POSEIDON WATER

Appendix Y
Implementation Schedules for Intake/Discharge Alternatives

Renewal of NPDES CA0109223
Carlsbad Desalination Project

Carlsbad Desalination Plant Intake/Discharge Project Schedules

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September 4, 2015

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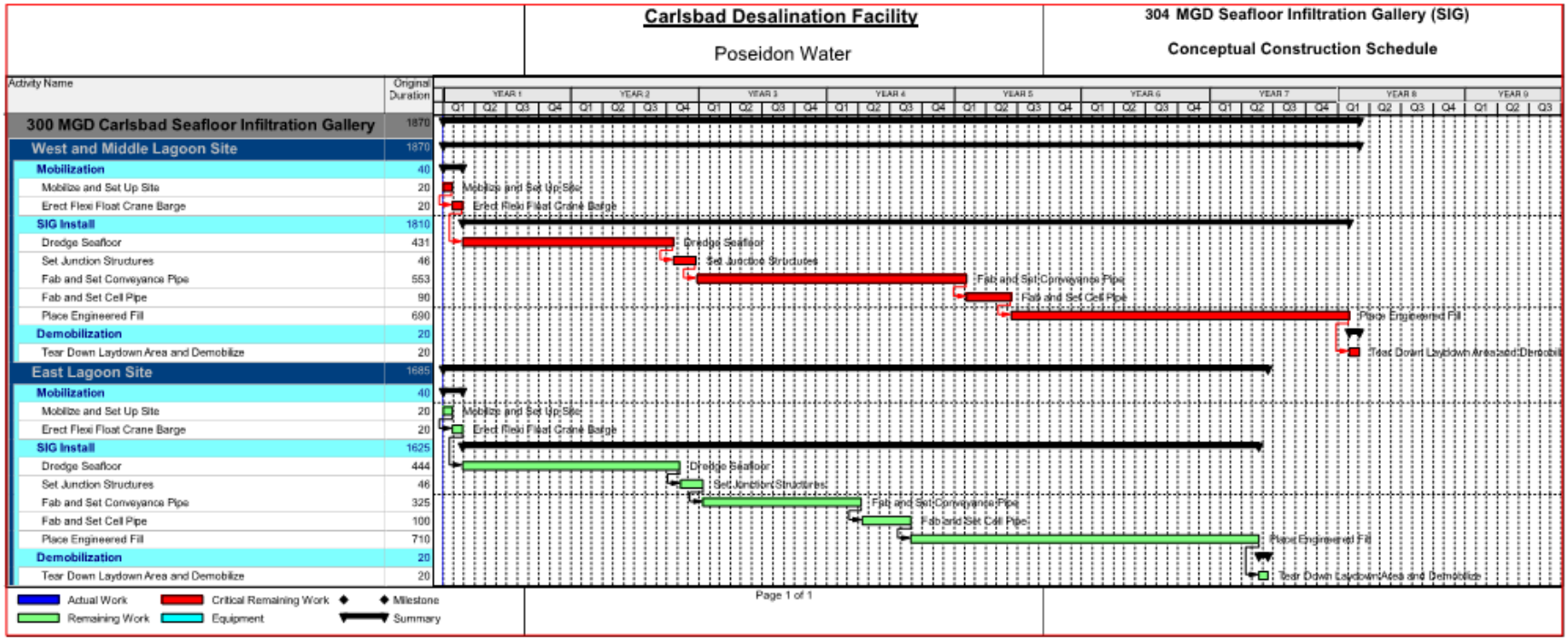
1. Introduction

Each intake and outfall technology features unique engineering and constructability characteristics which will impact the individual project schedules for each. Alternatives including the SIG, for example, will require longer construction periods. The sections below describe the scheduling considerations for each of the intake/discharge alternatives considered.

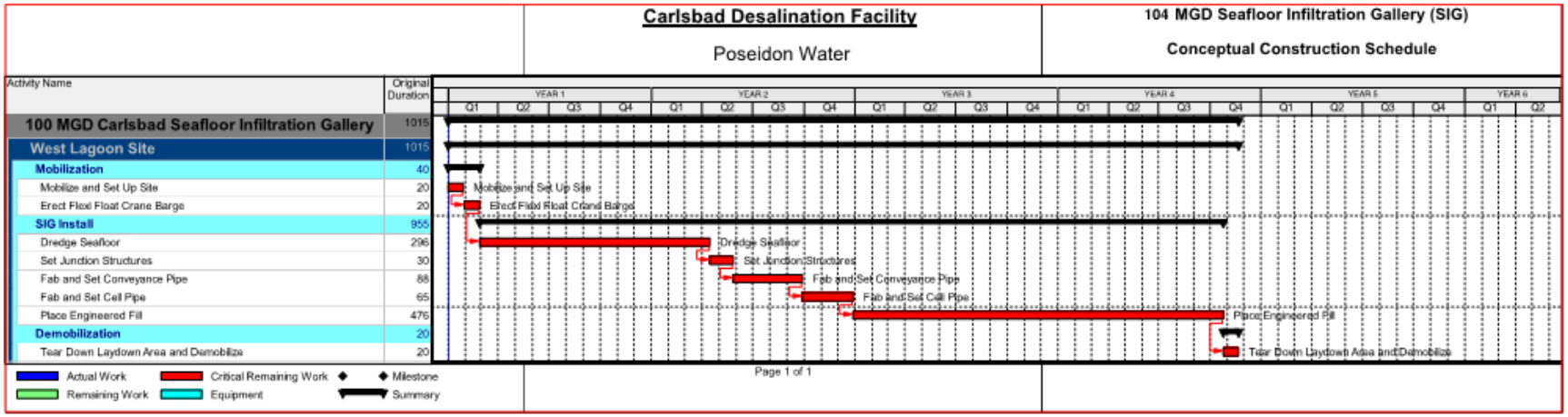
A. SIG Intake with Discharge Flow Augmentation

In August of 2014, Poseidon evaluated the schedule of implementing a SIG intake with discharge flow augmentation and presented the evaluation to the SWRCB as part of comments to the proposed Ocean Plan Amendment. Since August of 2014, Poseidon has been engaged with the California Coastal Commission in the evaluation of the alternative intakes for the proposed Huntington Beach Desalination Facility (HBDF). As a result of the HBDF intake evaluation (Report of Waste Discharge Appendix U), updates have been made to the design and layout of the SIG. Specifically, the updated design now provides stand-alone piping for each cell and the provision for an intermediate pump station, both resulting in additional time compared to the design from August 2014. Since the schedule evaluation from August 2014 already appeared prohibitive, and the new design would only increase project duration, the schedule evaluation has not been re-preformed. Rather, the schedule evaluation from August 2014 is presented below and considered to be aggressive for the purposes of this intake evaluation.


Carlsbad Desalination Facility
Poseidon Water
304 MGD Seafloor Infiltration Gallery (SIG)
Conceptual Construction Schedule
Activity Name
Original Duration
YEAR 1
YEAR 2
YEAR 3
YEAR 4
YEAR 5
YEAR 6
YEAR 7
YEAR 8
YEAR 9
Q1 Q2 Q3 Q4
300 MGD Carlsbad Seafloor Infiltration Gallery 1870
West and Middle Lagoon Site 1870
Mobilization 40
Mobilize and Set Up Site 20
Erect Flexi Float Crane Barge 20
SIG Install 1810
Dredge Seafloor 431
Set Junction Structures 46
Fab and Set Conveyance Pipe 553
Fab and Set Cell Pipe 90
Place Engineered Fill 690
Demobilization 20
Tear Down Laydown Area and Demobilize 20
East Lagoon Site 1685
Mobilization 40
Mobilize and Set Up Site 20
Erect Flexi Float Crane Barge 20
SIG Install 1625
Dredge Seafloor 444
Set Junction Structures 46
Fab and Set Conveyance Pipe 325
Fab and Set Cell Pipe 100
Place Engineered Fill 710
Demobilization 20
Tear Down Laydown Area and Demobilize 20
Mobilize and Set Up Site
Erect Flexi Float Crane Barge
Dredge Seafloor
Set Junction Structures
Fab and Set Conveyance Pipe
Fab and Set Cell Pipe
Place Engineered Fill
Tear Down Laydown Area and Demobilize
Actual Work
Remaining Work
Critical Remaining Work
Equipment
Milestone
Summary
Page 1 of 1

B. SIG Intake with Discharge Diffuser

Similar to the implementation of a SIG with discharge flow augmentation, Poseidon evaluated the schedule of implementing a SIG with discharge diffuser in August of 2014. Since the schedule evaluation from August 2014 already appeared prohibitive, and the new design would only increase project duration, the schedule evaluation has not been re-preformed. Rather, the schedule evaluation from August 2014 is presented below and considered to be aggressive for the purposes of this intake evaluation. Note that, although not specifically shown, it is estimated that the project critical path would be driven by SIG construction activities and that diffuser work activities could be performed within the duration required to complete the SIG.


Carlsbad Desalination Facility
Poseidon Water
104 MGD Seafloor Infiltration Gallery (SIG)
Conceptual Construction Schedule
Activity Name
Original Duration
YEAR 1
YEAR 2
YEAR 3
YEAR 4
YEAR 5
YEAR 6
Q1 Q2 Q3 Q4
100 MGD Carlsbad Seafloor Infiltration Gallery 1015
West Lagoon Site 1015
Mobilization 40
Mobilize and Set Up Site 20
Erect Flexi Float Crane Barge 20
SIG Install 955
Dredge Seafloor 296
Set Junction Structures 30
Fab and Set Conveyance Pipe 88
Fab and Set Cell Pipe 65
Place Engineered Fill 475
Demobilization 20
Tear Down Laydown Area and Demobilize 20
Mobilize and Set Up Site
Erect Flexi Float Crane Barge
Dredge Seafloor
Set Junction Structures
Fab and Set Conveyance Pipe
Fab and Set Cell Pipe
Place Engineered Fill
Tear Down Laydown Area and Demobilize
Actual Work
Remaining Work
Critical Remaining Work
Equipment
Milestone
Summary
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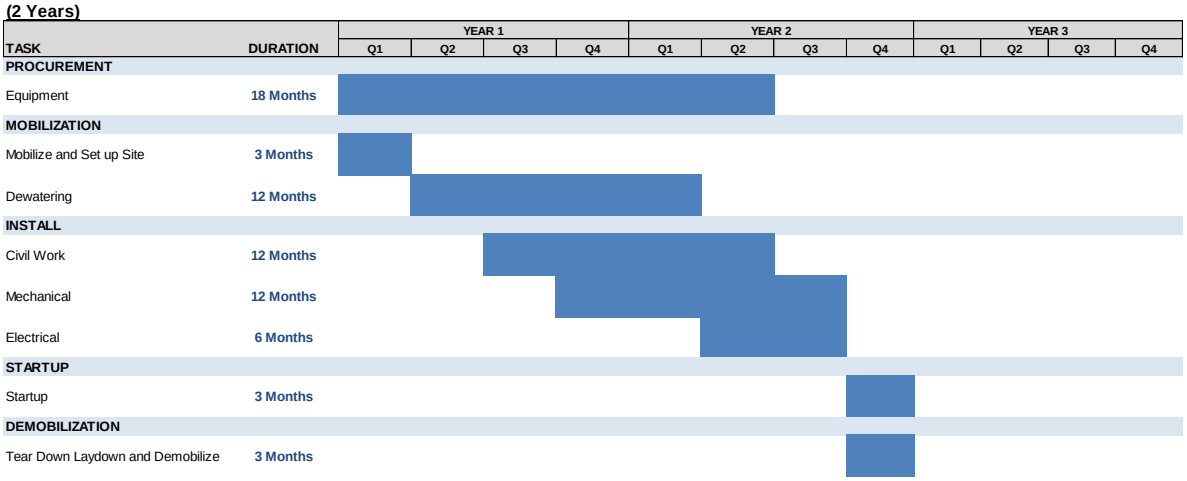
C. Screened Intake with Discharge Flow Augmentation

In August of 2015, Poseidon updated the schedule of implementing a New Screen/Fish Friendly Pumping Structure. The estimated construction schedule for the New Screen/Fish Friendly Pumping Structure is approximately 2 years.

Surface Intake with Dischage Flow Augmentation
(2 Years)



D. Screened Intake with Discharge Diffuser

In August of 2015, Poseidon updated the schedule of implementing a new screen intake with a discharge diffuser. The estimated construction schedule for the new screen intake with a discharge diffuser is approximately 3 years.

Surface Intake with Discharge Diffuser
(3 Years)