# Salinas Valley Groundwater Basin
# Langley Aquifer Subbasin
# Groundwater Sustainability Plan

## VOLUME 3 APPENDICES

# APPENDIX 9A. COST ESTIMATES FOR PROJECTS

# Project A-3: Managed Aquifer Recharge of Overland Flow (Overland Flow MAR)

**Capital and Annualized Costs**
**Managed Aquifer Recharge of Overland Flow Project**
**(Preliminary Opinion of Probable Cost)**

| Line No. | Description | | Units | | Total |
|---|---|---|---|---|---|
| 1 | Project Yield | | acre-feet per year | | 100 |
| 2 | Facility Life | | years | | 25 |
| 3 | Interest Rate | | % | | 6 |
| 4 | Capital Cost | | $ | | $1,032,000 |
| 5 | Cost Recovery Factor | | -- | | 0.078 |
| 6 | Annualized Capital Cost | | $ | | $80,700 |
| 7 | Annual O&M Cost | | $ | | $6,000 |
| 8 | Total Annualized Cost | | $ | | $86,700 |
| 9 | **Unit Cost** | | $/AF | | **$870** |

| CAPITAL COSTS | | | | | |
|---|---|---|---|---|---|
| **Line No.** | **Capital** | **Quantity** | **Unit** | **Unit Cost** | **Total Cost** |
| 10 | Mobilization/Demobilization | 1 | LS | $47,000 | $47,000 |
| 11 | Environmental and Stormwater | 1 | LS | $62,000 | $62,000 |
| 12 | Off-Stream Recharge Basin | 8.5 | AC | $48,500 | $412,250 |
| 13 | Land Access | 1 | LS | $40,000 | $40,000 |
| 14 | *Subtotal* | | | | $561,250 |
| **Line No.** | **Markups** | **Quantity** | **Unit** | **Unit Cost** | **Total Cost** |
| 15 | Construction Contingency | | | 30% | $124,000 |
| 16 | General Conditions | | | 15% | $84,000 |
| 17 | Contractor Overhead and Profit | | | 15% | $84,000 |
| 18 | Sales Tax | | | 9.25% | $10,400 |
| 19 | Engineering, Legal, Admininstrative, Contingencies | | | 30% | $168,000 |
| 20 | ***Total Capital Cost*** | | | | $1,032,000 |

| OPERATIONS AND MAINTENANCE | | | | | |
|---|---|---|---|---|---|
| **Line No.** | **Description** | **Quantity** | **Unit** | **Unit Cost** | **Total Cost** |
| 21 | Detention Basin Maintenance | 1 | LS | $4,300 | $4,300 |
| 22 | Contingency | | | 30% | $1,300 |
| 23 | ***Total O&M Cost*** | | | | $6,000 |

NOTES:
1. "Project Yield" based on: Assumed 100 acre-feet per year.
2. "Facility Life" selected based on 25-yr anticipated life of facilities.
3. "Interest Rate" selected within expected range for public-financing options.
4. Line 11, Environmental and stormwater requirements, are estimated at 15% of capital base costs for off-stream basins.
5. Line 12 incldes construction of the recharge basin; this cost assumes inclusion of site civil earthwork and access road improvements.
6. Line 13 land access costs are those for acquiring access to land for construction through an easement, license, or other mechansim.
7. "Cost Recovery Factor" based on anticipated Facility Life and Interest Rate.

# Project A-4: Surface Water Diversion from Gabilan Creek

**Capital and Annualized Costs**
**Creek Diversion and Recharge**
**(Preliminary Opinion of Probable Cost)**

| Line No. | Description | | Units | | Total |
|---|---|---|---|---|---|
| 1 | Project Yield | | acre-feet per year | | 250 |
| 2 | Facility Life | | years | | 25 |
| 3 | Interest Rate | | % | | 6 |
| 4 | Capital Cost | | $ | | $5,477,000 |
| 5 | Cost Recovery Factor | | -- | | 0.078 |
| 6 | Annualized Capital Cost | | $ | | $428,500 |
| 7 | Annual O&M Cost | | $ | | $21,000 |
| 8 | Total Annualized Cost | | $ | | $449,500 |
| 9 | **Unit Cost** | | $/AFY | | **$1,800** |

**CAPITAL COSTS**

| Line No. | Capital | Quantity | Unit | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| 10 | Mobilization/Demobilization | 1 | LS | $100,000 | $100,000 |
| 11 | Environmental and Stormwater | 1 | LS | $291,000 | $291,000 |
| 11 | Earthwork/Site Preparation | 1 | LS | $10,000 | $10,000 |
| 12 | Diversion Structure | 1 | LS | $140,000 | $140,000 |
| 13 | Pipeline | 3200 | LF | $240 | $768,000 |
| 14 | Storage Basin (10 AF) | 0 | LS | $177,000 | $0 |
| 15 | Pump Station | 1 | LS | $540,000 | $540,000 |
| 16 | Equipment and Control Building | 625 | SF | $150 | $93,750 |
| 17 | Injection and Monitoring Wells | 0 | LS | $2,051,000 | $0 |
| 18 | Electrical, I&C | 1 | LS | $158,000 | $158,000 |
| 19 | Land Acquisiton | 15.7 | AC | $64,000 | $1,004,800 |
| 20 | *Subtotal* | | | | $3,105,550 |

| Line No. | Markups | Quantity | Unit | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| 21 | Plumbing Appurtenance Contingency | | | 30% | $421,000 |
| 22 | General Conditions | | | 15% | $466,000 |
| 23 | Contractor Overhead and Profit | | | 15% | $466,000 |
| 24 | Sales Tax | | | 9.25% | $86,200 |
| 25 | Engineering, Legal, Admininstrative, Contingencies | | | 30% | $932,000 |
| 26 | ***Total Capital Cost*** | | | | $5,477,000 |

**OPERATIONS AND MAINTENANCE**

| Line No. | Description | Quantity | Unit | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| 27 | Power | 1 | LS | $8,100 | $8,100 |
| 28 | Labor (Diversion Facilities, Basin) | 1 | LS | $3,200 | $3,200 |
| 29 | Equipment Repair & Replacement | 1 | LS | $2,500 | $2,500 |
| 30 | Miscellaneous Allowance | 1 | LS | $2,100 | $2,100 |
| 31 | Contingency | | | 30% | $4,800 |
| 32 | ***Total O&M Cost*** | | | | $21,000 |

NOTES:
1. "Project Yield" based on: 1,500 gpm max diversion 40 days per year producing approximately 250 AFY.
2. "Facility Life" selected based on 25-yr anticipated life of facilities.
3. "Interest Rate" selected within expected range for public-financing options.
4. "Capital Cost" excludes additional treatment costs.
5. "Cost Recovery Factor" based on anticipated Facility Life and Interest Rate.
6. "Annualized Capital Cost" based on facility life and interest rate.

# Project C1: Floodplain Enhancement and Recharge

**Capital and Annualized Costs**
**Floodplain Enhancement and Recharge**
**(Preliminary Opinion of Probable Cost)**

| Line No. | Description | | Units | | Total |
|---|---|---|---|---|---|
| 1 | Project Yield | | acre-feet per year | | 2,600 |
| 2 | Facility Life | | years | | 25 |
| 3 | Interest Rate | | % | | 6 |
| 4 | Capital Cost | | $ | | $12,596,000 |
| 5 | Cost Recovery Factor | | -- | | 0.078 |
| 6 | Annualized Capital Cost | | $ | | $985,400 |
| 7 | Annual O&M Cost | | $ | | $64,000 |
| 8 | Total Annualized Cost | | $ | | $1,049,400 |
| 9 | **Unit Cost** | | $/AF | | **$400** |

| **CAPITAL COSTS** | | | | | |
|---|---|---|---|---|---|
| **Line No.** | **Capital** | **Quantity** | **Unit** | **Unit Cost** | **Total Cost** |
| 10 | Mobilization/Demobilization | 1 | LS | $328,000 | $328,000 |
| 11 | Environmental and Stormwater | 1 | LS | $1,313,000 | $1,313,000 |
| 11 | No. 5, Natividad Road (Gabilan Ck) | 40 | AC | $48,500 | $1,940,000 |
| 12 | No. 6 Old Stage Natividad | 1.1 | AC | $48,500 | $53,350 |
| 13 | No. 7 Old Stage Alisal | 7.1 | AC | $48,500 | $344,350 |
| 14 | No 8 Old Stage Upper/Lower | 18.1 | AC | $48,500 | $877,850 |
| 1 | No. 11 Airport | 32.7 | AC | $48,500 | $1,585,950 |
| 2 | Land Access | 1 | LS | $450,000 | $450,000 |
| 2 | *Subtotal* | | | | $6,892,500 |

| **Line No.** | **Markups** | **Quantity** | **Unit** | **Unit Cost** | **Total Cost** |
|---|---|---|---|---|---|
| 3 | Construction Contingency | | | 30% | $1,440,000 |
| 4 | General Conditions | | | 15% | $1,034,000 |
| 5 | Contractor Overhead and Profit | | | 15% | $1,034,000 |
| 6 | Sales Tax | | | 9.25% | $127,500 |
| 7 | Engineering, Legal, Admininstrative, Contingencies | | | 30% | $2,068,000 |
| 8 | ***Total Capital Cost*** | | | | $12,596,000 |

| **OPERATIONS AND MAINTENANCE** | | | | | |
|---|---|---|---|---|---|
| **Line No.** | **Description** | **Quantity** | **Unit** | **Unit Cost** | **Total Cost** |
| 9 | Detention Basin Maintenance | 1 | LS | $49,500 | $49,500 |
| 10 | Contingency | | | 30% | $14,900 |
| 11 | ***Total O&M Cost*** | | | | $64,000 |

NOTES:
1. "Project Yield" based on: Estimated detention basin benefits as provided in February 2021 presentation, *Salinas Valley Stormwater Plan Implementation*, Watershed Coordinator Support.
2. "Facility Life" selected based on 25-yr anticipated life of facilities.
3. "Interest Rate" selected within expected range for public-financing options.
4. Line 11, Environmental and stormwater requirements, are estimated at 25% of capital base costs for in-stream basins.
5. Line 12 incldes construction of the recharge basin; this cost assumes inclusion of site civil earthwork and access road improvements.
6. Line 13 land access costs are those for acquiring access to land for construction through an easement, license, or other mechansim.
7. "Cost Recovery Factor" based on anticipated Facility Life and Interest Rate.
8. "Annualized Capital Cost" based on facility life and interest rate.

## Project C2: CSIP Expansion

**Capital and Annualized Costs**
**Expanded Area Served by CSIP**
**(Preliminary Cost Estimate)**

| Line No. | Description | | Units | | Total |
|---|---|---|---|---|---|
| 1 | Project Yield | | acre-feet per year | | 9,900 |
| 2 | Facility Life | | years | | 25 |
| 3 | Interest Rate | | % | | 6 |
| 4 | Capital Cost | | $ | | $73,366,000 |
| 5 | Cost Recovery Factor | | -- | | 0.078 |
| 6 | Annualized Capital Cost | | $ | | $5,739,400 |
| 7 | Annual O&M Cost | | $ | | $480,000 |
| 8 | Total Annualized Cost | | $ | | $6,219,400 |
| 9 | Unit Cost | | $/AF/yr. | | $630 |
| CAPITAL COSTS | | | | | |
| **Line No.** | **Capital** | **Quantity** | **Unit** | **Unit Cost** | **Total Cost** |
| 10 | Pipeline | 68,640 | LF | $500 | $34,320,000 |
| 11 | Booster Pump System, 5 MGD | 3 | EA | $34,139 | $102,400 |
| 12 | Turnouts | 26 | EA | $2,500 | $65,000 |
| 13 | Booster Station | 2 | EA | $1,500,000 | $3,000,000 |
| 14 | HDD | 800 | LF | $750 | $600,000 |
| 15 | *Subtotal* | | | | $38,087,400 |
| **Line No.** | **Markups** | **Quantity** | **Unit** | **Unit Cost** | **Total Cost** |
| 16 | Plumbing Appurtenance Contingency | | | 30% | $11,426,200 |
| 17 | General Conditions | | | 15% | $5,713,100 |
| 18 | Contractor Overhead and Profit | | | 15% | $5,713,100 |
| 19 | Sales Tax | | | 8.75% | $999,800 |
| 20 | Engineering, Legal, Admininstrative, Contingencies | | | 30% | $11,426,200 |
| 21 | *Total Capital Cost* | | | | $73,366,000 |
| OPERATIONS AND MAINTENANCE | | | | | |
| **Line No.** | **Markups** | **Quantity** | **Unit** | **Unit Cost** | **Total Cost** |
| 22 | Distribution System Maintenance | 3500 | Acre | $138 | $480,000 |
| 22 | *Total O&M Annual Cost* | | | | $480,000 |

NOTES:
1. "Project Yield" based on: avoided wet weather groundwater pumping based on historical puming records.
2. "Facility Life" selected based on 25-yr anticipated life .
3. "Interest Rate" selected within expected range for public-financing options.
4. "Cost Recovery Factor" based on anticipated Facility Life and Interest Rate.
5. "Unit Cost" estimate does not include unit cost for treatment components of project.