such system improvements were ever mandated or warranted.

Storm Water Operations and Maintenance

The City of Riverbank conducts a variety of municipal operations that have a relationship to storm water quality, including stormwater, water, sewer, street sweeping, streets maintenance, parks maintenance, fire fighting, and fleet operations. Many of these operations have current service standards that have a beneficial effect on storm water quality. Most of these municipal operations are housed at the Corporation Yard at 2901 High Street, Riverbank.

1. Storm Drainage

The storm drainage system is in a good condition of repair and maintenance. Storm water lift stations and pipelines are cleaned and repaired as needed. Many catch basins and rockwells are cleaned at least once a year, typically before the beginning of winter. Storm basins receive spring weed spraying, disking or mowing, and rockwell cleaning. Dual use basins receive post-storm litter removal. Fertilizer and pesticide use in dual basins is performed in accordance with agronomic recommendations. Basins are serviced at least three times a year. Storm basins experience a low level of nuisance water from irrigation overwatering, neighborhood car washing etc. A level switch pumps any nuisance water down. Storm basins have not been monitored for metals accumulation.

2. Water and Sewer

Sewer collection and water distribution operations respond to water line breaks and sewer backups as needed. The City does not have an established procedure for responding to sewer spills that might impact storm drains. Generally during a sewer spill, catch basins are sandbagged to prevent release to receiving streams, spilled sewage is vacuumed up and transported to the wastewater treatment plant, and the street is disinfected with household chlorine solution.

The Waste Water Treatment Plant operates under an NPDES permit issued by the Central Valley Regional Water Quality Control Board. The City's WWTP has two industrial pretreatment permittees. The WWTP is an industrial activity subject to the Phase 1 requirements for a storm water permit, under the CVRWQCB's General Permit for industrial activities.

The City does have a water conservation program that includes a certain amount of public education and information. This program can be expanded to include storm water quality messages for the community.

3. Streets

Asphalt maintenance activities include overlays, pothole patching and crack sealing. Currently, the City's capital program includes reconstruction of streets, as needed and as funding allows. The City uses an annual pavement management system to keep the streets in generally good condition. Streets operations include street lighting and traffic signals and signage.

4. Street sweeping

Street sweeping is contracted out to a local solid waste hauler. Residential streets are swept every 2 weeks. Commercial and industrial areas are swept twice a week. The collected street sweepings are transported to the wastewater treatment plant. The solid waste hauler screens the street sweepings for trash. The clean dirt and grit is recycled as road base at the City's wastewater treatment plant.

Garden refuse and fall leaves must be containerized for pickup by the solid waste hauler. Stanislaus County provides household hazardous waste drop-off days four times a year. Bulky items may be disposed of at a periodic County-sponsored disposal day, with a drop off location in Oakdale. The County conducts a household hazardous waste disposal program available to residents of Riverbank.

5. Parks maintenance

The City of Riverbank operates 8 parks and recreational facilities. Parks maintenance includes the application of fertilizer and pesticides, mowing, pruning, parking lot sweeping, and litter removal. Two storm basins are dual use basins, used for recreation purposes. Chemical usage is conducted at agronomic rates and at appropriate times to minimize chemical release in runoff.

6. Fire fighting

Stanislaus County provides fire fighting services with Riverbank city limits. Fire fighting can result in runoff of excess fire fighting water to storm drains. The potential for fire fighting runoff to contain pollutants has not been assessed, but is not expected to be a significant source.

7. Fleet

The City operates a fleet of sedans, work trunks, and heavy equipment for its other Public Works, Fire, Police and Parks functions. The fleet is maintained at the Corporation Yard, where most of the work is performed under cover. Vehicle washing occurs where over a internally draining pad, that discharges to the sanitary sewer. The City has recently commissioned a CNG fueling station at the Corp. Yard. Gasoline and diesel fueling is provided on-site Used batteries and oil are contained and recycled.

The City operates a dial-a-ride transit system, using mini buses. They operate out of a site at 2946 Stanislaus Street, Riverbank. The County operates a regional transit system for the general public.

8. Corporation Yard

The City's Corporation Yard, is the home of water, sewers, storm drainage, parks, building maintenance, streets and fleet operations. The paved areas and portions of the unpaved area drain to sanitary sewers. The Corp. Yard would benefit from a review of its activities and their potential for exposing deleterious materials to storm runoff. For example, the containment of paving materials, industrial chemicals, batteries, vehicle drips, painting materials. The City does not have a formal training storm water quality program for its field employees.

Storm Water Quality

Field crews report that the stormwater system experiences a small amount of stormwater quality incidents each year. Operations crews report that they rarely find evidence of dumping of used crankcase oil or household chemicals into storm drains. A few illegal connections of house sewers to storm drains are found and eliminated every year. There have been no confirmed reports of drug lab dumping, RV holding tank dumping, catering truck cooking oil dumping or vehicle steam cleaning. If a complaint of storm drain dumping is received, the public works staff responds.

The City 's land uses include residential, commercial and industrial areas. These land uses have the potential to generate pollutants. Examples of community activities that have a high likelihood to be contributing to runoff pollution include automobile maintenance and washing, general home/building and landscape maintenance, pest control, restaurants, aging sewers, pet waste disposal, municipal infrastructure maintenance, industrial activities, new development and redevelopment.

The City does not conduct any specific or routine monitoring of storm water quality. No particular chronic or acute concerns have been identified with Riverbank's storm water quality to date. City staff has not observed that the non-stormwater discharges or flows, as defined in the General Permit section D.2.c(6) are significant contributors of pollutants to their MS4. (See list of 17 non-stormwater discharges under the Ceres section.)

Projected Community Growth

Riverbank is mostly a residential community, with a downtown commercial core, some arterial commercial areas, and a small industrial area. The City's population was 15,826 in the 2000 US Census, and estimated by DOF in 2002 at 17,004. The Stanislaus County Council of Governments projects a 2020 population of 25,700.

The City's population is 17,004 as of 2002, and has been growing at about 5% per year, a very rapid rate. The City's General Plan anticipates future growth of the City to a population of 30,000. The General Plan targets both residential and jobs growth as community goals. The plan for future stormwater infrastructure that new development will provide regionalized storm drain systems that incorporate certain storm water quality control measures. Stormwater infrastructure planning matches the General Plan's anticipated population of 30,000.

The community is diverse, both in an economic and ethnic sense. English and Spanish are the most commonly used languages.

Funding of Storm Water Activities

Stormwater operations and maintenance costs are funded by water, sewer and streets funding. Stormwater activities are not separately accounted for.

New storm drainage infrastructure is constructed by developers in accordance with City design standards, and then dedicated to the City. Some ongoing O&M costs for newly developing areas are covered by assessment districts, managed by the City. Capital funding for rehabilitation of existing storm drainage facilities is provided by water, sewer or streets funds on an as-needed basis.

Legislative Authority for Storm Water Activities

Riverbank is a general law, empowered to provide public works services, collect service fees, and set regulations related to storm water quality. The City establishes an annual budget based on established service standards for storm drainage. The Municipal Code will need to be updated to incorporate a variety of measures for the purpose of controlling and improving the City's storm water quality. Examples of topics to be included are prohibition on pollutant discharges to the storm drainage system, and an enforcement protocol for violations.

The City does have an ordinance that regulates discharges to the sanitary sewer system, establishes an industrial pretreatment program, and establishes an enforcement provisions. However, the City's ordinances do not provide regulations on prevention and enforcement for storm water quality.

2. Receiving Streams

Storm Runoff

The Riverbank stormwater system discharges to 7 locations on the Stanislaus River, and will discharge to 2 locations along MID canals, which then discharge to the Stanislaus and San Joaquin Rivers. Because the Stanislaus River is a major watershed of the State, the City's stormwater discharge is considered to be a minor percentage of the river's storm event flow. No data is available on the quantity of non-storm runoff from Riverbank.

Figure 2.4 provides the topography in the vicinity of Riverbank, and shows its proximity to the Tuolumne River.

Receiving Stream Quality

The City of Riverbank discharges its storm water to the Stanislaus River. The Stanislaus River is listed as an impaired water body on the 1998 California 303(d) list by the Central Valley Regional Water Quality Control Board. Table 2.1 is an extract of the relevant 303(d) listing information.

The 303(d)-listed pollutants of concern in the rivers to which Riverbank's storm water system is tributary are chlorpyrifos, DDT, diazinon, electrical conductivity, Group A pesticides, mercury, organic enrichment, unknown toxicity, boron, selenium, dioxin, furans, and PCBs. Of these, only chlorpyrifos, diazinon, organic enrichment and unknown toxicity are shown as potentially related to urban runoff and storm sewers. To the extent that the City's runoff is a source of these pollutants or stressors, Riverbank may be called on the future to participate in TMDL proceedings to reduce the load of these pollutants to the river. Chlorpyrifos is the most widely used pesticide in the US. It is used in agriculture, commercial and residential landscaping, and as a termiticide. Diazinon is a dormant spray pesticide used in orchards and on backyard fruit trees, and has been documented as being present in urban runoff in other cities in the San Joaquin Valley. Organic enrichment occurs when dissolved nutrients, such as nitrogen, potassium or phosphorus are contained in discharges to a river, causing reduced dissolved oxygen in the stream. Organic enrichment usually is present in urban runoff due to garden fertilizers, animal waste, and trash washed off streets. The sources of unknown toxicity

have yet to be determined for the San Joaquin valley's stream. It is possible that toxicity to aquatic wildlife occurs due to a combination of pollutants and stressors in runoff to the streams. The mitigation of unknown toxicity by the CVRWQCB will take a coordinated effort by scientists, dischargers and wildlife agencies. The elimination of other known pollutants and stressors will likely be the CVRWQCB's first approach to addressing toxicity on a regional basis.

Related Regulatory Activities on the Stanislaus River

The Stanislaus River is a critical waterway of the State, and is the subject of a number of varied water quality initiatives. MID has been an active participant in water quality issues in the region due to their FERC[2] licenses. The nearby City of Modesto holds a Phase I Storm Water NPDES permit. The Stanislaus is tributary to the San Joaquin River, the Delta and San Francisco Bay. This means that the Stanislaus River's water quality and quantity is also a concern of the Bay-Delta proceedings of the SWRCB, for both water quality and quantity. The efforts of regulatory agencies and responsible parties to address other water quality impairments in the San Joaquin River watershed will have a relationship to the quality of Riverbank's storm water runoff over time. Therefore, the City will need to remain involved in regional water quality issues to make sure the City's Storm Water Management Program is coordinated with regulatory actions for multiple pollutants.

[2] Federal Energy Regulatory Commission

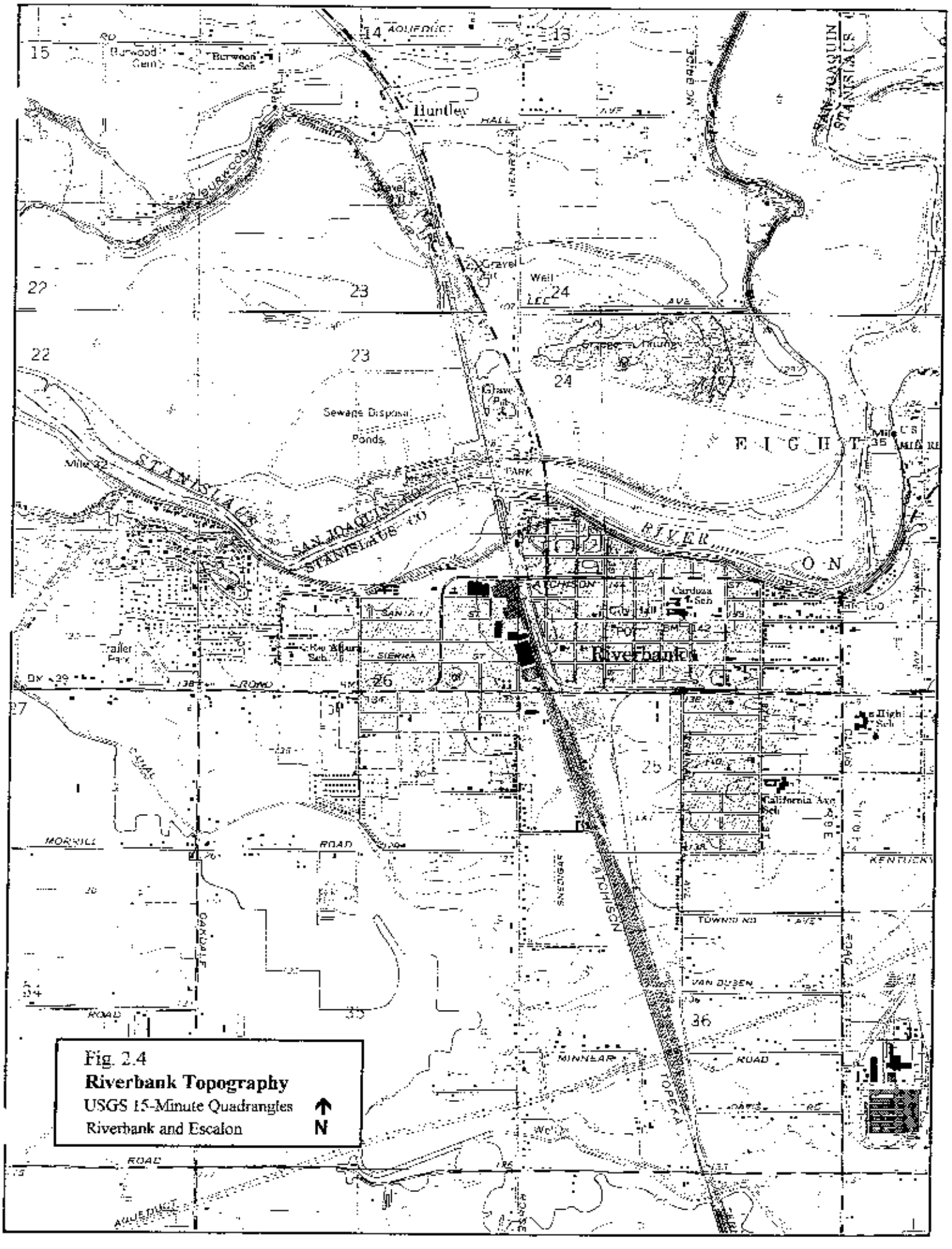

Fig. 2.4
Riverbank Topography
USGS 15-Minute Quadrangles
Riverbank and Escalon
N

Table 2.1
Extract of 1998 California CWA Section 303(d) List and TMDL Priority Schedule (CVRWQCB)

Pollutant/Stressor	Source	Priority
Delta Waterways		
Chlorpyrifos	Agriculture, **Urban Runoff, Storm Sewers**	**High**
DDT	Agriculture	Low
Diazinon	Agriculture, **Urban Runoff, Storm Sewers**	**High**
Electrical Conductivity	Agriculture	Medium
Group A Pesticides	Agriculture	Low
Mercury	Abandoned Mines	High
Organic enrichment, Low Dissolved Oxygen		
	Municipal Point Sources	**High**
	Urban Runoff, Storm Sewers	
Unknown Toxicity	**Source Unknown**	**Medium**
San Joaquin River		
Boron	Agriculture	High
Chlorpyrifos	Agriculture	High
DDT	Agriculture	Low
Diazinon	Agriculture	High
Electrical Conductivity	Agriculture	High
Group A Pesticides	Agriculture	Low
Selenium	Agriculture	High
Unknown Toxicity	**Source Unknown**	**Medium**
Lower Stanislaus River		
Diazinon	Agriculture	High
Group A Pesticides	Agriculture	Low
Unknown Toxicity	**Source Unknown**	**Medium**
Stockton Deep Water Ship Channel		
Dioxin	Point Source	Medium
Furans	Point Source	Medium
PCBs	Point Source	Medium
Lower Tuolumne River		
Diazinon	Agriculture	High
Group A Pesticides	Agriculture	Low
Unknown Toxicity	**Source Unknown**	**Medium**

Table 2.2 Relationship of Sources to Primary Pollutants of Concern

Source	Physical Parameters	Synthetic Organics	Petro. Hydrocarbons	Heavy Metals	Nutrients	Pathogens	Sediment	Oxygen Demanding Substances	Floatables
Vehicle Services		X	X	X					
Gas Stations		X	X	X					
Metal Fabrication		X	X	X					
Restaurants									X
Auto Wrecking Yards	X	X	X	X					
Mobile Cleaners		X							
Parking Lots	X		X	X					
Residential Dwellings	X	X		X	X	X	X	X	
Parks/ Open Spaces					X	X	X	X	X
Construction Sites	X						X	X	
Corporation Yards	X	X	X	X					
Streets	X		X	X				X	X
Golf Courses		X			X		X	X	
Sewer Releases	X					X		X	

Ref: Model Urban Runoff Program, July 1998, City of Monterey et al

Section 3 – Storm Water Management Program

Rev. 10/22/03

Approach

The co-permittees are taking an approach that assumes that the general level of urban runoff pollution can be reduced by a variety of city-wide pollution prevention activities. Insufficient evidence is available in each community about specific sources of pollutants and their loading rates to develop a more targeted approach. The pollution prevention activities to be undertaken are organized into the Minimum Control Measures:

1. Public Outreach and Education
2. Public Participation and Involvement
3. Illicit Discharge Elimination
4. Construction Site Best Management Practices
5. Post Construction Best Management Practices
6. Municipal Activities

The approach to storm water pollution prevention will also be an adaptive management plan. The results of each year's activities will be evaluated in preparation for the next year's work. Priorities and scheduling of activities may change from this initial plan based on the needs of the community to meet the overall objective of reducing the potential for pollution in urban runoff.

The co-permittees anticipate combining their efforts on certain activities, and conducting other activities on a city-specific basis. This section outlines the control measures in each of the 6 categories to be undertaken during the 5-year permit period. It is recommended that the four cities hold an annual planning meeting to determine which tasks they will conduct as a group. This decision should then be incorporated into each city's annual budget preparation.

Section 3 describes the tasks to be undertaken by the cities during the 5 year permit period. In Section 5, Tables 5.1 through 5.4 provide specific performance goals for each city individually.

TASK CODING: The tasks numbers are coded to indicate where they fit into the 5-year workplan. The first number indicates the year of the activity. The second number identifies it within the year, usually as part of a continuing program element that corresponds with one of the six Minimum Control Measures.

I. PUBLIC OUTREACH AND EDUCATION

The objectives of the Public Outreach and Education Element of this Storm Water Management Plan are:

- To raise public awareness that citizen's actions have an impact on stormwater quality in the City's streams,
- To involve the public in the development of the Storm Water Management Plan, and
- To develop support for the necessary funding.

A. General Public Education on Storm Water Quality impacts and prevention measures.

The purpose of these tasks is to provide the widest communication with the general public about what they can do to prevent stormwater pollution. Because each City has a significant multi-lingual population, public information needs to be provided in at least English and Spanish. Where possible, Portuguese and Hmong should also be used, depending on the community makeup. Public outreach should also be implemented at cultural events where different groups may be reached most effectively.

Task 1.1 Develop or purchase bi-lingual public outreach and education materials, such as brochures, magnets, posters, and coloring books for general public information about storm water quality control activities.

Since the NPDES Stormwater Program was established in 1991, a number of the Phase I permittees have developed a wide range of public education materials that are in the public domain, and available for use by the Phase II permittees. Examples can be found in the Model Urban Runoff Program, or by contacting the Phase I permittees. One example of public information materials would be a welcome packet or flyer for new utility customers and new businesses.

Public education materials should inform the public of pollutants that typically enter storm drains, and what individuals and businesses can do to prevent pollution. It should describe what are illegal discharges and what the consequences are for illegally discharging to a storm drain.

Task 2.1 Distribute educational materials to the public, schools, multi-cultural events and libraries, and through the City's utility bills.

Task 3.1 Distribute educational materials at point of sale of household, automotive and garden chemicals, at multi-cultural events, and other relevant venues.

Task 4.1, 5.1 Review needs and results, and conduct additional public education, based on the community's response to the first three years of outreach.

At the completion of each year's public education program, each City needs to review the results and set priorities for the next year's target audience for storm water quality control education. For example, if a neighborhood has been the focus of education related to crankcase oil dumping in storm drains,

results can be measured by the number of occurrences of such dumping before and after the education effort.

B. Education for Specific Community Groups

The purpose of this task is to focus on certain business types that have a higher potential to generate pollutants in municipal runoff. The first of these are restaurants and automotive repair shops. But other businesses that may benefit from focused education include canneries, car wrecking yards, metal recycling, farm equipment repair, farm fertilizer and chemical distributors, and commercial/residential landscape service providers, vehicle steam cleaning services, pool service companies, and pest control companies. This program element can include incentives and public recognition for good environmental citizenship by businesses.

Task 2.2 Prepare and distribute education materials for restaurants and auto repair shops about Best Management Practices for their business.

Since the NPDES Stormwater Program was established in 1991, a number of the Phase I permittees have developed public education materials to focus on the high risk behaviors of certain businesses. Many of these public education materials are in the public domain, and available for use by the Phase II permittees. Examples can be found in the Model Urban Runoff Program, or by contacting the Phase I permittees. Santa Clara Valley Water District and the Fresno Metropolitan Flood Management District are leaders in this area.

The four cities should also consider developing incentive programs or public recognition programs for good environmental citizenship by businesses. Such programs may incorporate aspects of solid waste management, hazardous waste management or water conservation that relate to other City programs and objectives.

Task 3.2 Follow-up education with restaurants and auto repair shops.

Tasks 4.2, 5.2 Educate additional targeted business groups, with the highest potential for stormwater polluting actions.

Depending on the results in the first three years of public education for targeted businesses, and new information gathered during the early years of the SWMP, the Cities should adapt their management plan for educating certain businesses. For example, if good results are achieved with restaurants and vehicle repair shops, then public education for business could be shifted to the next highest priority business sector. Some possible candidates include pool cleaning, pest control, landscapers and building trades and suppliers.

II. PUBLIC PARTICIPATION AND INVOLVEMENT

The objectives of the Public Participation and Involvement Element are:

- To educate the public about the relationship between community activities and runoff pollution,
- To educate about specific pollutants and what citizens can do about them, and
- To foster participation in community-based projects and volunteer activities regarding pollution prevention.

The purpose of these activities is to support community participation in preventing and eliminating sources of pollution in urban runoff. The second purpose is to provide opportunities for the community to prioritize the types of activities that should be included in the Storm Water Management Program and any implementing ordinances, as adopted by each City Council. These two processes provide a key connection between the behaviors of the community and most cost effective means of preventing pollution.

A. Storm Drain Marking and Community Cleanup Days

Task 1.2 Purchase storm drain stencils or placards, depending on durability and the ability of volunteers to mark storm drains.

Since 1991, vendors have developed and Phase I permittees have tested the effectiveness of storm drain marking devices. The four cities will need to evaluate marking devices best suited for their storm drain system, and the work force available to install them. For example, Eagle Scouts may want to participate in gluing placards at storm drains.

Task 1.3 Begin organizing volunteers to stencil storm drains and do community cleanups.

The four cities have some experience in working with volunteers for environmental efforts. For example, some Eagle Scouts have painted stencils on storm drains. Other options include environmental organizations, after school sports fund raising organizations, and inmate alternative work programs.

Task 2.3 Mark ¼ of the City's storm drains or install marking tiles using volunteers whenever possible. Use City crews or alternative work programs when volunteers not available or appropriate.

Based on past experience, painted storm drain stencils have a useful life of about 4-5 years. Replacement of storm drain marking devices, whether painted or glued placards or tiles, will require a consistent replacement program.

Task 3.3 Mark the next quadrant of the City's storm drains, as in Task 2.3.

Task 4.3 Mark the third quadrant of the City's storm drains, as in Task 2.3.

Task 5.3 Mark the final quadrant of the City's storm drains, as in Task 2.3.

Task 2.4, 3.4, 4.4, and 5.4

Conduct community cleanup.

The community cleanup program will be coordinated with the County's household hazardous waste disposal program and each city's bulky item disposal program. The County has a central collection location for hazardous materials, and the cities provide an on-call program for bulky item pickup through their solid waste hauler contracts. The availability of these programs will be further advertised at community events such as Earth Day activities or farmer's markets.

B. Legislative Action

Task 1.4 Conduct a public workshop on the proposed Storm Water Management Program, to educate the community on upcoming activities, and seek their input on the most appropriate approach.

Task 1.5 Prepare a draft Storm Water Quality ordinance or update an existing ordinance.

The Storm Water Quality ordinance needs to address allowable non-stormwater discharges to the storm drain system, a prohibition on the illicit discharge of pollutants to the storm drainage system, and a tiered enforcement protocol and due process for violations. The ordinance may include provisions to recover the cost of enforcement actions. The ordinance may include the authority for incentive programs or public recognition of businesses that display good environmental citizenship.

Task 1.6 City Council adoption of Storm Water Quality ordinance.

The City Council should take legislative action to enact or update the Storm Water Quality ordinance, in order to provide the authority for City staff to undertake certain actions required in the Storm Water Management Plan, and by the SWRCB[1] Small MS4[2] General Permit.

Task 2.5 Educate businesses and new development about the new Storm Water Ordinance.

City staff should develop press releases, attend business organization meetings, and create handouts, newsletters or other materials to provide business and the development community with the information they need on their role in preventing storm water pollution. Again, examples are available from Phase I permittees on how to undertake this kind of business education. The public information should inform businesses about any incentives or public recognition programs for good environmental citizenship.

[1] State Water Resources Control Board
[2] Municipal Separate Storm Sewer System

III. ILLICIT DISCHARGE DETECTION AND ELIMINATION

The objectives of the Illicit Discharge Detection and Elimination Element are:

- To control illicit discharges or illegal connections to storm drains by methodical field surveys and/or investigations of the storm drain system.
- To encourage proper disposal of wastes in a program that combines public education, alternative disposal options, incentives, and enforcement as needed, and
- To contain and clean up accidental spills with proper methods.

The purpose of this section is to provide a program under which uncontrolled sources of pollution directly discharged to storm drains are eliminated. The workplan for the Illicit Discharge Detection and Elimination Element will establish permissible discharges to storm drains, establish enforcement procedures for violations of the discharge standards, conduct field investigations and provide a complaint/spill response program. Some of these tasks overlap with the Public Involvement and Participation Element described above.

Illicit discharges can include sewer lines improperly connected to storm drains, or improper dumping of crankcase oil, household chemicals, illegal drug lab chemicals or other deleterious materials into storm drains or streams. It can even include the discharge of chlorinated swimming pool water into a storm drain. This part of the program is the most detection and enforcement oriented part of the SWMP[3].

Each City will need to conduct an assessment of the extent and nature of illicit discharges that are occurring in their city. Then the detection and elimination program can be prioritized towards the most probable source of illicit discharges.

The four cities have only a few businesses that may be subject to the SWRCB Industrial General Stormwater Permit. The potential for pollutants from these businesses is considered low, and so this Work Plan does not include a requirement to monitor these industries' compliance with the SWRCB industrial permit.

Task 1.7 Develop the outline of Illicit Discharge Detection and Elimination Program.

This task should include the workplan for periodic inspection of the storm drain system, and the plan of action for responding to any illicit discharges identified. Illicit discharges may include fixed pipeline connections from non-storm water sources, and illegal dumping into the city's storm drain system. A two part approach is needed for each of these possible pollution sources. Illicit discharges may be discovered by periodic inspection of pipelines and by responding to complaints of odors or foul water in storm drains. Illegal dumping detection may require a hotline system for citizen reporting of observed dumping, and education of city employees and the public to report illegal dumping. The workplan needs to set priorities among the activities, and include an annual assessment step to adapt the management of the Illicit Discharge Detectionand Elimination Program to the highest priorities.

[3] Storm Water Management Plan

Task 2.8 Develop a map of each City's storm drain system, showing areas to be targeted for illicit discharge surveillance. The map should be the basis for geographically tracking storm water quality data as monitoring data accumulates, in order to address site-specific pollution sources.

The co-permittees all have maps of their city's storm drain system, in varying degrees of accuracy. The objective of this task is to move the cities towards a computer based GIS system that is a management tool for storm water quality as well as other storm water system functions. The map(s) should describe the tributary area of each major storm outfall. By the end of the 5-year permit period, the ideal mapping system would include maps that can track and report on stormwater management activities, stormwater quality data, and enforcement actions, as well as system hydraulics and maintenance management. Funding will determine how far each city is able to move towards this ideal mapping system. For stormwater quality purposes, mapping of stormwater quality data and enforcement actions should be given higher priority.

Task 2.6 Conduct pilot surveillance of the targeted areas for illicit discharges. Revise the scope and the approach to detecting illicit discharges.

The first year's work on illicit discharge detection and elimination should be focused on understanding the scope of the problem, if any, and the effort that will be required to address the entire city. A pilot program will inspect a section of town, with the highest likelihood of illicit discharges. The pilot program will test various detection methods, such as TV inspection, smoke testing, or pipeline sediment testing to assess costs, equipment needs and effectiveness in detecting illicit discharges. The results of the pilot test should be used to refine a multi-year program to address illicit discharges city wide on a periodic basis.

Task 2.7 Eliminate illicit discharges by cooperation of property owners whenever possible, or by City action or enforcement action if necessary.

Each City needs to develop a tiered procedure for eliminating illicit discharges and illegal dumping. The tiers may include education and incentives, voluntary compliance, mandatory compliance with a violation citation, and legal action, as each case warrants. Staff responsibilities should be established for each tier of enforcement. Protocols to involve the RWQCB should be included.

Whenever an illicit discharge or illegal dumping situation is identified, the City needs to take action with the responsible parties to eliminate the pollution source. Incidents will be tracked and recorded for future reference. Some incidents may require followup inspections to assure compliance.

The hotline developed in Task 1.7 will be provided for citizens to report illegal dumping or sewer odors from storm drains. Such reports will initiate an investigation of the location to determine what further action is needed to eliminate illegal or illicit discharges.

See also task 1.12 in which City employees will be trained in recognizing and preventing illicit discharges to storm drains.

Tasks 3.5, 4.5, and 5.5 Conduct annual survey of targeted areas of the City for illicit discharges. The performance measure should be to survey the entire city on a 5 year rotation.

Task 3.6, 4.6, and 5.6 Eliminate illicit discharges as they are found, as in Task 2.7.

IV. CONSTRUCTION SITE RUNOFF CONTROL, OVER 1 ACRE

The objective of the Construction Site Runoff Control Element is:

- To develop and implement a control program to reduce the potential for the discharge of pollutants into urban runoff from construction sites over 1 acre.

Since March 10, 2003, the Federal regulations have required construction sites over 1 acre to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). Construction over 5 acres has been subject to the regulations since 1991. A SWPPP describes the Best Management Practices that will be used during construction to reduce the sources of potential pollution, control sediments and educate construction workers. Under the General Storm Water Permit for Small MS4s, cities participating in the General Permit will be delegated the regulatory authority and responsibility to require SWPPPs and inspect their implementation at construction sites.

The four cities may consider using the existing resources such as the State Storm Water Handbook for Construction as guidance for Best Management Practices.

Task 1.8 Educate local developers, construction firms and building department staff about the new requirements for Best Management Practices during construction.

Since 1991, developers and construction firms in the San Joaquin Valley have been working with the stormwater pollution program in Phase I cities and for any project over 5 acres. Building departments in Phase I cities should be able to assist the four co-permittees in developing their own program, including developing design standards and plan review procedures to incorporate stormwater pollution prevention measures. The four cities will prepare handouts, design standards and guidance documents specific to each City. They will conduct workshops or distribute a newsletter informing the development community of the new requirements.

Appendix E includes a suggested outline for initial training for building department staff on their objectives and responsibilities under this SWMP.

A. Public Education

In the first year of the Permit, training for developers and builders will consist of one presentation to a meeting of the local Building Industry Association, and informational flyers available at the Building Department counter. The content of the presentation will review the General Permit requirements, and discuss what the four cities will expect in a SWPPP when a builder makes a building permit application.

In subsequent years, the need for additional training for developers and builders will be assessed based on the response of the construction community to the requirements. Since the SWRCB General Permit is not new, most developers and builders have already been working within the regulations for several years.

B. Municipal Employees

Training for municipal employees will consist of 2 hours of classroom training for field crews, building inspectors and plan review engineers during the first year of the Permit. Two sessions of the training may be held so that only half the field staff will be in class at a time. The goal is 90% attendance of field crews and building inspectors. If plan checking is performed by outside engineers, they will be invited to attend a training session. The outline for this training is shown in

Appendix E. The cities have 4-22 employees that would be provided with the training.

Task 1.9 Require Storm Water Pollution Prevention Plans, (SWPPPs) in accordance with the SWRCB General Permit for Construction Activities, after March 10, 2003, for all construction over 1 acre, for both public and private projects.

Each project over 1 acre is now be required to include stormwater pollution prevention measures in the design and construction of the project. Then the owner or developer is required to prepare a Storm Water Pollution Prevention Plan (SWPPP) and to submit a Notice of Intent (NOI) and fee to the SWRCB. The SWRCB sends the developer back a notice with the project's WDID number.

In order to obtain a grading or building permit, the developer will also have to provide the City with a copy of the project's NOI and SWPPP. The City reviews the SWPPP and the project plans to determine that the construction and post-construction Best Management Practices (BMPs) are appropriate for controlling the potential pollutant sources from the site. This review is part of the regular plan review and building permit issuance, and will be assigned to either the Building Department plan reviewers or to Public Works staff with responsibility for the storm water pollution prevention program.

Once the project is permitted, the building inspectors will observe the implementation of the BMPs to assure that they are effective. This can include observing where concrete and stucco washout is occurring, the containment of construction chemicals, the control of dirt being tracked off site, the installation of on-site pollution prevention structures such as oil-water separators, etc. Inspectors will develop and use a checklist to record their inspections, and track any followup actions needed.

When the project is complete, the developer is responsible to send the RWQCB a Notice of Termination.

The number of construction projects going on within each city can vary month by month. The four cities will inspect 20% of each month's active construction projects over 1 acre for the presence and maintenance of the project's BMPs, and for other elements of compliance with their SWPPP. During the first storm event in October or November of each year, a drive-by inspection of every active construction project over 1 acre will be made.

Priority for inspection of a construction site will be given to projects with previous deficiencies and to sloped sites with more erodible soils. Otherwise, projects selected for inspection will be on a random basis.

Task 2.9 Implement Storm Water ordinance enforcement provisions to deal with problem sites.

The adoption or upgrading of a stormwater ordinance, in Task 1.6, will provide a tiered enforcement protocol to deal with any problems in stormwater control at construction sites. The Building Department, the stormwater team and perhaps the City Attorney's office will make a team to address such problems in accordance with standard procedures. Enforcement actions will be documented and tracked for compliance.

Task 2.10 Develop or revise the City's grading ordinance to incorporate erosion and sediment control measures for storm water quality protection.

Each City's grading ordinance may need to be revised to coordinate with the storm water pollution prevention measures called for in this Storm Water Management Program, including other revisions to Municipal Codes relevant to storm water pollution prevention.

The goal of the grading ordinance will be for construction activities to provide an effective combination of erosion control and sediment transport control measures within each construction project. The grading ordinance and City design standards will provide guidance to developers on the type of measures the City expects, depending on site conditions.

Task 3.7 Continue training for building inspectors and plan review engineers on SWPPP requirements and best management practices.

After the initial phases of the Work Plan, the Building Department may need continuing education in new materials and methods of stormwater pollution prevention, that are relevant to new construction. The products and methods used in stormwater pollution prevention are rapidly evolving. The Building Department will develop design review guidance or checklists to streamline their review of improvement plans.

During the second to fifth years of the Permit, the four cities will identify opportunities for formal outside training for field supervisors, building inspectors and plan review engineers. Each city will send 2-3 people to one-day classes on BMPs offered by professional organizations such as the California Storm Water Quality Association or APWA.

This task can be combined with Task 3.8.

V. POST CONSTRUCTION BMPs

The objective of the Post Construction Best Management Practices (BMP) Element is:

- To reduce the potential for discharge of pollutants from new development and redevelopment areas, using a strategy that combines reducing and eliminating sources of pollutants, managing site runoff volumes and flow rates such that they are similar to pre-construction levels, and treating runoff as appropriate.

Existing development which generates pollution will be addressed by Public Outreach and Education, and if warranted by a serious condition, by the Illicit Discharge Elimination element of the SWMP. The four cities may use the existing Storm Water Handbooks or may consider Post-Construction BMPs guidance documents developed by Phase I cities such as Modesto.

Task 1.10 Educate local developers, engineering firms and building department staff about post-construction BMP requirements. Prepare handouts and guidance documents. Conduct workshops.

This task can be combined with Task 1.9. Public outreach workshops may be repeated in subsequent years, whenever new information or new requirements would be of interest to the development community.

The training discussed in Task 1.8 above will include material on post-construction BMPs, the types of available, benefits and pitfalls of their use, and design criteria.

Task 1.11 Develop a model Long-term Maintenance and Monitoring Agreement for Post Construction BMPs, that will assure that BMPs are being operated and maintained on private property, and to cover costs of annual inspection.

Phase I cities have found the need to assure long-term maintenance and measurable effectiveness of post-construction BMPs by entering into an agreement with the developer. Not every project will require an agreement, just those with a high potential for pollution and complex post-construction BMPs that remain within the control and operation of private parties, such as oil-water separators at gas stations. Examples of such Agreements are available from Phase I cities. The cities will enter into and implement an Agreement on appropriate projects.

Where a post-construction BMP becomes the responsibility of the City by dedication from a developer, the city will integrate the operation and maintenance of those BMPs within the pollution control measures for Municipal Operations, described in part VI below.

Task 2.11 Require appropriate post-construction BMPs on new development.

As discussed in Task 2.8 above, include post-construction BMPs as part of the plan review and building permit process. Guidance on appropriate post-construction BMPs may be provided to developers by way of ordinance changes or changes to City standards.

Task 3.8 Continue training for building inspectors and plan review engineers on SWPPP requirements and best management practices.

This task can be combined with Task 3.7.

Task 4.7 Implement Storm Water ordinance enforcement provisions to deal with problem sites, where post-construction BMPS are not being utilized or maintained.

Enforcement will be in accordance with protocols adopted in City ordinances developed in Task 1.5 and Task 2.10.

Task 5.7 Include SWPPP BMP needs in regular update of City standard specifications.

Whenever the City updates its design standards, new developments in construction and post-construction BMPs should be included.

VI. MUNICIPAL ACTIVITIES

The objective for the Municipal Activities Element is:

- To identify, develop and implement Best Management Practices and good housekeeping procedures to address urban runoff pollution associated with municipal operations.

The four cities all provide water, sewer, storm drain, streets, parks and recreation services. They also are the owner of a number of public works construction projects that have to potential to generate pollutants and sediment in runoff. The program is a progression of activities that educate City staff and then take positive action to eliminate the potential sources of stormwater pollution from municipal activities.

Task 1.12 Develop a training program regarding BMPs for municipal activities, such as good housekeeping, landscape maintenance chemical use, containment of industrial chemicals and fuels, sediment and erosion control, and recognizing and eliminating illicit discharges to storm drains.

Appendix E includes a suggested outline for training for public works and municipal utilities field crews on their objectives and responsibilities under this SWMP.

Task 1.13 Conduct an inspection and assessment of municipal activities, such as the Corporation Yard, pipeline repair procedures, street pavement maintenance activities, parks fertilizer and pesticide applications, etc. to prioritize the BMPs to be implemented within City operations.

The State BMP Handbooks and the Model Urban Runoff Program provide guidance on how a city should conduct an assessment of their physical plant for the potential to release pollutants to storm drainage. Potential sources such as material storage, vehicle maintenance, and field activities are included.

BMPs may include disposal of unnecessary chemicals, containment or covering of "dirty" activities, housekeeping practices, and employee awareness. BMPs should include followup annual inspection of municipal facilities.

Task 1.14 Obtain or update General Permit participation for any industrial activities conducted by the City.

Certain municipal activities such as the wastewater treatment plant, fleet maintenance and airports are required to participate in the SWRCB General Stormwater Permit for Industrial Activities, unless certain very limited exemptions exist. Each City should review its compliance in the industrial permit requirements.

Tasks 1.15, 2.15, 3.12, 4.9, 5.11

Participate in related regional regulatory activities that involve the water quality of the Stanislaus, Tuolumne and San Joaquin Rivers, to coordinate the City's SWMP with regional, multi-pollutant remediation measures.

Participation can include the Storm Water Task Force, any TMDL committees, and the river groups that have a relationship to either the sources of pollution or the health of the receiving streams.

Task 2.12 Conduct BMP training for field supervisors, construction inspectors and design engineers for the city's own construction projects.

This task can be combined with Task 1.8. The goal is for all public works field personnel to be familiar with the sources and prevention of pollution in storm water that are relevant to municipal operations. A second goal is for all public works field personnel to be able to recognize and report incidents of illegal dumping or illicit discharges to storm drains. Appendix E is a preliminary outline of the training subjects.

Task 2.13 Begin implementation of BMPs for municipal operations and capital improvement projects.

BMPs should include annual inspection of municipal sites for housekeeping and compliance.

Task 2.14 Develop or update the Standard Operating Procedure (SOP) for responding to chemical or sewer spills onto city streets and into storm drains.

The SOP should include first responder risk assessment methods, notification procedures, public access control, colloboration with public safety officials, cleanup protocols, incident closure, and outside resources such as hazardous materials cleanup contractors or mutual aid agreements. The type of spills to be covered should include raw sewage, hazardous materials, unknown materials and explosive materials.

Task 3.9 Conduct follow-up training for City staff, on an as-needed basis for specific topics related to municipal activities.

Task 3.10 50% of BMPs for municipal activities are being implemented.

BMPs should include annual inspection of municipal sites for housekeeping and compliance.

Task 3.11 Assess street sweeping effectiveness.

Conduct targeted studies to optimize street sweeping effectiveness with existing equipment, comparing the frequency of sweeping or speed of sweepers for residential, commercial and industrial areas.

Task 4.8 Research street sweeping options, to improve sweeping effectiveness.

Evaluate available research in other cities regarding street sweeping methods and equipment, for possible improvements in the co-permittee cities.

Task 5.8 100% of BMPs for municipal activities are being implemented.

Due to project development and budgeting time tables, BMPs that require major capital improvements may be the last BMPs implemented. BMPs should include annual inspection of municipal sites for housekeeping and compliance.

Task 5.9 Review and revise BMPs for municipal activities with operational and construction staff input.

Input from operations staff will be needed to prepare the application for next cycle of the NPDES stormwater permit.

Task 5.10 Conduct pilot testing for metals in the oldest detention and retention basins (4 total among the four cities, with one in each City), to determine whether metals accumulation is occurring, and to assess the need for routine evaluations of storm basin.

Collect data on the construction date, maintenance activities and land use in the tributary area of 2 storm basins, to characterize the potential for heavy metals sources. Test the soil in each basin using standard EPA methods to determine the concentration of heavy metals at various levels of soil, and at the inlet and outlet of each basin. Compare the metals concentrations found to the standards for related metals limits, such as toxic pits and cumulative metals concentrations allowable in biosolids land application. Analyze the probable accumulation rate of metals in storm basins in the city to begin to assess whether Best Management Practices such as soil stripping or metals source controls are needed to prevent excess metals accumulation.

Table 3.1
Summary of Pollution Prevention Work Plan

Control Measure	Year 1	Year 2	Year 3	Year 4	Year 5
Public Education and Outreach	1.1 Develop bi-lingual brochures, magnets, posters, coloring books for general public information	2.1 Distribute educational materials to the public schools events, library, utility bills.	3.1 Distribute educational materials at point of sale, and additional venues	4.1 Assess additional public education needs	5.1 Assess additional public education needs
		2.2 Begin education of restaurants and auto repair shops about BMPs	3.2 Followup education with restaurants and auto repair shops	4.2 Educate additional business groups	5.2 Educate additional business groups
Public Participation and Involvement	1.2 Buy storm drain stencils or tiles.				
	1.3 Organize volunteers to mark storm drains and do community cleanups	2.3 Mark storm drains using volunteers	3.3 Mark storm drains in the next section of the city	4.3 Mark more storm drains as needed	5.3 Mark more storm drains as needed
	1.4 Conduct public workshop on the proposed SW Pollution Prevention Plan	2.4 Have a community cleanup w/ volunteers	3.4 Have a community cleanup in the next section of the city.	4.4 Conduct annual community cleanup day.	5.4 Conduct annual community cleanup day.
	1.5 Write draft or revise SW quality ordinance.				
	1.6 Governing body adoption of SW ordinance	2.5 Educate businesses about the new ordinance.			
Illicit Discharge Detection and Elimination	1.7 Develop outline of illicit discharge detection and elimination program	2.6 Conduct pilot surveillance for illicit discharge elimination program	3.5 Conduct annual survey of city for illicit discharges	4.5 Conduct annual survey of city for illicit discharges	5.5 Conduct annual survey of city for illicit discharges
		2.7 Eliminate illicit discharges	3.6 Eliminate illicit discharges as found	4.6 Eliminate illicit discharges as found	5.6 Eliminate illicit discharges as found
		2.8 Develop map of storm drain system and target areas			
Construction Site Runoff Control	1.8 Educate local developers, construction firms and Building Dept on BMP requirements.	2.9 Implement SW Ordinance enforcement provisions to deal with problem sites.	3.7 Continue training for building inspectors and plan review engineers on SWPPP reqmts.		
	1.9 Require SWPPPs for all construction over 1 acres	2.10 Develop or revise grading ordinance.			

Table 3.1 Continued

Control Measure	Year 1	Year 2	Year 3	Year 4	Year 5
Post Construction BMPs	1.10 Educate local developers and engineering firms about BMP requirements	2.11 Require appropriate post construction BMPs on new development.	3.8 Continue training for building inspectors and plan review engineers on SWPPP requirements.	4.7 Implement SW Ordinance enforcement provisions to deal with problem sites	5.7 Include SWPPP BMPs needs in regular update of City standard specifications.
	1.11 Implement Long-term Maintenance and Monitoring Agreements for private BMPs.				
Municipal Activities – Good Housekeeping	1.12 Develop training program for City staff	2.12 Conduct BMP training for City staff	3.9 Followup training with City staff		
		2.13 Begin BMP implementation	3.10 50% of BMPs implemented		5.8 100 % of BMPs implemented.
			3.11 Assess street sweeping effectiveness	4.8 Research street sweeping options	5.9 Review and revise BMPs with staff input.
	1.13 Inspect and assess cleanliness of municipal activities	2.14 Develop or revise SOP for street or storm drain spills.			5.10 Conduct pilot metals testing on storm water detention basins.
	1.14 Verify or update Industrial SW permits for WWTP, airport, or Corp Yard.				
	1.15 Participate in regional water quality initiatives.	2.15 Participate in regional water quality initiatives.	3.12 Participate in regional water quality initiatives	4.9 Participate in regional water quality initiatives.	5.11 Participate in regional water quality initiatives.

Section 4 5-Year Workplan Budget

Table 4.1 estimates costs per city for the additional activities proposed to be included in the SWMP. These activities are in addition to current city services that have a beneficial impact on stormwater quality, such as system maintenance, street sweeping, and solid waste disposal. The actual costs of each task will depend on the extent of shared costs among the four cities, the amount of volunteer contributions, and the size of particular activity in each city.

This estimate provides costs per activity. Not all activities will occur on one year. Some activities will occur every year. The staff time is per city, for each year that the activity occurs.

Table 4.1
Estimate of Costs and Staff Time
for Additional Storm Water Activities

Control Measure	Probable Material Cost Per City, in Year Activity Occurs	Staff Time Per City
Public Education and Outreach		
Obtain and distribute public education brochures or novelties.	$8,000	80 hrs/yr
Public Participation and Involvement		
Purchase storm drain stencils or tile	$3,000	50 hrs/year
Organize volunteers		
Stormwater Ordinance		
Update ordinance, public input for Council adoption	$0	60 hrs
Illicit Discharge Detection and Elimination		
Develop program and map	$2,000 to $25,000[3]	40-80 hrs
Conduct investigations, allowance for lab work	$1,000 each occurrence	100 hrs
Correct discharges	$0	varies
Construction Site Runoff Control		
Educate local developers and construction companies	$500	40 hrs/workshop
Post-Construction Runoff Control		
Educate developers and local engineering firms	$500	40 hrs/workshop
Pollution Prevention/Good Housekeeping		
Provide BMP training for staff	$500	40 hrs/workshop
Conduct housekeeping assessment	$0	60 hrs
Implement BMPs	varies [4]	varies
Permitting and Reporting Requirements		
Coordination meetings among the 4 cities	–	40 hrs/yr
Annual report and fee to SWRCB	$3,000 - $5,000[5]	40 hrs/yr
Permit Renewal in Year 5	$10,000	
Total Program Costs per City in busiest year	**$20K to $50K** depending on mapping and BMPs required	
Typical Population per City	**20,000**	
Estimated Program Cost per capita	**$1.00 to $2.50/yr**	

[3] I/I map cost will depend on whether the City has an electronic base map and pipeline system map now.
[4] Cost to implement BMPs will vary in each city depending on the extent of municipal activities exposed to storm runoff.
[5] Per SWRCB Res. No. 2002-0150, the fee for areawide municipal stormwater co-permittees will be 50% of full fee for FY 2002-03, then 100% for FY 2003-04 and after.

Table 4.2
Projected Five-Year Direct Cost Distribution,
Based on Planned Activities, Per City

Control Measure	Year 1	Year 2	Year 3	Year 4	Year 5
Public Education and Outreach	$8,000	$5,000	$5,000	$5,000	$5,000
Public Participation & Involvement	$3,000	$3,000	$3,000	$3,000	$3,000
Stormwater Ordinance	$0				
Illicit Discharge Detection and Elimination	$2,000 – $25,000[7]	$5,000[6]	$5,000	$5,000	$5,000
Construction Site Runoff Control		$500			
Post-Construction Runoff Control		$500			
Pollution Prevention/ Housekeeping	$500	varies[8]	varies	varies	varies
Permitting and Reporting	$3,000 - $5,000	$3,000 - $5,000	$3,000 - $5,000	$3,000 - $5,000	$10,000 - $15,000
Total	$20K - $50K	$20K +	$20K +	$20K +	$20K - $30K

[6] Some enforcement costs may be recoverable.
[7] Cost depends on the status of GIS mapping in each city.
[8] Cost varies depending on the need for containment of municipal activities.

Section 5 Performance Measurement and Reporting

The purpose of this Section is to establish the methods by which the permittees will measure and report on their efforts to implement the Storm Water Management Program. The cities' performance under the General Permit will be measures in two ways:

1. Storm Water Management Program activities completed as scheduled.

2. Tabulation of potential pollutants removed from the city's environment each year. These include measures such as the number of pounds of street sweepings collected each year, or the number of illicit discharges discovered and eliminated.

The performance measures are organized on the suggested worksheet shown in Figure 5.1, for routine use by field supervisors during the year.

In the event the city is not able to comply with the General Permit, or with the planned activities of their Storm Water Management Program, the city shall notify the Central Valley Regional Water Quality Control Board (CVRWQCB) within 30 days. If an emergency condition exists that endangers human health or the environment, the city shall notify the CVRWQCB within 24 hours of becoming aware of the circumstances, and follow-up with a written report within 5 days.

By September 15th of each year, beginning in 2004, the Cities must submit an annual report to the Central Valley Regional Water Quality Control Board. The report shall include:

1. The status of compliance with permit conditions.
2. An assessment of the appropriateness and effectiveness of the identified BMPs.
3. Status of identified measurable goals,
4. Results of information collected and analyzed, including monitoring data, if any, during the reporting period;
5. A summary of the storm water activities the city plans to undertake during the next reporting cycle;
6. Any proposed changes to the SWMP along with a justification of why the changes are necessary, and
7. A change in the person or persons implementing and coordinating the SWMP.

Figure 5.2 is an annotated outline of the annual report to be submitted by the cities.

The cities will retain the records corresponding to the SWMP implementation for at least 5 years, or during the duration of the General Permit. Such records are public documents, accessible to the public in accordance with the Public Information Act.

Figure 5.1

Storm Water Management Program
Monthly Tabulation of Storm Water Quality Activities

City of _____ **Month/Year** _____

Activity	Tally	Notes
Street Sweeping, tons or # of bins		
Garden Refuse Pickup[9], Tons		
Storm inlets marked		
Illicit discharges or illegal connections found and eliminated		
Corp. Yard cleanup activities		
Bulky Item Pickup Days & Estimated Tons Removed		
Catch Basins and Storm Drains Cleaned		
Public Education Contacts by Field Crews		

[9] Leaf and Limb Pickup in Ceres

Figure 5.2

Storm Water Management Program
Cities of Ceres, Oakdale, Patterson and Riverbank

Outline of Annual Report to CVRWQCB

I. Executive Summary

(This section should summarize the main challenges encountered and accomplishments achieved by the cities during the year.)

II. Control Measures Implemented
- a. Public Involvement and Outreach
- b. Public Participation
- c. Illicit Discharge/Illegal Connection Elimination
- d. Construction BMPs
- e. Post-Construction BMPs.
- f. Municipal Operations.

(This section should record the Tasks completed for each control measure. This discussion may include an assessment of the effectiveness of the various Tasks. Measurements of actual potential pollutants removed from the city's environment, such as tons of street sweepings or bulky items, should be tabulated. The section should also include a report of any enforcement actions taken. If the year's tasks included any monitoring, the monitoring data should be attached to the annual report.)

III. Funding Status

(This section should present the current and next year's budget for storm water quality activities for each city. This section may also include a discussion of the cost effectiveness of any of the control measure tasks.)

IV. Next Year's Work Plan

(This section should present the SWMP tasks to be accomplished during the coming year. This discussion can include the justification for any adaptive management changes in the planned work, based on the effectiveness or lack thereof of a previous year's task.)

Acknowledgements

The following city staff members and supporting engineers gave thoughtful and unstinting assistance in preparing this Storm Water Management Program.

City of Ceres	Joe Hollstein Kay Dunkel Earl Wheatley Jesse Franco
City of Oakdale	Mike Pettinger John Word Mark Ozbirn Dick Fultz, Delamare-Fultz Engineering
City of Patterson	Mike Willett Paul Creighton Marty Reis Gary Rogers, Stoddard Assoc.
City of Riverbank	Robert Meleg Linda Abid-Cummings Jerry Meyer Larry Lew, GDR Engineering

Appendix A

MOU

MEMORANDUM OF UNDERSTANDING
PROVIDING FOR A
PHASE II SMALL MUNICIPALITIES STORMWATER NPDES PERMIT APPLICATION FOR THE CITIES OF CERES, OAKDALE, PATTERSON AND RIVERBANK

This Agreement is made and entered into this 23rd day of September, 2002 by and between the following undersigned public agencies, all of which are collectively referred to as the Parties:

The City of Ceres, a California public agency,
The City of Oakdale, a California public agency,
The City of Patterson, a California public agency, and
The City of Riverbank, a California public agency.

RECITALS

A. The Phase II Stormwater NPDES permit regulations, 40 Code of Federal Regulations, Part 122 et seq., require the Parties to develop a program to control the discharge of pollutants from urban runoff by March 10, 2003.

B. The State of California will be adopting a statewide General Permit for Phase II permittees, including cities of more than 10,000 populations. The Parties can satisfy the requirements of 40 CFR Part 122 et seq. by participating in the State's General Permit. The General Permit is expected to require the Parties to submit a Permit Application to the State by March 10, 2003.

C. The Parties expect that by combining their efforts, the Parties can develop and implement a stormwater quality control program more economically than they can individually. The program is expected to contain certain elements which provide a general benefit to the Parties (such as monitoring, public education, public involvement, program administration, etc.) and these elements of joint responsibility among the Parties are termed the "General Program." In addition, the Program contains other elements, which are an individual Party responsibility, and which provide individual benefits (such as construction site controls, catch basin cleaning, illicit and illegal connection elimination, monitoring and enforcement) and these elements are termed the "Individual

Programs." A description of the General and Individual Programs' elements, major tasks, schedules, and budgets will be developed as part of the work of this Memorandum of Agreement, with the assistance of a consultant selected by the Parties.

D. The Parties anticipate that the preparation of an NPDES Permit Application and development of the Program may lead to a continued partnership among the Parties for implementation of the NPDES Permit requirements and Program by means of future agreement among the Parties.

E. The Parties are subdivisions of the State of California with authority to control the discharge of surface waters from their respective jurisdictions.

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. A Management Committee is hereby created to provide overall direction on development of the Program and Permit Application. Management Committee members, and their alternates, shall be appointed by the City Manager or the equivalent of the respective Parties. The Management Committee shall conduct their business by consensus of the members. The Management Committee shall make recommendations to the City Councils of each Party regarding any expenditures and the commitment to develop the Permit Application and the Program.

2. The duties of the Management Committee include but are not limited to:

a. Applying on behalf of the Parties to become co-applicants for a National Pollutant Discharge Elimination System (NPDES) Permit or to participate in the State's Phase II General Permit.

b. Soliciting, supervising and auditing any consultant contracts to develop the Permit Application and Program. The Parties may elect the form of contracting for consultant services that best meet the needs and purchasing policies of the Parties.

3. The Parties accept and agree to perform the following duties:

a. Each Party will authorize a representative to apply for an NPDES Permit as co-applicants with the other Parties.

b. Each Party will fully comply with the requirements of 40 CFR Part 122 et seq. to prepare a Permit Application for submission by March 10, 2003, or as the date required by the SWRCB General Permit.

c. Each Party will designate a representative and alternate to participate in the Management Committee.

d. Each Party will fund their share of the cost of development of the Permit Application and Program.

e. Each Party will cooperate in the development of the Permit Application and Program.

4. By agreement of the Parties, cost sharing for the Permit Application and Program development shall be made by one-quarter share for each of the four Parties. The Parties agree that the cost sharing formula applies only to this Agreement, and may be formulated differently in any future Agreement for implementation of the NPDES permit and Program.

5. This Agreement shall terminate on October 1, 2003, six months after the NPDES permit application is due in March 10, 2003. The participation of any Party to this Agreement may be terminated by a majority vote of the Parties, each party having one vote.

6. The Parties shall retain the ability to individually (or collectively) request modifications of the Permit Application and to initiate permit appeals for permit provisions to the extent that a provision affects the individual Party or group of Parties.

7. This Agreement may be amended from time to time by written agreement of the Parties' governing bodies representing a majority of the Parties, each Party having one vote.

8. Participation in the Agreement may be terminated by any Party for any reason after the Party complies with all of the conditions of termination. The conditions of termination include the following: the Party shall notify all of the other Parties to the Agreement 60 days prior to its termination in the Agreement, the Party shall obtain its own NPDES Permit for urban stormwater runoff, and the Party shall have its name deleted as a co-permittee of the Parties NPDES Permit through an amendment of the Parties' NPDES Permit. Any expenses associated with terminating the Agreement including but not limited to filing for and obtaining the individual NPDES Permit and the amendment of the Parties' NPDES permit will be solely the responsibility of the Party terminating its participation in the Agreement.

9. It is understond and agreed that, pursuant to Government Code 895.4, each Party ("indemnitor") shall, to the extent permitted by law, defend, indemnify and save harmless every other Party, and its officers and employees from all claims, suits or actions of every name, kind and description resulting from the indemnitor's performance of this Agreement, excluding any injuries, death, damage or liability resulting from the negligence or willful misconduct of the other Parties or their officers or employees.

10. The Parties agree that by this MOU they do not intend to provide for the creation of an agency or entity that is separate from the Parties pursuant to Chapter 5 (commencing with section 6500) of Division 7 of Title 1 of the Government Code, relating to the joint exercise of powers.

11. In the event that any of the terms, covenants or conditions of this MOU or the application of such term, covenant or condition shall be held invalid as to any Party, person or entity, the remaining terms, covenants and conditions shall remain in effect.

12. The MOU may be executed in counterpart each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

13. This MOU is made under and shall be governed by the laws of the State of California.

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IN WITNESS WHEREOF, the PARTIES hereto have executed this MOU as of the day and year first above written.

CITY OF CERES, a body corporate and politic of the State of California

By: _____

Tim Kerr, City Manager

Date: 9/24/02

Approved as to Form:

By: _____

Michael Lyions, City Attorney

Attest:

By: Patsy Staley, Deputy

Brenda Scudder Herbert, City Clerk

SEAL IMPRESSED

CITY OF OAKDALE, a body corporate and politic of the State of California

By: _____

Bruce Bannerman, City Manager

Date: _____

Approved As to Form:

By: _____

Tom Hallinan, City Attorney

Attest:

By: _____

Rebecca Peluso, City Clerk

CITY OF PATTERSON, a body corporate and politic of the State of California

By: _____
George W. Lambert, City Manager

Date: 3-12-03

Approved As to Form:

By: _____
George Dogan, City Attorney

Attest:

By: _____
Maricela Vela, City Clerk

CITY OF RIVERBANK, a body corporate and politic of the State of California

By: _____

Richard P. Holmer, City Manager

Date: _____

Approved As to Form:

By: _____

Tom Hallinan, City Attorney

Attest:

By: _____

Linda Abid-Cummings, City Clerk

Appendix B

Ceres – TID Agreement

RESOLUTION NO. 96 -91

RESOLUTION APPROVING THE MASTER STORM DRAIN AGREEMENT WITH THE TURLOCK IRRIGATION DISTRICT AND AUTHORIZING THE MAYOR TO SIGN THE AGREEMENT

THE CITY COUNCIL
City of Ceres, California

WHEREAS, the City of Ceres presently utilizes Turlock Irrigation District facilities for storm drain purposes; and,

WHEREAS, the Turlock Irrigation District has requested that the City of Ceres execute a Master Storm Drain Agreement; and,

WHEREAS, the Master Storm Drain Agreement would consolidate all existing agreements; and,

WHEREAS, the Master Storm Drain Agreement is required in order to add new discharge points to the Turlock Irrigation District system; and,

WHEREAS, the City of Ceres wishes to enter into this agreement with the Turlock Irrigation District in order to provide storm drain services; and,

WHEREAS, the City Council of the City of Ceres has reviewed the terms and conditions of said Master Storm Drain Agreement for the City of Ceres and finds the terms and conditions of said agreement to be reasonable and in the best interest of the City of Ceres.

Resolution No. 96 - 91
Master Storm Drain Agreement

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Ceres does hereby:

(1) Approve said Master Storm Drain Agreement.

(2) Authorize and direct the Mayor to sign said document on behalf of the City of Ceres.

PASSED AND ADOPTED at a regular meeting thereof held on the 22nd day of July, 1996, by the following vote:

AYES: Bradley, Havener, Ingwerson, Risen and Mayor Hinton

NOES: None

ABSENT: None

BARBARA HINTON, Mayor

ATTEST:

BRENDA SCUDDER HERBERT, City Clerk

SEAL IMPRESSED

I, PATSY HALEY, DEPUTY CITY CLERK OF THE CITY OF CERES, DO HEREBY CERTIFY THE FOREGOING IS A TRUE AND CORRECT COPY OF RESOLUTION NO. 96-91 PASSED AND ADOPTED AT A REGULAR MEETING OF THE CERES CITY COUNCIL HELD ON JULY 22, 1996, AS THE SAME APPEARS OF RECORD IN THE OFFICE OF THE CITY CLERK.

DATE: JULY 29, 1996

PATSY HALEY
DEPUTY CITY CLERK
CITY OF CERES, CA

RESOLUTION NO. 96-87

RESOLUTION APPROVING CITY OF CERES
MASTER STORM DRAINAGE AGREEMENT

BE IT HEREBY RESOLVED by the Board of Directors of the Turlock Irrigation District that that certain Master Storm Drainage Agreement with the City of Ceres for discharging storm drainage water into the District's irrigation system is hereby approved, and the President and Secretary are hereby authorized and directed to sign said agreement on behalf of the District.

Moved by Director Long, seconded by Director Short, that the foregoing resolution be adopted.

Upon roll call the following vote was had:

Ayes:	Directors Short, Long, Crowell, Fiorini, Berryhill
Noes:	Directors None
Absent:	Directors None

The President declared the resolution adopted.

I, Barbara A. Hetrick, Secretary of the Board of Directors of the TURLOCK IRRIGATION DISTRICT, do hereby CERTIFY that the foregoing is a full, true and correct copy of a resolution duly adopted at a regular meeting of said Board of Directors held the 27th day of August, 1996.

Barbara A. Hetrick
Secretary of the Board of Directors
of the Turlock Irrigation District

July 15, 1996

MEMORANDUM

TO : Gary A. Napper, City Manager

FROM : Leonard P. Guillette, Engineering Services Supervisor

SUBJECT : **MASTER STORM DRAIN AGREEMENT BETWEEN TURLOCK IRRIGATION DISTRICT AND THE CITY OF CERES**

STAFF RECOMMENDATIONS

Staff recommends that the City Council approve the resolution authorizing the Mayor to execute the Master Storm Drain Agreement with Turlock Irrigation District.

BACKGROUND

City staff has been working with Turlock Irrigation District for approximately five years to complete this agreement. The District has required the execution of this Master Storm Drain Agreement to consolidate the existing agreements and to provide for any possible future connections. Without the agreement, T.I.D. will not allow additional connections. In December 1995, the City retained the engineering firm of Lew-Garcia-Davis to work with City staff to design the City Storm Drain Master Plan. After several meetings with T.I.D., this master plan was completed in December 1995 and was forwarded to the District for their final comments. The Master Storm Drain Agreement covers the portion of the Storm Drain Master Plan that drains into the Turlock Irrigation District system. Turlock Irrigation District staff has indicated that the District would have capacity for the flows anticipated in the Storm Drain Master Plan, provided a 48- to 72-hour retention time is used. The District has agreed to the Master Storm Drain Plan concept and, as with any long range planning document, any new discharge points will be reviewed on a case by case basis. As previously stated, this Master Storm Drain Agreement will supersede all previous agreements and must also comply with NPDES requirements. Operationally, there is no major difference between this agreement and a majority of the previous agreements.

CITY OF CERES
MASTER STORM DRAINAGE AGREEMENT

This Agreement is entered into between TURLOCK IRRIGATION DISTRICT ("District"), a public entity, and the CITY OF CERES ("Licensee"), a municipal corporation.

WHEREAS, Licensee is located within the boundaries of the District and Licensee desires to enter into an agreement with the District to allow Licensee to use a portion of the District's irrigation system to carry away storm drainage waters which accumulate within the boundaries of Licensee; and

WHEREAS, it is the District's policy to allow cities, counties, and special districts within the District to use District's ditches, canals, and pipelines (hereinafter referred to as "District's irrigation system" or "system") to dispose of storm drainage water accumulating within such other public entities' boundaries so long as such use does not interfere with the maintenance, operation and use of the District's irrigation system and so long as such use does not result in any additional cost or liability to the District;

NOW, THEREFORE, IT IS AGREED AS FOLLOWS:

1. Grant of Revocable License. Licensee is hereby granted a revocable license to discharge storm drainage water accumulating within its legal boundaries, by means of works constructed or to be constructed by Licensee at Licensee's own expense, into District's irrigation system at the discharge points specified in the attached numbered exhibits, and subject to all the terms and conditions of this Agreement.

a. The location of all discharge points authorized by this Agreement are shown on Exhibit "A." Exhibit "A" shall be amended from time to time to reflect any changes in the number and location of authorized discharge points.

b. Supersedes all prior Agreements. This Agreement supersedes the agreements listed in Exhibit "B," excepting therefrom those agreements which are within the scope of any unresolved claim or lawsuit and only until such claims or lawsuits are resolved.

2. Termination of License. This Agreement shall continue until terminated by either party with at least three year's prior written notice to the other party. However, the District may terminate this Agreement or any portion thereof, on thirty (30) days' prior written notice if Licensee violates any term or condition of this Agreement.

3. Temporary Suspension of Discharge Privileges. In the event it becomes necessary, as determined solely by the District, to eliminate water from any portion of the District's irrigation system affected by this Agreement for the purpose of repair, maintenance, replacement, irrigation usage, or for any other purpose, the District may temporarily suspend the Licensee's privileges hereunder, in whole or in part, and may temporarily turn off any pump or valve by which Licensee's storm drainage water is discharged into the District's irrigation system. Unless it is an

emergency situation, the District shall endeavor to give Licensee at least seven (7) days prior notice before suspending any discharge privileges pursuant to this section.

4. Storm Drainage Water Only. Licensee agrees to discharge only storm drainage water into the District's irrigation system and further agrees that it shall not permit oil, solvents, fat, grease, trash, leaves, garbage or refuse to be discharged into the District's irrigation system from Licensee's discharge facilities.

5. Water Quality.

a. Licensee agrees that the water being discharged into the District's irrigation system shall meet water quality standards established by any public agency, including, but not limited to the District, having jurisdiction over such discharge. Licensee understands that the standards may be revised at any time. Failure to meet applicable water quality standards shall be grounds to terminate Licensee's discharge into the District's irrigation system.

b. Should any court or any federal, state, county, or local agency (including the District) because of alleged violations of water quality standards or for any reason order that the discharge of Licensee's storm drainage water into the District's irrigation system be restricted, limited or curtailed, or be treated or processed before being discharged into the system, the District shall have the right to unilaterally amend this Agreement to require the Licensee to conform with such order at Licensee's sole expense. Licensee shall have the right to terminate this Agreement before the effective date of any such amendment, but such termination shall not relieve the Licensee from the responsibility and expense of remedying any condition caused by Licensee's use of the District's irrigation system, including but not limited to any cleanup costs and any damage to persons or property. Licensee agrees to reimburse the District for the cost of any chemical analysis of the storm drainage water.

6. Licensee's Responsibilities; Operating Criteria and Limitations. Licensee agrees that it has full responsibility for the design, construction, operation, maintenance, repair, and replacement of Licensee's storm drainage system and of the discharge points, including but not limited to all interconnection facilities between Licensee's storm drainage system and District's irrigation system. Licensee shall pay for all modifications to District's irrigation system needed to accommodate each discharge point and the cumulative impact of all discharge points under this Agreement on District's irrigation system.

a. Licensee agrees to comply with all operating criteria and limitations specified for each discharge point in the exhibits hereto.

b. Licensee agrees that the district may place more restrictive operating criteria and limitations on each discharge point because of seasonal or annual capacity limitations of the affected portion of the District's irrigation system with one (1) month prior written notice to Licensee.

c. The design and method of operating all facilities by which Licensee discharges storm drainage water into the District's irrigation system shall be subject to the approval of the District. However, the District shall have no obligation, liability or responsibility in connection with the design, construction, operation, maintenance, repair or replacement of any such facilities.

d. Licensee shall not make any alterations to any discharge point facilities without the District's prior written consent.

e. Licensee shall be responsible for initiating, constructing, operating, maintaining, repairing, replacing, and supervising all safety programs, precautions, measures, and facilities in connection with every discharge point under this Agreement.

f. Licensee shall be responsible for monitoring its discharges into the District's irrigation system and the amount of storm drainage water in the system to insure that the water does not overtop any of the District's ditches, pipelines, or canals carrying such water.

g. Where applicable at each discharge point, Licensee shall be responsible for insuring that the necessary side gates are closed and the necessary stop gates are opened or closed as may be necessary to insure that the storm drainage water properly enters the District's irrigation system.

h. When a discharge point utilizes a pump to discharge storm drainage water into the District's irrigation system, licensee shall install and maintain at its expense a sensor system approved by the District which shall automatically turn off the pump during high water levels in the District's system. The automatic turn off setting for each pump is specified in the applicable discharge point exhibit.

i. Upon termination of this agreement, regardless of the cause, Licensee shall be responsible for and pay for the removal of Licensee's storm drainage system, and shall repair or pay for all repairs necessary for any damages to District's irrigation system occasioned by such removal.

7. The Fees and Assessments.

a. Improvement District Assessments.

(1) Should Licensee need to use any improvement district facilities to convey storm drainage water to any discharge point, Licensee agrees to pay to the Board of Directors of the District as trustees for such improvement district Licensee's cost share of the annual maintenance and operation assessments of such improvement districts. The Licensee's cost share, which can change over time, is defined as the ratio of acres to be drained divided by the sum of the acres in the improvement district and the acres to be drained.

(2) Licensee further agrees to pay its cost share of any construction assessment to pay for replacement or major repair costs to replace or repair any improvement district ditch, canal or pipeline or to pipe any improvement district ditch or canal used by Licensee to convey storm drainage water to any discharge point.

(3) Licensee shall be given prior notice of the imposition of any such assessments.

(4) The initial cost share responsibility of the Licensee as to each affected improvement district is specified in the attached exhibits for each discharge points.

b. District Fees or Assessments. The District reserves the right to charge a fee or assessment for the privilege of using the District's irrigation system for storm drainage purposes, in addition to any operation, maintenance and construction costs required to be paid herein by Licensee. Licensee shall be given at least six (6) months' notice of the imposition of such fee or assessment and shall have the right to terminate this Agreement before the effective date of such fee or assessment.

8. Indemnification; Liability to District.

a. Licensee agrees that in consideration of its use of the District's irrigation system for storm drainage purposes, Licensee shall defend, indemnify, and hold harmless the District, its Board of Directors, officers, agents, employees, improvement districts and their respective committees, from and against any and all liability, loss, damage, claims, legal actions or suits, costs and expenses (including reasonable attorneys' fees) for personal injury to or death of any person and loss of or damage to any property and loss of use thereof arising out of or in any way connected with Licensee's storm drainage system or the Licensee's use of the District's irrigation system.

b. Licensee further agrees to pay the District for all damages or losses to District's irrigation system arising out of Licensee's use of District's irrigation system.

9. Exhibits. All exhibits referred to in this Agreement are attached hereto and incorporated herein by reference.

10. Binding on Successors. This Agreement shall be binding on and inure to the benefit of the parties and their successors.

11. Modifications to Agreement.

a. Additional discharge points, including but not limited to those on Exhibit "C", may be added to this Agreement subject to the written approval of the Assistant General Manager Engineering. Such additional discharge points shall be subject to all the terms and conditions of this Agreement.

b. Except as otherwise provided in this Agreement, this Agreement cannot be amended or modified except by written agreement of the parties.

DATED: 8-27-96

TURLOCK IRRIGATION DISTRICT

By _____
President

By _____
Secretary

CITY OF CERES (LICENSEE)

By _____
BARBARA HINTON, Mayor

ATTEST

By _____
BRENDA SCUDDER HERBERT,
City Clerk

SEAL IMPRESSED

CITY OF CERES
MASTER STORM DRAIN AGREEMENT
EXHIBIT "A"

Existing and pending storm drain agreements.

LOCATION & CERES I.D. #	NO. OF PUMPS	CAPACITY	T.I.D. FACILITY USED	ULTIMATE ACRES	DEED NO.	REMARKS
Hatch 800' E/ Central (35)	2	1500	Lat 1	76	5242	Existing
STEVE WILSON Cor Hatch/ Richland (23)	2	1800	Lat 1	342	5894	Existing
Hatch 200' E/ Herndon (25)	2	1500	Lat 1	14	4871	Existing
NW CorHatch/ Herndon (24)	2	1500	Lat 1	20	None	Existing
Lois South/ Hollister (27)	2	1500	A Ditch	106	7082	Existing
Central South / Hollister (27)	2	1500	A Ditch	3.4	5935	Existing
Whitmore / El Camino (29)	2	1800	A Ditch	50	6997	Existing
Kinser East/ McKittrick (32)	2	1500	A Ditch	51	7038	Existing
Blaker Rd. @ Lateral 2	2	4500	Lat 2	** 1013	NA	Pending
		34,500 gpm		2,648 acres		
		78 cfs		13.03 gpm/acre		

* Includes a portion of Area (18) to be drained temporarily to Delmas Ditch.
** Includes all areas presently draining into Lateral A.

CITY OF CERES
MASTER STORM DRAIN AGREEMENT
EXHIBIT "B"

Existing storm drain agreements.

LOCATION & CERES I.D. #	NO. OF PUMPS	CAPACITY	T.I.D. FACILITY USED	ULTIMATE ACRES	DEED NO.	REMARKS
Charlottesville South/ Rhone (11)	2	1800	Ceres Main	97	6935	Existing
Fowler @ Ceres Main East side (10)	1	900	Ceres Main	48	5124	Existing
Fowler @ Ceres Main West side (9)	2	1800	Ceres Main	160	4989	Existing
Venus South/ Moonview (7)	2	1800	Ceres Main	131	5822	Existing
Ceres Main South/ Dale (8)	2	1800	Ceres Main	173	6934	Existing
Ceres Main @ Whitmore (6)	2	2400	Ceres Main	93	6996	Existing
3100 Whitmore (5)	2	900	Ceres Main	13	4988	Existing
Ceres Main South/ Della (3)	1	1500	Ceres Main	223	5778	Existing
Central North/ Chablis (19)(18)	2	1800	Delmas	138	6553	Existing
Moffet 800' South/ Hatch (14)	1	1200	Lat 1	53	5272	Existing
Oakridge South/ Canyon (34)	2	1500	Lat 1	50	None	Existing

CITY OF CERES
MASTER STORM DRAIN AGREEMENT
EXHIBIT "B"

Existing storm drain agreements.

LOCATION & CERES I.D. #	NO. OF PUMPS	CAPACITY	T.I.D. FACILITY USED	ULTIMATE ACRES	DEED NO.	REMARKS
Hatch 800' E/ Central (35)	2	1500	Lat 1	76	5242	Existing
SW Cor Hatch/ Richland (23)	2	1800	Lat 1	342	5894	Existing
Hatch 200' E/ Herndon (25)	2	1500	Lat 1	14	4871	Existing
NW CorHatch/ Herndon (24)	2	1500	Lat 1	20	None	Existing
Lois South/ Hollister (27)	2	1500	A Ditch	106	7082	Existing
Central South / Hollister (27)	2	1500	A Ditch	3.4	5935	Existing
Whitmore / El Camino (29)	2	1800	A Ditch	50	6997	Existing
Kinser East/ McKittrick (32)	2	1500	A Ditch	51	7038	Existing
		30,000 gpm		1,841 acres		
		68 cfs		16.29 gpm/acre		

CITY OF CERES
MASTER STORM DRAIN AGREEMENT
EXHIBIT "C"

Future storm drain agreements.

LOCATION & CERES I.D. #	NO. OF PUMPS	CAPACITY	T.I.D. FACILITY USED	ULTIMATE ACRES	REMARKS
South of Ceres Main Canal @ Faith Home (4A/ B/C,55,56,57,58,59)	2	11,200	Faith Home Spill	1,186	Future
Lateral 2 @ Esmar (1A/B/C)	2	2,900	Ceres Main	309	Future
Lateral 2 East of Esmar (54)	2	1,200	Ceres Main	241	Future
North side Lateral 2 @ Central (36,37, 38)	2	3,200	Lateral 2	390	Future
South side Lateral 2 @ Central (50,51)	2	3,700	Lateral 2	484	Future
South side Lateral 2 @ Morgan (49)**	2	1,800	Lateral 2	138	Future
North side Lateral 2 @ Ustick	2	7,000	Lateral 2	1,109	Future
North side Lateral 2½ East of Grayson	2	12,000	Lateral 2½	413	Future
		43,000 gpm		4,270 acres	
		97 cfs		10.07 gpm/acre	

* All future Storm Drain Agreements are subject to individual T.I.D. approval
** (2) two locations

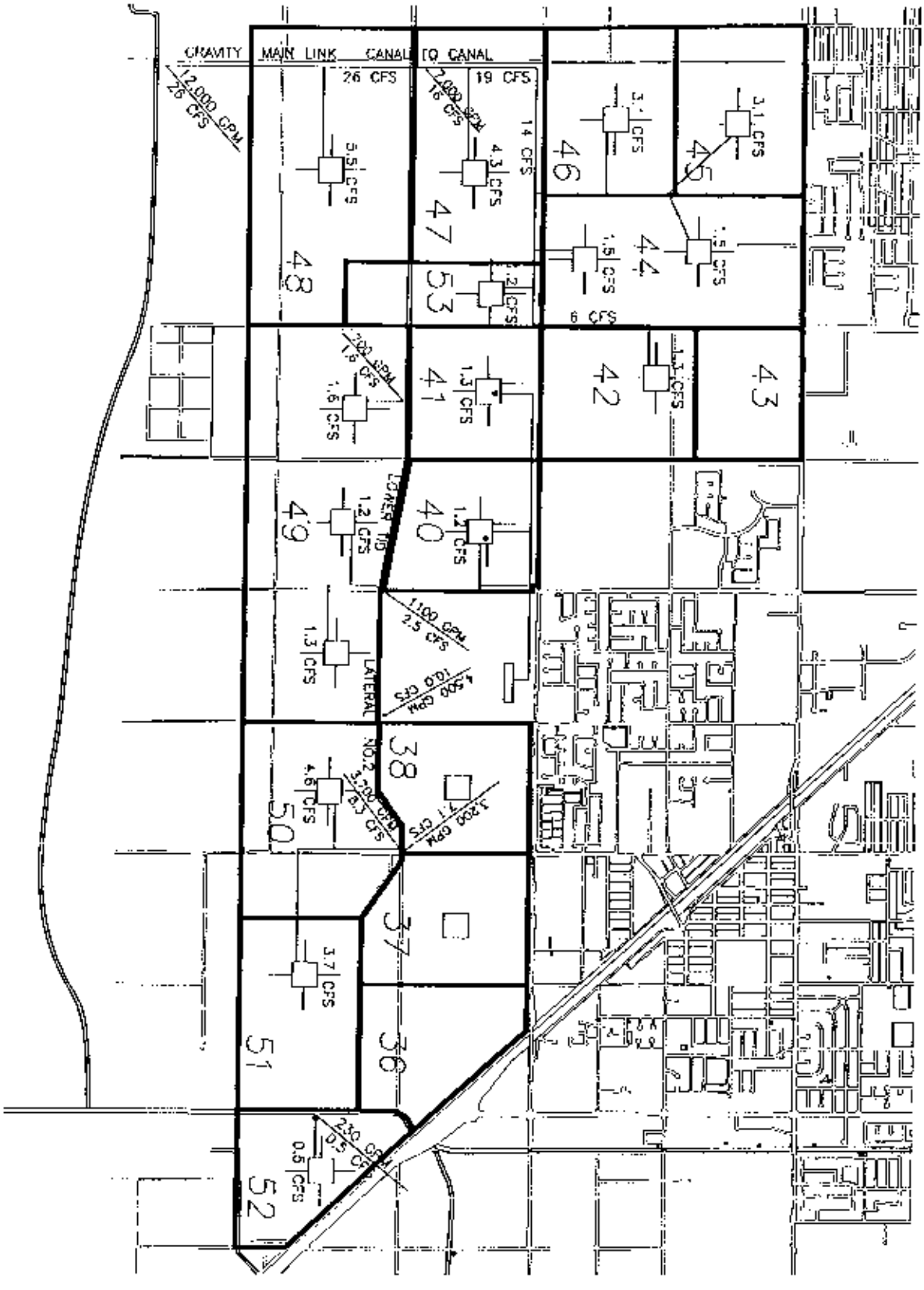

EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	LOCATION: FUTURE SOUTH CERES DISCHARGE: LATERAL 2 & 2-1/2 DRAINAGE: 2534 ACRES GPM: 27,700	1" = 3000' J. FRANCO 05/13/96 NORTH

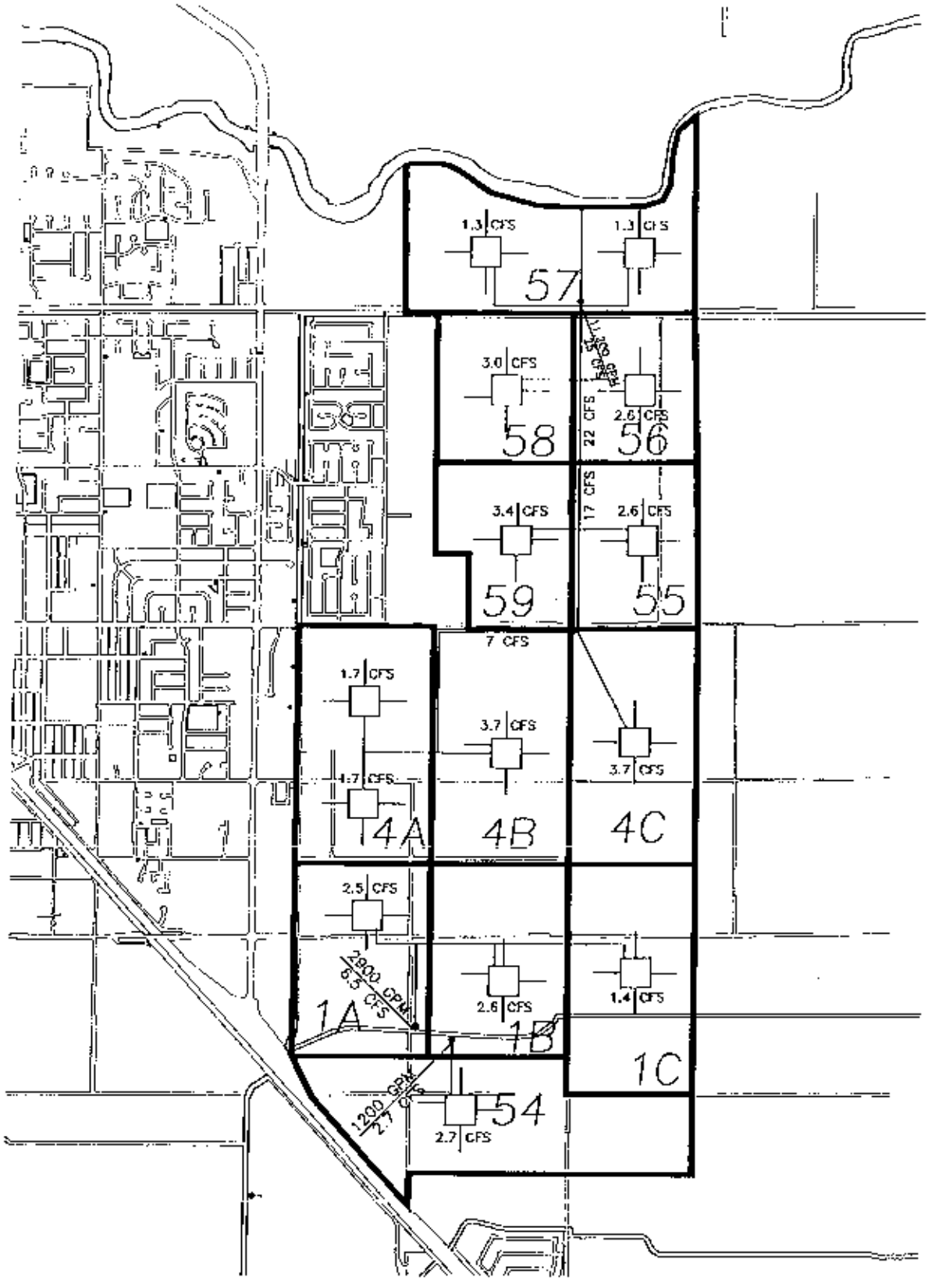

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EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	LOCATION FUTURE EAST CERES DISCHARGE: CERES MAIN DRAINAGE: 1736 ACRES GPM: 15,300	J. FRANCO 05/13/96 NORTH 1"=2500'

EXHIBIT NO. 1 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 1

Name: Alpine / Blueridge (11.1)

Discharge into: Ceres Main

Location: West side of Charlottesville South of Rhone Dr.

Acreage to be drained: 97 acres

Description of Discharge Point Facilities: Duplex submersible 3 HP pumps mounted in a 5' diameter wet pit that is approximately 18.5 ' deep. A single 8" discharge line runs to the canal.

Maximum rate of discharge authorized at this discharge point:

1800 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

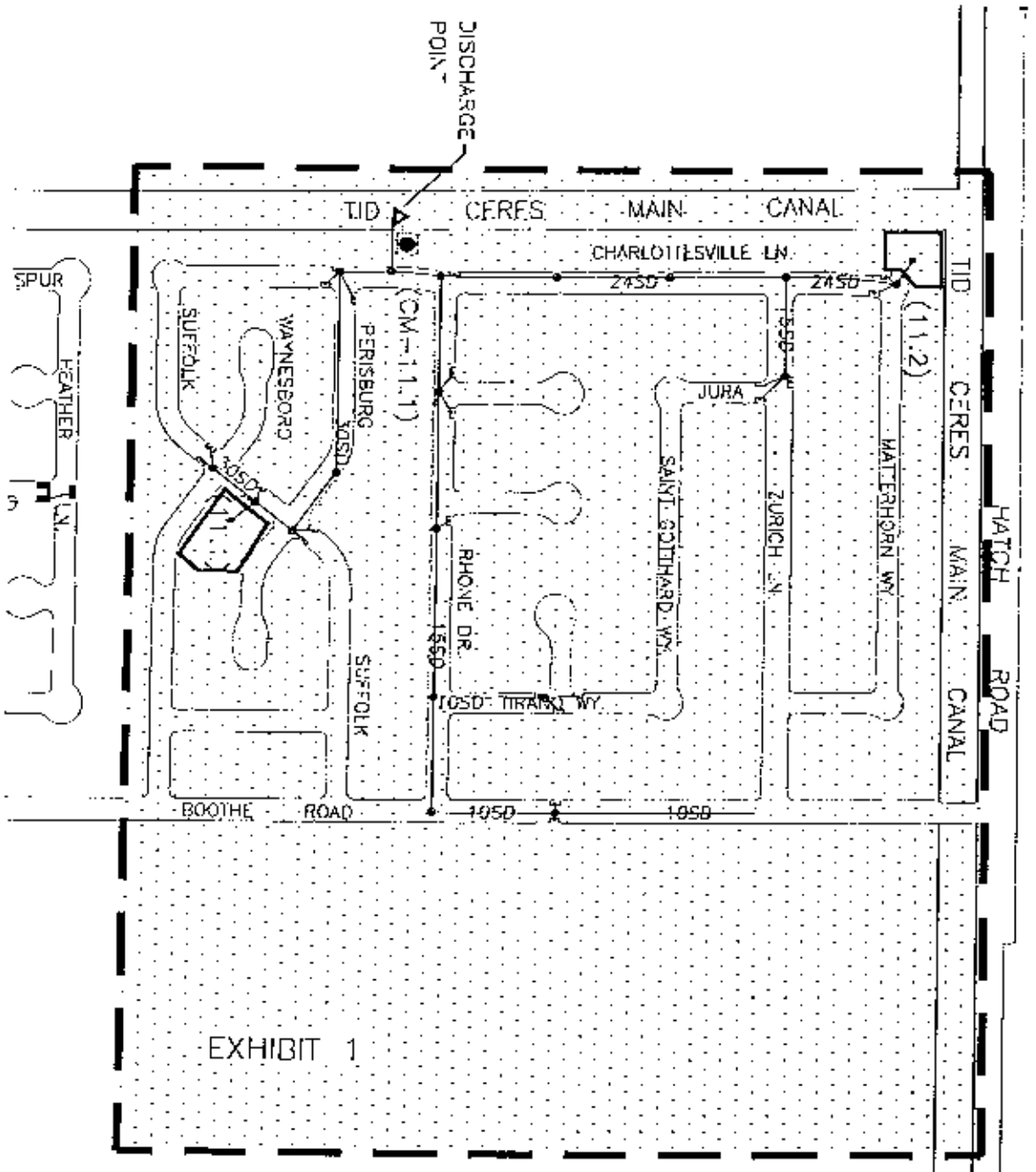
Improvement District	Initial Prorate Share

Special conditions applicable to this discharge point:

Approved by: [signature] 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



J. FRANCO
4/22/96
EXHBTS.DWG

EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: ALPINE (11) DISCHARGE: CERES MAIN DRAINAGE: 97 ACRES GPM: 1800	1"=400' NORTH
1			

EXHIBIT NO. 2 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 2

Name: Valley Gardens (10.1)

Discharge into: Ceres Main

Location: East side of Fowler Rd. @ Ceres Main

Acreage to be drained: 48 acres

Description of Discharge Point Facilities: Single submersible 20 HP pump mounted in a 4' diameter wet pit that is approximately 10.5' deep. A single 10" discharge line runs to the canal.

Maximum rate of discharge authorized at this discharge point:

900 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

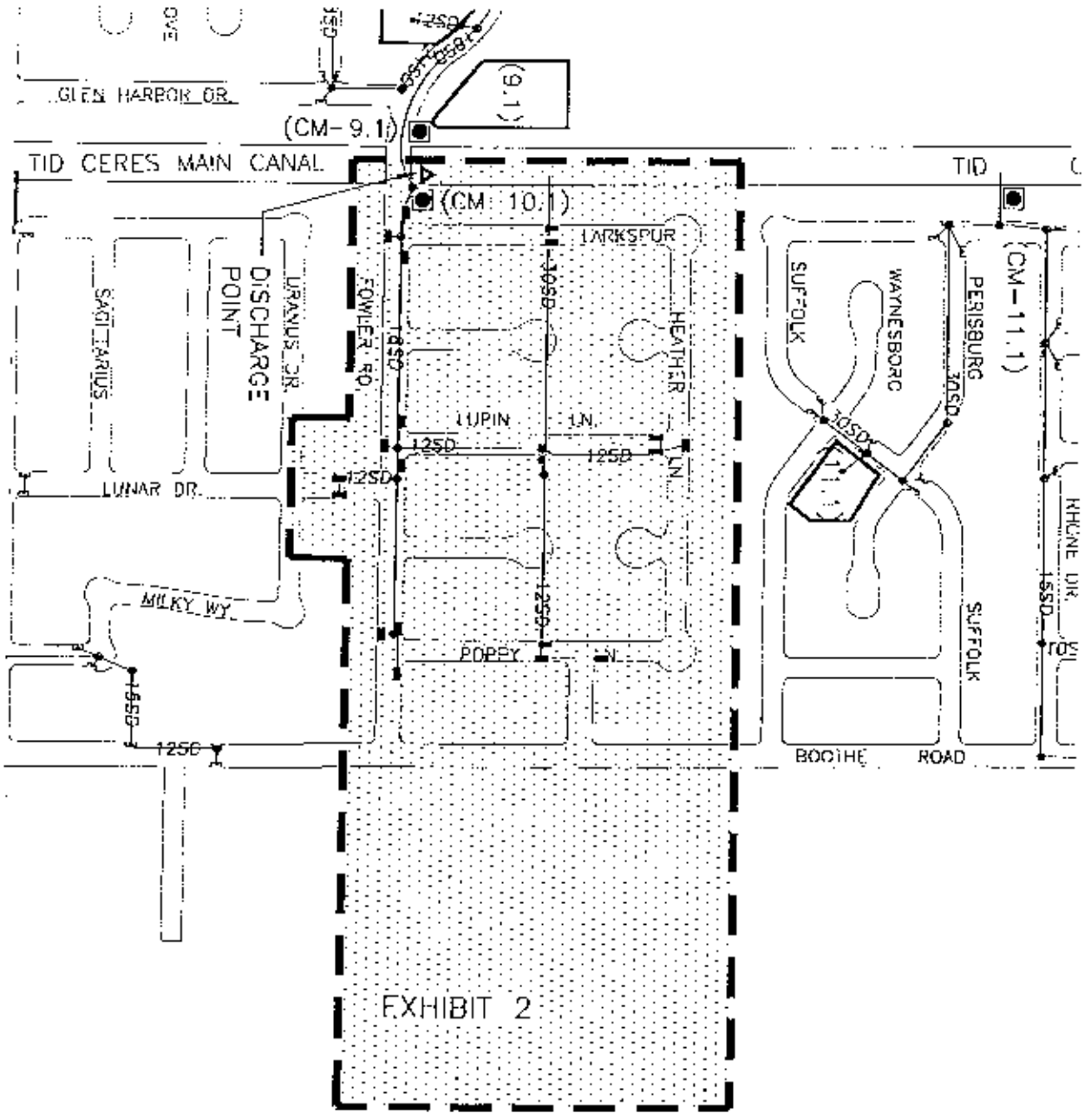
Improvement District	Initial Prorate Share

Special conditions applicable to this discharge point:

Approved by: [signature] 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



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4/22/96
EXHBTS.DWG

EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: VALLEY GRDN. (10) DISCHARGE: CERES MAIN DRAINAGE: 48 ACRES GPM: 900	1" = 400' NORTH
2			

EXHIBIT NO. 3 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 3

Name: Fowler (9.1)

Discharge into: Ceres main

Location: West side of Fowler Rd. @ Ceres Main

Acreage to be drained: 173 acres

Description of Discharge Point Facilities: Duplex submersible 3 HP pumps mounted in a 6' diameter wet pit that is approximately 14' deep. Two 6" discharge lines run to the canal.

Maximum rate of discharge authorized at this discharge point:

1800 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

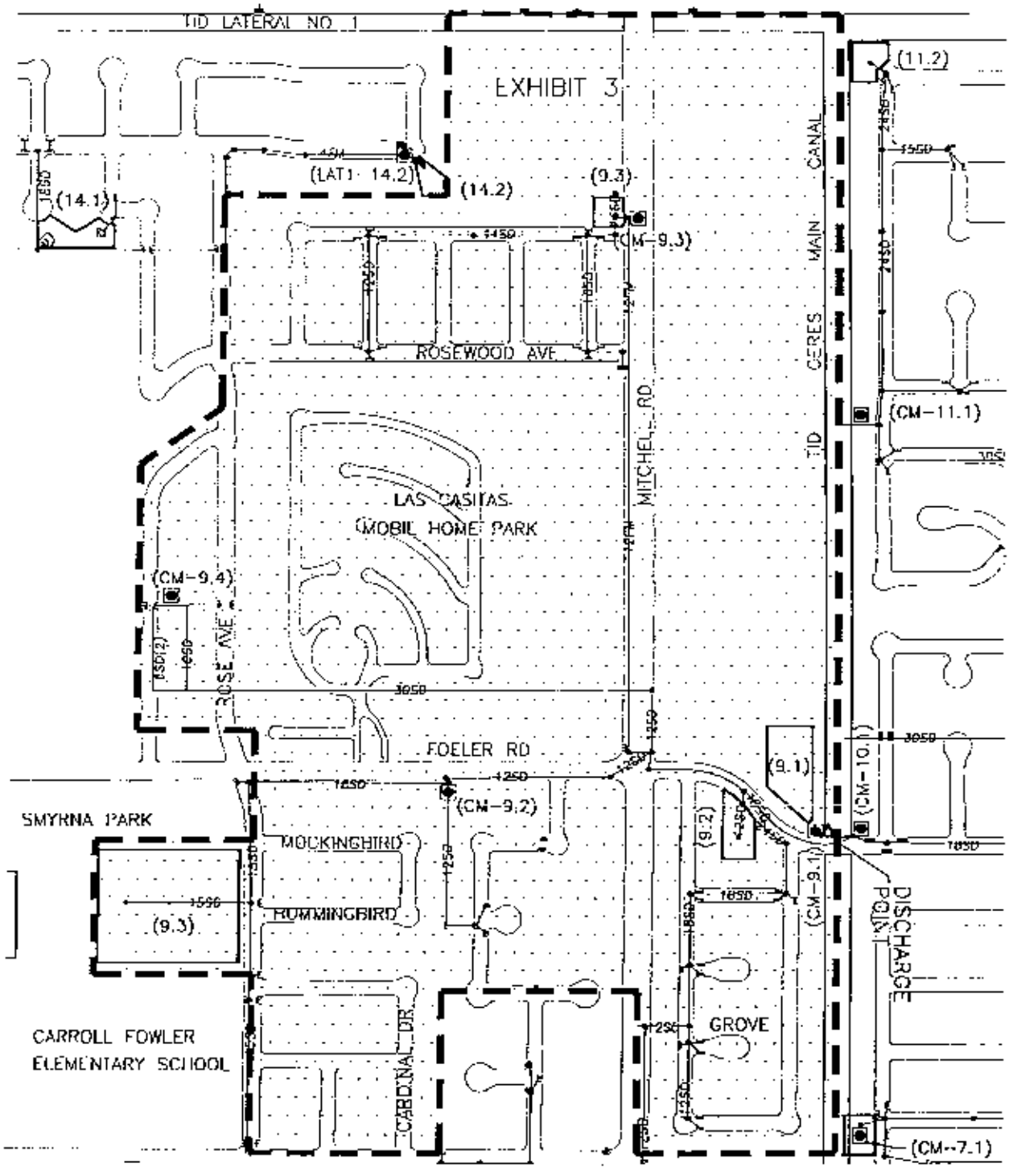
Improvement District	Initial Prorate Share

Special conditions applicable to this discharge point:

Approved by: [signature] 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



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4/22/96
EXHBITS.DWG

EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: FOWLER (9) DISCHARGE: CERES MAIN DRAINAGE: 173 ACRES GPM: 1800	NORTH 1"=500'
3			

EXHIBIT NO. 4 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 4

Name: Persephone (7.1)

Discharge into: Ceres Main

Location: Venus South of Moonview

Acreage to be drained: 131 acres

Description of Discharge Point Facilities: Duplex 5 & 7 ½ HP column pumps mounted in a 6' diameter pit that is approximately 16' deep. Two 6" discharge lines run to the canal.

Maximum rate of discharge authorized at this discharge point:

1800 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

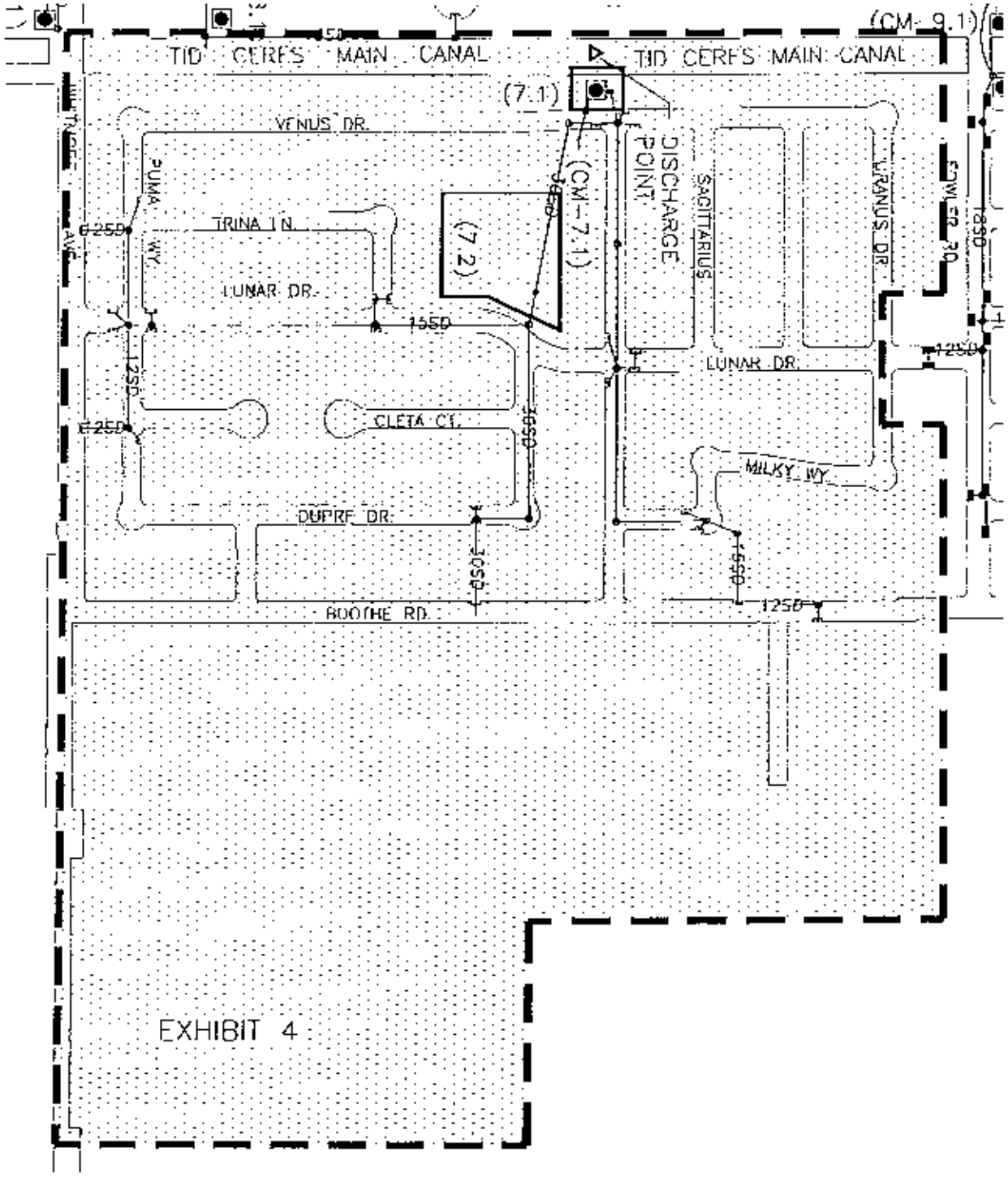
Improvement District	Initial Prorate Share

Special conditions applicable to this discharge point:

Approved by: L Alyth 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



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4/22/96
EXHBTS.DWG

EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: PERSEPHONE (7) DISCHARGE: CERES MAIN DRAINAGE: 131 ACRES GPM: 1800	1"=400' NORTH
4			

EXHIBIT NO. 5 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 5

Name: Smyrna (8.1)

Discharge into: Ceres Main

Location: West side of Ceres Main south of Dale

Acreage to be drained: 173 acres

Description of Discharge Point Facilities: Duplex submersible 5HP pumps mounted in a 6' diameter wet pit that is approximately 13.75' deep. A single 8" discharge line runs to the canal.

Maximum rate of discharge authorized at this discharge point:

1800 g.p.m.

The turn off setting of the automatic sensor system shall be:

feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

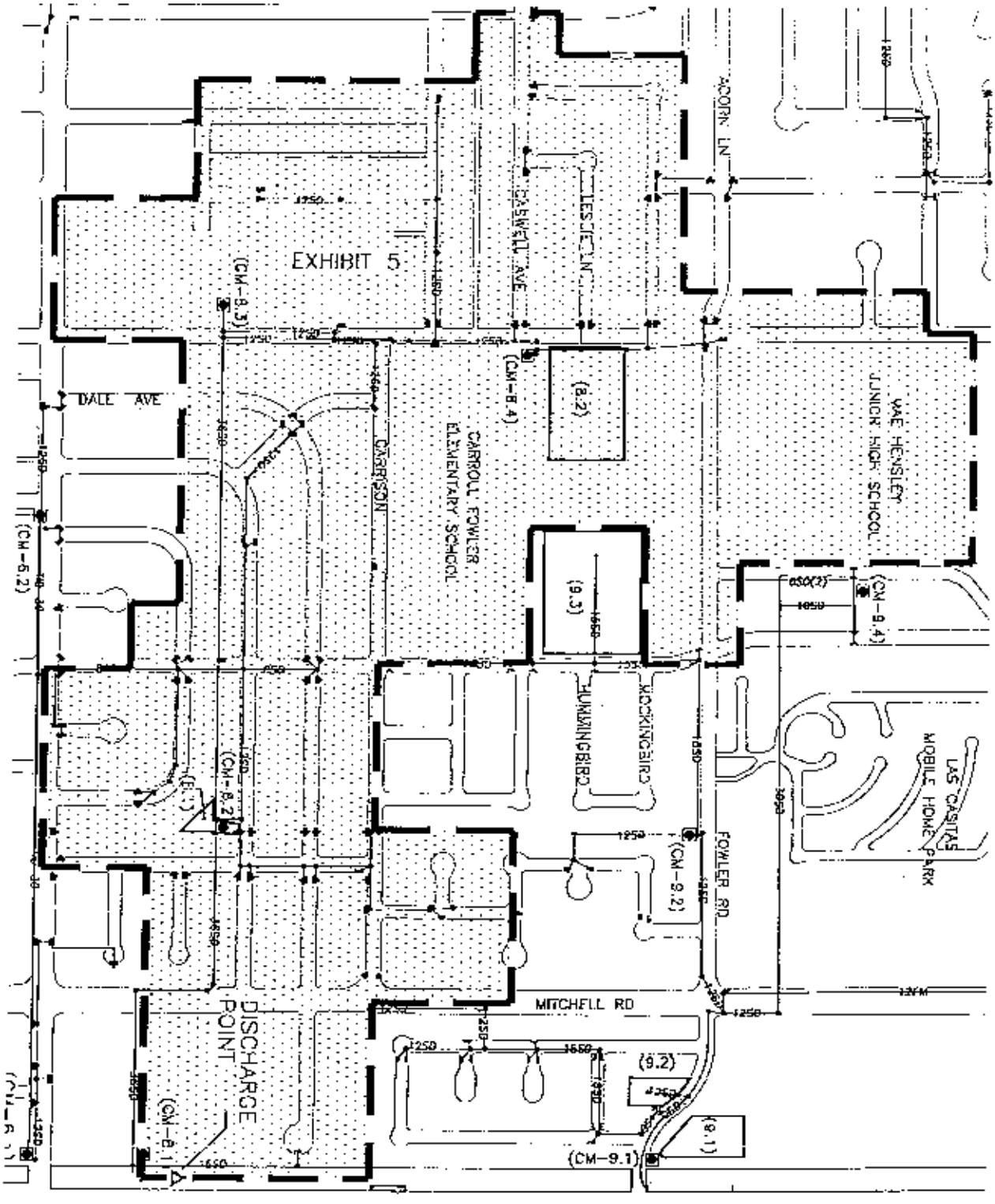
Improvement District	Initial Prorate Share

Special conditions applicable to this discharge point:

Approved by: A Aleyta 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



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4/5/96
EXHBTS.DWG

EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: SMYRNA (8) DISCHARGE: CERES MAIN DRAINAGE: 173 ACRES GPM: 1800	1" = 600' NORTH
5			

EXHIBIT NO. 6 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 6

Name: San Ramon / Whitmore (6.1)

Discharge into: Ceres main

Location: West side of Ceres Main at Whitmore

Acreage to be drained: 94 acres

Description of Discharge Point Facilities: Duplex submersible 10HP pumps mounted in a 6' diameter wet pit that is approximately 12.5' deep. A single 10" discharge line runs to the canal.

Maximum rate of discharge authorized at this discharge point:

2400 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

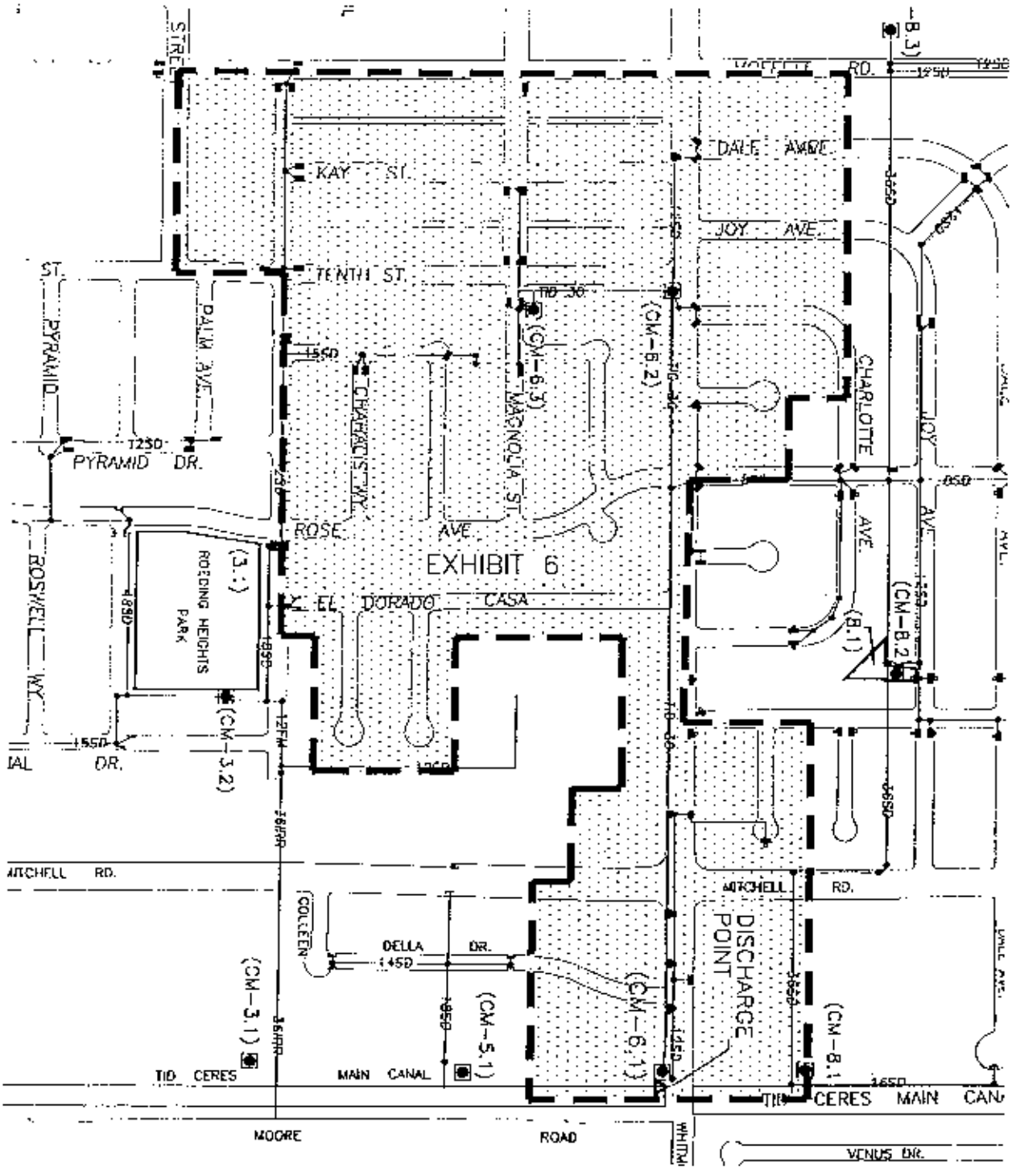
Improvement District	Initial Prorate Share
I.D. 694, Stokes	100% from headgate to control structure north of Standford Ave.

Special conditions applicable to this discharge point:

Approved by: [signature] 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



J. FRANCO
4/5/96
EXHIBITS.DWG

EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: SAN RAMON (6) DISCHARGE: CERES MAIN DRAINAGE: 94 ACRES GPM: 2400	1" = 500' NORTH
6			

EXHIBIT NO. 7 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 7

Name: Della (5.1)

Discharge into: Ceres Main

Location: 3100 Whitmore

Acreage to be drained: 13 acres

Description of Discharge Point Facilities: Duplex submersible pumps individually mounted in separate 4' diameter wet pits that are approximately 11.5' deep. A single 8' discharge line runs to the canal.

Maximum rate of discharge authorized at this discharge point:

900 g.p.m.

The turn off setting of the automatic sensor system shall be:

____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

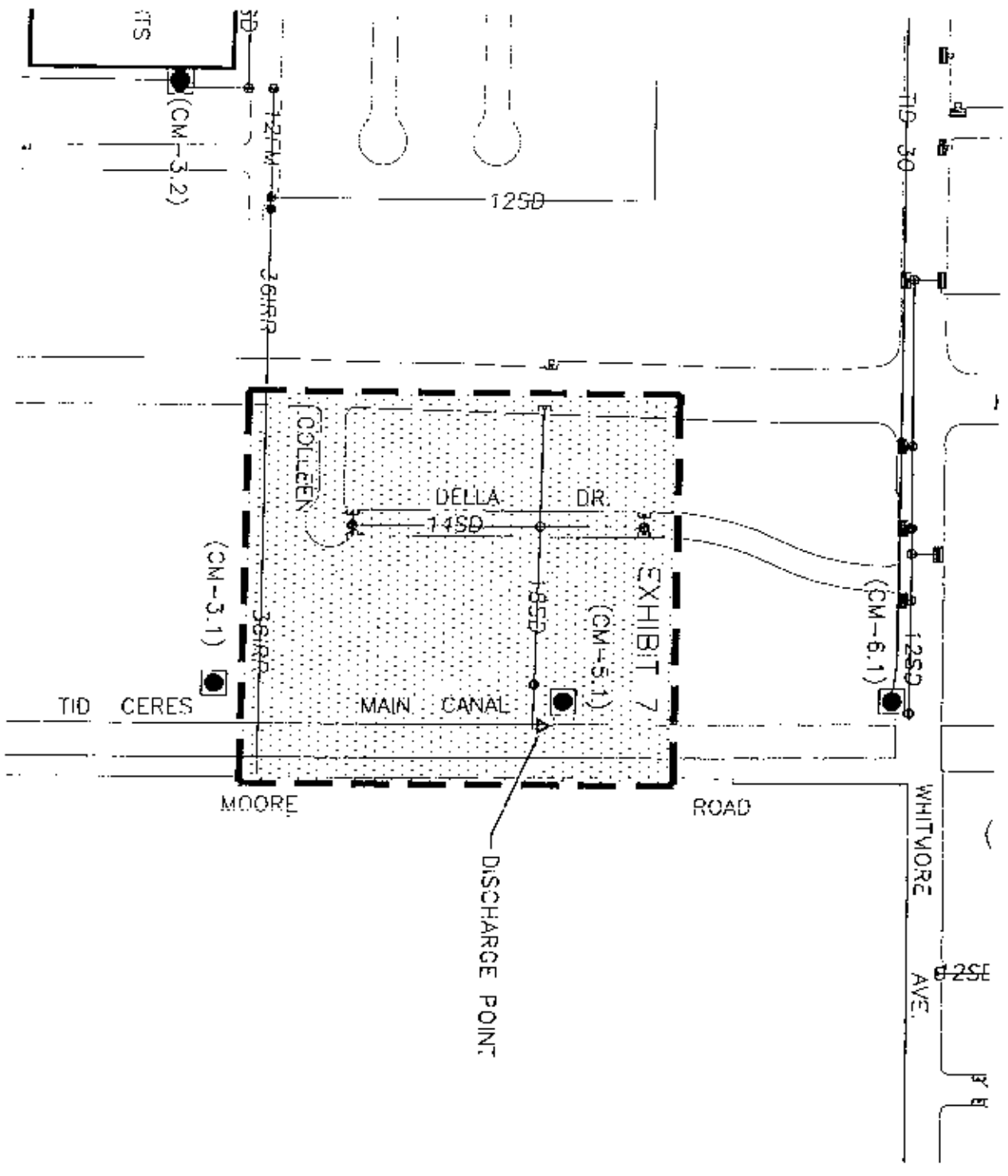
Improvement District	Initial Prorate Share

Special conditions applicable to this discharge point:

Approved by: [signature] 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



J. FRANCO
4/5/96
FXHBTS.DWG

EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: DELLA (5) DISCHARGE: CERES MAIN DRAINAGE: 13 ACRES GPM: 900	1"=300' NORTH
7			

EXHIBIT NO. 8 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 8

Name: Roeding Heights (3)

Discharge into: Ceres Main

Location: West side Ceres Main South of Della

Acreage to be drained: 223 acres

Description of Discharge Point Facilities: Single submersible 10 HP pump mounted in a 6' diameter wet pit that is approximately 11' deep. Two 6" discharge lines run to the canal.

Maximum rate of discharge authorized at this discharge point:

1800 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

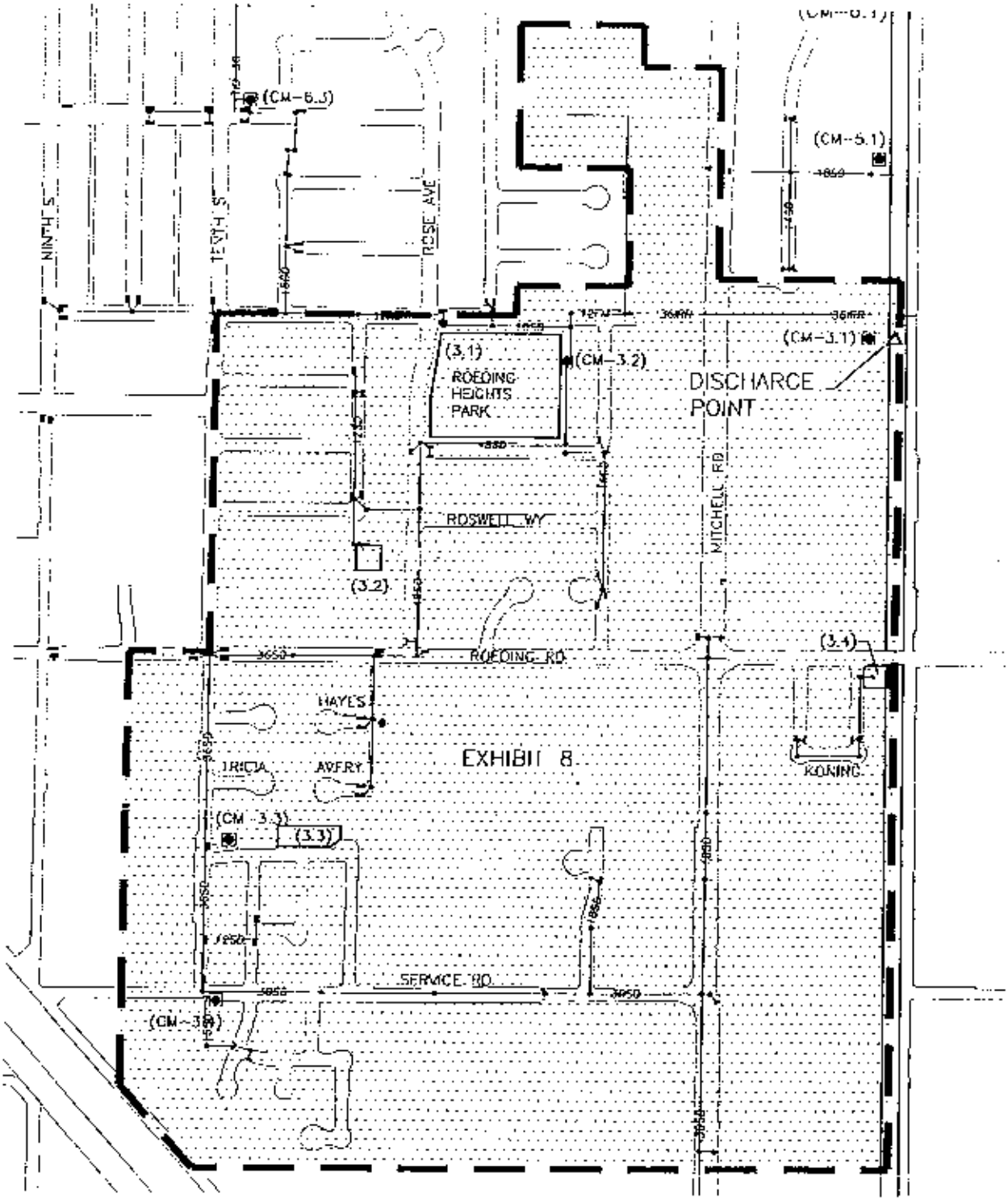
Improvement District	Initial Prorate Share
I.D. 444, Summers	100%

Special conditions applicable to this discharge point:

Approved by: A Alegato 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



J. FRANCO
4/5/96
EXHBTS.DWG

EXHIBIT NO.	CITY OF CERES	NAME:	ROEDING HGHTS.(3)	NORTH
8	MASTER STORM DRAIN AGREEMENT	DISCHARGE:	CERES MAIN	
		DRAINAGE:	223 ACRES	
		GPM:	1800	1"=600'

EXHIBIT NO. 9 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 9

Name: Nadine (19.1) (18)

Discharge into: Delmas Ditch

Location: East & West side of Central North of Chablis

Acreage to be drained: 138 acres

Description of Discharge Point Facilities: Duplex submersible 15 HP pumps mounted in a 6' diameter wet pit that is approximately 17.75' deep. A single 12" discharge line runs to the Delmas ditch.

Maximum rate of discharge authorized at this discharge point:

1800 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

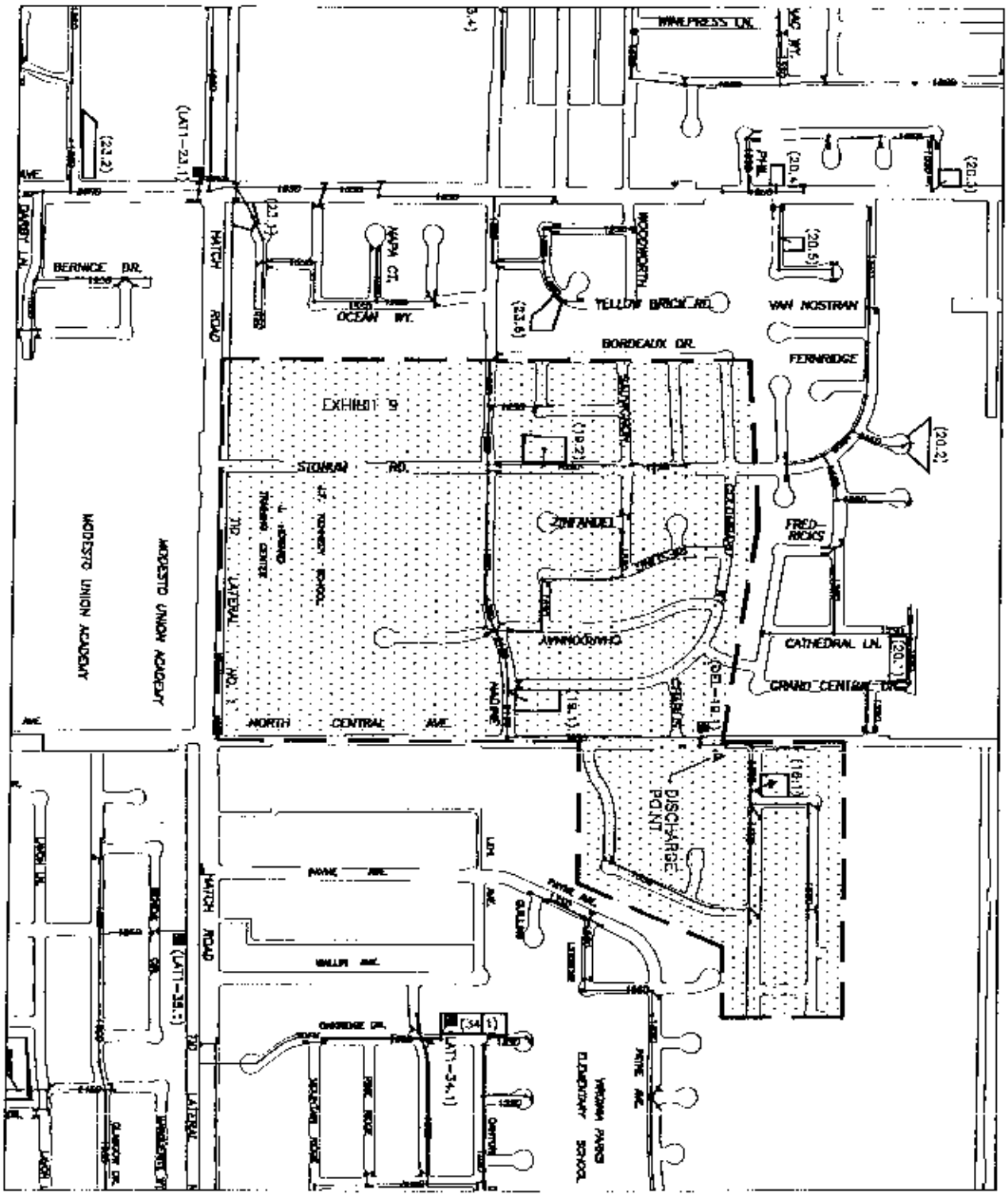
Improvement District	Initial Prorate Share
I.D. 36-A, Delmas	138.00 / 407.25 = 33.89%

Special conditions applicable to this discharge point: A portion of area (18) is temporarily draining to the Delmas Ditch until such time as a Storm Drain line is constructed to the river. At that time this portion of area (18) will be disconnected.

Approved by: L Alegato 8-26-96

Assistant General Manager Engineering Date

7/8/96 form\drainage



J. R. GARY
7/10//96
EXHBTS.DWG

EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: NADINE (19) DISCHARGE: DELMAS DITCH DRAINAGE: 138 ACRES GPM: 1800	1" = 600' NORTH
9			

EXHIBIT NO. 10 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 10

Name: The Parks (14.1)

Discharge into: Lateral 1

Location: East side of Moffet 800' South of Ceres Main

Acreage to be drained: 53 acres

Description of Discharge Point Facilities: Single submersible 21.5 HP pump mounted in a 4' diameter wet pit that is approximately 13' deep. A single 8" discharge line runs to Lateral 1.

Maximum rate of discharge authorized at this discharge point:

1200 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

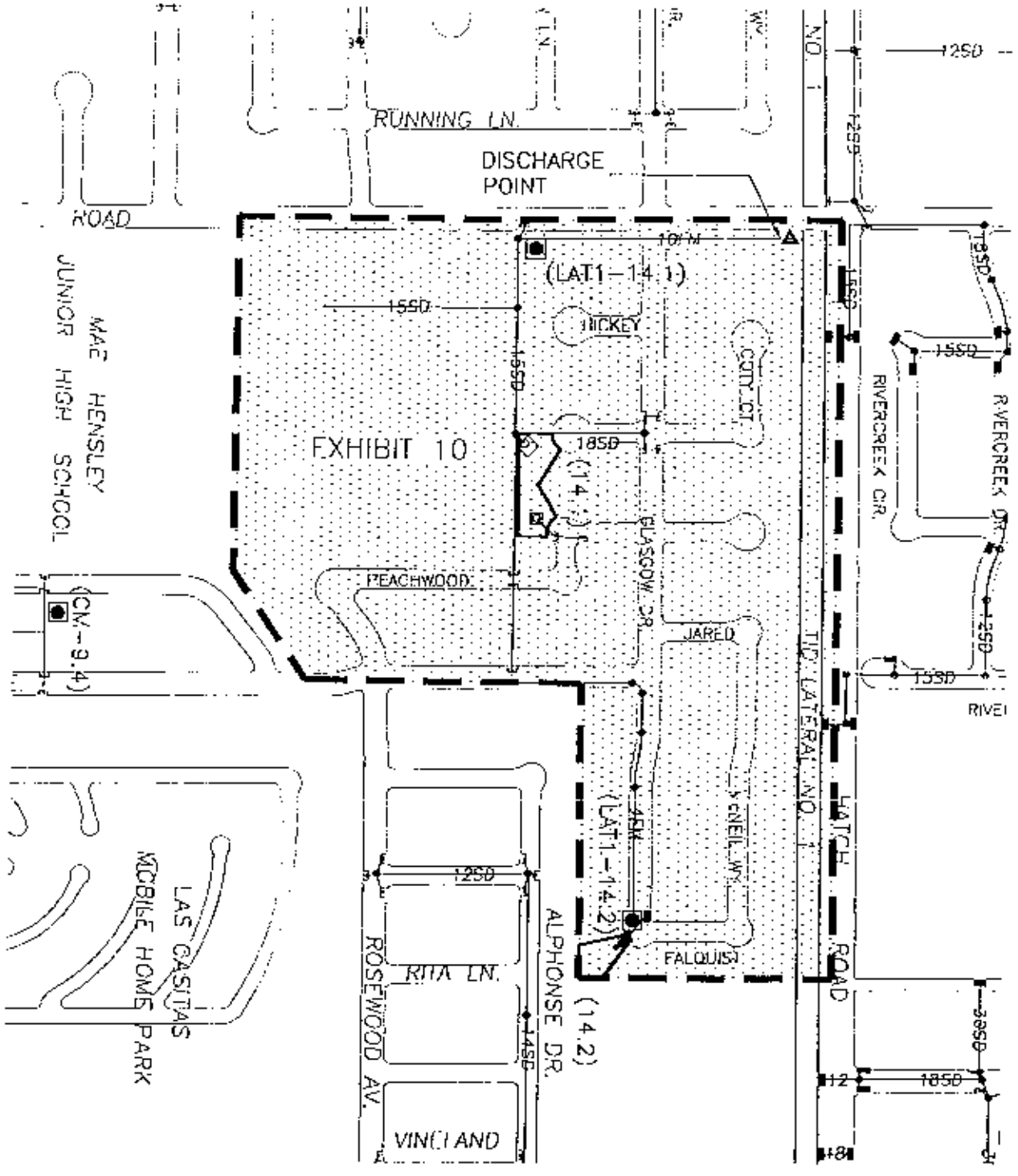
Improvement District	Initial Prorate Share

Special conditions applicable to this discharge point:

Approved by: [signature] 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



J. FRANCO
4/22/96
EXHBT5.DWG

EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: THE PARKS (14) DISCHARGE: LATERAL 1 DRAINAGE: 53 ACRES GPM: 1200	1" = 400' NORTH
10			

EXHIBIT NO. 11 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 11

Name: Northridge (34.1)

Discharge into: Lateral 1

Location: West side of Oakridge South of Canyon

Acreage to be drained: 50 acres

Description of Discharge Point Facilities: Duplex submersible 2 HP pumps mounted in a 5' diameter wet pit that is approximately 16' deep. A single 6" discharge line runs to Lateral 1

Maximum rate of discharge authorized at this discharge point:

1500 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

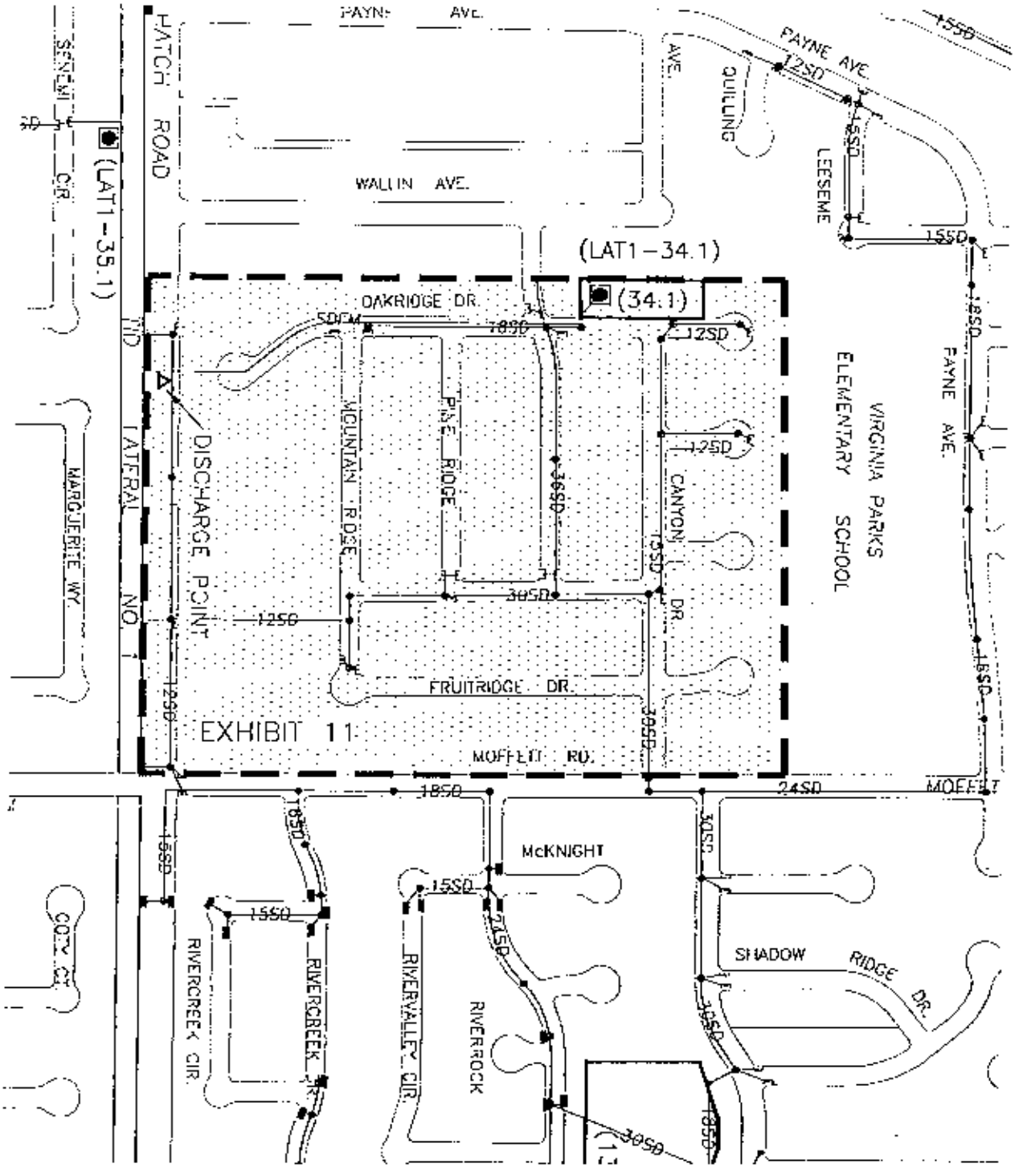
Improvement District	Initial Prorate Share

Special conditions applicable to this discharge point:

Approved by: [signature] 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



J. FRANCO
4/22/96
EXHBTS.DWG

EXHIBIT NO.	CITY OF CERES	NAME:	NORTHRIDGE (34)	1" = 400' NORTH
11	MASTER STORM DRAIN AGREEMENT	DISCHARGE:	LATERAL 1	
		DRAINAGE:	50 ACRES	
		GPM:	1500	

EXHIBIT NO. 12 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 12

Name: Barry Grove (35.1)

Discharge into: Lateral 1

Location: South side of Lateral 1, 800' East of Central

Acreage to be drained: 76 acres

Description of Discharge Point Facilities: Duplex submersible 7 ½ HP pumps mounted in a 6' diameter wet pit that is approximately 15' deep. A Single 8" discharge runs to Lateral 1.

Maximum rate of discharge authorized at this discharge point:

1500 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

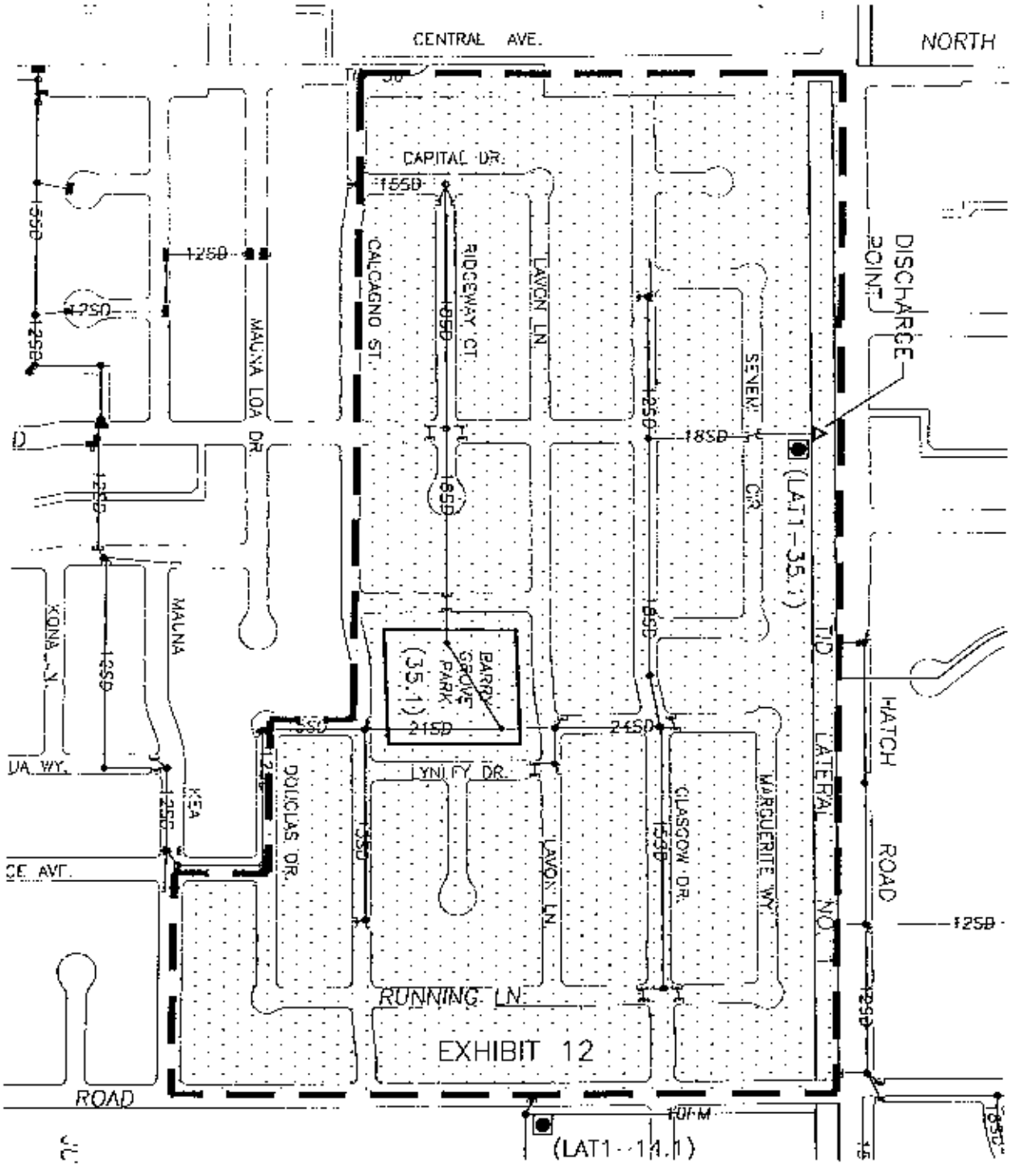
Improvement District	Initial Prorate Share

Special conditions applicable to this discharge point:

Approved by: _____ 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



J. FRANCO
4/22/96
EXHBTS.DWG

EXHIBIT NO.	CITY OF CERES	NAME:	BARRY GROVE (35)	1" = 400' NORTH
12	MASTER STORM DRAIN AGREEMENT	DISCHARGE:	LATERAL 1	
		DRAINAGE:	76 ACRES	
		GPM.	1500	

EXHIBIT NO. 13 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 13

Name: Independence (23.1)

Discharge into: Lateral 1

Location: Southwest corner of Hatch / Richland

Acreage to be drained: 342 acres

Description of Discharge Point Facilities: Duplex submersible 7 ½ HP pumps mounted in a 6' wet pit that is approximately 18' deep. A single 8" discharge line runs to Lateral 1.

Maximum rate of discharge authorized at this discharge point:

1800 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

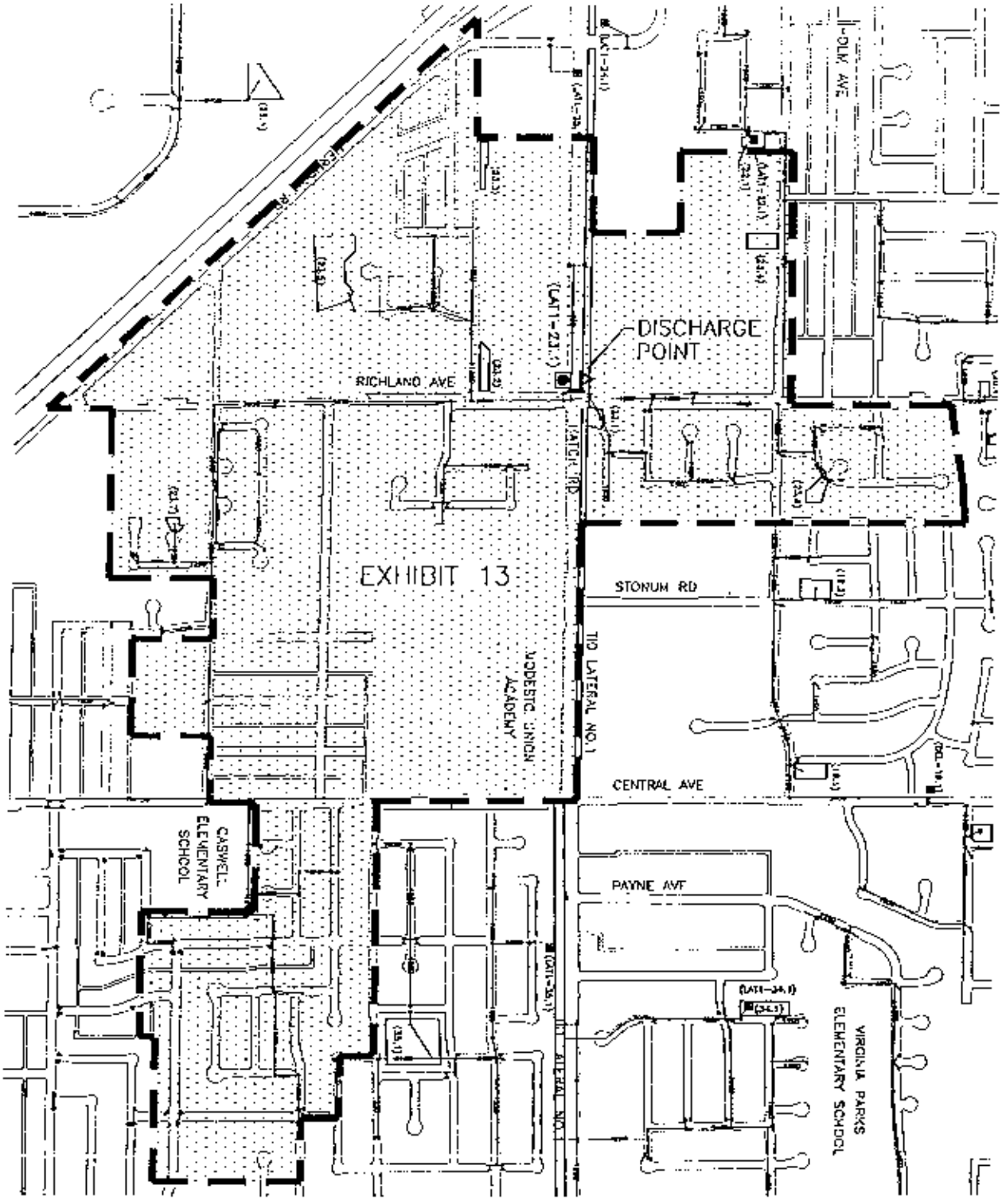
Improvement District	Initial Prorate Share

Special conditions applicable to this discharge point:

Approved by: A. Aleyna 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



J. FRANCO
4/5/96
EXHBTS.DWG

EXHIBIT NO.	CITY OF CERES	NAME:	INDEPENDENCE(23)	1" = 1000' NORTH
13	MASTER STORM DRAIN AGREEMENT	DISCHARGE:	LATERAL 1	
		DRAINAGE:	342 ACRES	
		GPM:	1800	

EXHIBIT NO. 14 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 14

Name: Thrifty (25.1)

Discharge into: Lateral 1

Location: South side of Hatch 200' East of Herndon

Acreage to be drained: 14 acres

Description of Discharge Point Facilities: Duplex submersible 10 HP pumps mounted in a 5' diameter wet pit that is approximately 15.5' deep. A single 10" discharge line runs to Lateral 1.

Maximum rate of discharge authorized at this discharge point:

1500 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

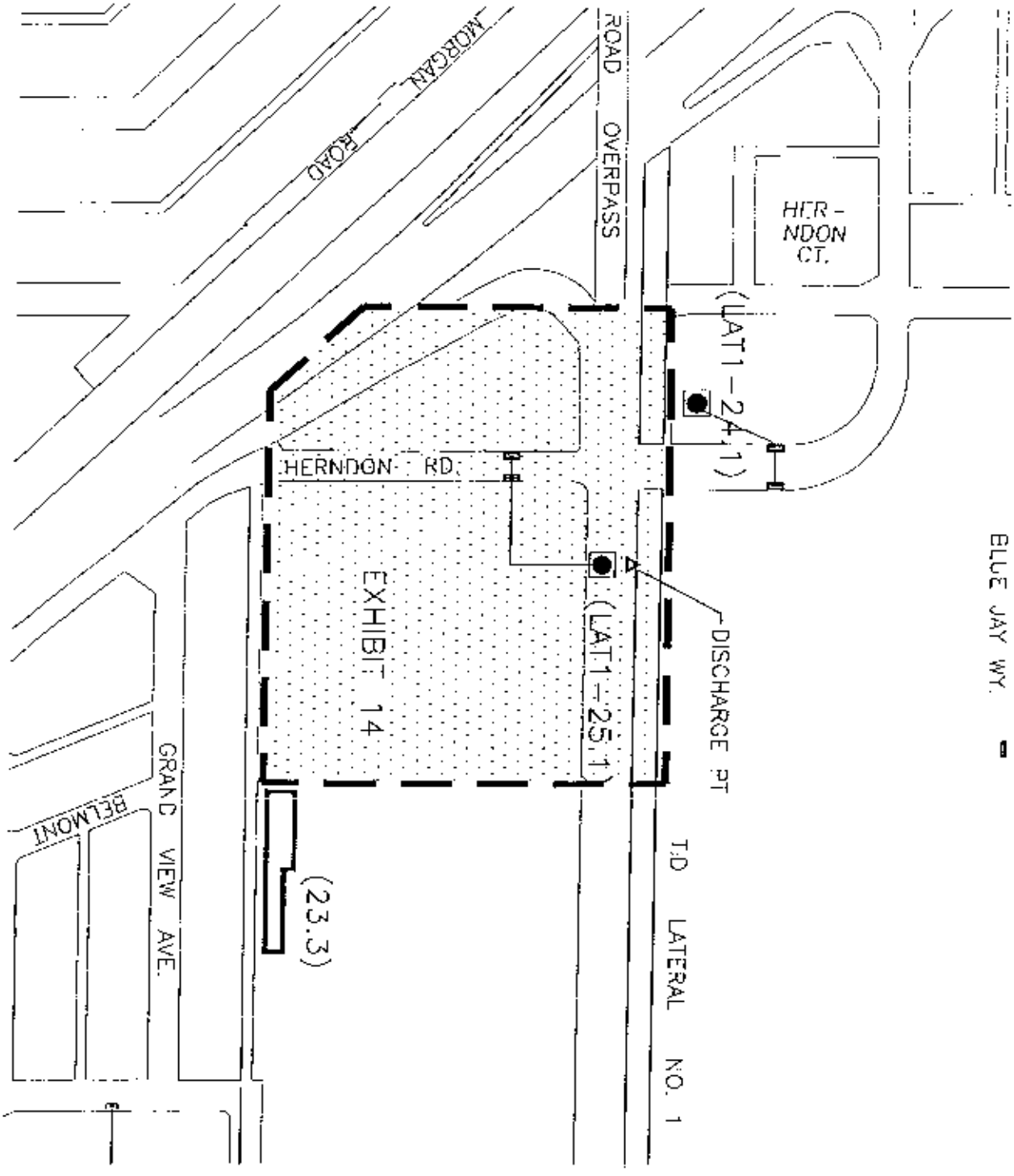
Improvement District	Initial Prorate Share

Special conditions applicable to this discharge point:

Approved by: [signature] 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



J. FRANCO
4/5/96
EXHBTS.DWG

EXHIBIT NO. 14	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: THRIFTY (25) DISCHARGE: LATERAL 1 DRAINAGE: 14 ACRES GPM: 1500	1"=300' NORTH

EXHIBIT NO. 15 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 15

Name: K-Mart (24.1)

Discharge into: Lateral 1

Location: Northwest corner Hatch / Herndon

Acreage to be drained: 20 acres

Description of Discharge Point Facilities: Duplex 5HP column pumps mounted in a 6' diameter pit that is approximately 8' deep. Two 6" discharge lines run to Lateral 1.

Maximum rate of discharge authorized at this discharge point:

1500 g.p.m.

The turn off setting of the automatic sensor sytstem shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

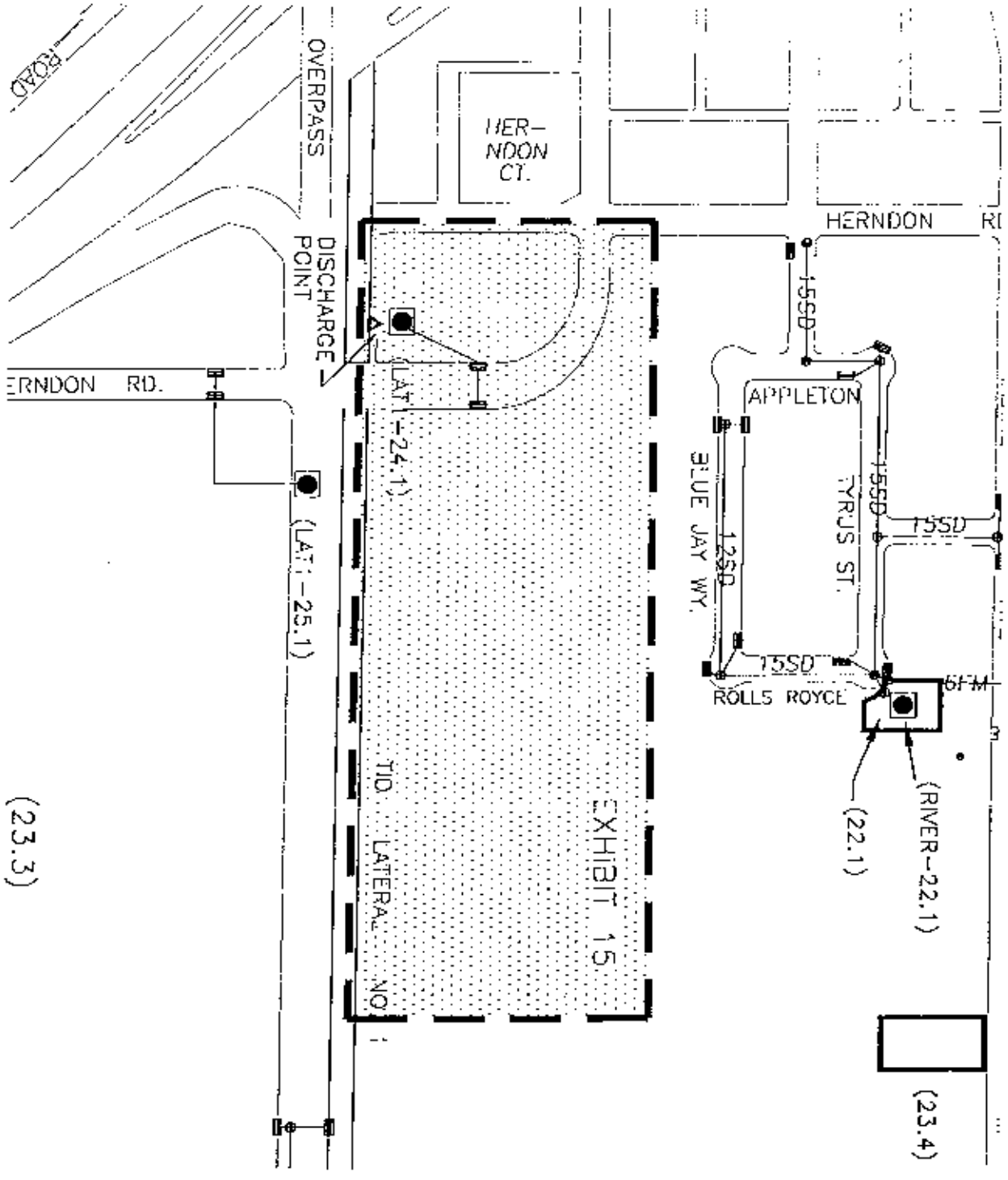
Improvement District	Initial Prorate Share

Special conditions applicable to this discharge point:

Approved by: _____ 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



J. FRANCO
4/5/96
EXHBTS.DWG

EXHIBIT NO. 15	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: K-MART (24) DISCHARGE: LATERAL 1 DRAINAGE: 20 ACRES GPM: 1500	1"=300' NORTH

EXHIBIT NO. 16 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 16

Name: Hollister (27.2)

Discharge into: Lateral A

Location: West side of Lois South of Hollister

Acreage to be drained: 106 acres

Description of Discharge Point Facilities: Single submersible 7 ½ HP pump mounted in a 4' diameter wet pit that is approximately 11.5' deep. A single 6" discharge line runs to Lateral A.

Maximum rate of discharge authorized at this discharge point:

1500 g.p.m.

The turn off setting of the automatic sensor system shall be:

feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

Improvement District	Initial Prorate Share
I.D. 14-A Lateral A	159.40/308.95 = 51.59%
I.D. 343, McBride branch	210.40/216.07 = 97.38%
I.D. 533, Lateral A	210.40/257.17 = 81.81%

Note: The above cost shares include the acreage for exhibits 16, 17, 18, and 19.

Special conditions applicable to this discharge point:

Approved by: [signature] 6-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage

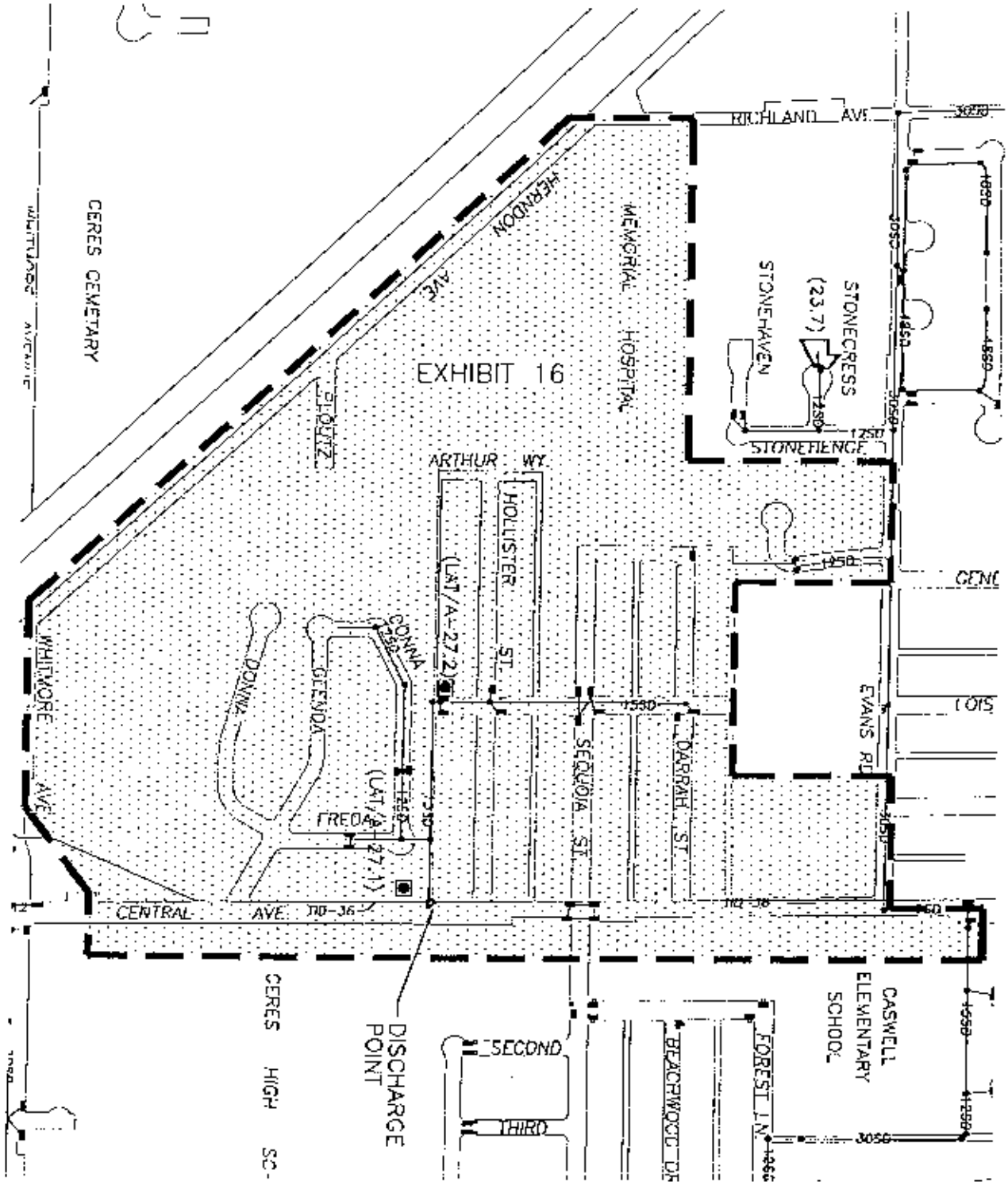


EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: HOLLISTER (27) DISCHARGE: LATERAL A DRAINAGE: 106 ACRES GPM: 1500	1"=500' NORTH
16			

EXHIBIT NO. 17 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 17

Name: Farm labor camp (27.1)

Discharge into: Lateral A

Location: West side Central south of Holister

Acreage to be drained: 3.4 acres

Description of Discharge Point Facilities: Duplex 10 HP column pumps mounted in a 6' diameter pit that is approximately 12.75' deep. A single 8" discharge line runs to Lateral A.

Maximum rate of discharge authorized at this discharge point:

1500 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

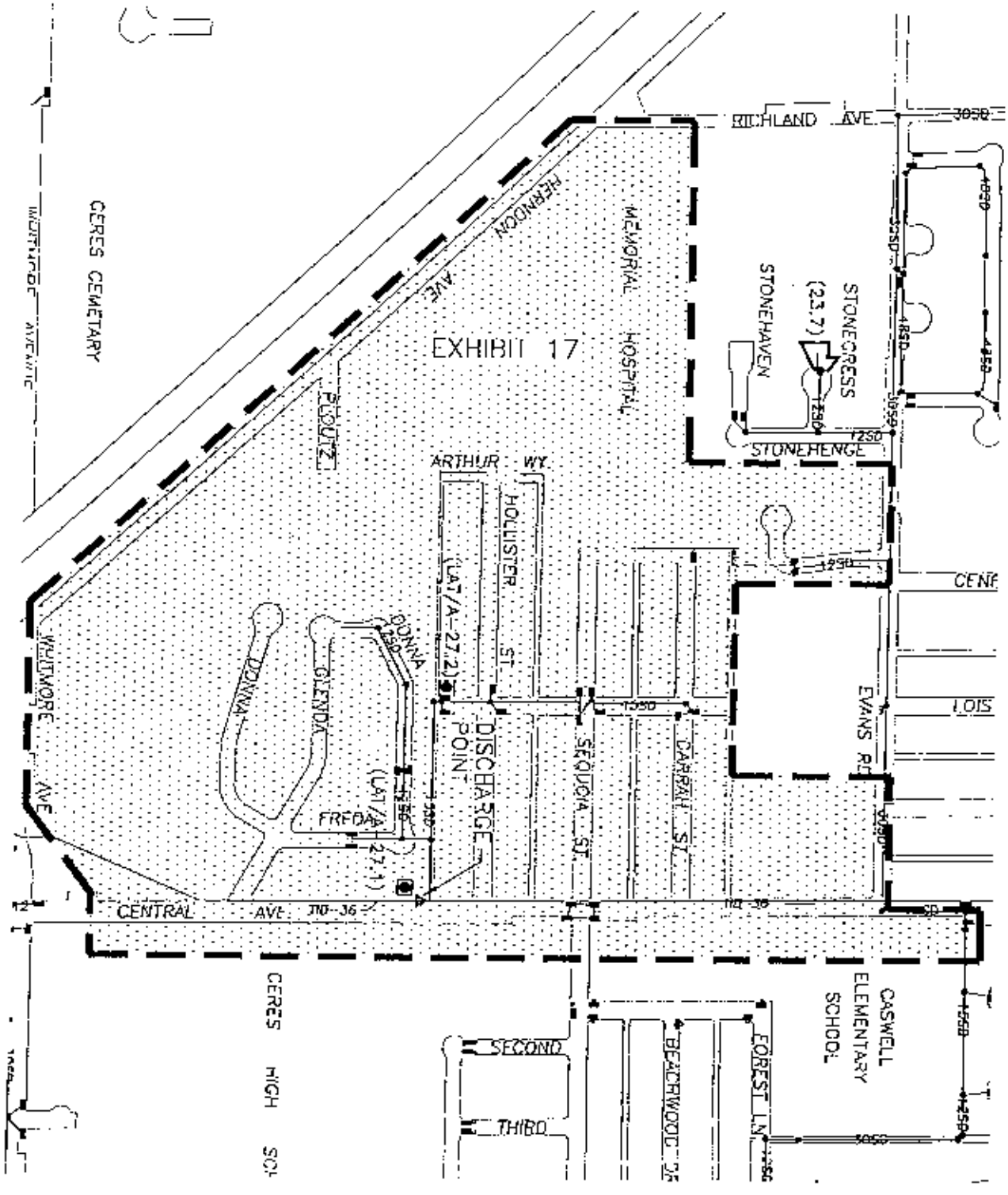
Improvement District	Initial Prorate Share
I.D. 14-a, Lateral A I.D. 343, McBride Branch I.D. 533, Lateral A	Cost shares included in calculation on Exhibit 16.

Special conditions applicable to this discharge point:

Approved by: [signature] 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



J. FRANCO
4/5/96
EXHIBTS.DWG

EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: FARM LABOR DISCHARGE: LATERAL A DRAINAGE: 3.4 ACRES GPM: 1500	1"=500' NORTH
17			

EXHIBIT NO. 18 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 18

Name: Whitmore (29)

Discharge into: Lateral A

Location: Northeast corner Whitmore / El Camino

Acreage to be drained: 50 acres

Description of Discharge Point Facilities: Duplex submersible 5 HP pumps mounted in a 6' diameter wet pit that is approximately 25.5' deep. A single 8" discharge line runs to Lateral A.

Maximum rate of discharge authorized at this discharge point:

1800 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

Improvement District	Initial Prorate Share
I.D. 14-a, Lateral A	Cost shares included in calculation on
I.D. 343, McBride Branch	Exhibit 16.
I.D. 533, Lateral A	

Special conditions applicable to this discharge point:

Approved by: [signature] 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage

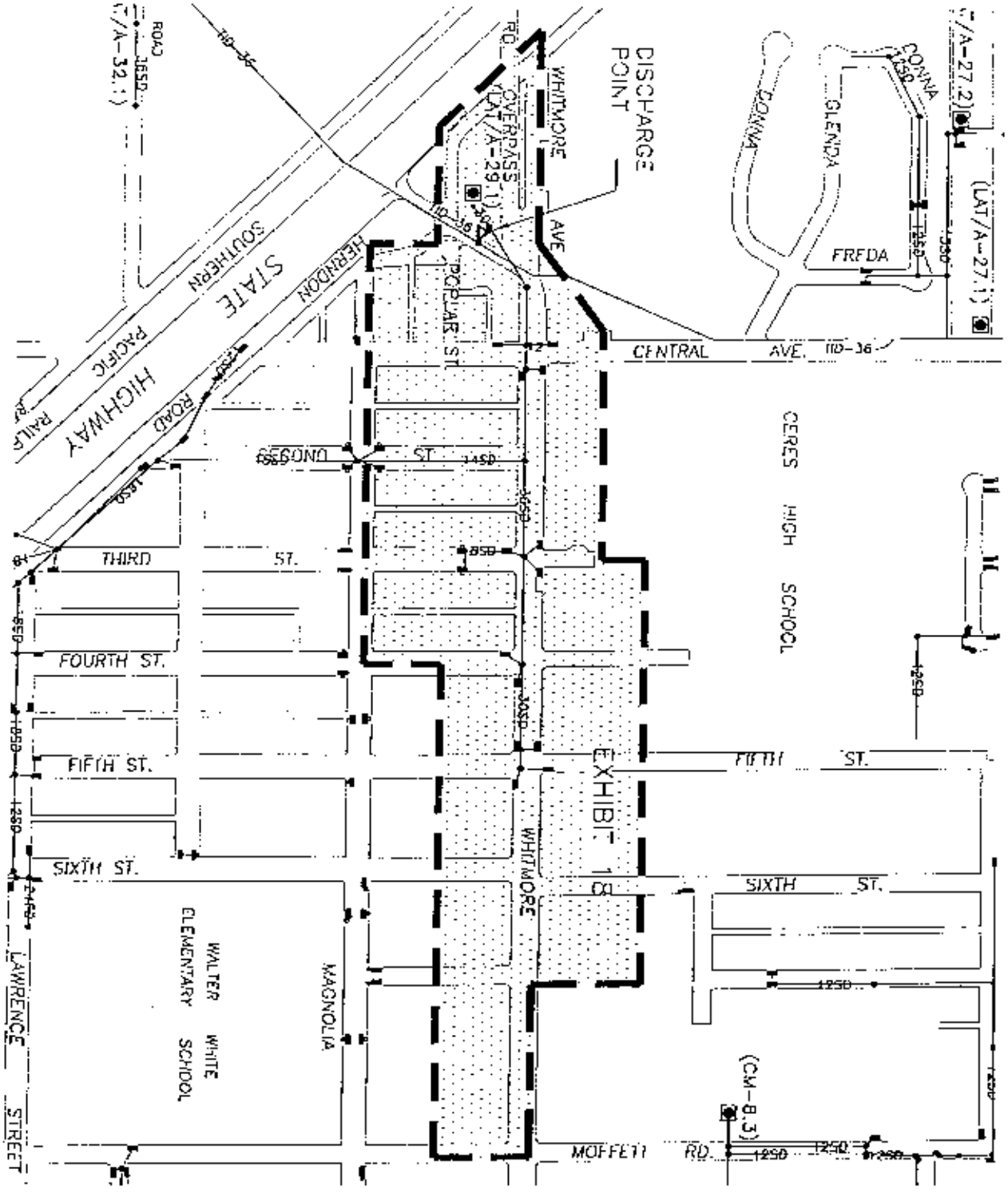


EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: WHITMORE (29) DISCHARGE: LATERAL A DRAINAGE: 50 ACRES GPM: 1800	1" = 500' NORTH
18			

EXHIBIT NO. 19 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 19

Name: Kinser (32)

Discharge into: Lateral A

Location: South side Kinser East of Mckittrick

Acreage to be drained: 51 acres

Description of Discharge Point Facilities: Duplex submersible 5 HP pumps mounted in a 6' diameter wet pit that is approximately 11' deep. A single 6" discharge line runs to Lateral A.

Maximum rate of discharge authorized at this discharge point:

1500 g.p.m.

The turn off setting of the automatic sensor system shall be:

_____ feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

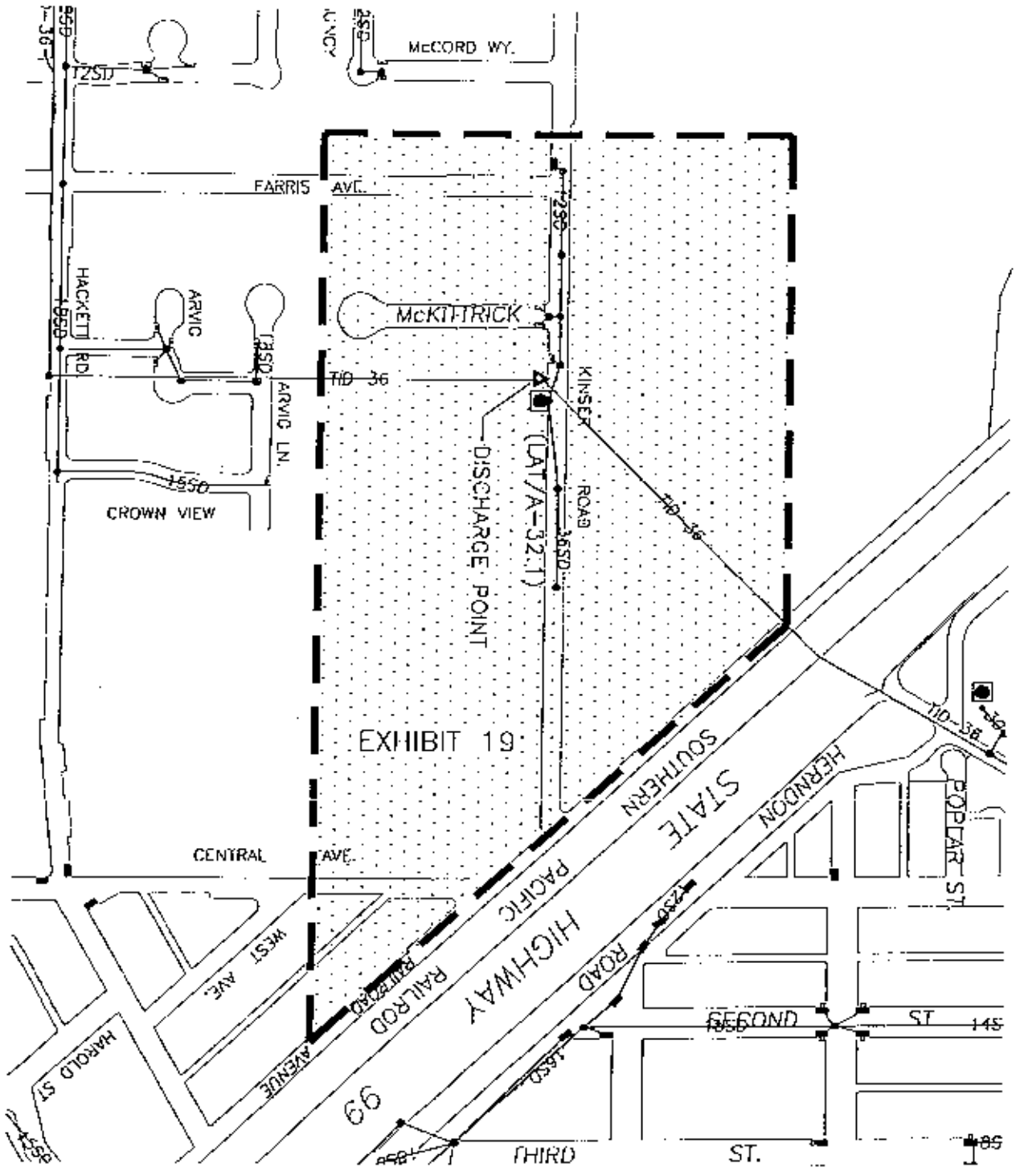
Improvement District	Initial Prorate Share
I.D. 343, McBride Branch I.D. 533, Lateral A	Cost shares included in calculation on Exhibit 16

Special conditions applicable to this discharge point:

Approved by: R Alegre 8-26-96

Assistant General Manager Engineering Date

3/4/96 form\drainage



J. FRANCO
4/22/96
EXHBTS.DWG

EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: KINSER (32) DISCHARGE: LATERAL A DRAINAGE: 51 ACRES GPM: 1500	1" = 400' NORTH
19			

EXHIBIT NO. 20 TO

CITY OF CERES

MASTER STORM DRAINAGE AGREEMENT

No.: 20

Name: Blaker

Discharge into: Lateral 2

Location: North side of Lateral 2 @ Blaker

Acreage to be drained: * 1013 acres

Description of Discharge Point Facilities: Duplex submersible pumps mounted in a 6' diameter wet pit . Size of the discharge lines has not been determined at this time.

Maximum rate of discharge authorized at this discharge point:

4500 g.p.m.

The turn off setting of the automatic sensor system shall be:

85.40 feet/USGS elevation

Licensee's initial cost share of improvement district assessments from the following improvement districts are as follows:

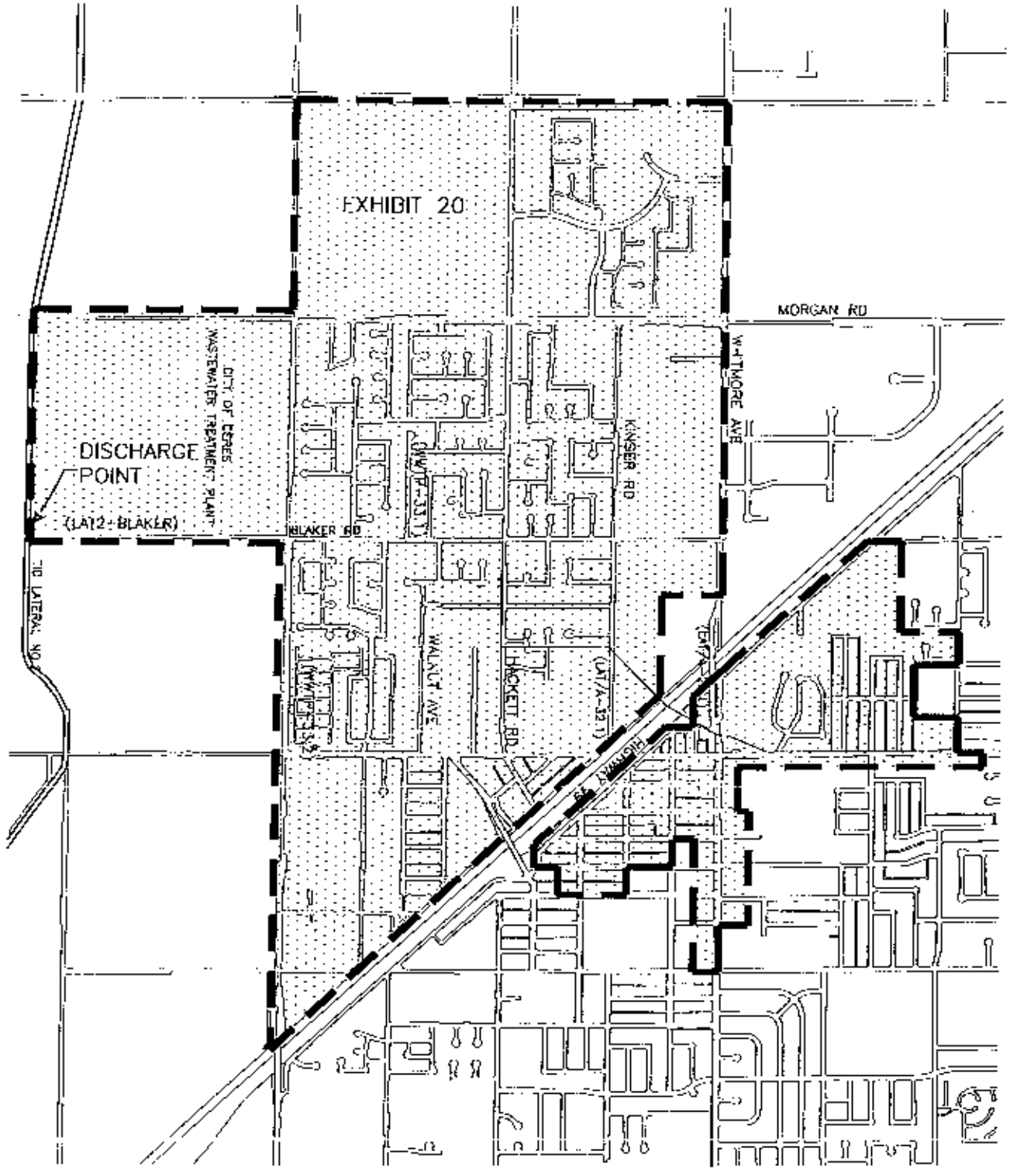
Improvement District	Initial Prorate Share

Special conditions applicable to this discharge point:

Approved by: A Aleyto 8-26-96

Assistant General Manager Engineering Date

* Includes all areas presently draining into lateral A.



J. FRANCO
4/5/96
EXHBTMP.DWG

EXHIBIT NO.	CITY OF CERES MASTER STORM DRAIN AGREEMENT	NAME: BLAKER DISCHARGE: LATERAL 2 DRAINAGE: 1013 ACRES GPM: 4500	1" = 1800' NORTH
20			

Appendix C -- Ceres Drainage Areas

Basin #	Name	Tributary Area, acres	Type of Disposal
River Watershed			
12	River Oaks	101	Undeveloped
13	River Park	263	Detention basin and pump station to river discharge
20	Spring Meadows	144	5 Retention basins, no discharge to river
21	Peachwood	172	Direct discharge to river
18	Euro Village	111	1 Retention basin, no discharge to river
19	Nadine	111	1 Retention basin, 1 Detention basin and pump station to river discharge
Percolation Watershed			
26	Rockefeller	215	2 Retention Basins, no discharge to river
28	Sequoia	76	Rockwell percolation
30	Walter White	92	French drains
15	Wallin	14	Rockwell percolation
17	Central	16	Rockwell percolation
Faith Home Spill Watershed			
4A	Roeding	166	Undeveloped
4B	Roeding	192	Undeveloped
4C	Future	195	Undeveloped
55	Future	137	Undeveloped
56	Future	119	Undeveloped
57	Future	235	Undeveloped
58	Alpine Meadows	180	Undeveloped
59	Persephone	200	Undeveloped
Ceres Main Canal Watershed			
1A	Service/Redwood A	147	Undeveloped
1B	Service/Redwood B	155	Undeveloped
1C	Service/Redwood C	47	Undeveloped
2	Service/Mitchell	55	No basin or pump station; drains to area 3
3	Roeding Heights	223	1 Retention basin, 2 detention basins with 4 pump stations to canal
5	Della	3	1 pump station to canal
6	San Ramos/Whitmore	94	3 pump stations to canal
7	Persephone	131	2 Detention basins and 1 pump station to canal
8	Smyrna	173	2 Detention basins and 3 pump stations to canal
9	Fowler	160	4 Detention basins and 4 pump stations to canal
10	Valley Gardens	48	1 pump station to canal
53	Future	241	Undeveloped
35	Barrygrove	77	1 Detention basin with pump station to canal
Lateral 1 Canal Watershed			
14	The Parks	53	2 Detention basins and pump station to canal
16	Payne	16	Percolation only
23	Independence	343	2 Retention basins; 2 Detention basins w/ pump station to canal
24	K-Mart	21	1 pump station to canal
25	Thrifty	14	1 pump station to canal
34	Northridge	50	1 Detention basin with pump station to canal

Basin #	Name	Tributary Area, acres	Type of Disposal
Lateral 2 Canal Watershed			
36	Service/Moffett	40	Undeveloped
37	Service/Central	185	Undeveloped
38	Service/Blaker	165	Undeveloped
39A	West Pointe	146	1 Detention basin and 1 pump station
39B	Future	160	Undeveloped
40	Future	43	Undeveloped
41	Future	40	Undeveloped
42	Future	180	Undeveloped
43	Proctor & Gamble	133	Private system with full retention
44	Future	80	Undeveloped
45	Future	203	Undeveloped
46	Future	200	Undeveloped
47	Future	283	Undeveloped
48	Future	413	Undeveloped
49	Future	138	Undeveloped
50	Future	268	Undeveloped
51	Future	217	Undeveloped
52	Future	39	Undeveloped
53	Future	30	Undeveloped
WWTP Watershed			
27	Hollister	107	2 pump stations to Lateral A
29	Whitmore	50	1 pump station to Lateral A
31	Downtown	47	Gravity to Area 29
32	Kinser	51	1 pump station to Lateral A
33	Don Pedro	740	1 Retention basin; 4 Detention basins and 2 pump stations
22	--	na	1 Detention basin and 1 pump station to river thru area 21

Summary of Disposal Type Areas

	Acres	Percent of Area
Direct Discharge	172 ac	4.4%
Detention Basins with discharge to canal or river	3063 ac	78.0%
Percolation or Retention Basins	684 ac	17.6%
Total	3919 ac	100%
Undeveloped Areas	4556 ac	
Private System	133 ac	

Appendix D
Riverbank – MID Agreement

STORM DRAINAGE
LICENSE - AGREEMENT NO. 7344

This Agreement is made on October 12, 1999, by and between the MODESTO IRRIGATION DISTRICT, an irrigation district organized and existing under the laws of the State of California, hereinafter referred to as "District", and the CITY OF RIVERBANK, a municipal corporation, hereinafter referred to as "Licensee."

This Agreement is made with reference to the following facts:

(a) District owns, maintains and operates a distribution system, consisting in very general terms, of canals, pipelines, ditches, weirs and appurtenant facilities for the transportation, control and distribution of irrigation water to lands within the District. Said water system is hereinafter referred to as District's "system";

(b) Storm waters accumulate from time to time in the general area as shown on Exhibit "A" (Three Hundred-Fifty Seven Acres in the area lying north and south of Morrill Road between Oakdale Road and Roselle Avenue) attached hereto, hereinafter referred to as the "Drainage Area" which Drainage Area is subject to Licensee's jurisdiction and/or control;

(c) Licensee seeks District's permission to discharge said accumulated storm waters from the Drainage Area into District's system at District's facility known as the Main Canal, north of Morrill Road and east of Oakdale Road from storm water drainage inlet and pumping facilities to be constructed by Licensee, or which Licensee will cause to be constructed, hereinafter referred to as "drainage facilities"; and

(d) District, as an accommodation in furtherance of the public interest and welfare, is willing to grant such permission on certain terms and conditions.

NOW THEREFORE, the parties hereby agree as follows:

1. On the terms and conditions hereinafter set forth, District hereby grants to Licensee District's permission for Licensee to discharge said accumulated storm waters into District's system and to install, maintain and operate necessary and appropriate drainage facilities for said discharge.

2. The drainage facilities shall be strictly limited as to type, location and capacity to those specific drainage facilities shown and described in Exhibit "B," attached hereto and by this reference made a part hereof, and all discharges of water by Licensee, pursuant to the permission granted by this Agreement, shall be made by and through those drainage facilities.

3. The drainage facilities shall meet all of the following design parameters:

(a) Drainage runoff from a two-inch storm shall be held 24 hours in the City's drainage basin and/or piping prior to pumping into the District's Main Canal.

(b) Basic pump station shall be designed to District standards and shall be reviewed and approved by the District prior to construction.

(c) A totalizer flow meter shall be installed by licensee at the pump station discharge. The flow meter shall be located at a location acceptable to District.

(d) The pump station flow rate shall be no greater than 20 gallons per minute for each acre.

(e) The drainage facilities shall have a maximum aggregate drainage capacity not greater than that shown on Exhibit "B" to this Agreement, and shall be equipped with a positive shut-off control by which any and all discharges of water may be shut off immediately at any time by District or Licensee.

4. Any and all discharges of water by Licensee, pursuant to the permission granted by this Agreement, shall be in strict accordance with the following provisions:

(a) Licensee shall, at all times, so regulate Licensee's discharges as not to exceed the capacity of the District's Main Canal, taking into consideration the amount of water already in, or about to be in, said canal.

(b) Licensee shall not discharge water into District's system at a time, or in an amount, that will create a risk of harm to any District facilities, or that will cause water to overburden any District facilities.

(c) Licensee shall not discharge water into District's system at a time, or in an amount, that will create a risk of harm to property of any kind or character from flooding or otherwise.

(d) Licensee shall not discharge water into District's system at a time, or in an amount, that will interfere with the operation, maintenance or repair of that system, or any part of it.

(e) Licensee shall not discharge water, in any quantity or amount, into District's system which is not of a quality entirely suitable for agricultural or irrigation uses and purposes, or which is deleterious, or potentially deleterious, in any degree, to plant or animal life. In the event that District has reason to believe that water discharged into District's system by Licensee contributes to, causes, or threatens to cause the degradation of the quality of the water in District's system, Licensee shall immediately cease making any such discharge, and such discharge shall be resumed only after such condition has been resolved to the satisfaction of the District.

(f) Licensee shall be responsible for the water quality discharged into District's system and shall ensure that all water so discharged complies with all applicable federal, state and local laws, rules and regulations, including without limitation water quality standards. Any damage to the environment, surface water or groundwater as a result of any discharge by Licensee, shall be solely the responsibility of Licensee.

(g) If any order to cease is made at any time by the California State Water Resources Control Board, a Regional Water Quality Control Board, or any other governmental authority of any kind, concerning the quality of water being discharged by Licensee into District's system pursuant to the permission granted by this Agreement, Licensee shall immediately cease making any such discharges and such discharges shall be resumed only after the complaint has been withdrawn or otherwise resolved, to the satisfaction of the District.

(h) District may at any time and for any reason, or for no reason, direct Licensee to immediately discontinue making discharges into District's system pursuant to this Agreement. Upon receiving notice from the District that discharges are to be discontinued, Licensee shall immediately discontinue making such discharges, and discharges shall not be resumed until specifically and expressly permitted by District.

5. Licensee shall pay District such annual fee in lawful money of the United States of America as District may require, now or in the future, to compensate District for receiving into its system water discharged pursuant to the permission granted by this Agreement. The fee shall be based upon the capacity of, or the total volume discharged from, Licensee's drainage facilities. The amount of the fee shall be fixed and determined from time to time in the exercise of District's discretion by its Board of Directors. The fee shall be due and payable when billed and it will be prorated in the event that the period of time involved is less than a year. In addition to the foregoing, Licensee shall compensate the District for all expenses reasonably incurred by the District which result from Licensee's discharge of storm waters into the District's system. Such expenses shall include, but not be limited to, costs of removing District maintenance equipment, additional labor costs incurred by District, alterations or repairs to District's system made necessary as a result of the discharges, clean up costs incurred by District and any fines, penalties or other charges imposed on District as a result of or in connection with the discharges. Pursuant to the terms and conditions of the First Amended and Restated Permission Agreement between the City of Riverbank and the Modesto Irrigation District, dated as of December 28, 1998, the District is providing the use of its canals for storm drainage purposes under this Agreement in lieu of paying certain fees under the Permission Agreement. Accordingly, there shall be no annual fee imposed pursuant to this Paragraph 5.

6. Except as specifically provided for in this Agreement, no alteration, improvement, installation or construction or use shall be made or permitted by Licensee in, under, along, across, upon, or in respect to, District's system or facilities, without the prior written consent of District.

7. Licensee shall not use or cause District's land to be used in any manner that will interfere with, be inconsistent with, or jeopardize the safety of any use or purpose of District. In the event District shall at any time so require for District's use or protection of its properties or facilities, Licensee, at Licensee's expense, shall promptly alter or relocate the drainage facilities.

8. (a) Licensee shall not use, generate, manufacture, store or dispose of on, under or about District's system, facilities or property, or transport to, from or across District's system, facilities or property, any flammable, explosive or radioactive material, toxic substance, hazardous waste, hazardous material, hazardous substance, or the equivalent, as those terms may

now or in the future be defined by common practice or by any federal, state or local statute, ordinance or regulation or any governmental body or agency (hereinafter "Hazardous Substance").

(b) Without limiting any remedies District may have, in the event any disposal, release, discharge or spill of a Hazardous Substance or other contamination (collectively an "Occurrence") occurs within District's system, facilities or property as a result of Licensee exercise of rights hereunder, Licensee shall immediately notify District and take all action to mitigate the effects of such Occurrence, to the extent such Occurrence is attributable to or caused by Licensee or its agents, employees, representatives or contractors. Furthermore, to the extent such Occurrence is attributable to or caused by Licensee or its agents, employees, representative or contractors, Licensee shall (at Licensee's own expense), unless otherwise directed by District, remediate such Occurrence to District's reasonable satisfaction and in compliance with all applicable laws, rules and regulations. District shall have the option to perform the remediation itself or through any contractor and Licensee shall cooperate with District to complete the remediation and shall reimburse District for all reasonable costs and expenses incurred in connection with the remediation of an Occurrence to the extent such Occurrence is attributable to or caused by Licensee or its agents, employees, representatives or contractors.

(c) In the event Licensee observes any material Licensee believes or has reason to believe may be a Hazardous Substance or encounters any unknown physical condition of any unusual nature on Districts system, facilities or property, other than disposal, releases, discharges, spills or contamination covered in (b), Licensee shall, without disturbing the condition, immediately cease all discharges hereunder and notify District. District shall investigate the condition and take any clean-up or other remedial action District deems necessary in its sole discretion.

(d) In the event District or its contractor elects to perform remediation work, Licensee shall upon written notice from District, cease all discharges into District's system as directed in the notice. District will notify Licensee when the condition has been resolved, at which time, but not before, Licensee may resume discharges in accordance with this Agreement.

(e) Licensee agrees to assume liability for and to defend and hold harmless District from and against any and all injuries or death to any person and damage to any property, and all related expense, including without limitation reasonable attorneys' fees, investigators' fees, litigation expenses and any judgements, fines, penalties or other charges assessed against District, resulting from Licensee's failure to comply with this Paragraph 8 and any laws, rules or regulations concerning the subject matter hereof. The provisions of this Paragraph 7 shall survive the expiration and termination of this license.

9. District shall make every reasonable effort to avoid loss of or damage to any of the drainage facilities referred to in Exhibit B to this Agreement. Licensee shall make no claim against District for, or on account of, any such loss or damage caused by or suffered in connection with District's operations or activities.

10. This Agreement is made on the express condition that District shall be free from all liability and claims for damages by reason of any injury to or death of any person, or persons,

or damage to property of any kind whatsoever and to whomsoever belonging, arising out of or in any manner connected with the acts, omissions or negligence of Licensee or Licensee's employees agents or contractors. In this regard, Licensee hereby agrees to and shall defend, indemnify and hold harmless District, its directors, officers, agents, representatives and employees, from and against any and all claims, damages, loss, liability and expenses, including court costs and attorney's fees, arising out of or on account of injury to or death of any person or loss of or damage to any property as hereinabove mentioned.

11. If Licensee's exercise of rights under this Agreement, including the construction, use or maintenance of the drainage facilities, or any portion thereof, causes damage, injury, impairment or degradation to District's system, including the Main Canal, or any other property or facilities of District, Licensee shall, at its sole cost and expense, repair said damage, injury or degradation upon notice by the District. Any such repair shall be performed in a timely manner and shall be in strict accordance with plans acceptable to the District.

12. The permission granted by this Agreement is personal, revocable and unassignable, and such permission constitutes a bare license only. This Agreement does not grant or create an easement, or does it convey or transfer to Licensee any right, title or interest in or to any property or facility of District. All rights granted hereunder are subject and subordinate to all uses and purposes District may now or in the future make of its system or any part of it, or of any other facilities or property of District.

13. In the event that this Agreement is terminated or cancelled, or Licensee abandons or ceases to use the drainage facilities for the agreed purpose, all rights granted hereunder to Licensee shall terminate and Licensee, at its expense, shall remove Licensee's improvements or take other closure action reasonably acceptable to District, and restore District's system, facilities and property to their original condition or to a condition reasonably acceptable to District. Such removal and restoration shall be accomplished in a good and worker like manner, and Districts property shall be restored, as nearly as possible, to the condition it was in immediately prior to the installation of Licensee's drainage facilities. Licensee shall at Licensees expense, promptly repair any damage to District's system, facilities or property caused by such removal or restoration. Licensee shall be deemed to have abandoned the irrigation and drainage facilities if District's land is not used by Licensee for the purposes set forth in this Agreement for any consecutive sixty (60) month period.

14. Licensee shall at the request of District and at Licensee's expense remove from District's system, any silt, leaves or other debris caused to be deposited in said system by discharges of water made pursuant to the permission granted by this Agreement.

15. This Agreement supersedes all prior negotiations of the parties hereto and contains the entire Agreement of such parties on the matters covered hereby. This Agreement may not be modified orally, or in any manner, other than by an agreement in writing signed by both of the parties hereto.

16. Licensee shall not assign this Agreement or attempt to assign the License created hereby and any such assignment or attempted assignment shall be void. Whenever this Agreement requires an act to be performed by Licensee, such activity may be performed by

Licensee, its employees, agents, or persons or entities operating under a contract with Licensee; provided that no contract or subcontract shall relieve Licensee of any of its liabilities or obligations under this Agreement, and Licensee agrees that it is fully responsible to the District for the acts and omissions of Licensee's employees, agents, contractors, and subcontractors, and of persons either directly or indirectly employed by them in the performance of the activities.

17. All drainage facilities shall be installed at Licensee's expense and in strict accordance with plans and specifications which shall be subject to District's examination and approval in advance of the installation and any future modifications of said facilities. Such examination and approval shall not impose any duties or obligations on District, nor shall they relieve Licensee of the sole responsibility for the plans, specifications or work, or relieve Licensee of its contractual responsibilities hereunder. Following their installation, the drainage facilities shall be maintained in good and safe operating condition by, and at the expense of Licensee. The District shall have no duty or obligation to maintain the drainage facilities.

18. No right granted hereunder to the District to review, examine or approve any plans, designs or work of Licensee, or to order the discontinuance of discharges, shall impose any duty or obligation on District, nor shall any such right relieve Licensee of the sole responsibility for the plans, designs, work, and discharges, or relieve Licensee of its contractual responsibilities hereunder.

19. Licensee shall not perform any work within District's system during any Irrigation Season which would interfere with the delivery of irrigation water. That time period during a particular year in which District determines to use its system for the delivery of irrigation water shall be referred to as the "Irrigation Season." The parties hereto are mindful of the fact that District's Irrigation Season ordinarily, but not necessarily, ends at the end of October and begins the first of March the following year.

20. If any of Licensee's privileges or duties under this Agreement are to be performed by any independent contractor or contractors, Licensee shall, effectively and appropriately, bind such contractor, or contractors, contractually to the duties and obligations of Licensee hereunder. In that connection Licensee shall, among other requirements, require such contractor, or contractors to indemnify and hold District harmless from and against any and all claims, damages, loss, liability and expenses, including court costs and attorney's fees, arising out of or on account of injury to or death of any person or persons, or damage to property of any kind whatsoever and to whomsoever belonging, arising out of or in any manner connected with said contractor, or contractors, acts or omissions exercising Licensee's privileges or performing Licensees duties created by this Agreement.

21. The District makes no representations as to, and does not warrant the condition of District's system, facilities or property, or any part thereof, either at the inception of this Agreement or as to any future point in time. In entering into this Agreement, the District neither warrants nor represents that it will continue to operate its system, including the Main Canal, in any particular manner or condition, or at all. In the event that said Main Canal is in District's opinion, no longer required for the transmission of water, or is no longer in a condition suitable for the transmission of water, the District shall so notify Licensee, and this Agreement and the License granted hereby shall be deemed terminated. Upon such

termination, Licensee, at its sole cost and expense, shall immediately make alternate arrangements for the drainage of storm waters from its property by means of facilities other than those owned or operated by the District.

22. Licensee shall observe, comply with and execute all present and future orders, regulations, directions, rules, laws, ordinances and requirements of all governmental authorities (including but not limited to state, municipal, county and federal governments and their departments, boards, bureaus and official) in connection with and shall obtain all permits (including, without limitation, NPDES permit) required for its performance under this Agreement.

23. This Agreement is made solely for the benefit of Licensee, and it is not made for the benefit of any person, firm, association, corporation or public entity not a party hereto, and no person, firm, association, corporation or public entity other than Licensee shall have any right to enforce this Agreement.

24. Except as set forth in Paragraph 16 above, the terms and provisions of this Agreement shall inure to the benefit of and bind the successors in interest and assigns of each party.

25. Each term and each provision of this Agreement performable by Licensee shall be construed to be both a covenant and a condition.

26. Either party may cause to be recorded a copy of this Agreement in the records of the County Recorder of Stanislaus County.

The parties have caused this Agreement to be executed on the day and year first above written.

CITY OF RIVERBANK

By _____
Richard Holmer
City Manager

Attest:

By _____
City Clerk

Approved as to form:

By _____
City Attorney

MODESTO IRRIGATION DISTRICT

By _____
General Manager
Allen Short

By _____
Secretary

By _____
Assistant General Counsel

P:\LEGAL\AGREEMEN.TS\JOYS\STMDRAN.RIVERBANK.DOC
9-9-99

RESOLUTION NO. 99-138
APPROVING STORM DRAINAGE LICENSE AGREEMENT BETWEEN MODESTO IRRIGATION DISTRICT AND THE CITY OF RIVERBANK

BE IT RESOLVED, That the Board of Directors of the Modesto Irrigation District does hereby approve that certain Storm Drainage License Agreement by and between Modesto Irrigation District and the City of Riverbank. Said Agreement permits the City of Riverbank to drain accumulated storm water from the 357 acres in the area lying north and south of Morrill Road, Oakdale Road and Roselle Avenue in the MID Main Canal. Reference is hereby made to said Agreement for full facts and circumstances.

FURTHER RESOLVED, That the General Manager is authorized to execute said Agreement, on behalf of the District, upon final legal approval.

Moved by Director Van Groningen, seconded by Director Kidd, that the foregoing resolution be adopted.

The following vote was had:
Ayes: Directors Billington, Hensley, Kidd, Van Groningen and Warda
Noes: Directors None
Absent: Directors None
The President declared the resolution adopted.

o0o

I, Vickie Ehrler, Secretary of the Board of Directors of the MODESTO IRRIGATION DISTRICT, do hereby CERTIFY that the foregoing is a full, true and correct copy of a resolution duly adopted at a regular meeting of said Board of Directors held the 12th day of October, 1999.

Secretary of the Board of Directors
of the Modesto Irrigation District

City of Riverbank

Resolution No. 99-142

A Resolution of the City Council of the City of Riverbank Authorizing the City Manager to Sign on Behalf of the City of Riverbank Discharge Agreement Identified as Riverbank Watershed MID 1.

Whereas, The City of Riverbank and Modesto Irrigation District have prepared a Storm Water Discharge; and

Whereas, The City of Riverbank City Council hereby authorizes the City Manager to negotiate and sign said agreement for and on behalf of the City.

Now, Therefore, Be It Resolved by the City Council of the City of Riverbank as follows:

Section 1.

The City Manager is hereby authorized to negotiate and sign the Discharge Agreement identified as Riverbank Watershed MID 1 for and on behalf of the city of Riverbank.

Passed and adopted this 13th day of September, 1999, by the following vote:

Ayes: Councilmembers White, Gutierrez, O'Brien, Lineberger, and Mayor Benitez
Noes: None.
Absent: None.
Abstain: None.

Attest:

Elise A. Smurzynski
City Clerk

Approved:

Sandra Benitez
Mayor

CERTIFICATION
I hereby certify the foregoing is a true and correct copy of the original document on file in the office of the City Clerk of the City of Riverbank.

Glory A. Joiner, Deputy City Clerk

Dated: 9-24-99

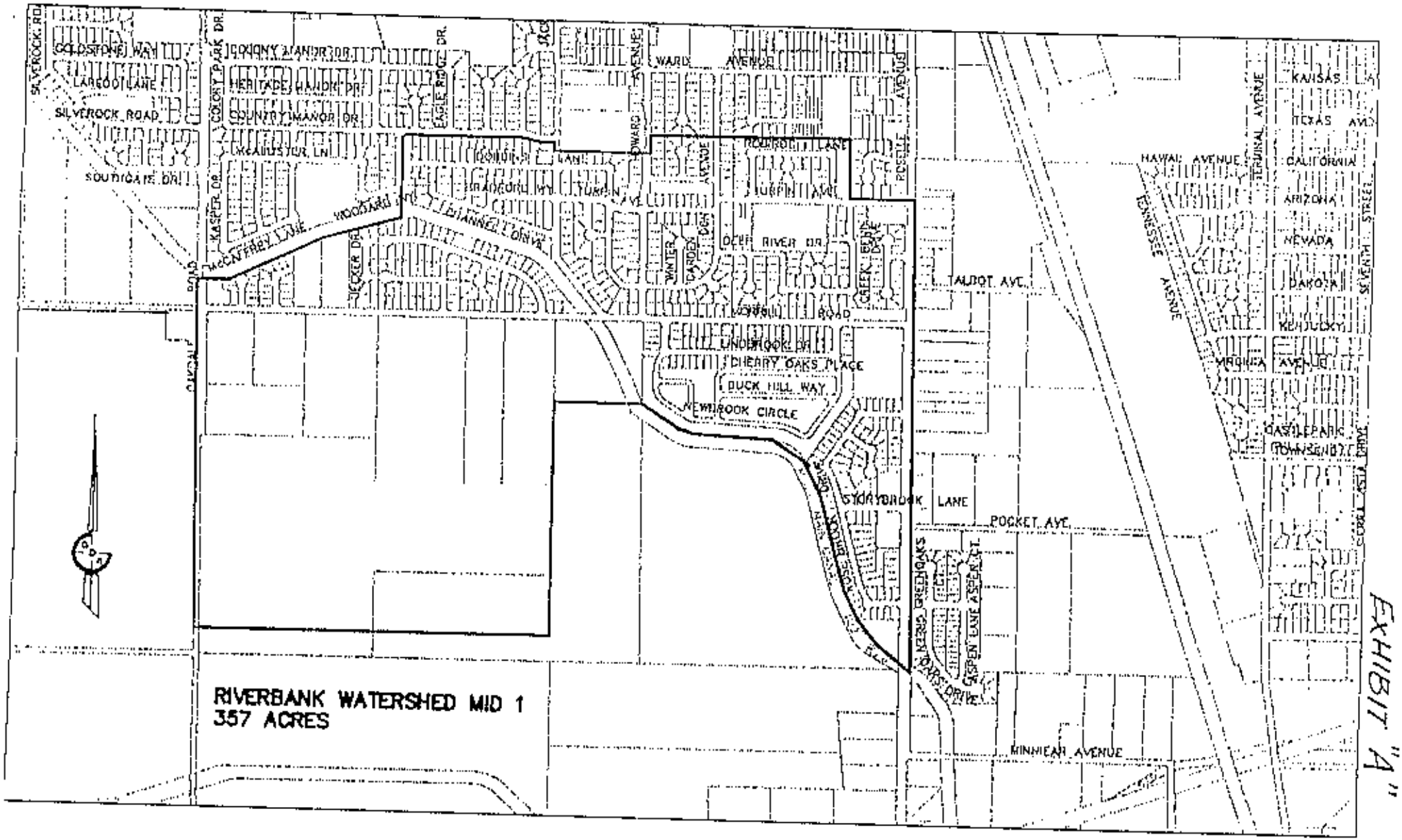

SILVEROCK RD.
GOLDSTONE WAY
LARGO LANE
SILVEROCK ROAD
SOUTHGATE DR.
COLONY PARK DR.
COLONY MANOR DR.
HERITAGE MANOR DR.
COUNTRY MANOR DR.
CREEKBUSTER LN.
EAGLE RIDGE DR.
WARD AVENUE
EDWARD AVENUE
ROSELLE AVENUE
KASPER DR.
McCAFFREY LANE
WOODYARD ROAD
DECKER DR.
TURPIN AVE.
WINTER GARDEN AVENUE
DEER RIVER DR.
CREEK EDGE DRIVE
TALBOT AVE.
LOWELL ROAD
UNDERBROOK DR.
CHERRY OAKS PLACE
DUCK HILL WAY
NEWBROOK CIRCLE
STORYBROOK LANE
POCKET AVE.
GREENOAKS
ASPEN LANE
ASPEN CT.
MINNEAN AVENUE
HAWAII AVENUE
KANSAS
TEXAS AVE.
CALIFORNIA
ARIZONA
NEVADA
DAKOTA
KENTUCKY
VIRGINIA AVENUE
OAKLEIGH PARK
TOWNSEND
SEVENTH STREET
RIVERBANK WATERSHED MID 1
357 ACRES

EXHIBIT "A"

Appendix E
Suggested Outline for Stormwater Pollution Prevention Training for Municipal Activities Field Crews and the Building Department

I. What is the Storm Water Pollution Prevention Program?

A. A nationwide program that requires cities over 10,000, industries, and new construction over 1 acre to prevent the release of pollution and sediment in stormwater runoff to streams and lakes.

B. A program focused on source control rather than end of pipe treatment like a sewer system.

II. Why is my City required to participate?

A. The federal Clean Water Act requires all cities over 10,000 to begin to implement a Storm Water Management Plan (SWMP) by March 10, 2003. Failure to comply can result in fines of up to $25,000 per day.

B. Urban runoff contains a wide variety of dirt, debris, chemicals, animal waste, and fertilizer. Simple source control behaviors can significantly reduce pollution.

III. What are the things we have to do? What are my assignments?

A. The 6 Minimum Control Measures

B. #1 Public Education and Outreach

C. #2 Public Involvement

D. #3 Illicit Discharge Elimination

1. Observation of community behaviors like crankcase oil dumping
2. TV Inspection of storm drains for illegal connections
3. Enforcement protocol

E. #4 Construction BMPs

1. State BMP Handbooks
2. SWPPP and NOI for the State General Permit for Construction Activities required before we issue a Building Permit
3. Inspection of construction site for BMP effectiveness

F. #5 Post Construction BMPs

1. State BMP Handbooks
2. Part of the plan review process before we issue a Building Permit.
3. Constructed with the project
4. Post construction Agreement and annual inspection

G. #6 Municipal Activities

1. Cover or contain potential pollutants at the Corporation Yard, like vehicle maintenance, chemical storage, construction debris.
2. Pollution prevention activities while out doing maintenance or repair on city streets, pipelines, etc.
3. Routine maintenance of storm drainage basins.
4. Street sweeping

5. Solid waste and hazardous waste removal and disposal for the community.

IV. When do we have to do them?

A. 5 Year Permit Period
B. The 5 Year Workplan
C. Adaptive Management
D. Annual report to the RWQCB

V. Who Is in Charge?

A. City Team with inter-related responsibilities
B. The Permit's team leader is
C. Reporting to the Regional Water Quality Control Board

VI. What are other cities doing? How can we get more help or good ideas?

A. Model Urban Runoff Program – book or website
B. Storm Water Quality Task Force
C. Cities over 100,000 have been under SW permits since 1991. So they have lots of ideas and resources on what works and what doesn't.

VII. How does this program get funded? What if we need more people to do the work?

A. Funding from the city's revenues, not the federal or state government
B. Expected cost is about $1-3 per city resident per year
C. The City's SWMP is organized so that each department that has some responsibility can assign tasks to the most qualified personnel. It is unlikely to increase the staffing in any one area by a whole person.

Documents Referenced

Ceres
General Plan, 1993, J. Laurence Mintier & Assoc.
Standard Specifications
Storm Drain Study and Master Plan , 1995, Lew-Garcia-Davis
Water and Sewer Service Fee Review, 2001, Tulloch Engineering

Oakdale
General Plan, 1994
Standard Specifications

Patterson
Master Storm Drain Plan, Western Expansion Area, 2001, Stoddard & Assoc.
Standard Specifications, 1995
Storm Drainage Master Plan, 1992, Santina & Thompson, Inc.

Riverbank
General Plan, 1992
Draft Storm Drainage Study and Master Plan, Feb 2002, GDR Engineering

Other
Model Urban Runoff Program, July 1998, City of Monterey et al, sponsored by USEPA Agency Assistance Agreement with the SWRCB