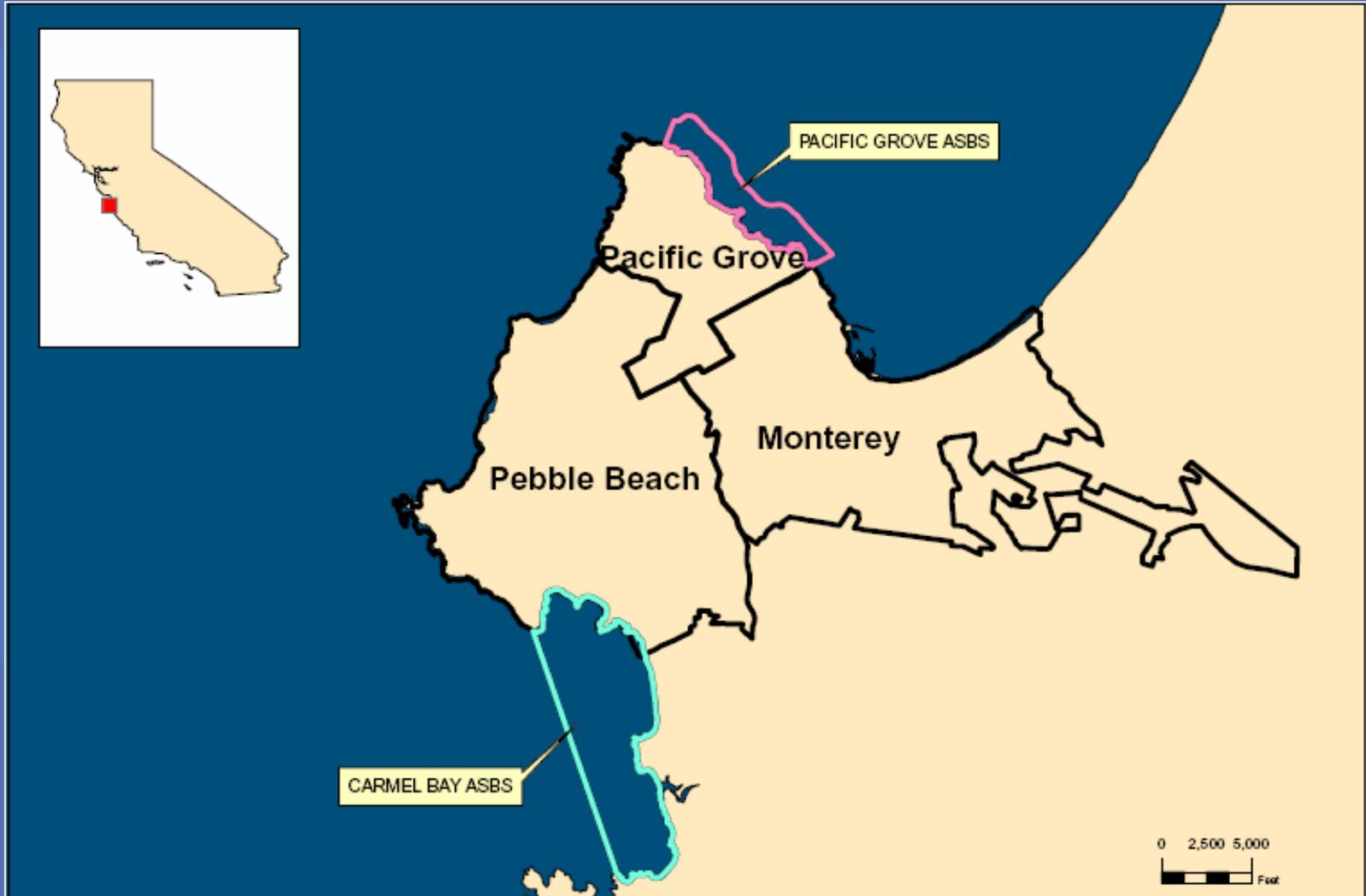




Monterey Area Integrated Regional  
Water Management Plan

Regional Areas of Special Biological  
Significance Alternatives Analysis



PROJECT NO.:  
5012-06-0009  
DATE:  
08/08/2006  
DESIGNED BY:



ASBS ALTERNATIVES  
ANALYSES

MONTEREY PENINSULA  
and AREAS of  
SPECIAL BIOLOGICAL

FIGURE

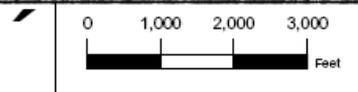
1.1



**Legend**

-  Existing Storm Drain Pipe
-  Pacific Grove Drainage Basin
-  Pacific Grove ASBS

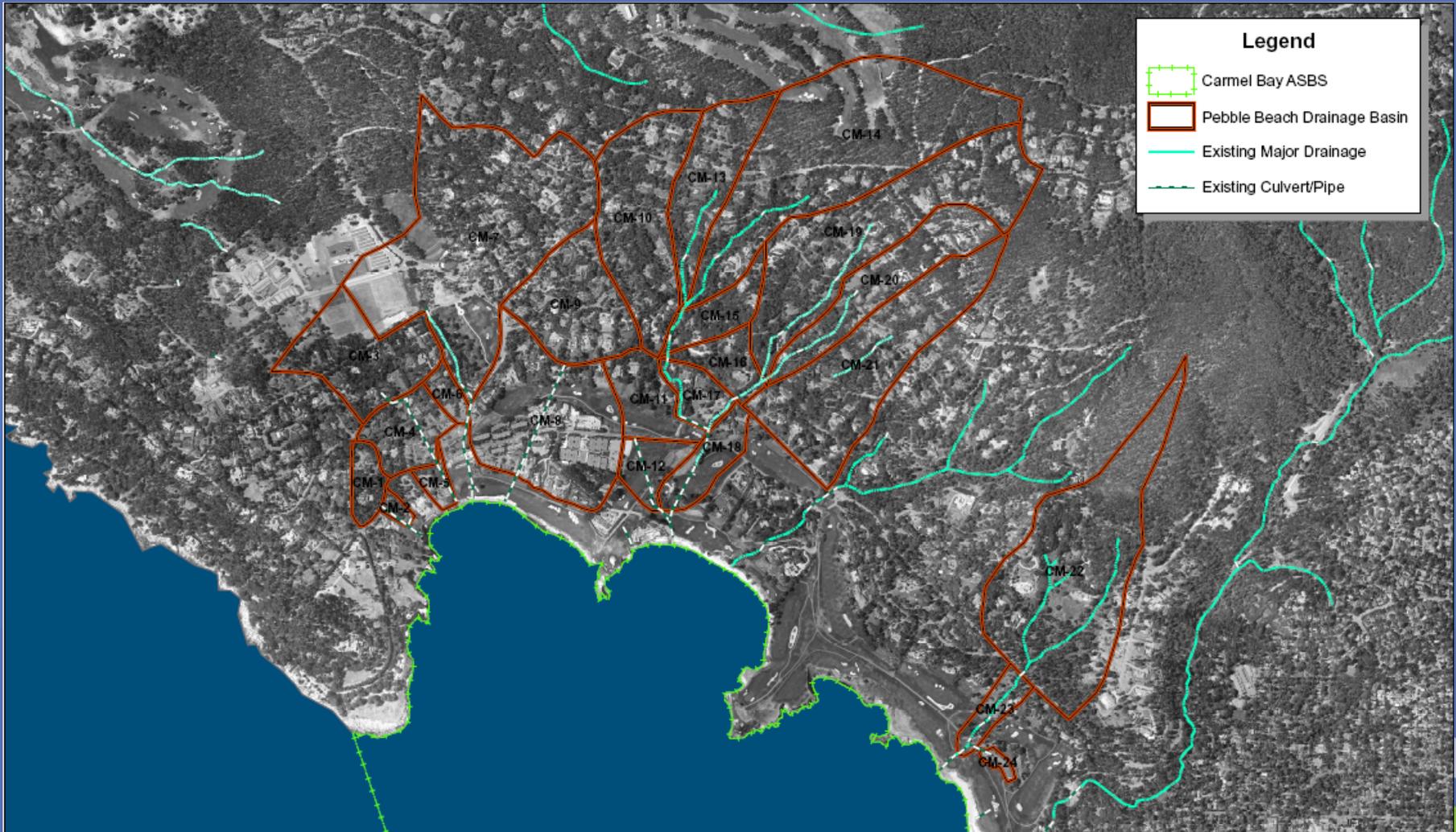
PROJECT NO.: 5012-06-0008  
 DATE: 07/17/2006  
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 CHECKED BY:



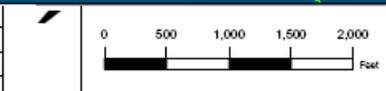
ASBS ALTERNATIVES  
 ANALYSES  
 Pacific Grove ASBS

BASIN DELINEATION AND  
 STORMWATER INFRASTRUCTURE

FIGURE  
 3-2



PROJECT NO.: 5012-06-0009  
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 CHECKED BY:



ASBS ALTERNATIVES  
 ANALYSES  
 Carmel Bay ASBS

BASIN DELINEATION AND  
 STORMWATER INFRASTRUCTURE

FIGURE  
 3-1



## Purpose of The Analysis To Date:

- Examine Ways To Meet “Waste” Discharge Prohibition.
- Explore Idea of Looking At The Water As A Valued Asset Rather Than As A Waste.
- Apply Relative Cost/Benefit Analysis.
- Consider All Alternatives That Would Attempt To Meet Discharge Prohibitions In A Regional Context.



## What We've Accomplished:

- Analysis was prepared by MACTEC and completed in July of 2006.
- Participants Included Monterey, Pacific Grove And The Pebble Beach Company.
- Looked At 22 Alternatives Across Both Carmel Bay And Pacific Grove ASBS.



## How It Was Done:

- Design Storm Events Were Selected:
  - ❖ 85<sup>th</sup> Percentile – 80% Capture Rate
  - ❖ 2-Year, 24 Hour Duration - 88% Capture Rate
  - ❖ 10-Year, 24 Hour Duration – 96% Capture Rate
  - ❖ 25-Year, 24 Hour Duration – 100% Capture Rate
- Target Design Constituents (TDCs) Were Selected
- Cost Effectiveness Ratios (CERs) Were Calculated Based Upon Annual Present Worth And Reduction Of TSS.



## Results:

- Not Possible To Capture And Treat All Flows.
- 85<sup>th</sup> Percentile, 80% Capture Rate Storm Provided Best CER
- Alternatives With The Best CER Were A Combination Of 1 And 2 For Carmel Bay ASBS And 3 For Pacific Grove ASBS.
- Estimated Cost For Implementing These: \$12.4 Million



## What's Left To Be Done, What's Changed?

- Carmel-By-The-Sea Has Submitted Exception Request And Is Interested In Being Included In the Analysis.
- There Is No Easy Solution To Our Water Shortage Issue.
- The Analysis To Date Has Been Broad Brush.
- Refinements To The Alternatives Could Result In Reduced Costs And Better CERs.



## What's Left To Be Done, What's Changed?

- We Need to Select A "Preferred Alternative" And Perform CEQA Analysis.
- More Intangible Factors Need To Be Taken Into Account (Such As Possibility Of A Demonstration Project).
- More Detailed Cost Estimates Are Needed.
- We Need To Be Ready To Move Forward If Funding Becomes Available



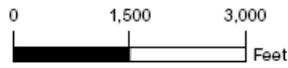
## Why Is This Analysis Important?

➤ This Is An Ideal Location To Test The Limits Of What Can Be Done.

- ❖ Compact Area
- ❖ Common Interests On The Peninsula
- ❖ We Have An Active Working Relationship Based Upon Our Regional Storm Water Permit
- ❖ We Want To Protect The Environment
- ❖ We Need Other Sources Of Water
- ❖ We Want To Explore What's Possible
- ❖ We've Laid The Groundwork
- ❖ This Be A Guidance Document That Can Help In Other ASBS



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 DRAWN BY: SKR  
 CHECKED BY:



ASBS ALTERNATIVES  
 ANALYSES  
 Pacific Grove ASBS

MONTEREY  
 IRRIGATION AREAS

FIGURE  
 3-3

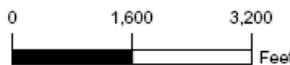
### Legend

 Pacific Grove Irrigation Areas

Information on each irrigation area can be found in Table 3-18



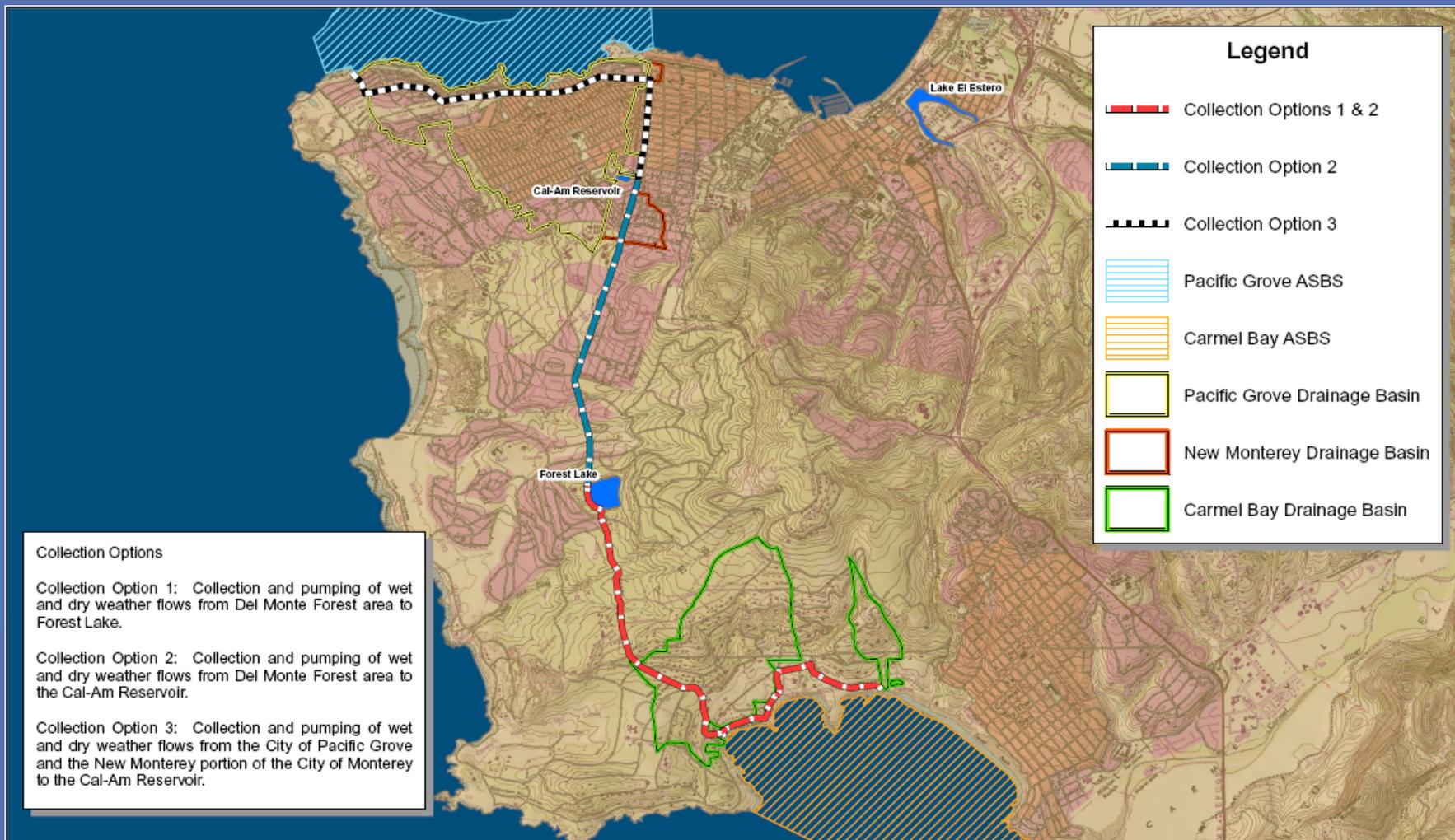
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 DATE: 07/17/2006  
 DRAWN BY: SKR  
 CHECKED BY: SKR



ASBS ALTERNATIVES ANALYSES  
 Pacific Grove ASBS

PACIFIC GROVE IRRIGATION AREAS

FIGURE 3-4



### Legend

-  Collection Options 1 & 2
-  Collection Option 2
-  Collection Option 3
-  Pacific Grove ASBS
-  Carmel Bay ASBS
-  Pacific Grove Drainage Basin
-  New Monterey Drainage Basin
-  Carmel Bay Drainage Basin

**Collection Options**

Collection Option 1: Collection and pumping of wet and dry weather flows from Del Monte Forest area to Forest Lake.

Collection Option 2: Collection and pumping of wet and dry weather flows from Del Monte Forest area to the Cal-Am Reservoir.

Collection Option 3: Collection and pumping of wet and dry weather flows from the City of Pacific Grove and the New Monterey portion of the City of Monterey to the Cal-Am Reservoir.

PROJECT NO: 0712-06-0009  
 DATE: 07/18/2006  
 DRAWN BY: DSM  
 CHECKED BY:

