

Section 5: Recommended Capital Improvement Program

5.1 Storm Drainage System Recommendations Based on the Following:

- Storm drainage analysis from the development of multiple-storm water models;
- The NRCS-TR55 for the 8000 acres of adjoining watershed consisting of grazing land covered with native vegetation or agricultural land use for row crops;
- Separate HYDRA model for the proposed 920 acre Miravale Development;
- Separate HYDRA model for existing storm drainage collection and disposal system for approximately 1273 acres within the current city limits;
- Combined HYDRA model for Miravale III and City of Soledad existing San Vicente Road storm drain system and the proposed storm drain outfall to Salinas River for piping system design for 10 year storm but required to convey the storm water for 100 year storm.

The system recommended capital improvements have been grouped, based on: drainage basin as listed in Table 5-1 through Table 5-2; categorized by priorities as listed in Table 5-8; indicated on plan sheet 2007 CIP Improvements Maps Figures 5-1 through 5-7.

5.2 Assumptions

A number of assumptions have been made in developing the recommended capital improvement projects:

- The City's compiled GIS storm drainage system has some errors in it and will require field verification during preliminary stages of design of future storm drainage projects.
- Pipe sizing may be revised due to differences in the modeled versus the actual design tributary sub-area, slope of existing pipe, or material of the proposed pipe. Detailed sizing and routing studies should be performed during pre-design to determine project specific criteria and to investigate alternate alignments and pipe materials.

- The new pipelines were generally routed along streets, parks and open space. In most cases the modeled pipes were based on current GIS contour maps or contour maps provided by the developers engineering firm, and in most cases pipe slopes were estimated from ground elevations, which is reasonable overall, but may not reflect the actual pipe slope within a reach. Also, the modeled tributary drainage areas may not be exactly the same as the actual tributary areas.
- Replacement pipes are generally not recommended if the required replacement pipe diameter is only one standard pipe size larger than the existing pipe size, and surface flows would not result in ponding or flooding. During re-design, the age and condition of the existing storm drains should also be considered in determining if replacement is warranted.
- The Capital Improvement Projects cost estimates are planning level capital costs and include construction costs plus 40 percent for legal, administration, engineering, and contingencies. All costs presented are in 2007 dollars and are based on the unit prices shown in tables 5-1 through 5-6.
- Facilities to serve future developments are a part of the capital improvement projects. Future storm drain extensions will need to be designed to accommodate specific developments as they are planned and constructed. The City will need to review projects that are designed and built by developers to ensure adequate ultimate capacity in the system. The information presented herein is intended to serve as a sizing guideline.

5.3 Capital Improvement Projects

The list of recommended capital improvements in Table 5-1 includes the following:

- Verification (design capacity) of improvements that were required from the 2000 storm drain impact fee study, but insufficient funds, large inflation cost of material, and the increase acquisition costs have delayed the improvements.
- To correct capacity deficiencies of existing drainage system.
- Improvements required for proposed and future development for next 20 years.
- Improvements required for development within long term 50 year Sphere of Influence planning.

The projects have been grouped based on the drainage basin.

Unit capital costs include construction costs, but do not include 45 percent for engineering, legal, administration, and contingencies. Different unit cost alternatives are used in this analysis. These storm drain piping alternatives are outlined below:

- Unit costs reflect Reinforced Concrete Pipe (RCP), where the piping is to be installed in existing city streets, and where existing utilities and improvements will restrict access.
- Unit costs reflect High Density Polyethylene (HDPE) Pipe, where the piping is to be installed in open fields or along existing rural streets where existing utilities and improvements are minimal.
- Unit cost is added for manholes, catch basins, and/or pavement reconstruction, depending on where the new storm drain is located.
- Unit costs are based on Saylor's 2007 Current Construction Costs Publication, recent bids on similar work, and engineering experience.

The calculations for the various drainage basins show the future storm drains, peak flows to accommodate build out development, and pipe sizes for build out flows. Tables 5-1 through 5-7 summarize the estimated improvements and related capital costs for the recommended improvements. The list of capital improvement projects needed is based on the aforementioned calculations to correct both existing deficiencies and to accommodate growth.

Table 5-1(A)
Lower San Vicente Drainage Basin

Item	Description	Estimated Quantity	Unit	Unit Price	Extension
	<u>Offsite Improvements</u>				
1.	Acquisition of a 20-foot wide permanent storm drain easement (1.80 ± acres)	3,920	LF	\$70	\$274,400
2.	Acquisition of a 20-foot wide temporary construction easement (1.80 ± Acres)	3,920	LF	\$35	\$137,200
3.	Replacement of crop revenue for one 90 day planting cycle	3.6	AC	\$150,000	\$540,000
4.	Installation of a 96-inch DIA HDPE storm drain pipeline including manholes, excavation, separation of top soil, backfilling, compaction (pipe zone 95% - top soil 80%) and testing for a complete and operation pipeline	3,920	LF	\$300	\$1,176,000
5.	Storm drain discharge structure at the city regional drainage basin adjacent to W.W.T.P.	1	Job	LS	\$100,000
6.	Bore and Jack 108-inch steel casing beneath S.R. 101 at Caltrans over crossing bridge, including 96-inch carrier pipe, access structure at each end, excavation, sheeting, shoring, bracing of bore and receiving pits, backfill, compaction and testing for a complete and operational pipeline.	300	LF	\$1,500	\$450,000
7.	Bore and Jack 108-inch steel casing beneath U.P.P.R. Railroad north of the Caltrans over crossing bridge, including 96-inch carrier pipe, access structure at each end, excavation, sheeting and shoring bracing of bore and receiving pits, backfill compaction and testing for a complete and operational pipeline.	100	LF	\$2,000	\$200,000
8.	Crop production insurance within pipe alignment	1	Job	LS	\$50,000

Table 5-1(A)
Lower San Vicente Drainage Basin

<u>Onsite Improvements</u>					
9.	Acquisition of 20-foot wide permanent storm drain easement (0.97 ± Acre)	2,100	LF	\$70	\$147,000
10.	Acquisition of 20-foot wide temporary construction storm drain easement (0.97 ± Acre)	2,100	LF	\$35	\$73,500
11.	Installation of a 96-inch DIA RCP storm drain pipeline including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	2,300	LF	\$400	\$920,000
12.	Connection to existing 96-inch storm drain pipe at existing manhole within San Vicente Rd. at Market St., including the required removal of the existing 18-inch storm drain, replacement with 96-inch RCP, pavement removal, excavation, backfilling, compaction, pavement with aggregate base replacement, traffic control and testing for a complete and operational pipeline.	1	JOB	LS	\$100,000
Subtotal					\$4,168,100
Engineering, Legal, Administration, and Contingency @ 40%					\$1,667,240
Total Improvements					\$5,835,340

Table 5-1 (B)
Lower San Vicente Drainage Basin

The following improvements to the existing highway drainage basin between State Route 101 and Front Street provides for diversion of Western Front Street sub-basin (part of the Lower San Vicente Basin) storm water and a portion of the lower San Vicente basin storm water with the addition of the bypass connection between the future 96-inch storm drain at the point it crosses the existing 36-inch storm drain in Front Street. With this proposed enlargement of the highway detention basin and the addition of a control structure and a new storm drain pipeline (less than 100LF) would be installed between the enlarged basin and existing 60-inch storm drain. This allows a portion of the storm water that was diverted from the Central Basin (Gabilan Drive proposed improvements) to the upper San Vicente Basin to the Lower San Vicente Basin back to the Central Basin. This first diversion reduces the impact to the original system south of Gabilan Drive and the second diversion redirects the storm water back to original 60-inch out fall line and reduces the impact to the Western Front Street sub-basin.

The elimination of Toledo Park drainage basin with the installation of the proposed Gabilan Drive storm drain from West Street to Toledo Street will increase the peak flows in the existing 84-inch San Vicente Road storm drain between Gabilan Drive and Market Street. Larger storm events will exceed the capacity of the existing 84-inch storm drain with the excess flow surface draining down the existing street surface of San Vicente Road to Front Street.

It is highly probable that this drainage solution would also provide an interim solution for the development of a portion of North Entry Commercial Specific Plan Area, with the completion of the onsite improvements per table 5-1(A) at an estimated most probable cost of the \$1,736,700.00 dollars. This interim solution would require the development of a site specific new stormwater Hydra Model with the proposed improvements of both tables 5-1(A) and 5-1(B). The development of this model would have to be based on a current topographic survey of the existing Front Street drainage system (elevations based on a city benchmark) or as-built plans of all the Front Street storm drainage improvement including the existing Highway Drainage Basin.

Item	Description	Estimated Quantity	Unit	Unit Price	Extension
1.	Acquisition of parcels from the California Department of Transportation and UPRR railroad to enlarge the existing 3.3± AC highway drainage basin	3.3	ACRE	\$150,000	\$495,000
2.	Enlarge and deepen the highway drainage basin (to approx. 6.6 AC)	50	ACFT	\$10,000	\$500,000
3.	Install Duplex Storm Drain Pump Station (increases discharge flow of existing 60-inch storm drain and empty basin)	1	JOB	LS	\$300,000
4.	Install detention basin discharge reinforced concrete structure (also inlet structure of 36-inch storm drain)	1	JOB	LS	\$50,000
5.	Install 36-inch RCP storm drain (between control structure and existing 60-inch storm drain)	100	LF	\$175	\$17,500
6.	Install storm drain manhole (connection 36-inch storm drain to 60-inch storm drain)	1	JOB	LS	\$15,000
7.	Basin landscaping	1	JOB	LS	\$200,000
8.	Fencing	1	JOB	LS	\$50,000
Subtotal					\$1,627,500
Engineering, legal, administration, and contingency @ 40%					\$651,000
Total Drainage Improvements					\$2,278,500

Table 5-2 (A)
Upper San Vicente Drainage Basin

Alternate 'A' diversion of impacted existing central basin drainage system keeping Toledo Park Retention Basin functioning, to the Upper San Vicente Basin and the lower San Vicente Basin. Estimated improvement cost is for drainage deficiency. Do not include as part of development impact nexus study (pipe sizes per Hanna & Brunetti 2000 Storm Drain impact fee study).

Item	Description	Estimated Quantity	Unit	Unit Price	Extension
1.	Installation of 42-inch RCP storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	1,300	LF	\$225	\$292,500
2.	Installation of 36-inch RCP storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	400	LF	\$210	\$84,000
3.	Installation of 30-inch RCP storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	700	LF	\$180	\$126,000
4.	Trench pavement grinding, disposal and replacement of asphalt pavement with aggregate base	2,400	LF	\$30	\$72,000
5.	Connection to existing storm drain manhole at West Street	1	JOB	LS	\$10,000
6.	Connection to existing 12-inch storm drain pipe from Santana Park Detention Basin at Andalucia Court	1	JOB	LS	\$10,000
7.	Connection to existing 42-inch storm drain at Toledo Street	1	JOB	LS	\$10,000
8.	Traffic Control	1	JOB	LS	\$30,000
Subtotal					\$634,500
Engineering, legal, administration, and contingency @ 40%					\$253,800
Total Improvements					\$888,300

Table 5-2 (B)
Upper San Vicente Drainage Basin

Alternate 'B' diversion of impacted existing central basin drainage system with the elimination of Toledo Park Retention Basin (Basin to be filled and converted to a neighborhood park) to the upper San Vicente Basin and the lower San Vicente Basin. Estimated improvement cost is for drainage deficiency. Do not include as part of development impact nexus study (pipe sizes per Hanna & Brunetti 2000 storm drain impact fee study).

Item	Description	Estimated Quantity	Unit	Unit Price	Extension
1.	Installation of 54-inch RCP storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	1,300	LF	\$275	\$357,000
2.	Installation of 48-inch RCP storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	2,300	LF	\$250	\$575,000
3.	Installation of 42-inch RCP storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	700	LF	\$225	\$157,500
4.	Trench pavement grinding, disposal and replacement of asphalt pavement with aggregate base	4,300	LF	\$35	\$150,500
5.	Connection to existing storm drain manhole at San Vicente Rd.	1	JOB	LS	\$10,000
6.	Connection to existing 12-inch storm drain pipe from Santana Park Detention Basin at Andalucia Court	1	JOB	LS	\$10,000
7.	Connection to existing storm drain manhole at Toledo Street.	1	JOB	LS	\$100,000
8.	Traffic Control	1	JOB	LS	\$45,000.00
9.	Restoration of Toledo Park including, but not limited to, import of suitable fill (30 ± AF) placement and compaction of fill for future park improvements	1	JOB	LS	\$300,000
Subtotal					\$1,705,000
Engineering, legal, administration, and contingency @ 40%					\$682,000
Total Improvements					\$2,387,000

Table 5-3
Miravale III (San Vicente-Mirrasou) Drainage Basin

Only that portion of the Miravale III proposed storm drainage collection system for approximately 180 acres of offsite future development areas

Item	Description	Estimated Quantity	Unit	Unit Price	Extension
1.	Installation of 54-inch HDPE storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	1,300	LF	\$225	\$292,500
2.	Installation of 48-inch HDPE storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	1,800	LF	\$200	\$360,000
3.	Installation of 42-inch HDPE storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	3,000	LF	\$175	\$525,000
4.	Installation of 36-inch HDPE storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	1,800	LF	\$150	\$270,000
5.	Basin 1 Drainage Structures	1	JOB	LS	\$20,000
6.	Basin 2 Drainage Structures	1	JOB	LS	\$30,000
Subtotal					\$1,497,500
Engineering, legal, administration, and contingency @ 40%					\$599,000
Total Improvements					\$2,096,500

Table 5-4(A)
Northwest Expansion (Moranda Drainage Basin)

Item	Description	Estimated Quantity	Unit	Unit Price	Extension
	<u>Offsite Improvements</u>				
1.	Acquisition of a 25-foot wide permanent storm drain easement (5,92 ± acres)	10,300	LF	\$90.00	\$927,000
2.	Acquisition of a 20-foot wide construction storm drain easement (4,73 acres)	10,300	LF	\$35.00	\$360,500
3.	Replacement of crop revenue for one 90 day planting cycle	10.65	AC	\$150,000	\$1,597,000
4.	Installation of 144-inch dia. HDPE storm drain pipe including access structure, (max of 10 ea.), excavation with separation of topsoil, disposal, backfilling, compaction (pipe zone 95% - top soil 80%) and testing for a complete and operation pipeline	10,300	LF	\$675.00	\$6,952,500
5.	Storm drain outfall structure at the Salinas River	1	Job	LS	\$300,000
Subtotal					\$9,837,000
Engineering, Legal, Administration, and Contingency @ 40%					\$3,934,800
Total Offsite Improvements					\$13,771,800

Table 5-4(B)
Northwest Expansion (Moranda Drainage Basin)

Item	Description	Estimated Quantity	Unit	Unit Price	Extension
	<u>Onsite Improvements</u>				
1.	Acquisition of open space, linear park and Detention Basin 'A' in fee ownership	70	AC	\$100,000	\$7,000,000
2.	Construction of storm drain basin 'A'	700	ACFT	\$2,500	\$1,750,000
3.	Acquisition of open Space, linear park and Detention Basin 'B' in fee ownership	20	AC	\$150,000	\$3,000,000
4.	Construction of storm drain basin 'B'	200	ACFT	\$2,500	\$500,000
5.	Acquisition of open space, linear park and Detention Basin 'C' in fee ownership	10	AC	\$150,000	\$1,500,000
6.	Construction of storm drain basin 'C'	100	ACFT	\$2,500	\$250,000
7.	Installation of 96-inch dia. HDPE storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operation pipeline	5,800	LF	\$375	\$2,175,000
8.	Installation of a 72-inch dia. HDPE storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operation pipeline	7,800	LF	\$275	\$2,145,000
9.	Installation of 168-inch bore and jack steel casing beneath S.R. 101 and the B.N.S.F. railroad including 144-inch carrier pipe, access structure at each end, excavation, sheeting, shoring, bracing of bore and receiving pits, backfill, compaction and testing for a complete and operation pipeline	340	LF	\$2,000	\$680,000
Subtotal					\$19,000,000
Engineering, legal, administration, and contingency @ 40%					\$7,600,000
Total Onsite Improvements					\$26,600,000

Table 5-5
Caltrans Drainage Basin

The estimated improvement cost is for drainage deficient. Do not include as part of development impact nexus study

Item	Description	Estimated Quantity	Unit	Unit Price	Extension
1.	Installation of 30-inch RCP storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	600	LF	\$180	\$108,000
2.	Install 60-inch DIA storm drain reinforced concrete manhole with approved concrete collar	6	EA	\$9,000	\$54,000
3.	Install three (3) drainage inlets, 40 LF of 18-inch storm drain pipe, including all require demolitions and repairs	1	JOB	LS	\$26,000
Subtotal					\$188,000
Engineering, legal, administration, and contingency @ 40%					\$75,200
Total Drainage Improvements					\$263,200

Table 5-6
Los Coches Drainage Basin

The estimated improvement cost is for drainage deficient. Do not include as part of development impact nexus study

Item	Description	Estimated Quantity	Unit	Unit Price	Extension
1.	Installation of 42-inch RCP storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	300	LF	\$225	\$67,500.00
2.	Installation of 36-inch RCP storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	600	LF	\$210	\$126,000.00
3.	Installation 30-inch RCP storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	200	LF	\$180	\$36,000
4.	Installation of 27-inch RCP storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	200	LF	\$130	\$26,000
5.	Installation of 24-inch RCP storm drain pipeline, including manholes, excavation, disposal, backfilling, compaction and testing for a complete and operational pipeline	900	LF	\$100	\$90,000
6.	Installation of storm drain reinforced manhole with approved concrete collar	10	EA	\$7,000	\$70,000
7.	Connection to existing drainage inlets and install concrete plugs within storm drain laterals at inlets	5	EA	\$5,000	\$25,000
8.	Construction desilention basin	1	JOB	LS	\$200,000
9.	Storm Drain concrete structure at the Salinas River	1	JOB	LS	\$50,000
Subtotal					\$690,500
Engineering, legal, administration, and contingency @ 40%					\$276,200
Total Drainage Improvements					\$966,700

Table 5-7
Bryant Canyon Drainage Basin

Bryant Canyon is not part of City Storm Water Drainage System and outside the study area of this Master Storm Water Drainage Study. The following proposed improvement to the existing drainage channel were taken from the 2000 Storm Drain Impact Fee Study and are provided for information purpose only. The Bryant Canyon Drainage Channel was constructed by Monterey County and is under the jurisdiction of Monterey County Water Resources Agency. The previous 2000 Storm Drain Study recognized the storm water impacts of 1995 flooding and 1998 flooding from a very large drainage basin outside the jurisdiction of the City of Soledad. This study appears to quantify the deficiency of the existing drainage channel from both 1995 and 1998 flood in channel improvement and replacement of existing box culverts at Metz Road (State Hwy) and BNSF railroad. The following estimated costs are in 2000 dollars.

BRYANT CANYON DRAINAGE BASIN							
Project	Description	Pipe Size	Length	Unit Cost	Total Cost	Engineer's Legal, Admin., & Contingencies	Subtotals
6-A-S	SD Channel – Bryant Canyon above Metz Rd.						
	Channel Improvements		4500	\$110	\$495,000		
	Double box culverts X-Metz		80	\$1,500	\$120,000		
	Double box culverts X-UPRR		80	\$2,000	\$160,000		
	Box culvert at Gabilan X-Bryant Canyon Rd.		80	\$800	\$64,000		
					\$839,000	\$293,650	\$1,132,650

Table 5-7
Bryant Canyon Drainage Basin

6-A-N	SD Channel – Bryant Canyon Channel above Metz Rd.						
	Channel Improvements		3000	85	\$255,000		
					\$255,000	\$89,250	\$344,250
6-C	SD Diversion – Metz Road Greenleaf Estates Diversion						
	SD RCP, MH, CB, Pavement (X-Metz)	30	80	\$160	\$12,800		
	SD RCP, MH (Greenleaf)	48	1250	\$170	\$212,500		
					\$225,300	\$78,855	\$304,155
Subtotal for Bryant Canyon Drainage Basin					\$1,319,300		\$1,781,055

5.4 Future Development

New storm drain trunk mains will be required to serve future developments. For the purposes of planning, the trunk facilities proposed are assumed to serve the multiple adjacent developments. The local trunk storm drain piping within these developments will be the responsibility of the developer to size, install, and finance. When the developer installs pipe as outlined in the SDMP and provides calculations stating the size of the pipe required to serve the development alone, a reimbursement agreement should be prepared for the cost differential between the required and CIP proposed pipes should be approved by the City as part of the subdivision agreement. The reimbursement should come from future development to connect to CIP storm drain trunk mains. The sizes of the future development trunk mains are intended to serve as a guideline for the City to use in evaluating said projects. The slopes are based on existing available grade. The actual design details for the future storm drain trunk mains will depend upon specific development plans and studies.

5.5 Project Feasibly Studies

RMA recommends that alternate drainage concepts and preliminary engineering should be completed for the proposed large outfall storm drain pipeline that conveys very large volumes of stormwater from the City of Soledad to the Salinas River that only addresses flood protection of city, but also the permit requirements of the city current Municipal Separate Storm Sewer System (MS4) Permit, issued by the EPA as part of the National Pollution Discharge Elimination System (NPDES).

One suggestion alternate would be the creation of a large detention basin between the UPRR and State Highway 101 with the following concepts:

- Multiple Level Detention Basin
- Pedestrian and Bikeway Linear Park
- Pedestrian under crossing of the UPRR
- Highway Entry features, such as small lakes with large fountains at each end of the park
- Recharge of storm water and reclaim water
- Reclaim water irrigation system for Park Landscaping
- Small Duplex storm drain pump station to decrease the retention time of storm water within the basin.
- Cost saving from the decrease size of proposed 96-inch storm drain outfall pipeline and decreased impacts to storm water basin located within the waste water treatment plant.

5.6 Project Priorities

The priorities of the identified projects will be dependent on funding and development. In many cases, development is dependent on the construction of one or more of these projects. Interim detention ponds may be used to facilitate continued development, until the City has collected sufficient funds for the respective projects. The following list of priorities starts at the outfall at the Salinas River and proceeds upstream and/or is based on availability of sewer capacity and probability of the commencement of development projects. Any priority could be changed as development proposals change or as other conditions change.

Goals:

- Divert water from over capacity existing storm drain facilities.
- Divert runoff flows into storm drain infrastructure with available capacity.
- Relatively small cost projects that have large storm drainage impact.
- Serve areas with a development currently under construction that has no down stream trunk storm drain facilities.
- Improve existing infrastructure, or divert water from existing storm drain facilities that currently have no remaining capacity.

5.7 Implementation

Implementation of the capital improvement projects should be undertaken as soon as possible. Implementation activities should include:

- Incorporate capital improvement projects recommendations into the City's capital improvement projects list.
- Develop a plan for environmental review of projects.
- Coordinate the storm drainage projects with other construction projects such as sanitary sewers, water, gas electric, or telephone transmission facilities, or street paving projects that may share common alignments.

Table 5-8		
Priority 1 Improvements		
Project	Description	Estimated Capital Cost (*)
1-1	Acquisition of storm drain outfall pipeline 20 foot wide permanent easement and 20 foot wide construction easement from State Highway 101 overcrossing bridge to the city regional storm drainage basin at the Salinas River	\$411,600
		\$495,000
1-2	Acquisition of parcels of land from Department of Transportation and BNSF Railroad for expansion of the existing highway drainage basin	\$850,000
1-3	Enlarge existing highway drainage basin, and install a duplex storm drain pump station with discharge piping to the existing 60-inch storm drain outfall pipeline	\$32,500
1-4	Install 36-inch dia. diversion pipeline between Western Street sub-basin (440 ± LF)	\$920,500
1-5	Install storm drain piping from San Vicente Road and Market Street intersection to Front Street	

* Does not include Engineering, Legal, Administration and Contingency @ 40%

Table 5-8 (continued)			
Priority 2 Improvements			
Project	Description	Estimated Capital Cost (*)	
2-1	Install the 96-inch storm drain outfall pipeline within the acquire storm drain easement (Project 1-1) from city existing regional storm drainage basin to the BNSF railroad crossing at the CalTrans overcrossing bridge	\$1,276,000	
		\$450,000	
	2-2	Install bore and jack crossing beneath the BNSF Railroad Railroad Property.	
	2-3	Install bore and jack crossing beneath the State Route 101 right of way at the overcrossing bridge	\$200,000
2-4	Install 96-inch strom drain from State Route 101 crossing (Project 2-3) within and adjacent to Front Street to the 96-inch storm drain from San Vicente Road Market Street to Front Street (Project 1-5)	\$320,000	

* Does not include Engineering, Legal, Administration and Contingency @ 40%

Table 5-8 (continued)		
Priority 3 Improvements		
Project	Description	Estimated Capital Cost (*)
3-1	Install storm drain pipeline within Gabilan Drive from West Street to Miravale II drainage system at Toledo Street	\$672,000
3-2	The conversion of Miravale II (Toledo Park) Retention Basin to a small underground detention and desilting basin with the resoration of the existing basin (through importation of fill) to a neighborhood city park	\$700,000
3-3	Installation of a duplex storm drain pump station within the underground detention basin of Toledo Park to remove excess storm water and the daily landscape irrigation runoff	\$300,000
3-4	Install storm drain pipeline within Gabilan Drive from San Vicente Road to West Street	\$706,500
3-5	Install a duplex storm drain pump station within Veteran Park detention basin to accelerate the removal of excess storm water and the daily landscape irrigation runoff	\$300,000

* Does not include Engineering, Legal, Administration and Contingency @ 40%

Table 5-8 (continued)		
Priority 4 Improvements		
Project	Description	Estimated Capital Cost(*)
4-1	Install storm piping along north side of UPRR then North to Monterey and 4 th Street (600 +/- LF)	\$188,000
4-2	Install storm drain piping in Los Coches Industrial Park	\$579,500
4-3	Install diversion piping along Nestle Road between Caltrans Basin and Los Coches Basin	\$111,000
4-4	Piping within Miravale III for future development	\$1,447,000
4-5	Install storm drain basin and storm drain duplex pumping station for Miravale III	\$450,000

* Does not include Engineering, Legal, Administration and Contingency @ 40%

Table 5-8 (continued)		
Priority 5 Improvements		
Project	Description	Estimated Capital Cost(*)
5-1	Install a storm drainage basin for Moranda Basin offsite drainage	\$8,750,000
5-2	Install a storm drainage basin within Moranda Basin for future development of the Northwest Expansion	\$5,250,000
5-3	Acquisition of storm drain outfall easement for Northwest expansion.	\$1,287,500
5-4	Install a storm drain trapezoidal drainage channel from Camphoria-Gloria intersection with State Route 101 to the Salinas River for the Northwest expansion.	\$3,900,000

* Does not include Engineering, Legal, Administration and Contingency @ 40%

Figure 5-1
Proposed Lower San Vicente Basin
Storm Drain Improvements (Outfall Pipeline)

5-24

Figure 5-2
Proposed Upper San Vicente Basin
Storm Drain Improvements
(Gabilan Dr. – West St. to Toledo St)

Figure 5-3
Proposed Upper San Vicente Basin
Amended Storm Drain Improvements
(Gabilan Dr – San Vicente Rd to Toledo St.)

Figure 5-4
Proposed Caltrans Basin
Storm Drain Improvements

5-27

Figure 5-5
Proposed Los Coches Basin
Storm Drain Improvements

Figure 5-6
Proposed San Vicente-Mirrasou
Storm Drain Improvements

Figure 5-7
Proposed Bryant Canyon Basin
Storm Drain Improvements

5-30