

| Subsurface Desalination Intake Initial Screening Results |   |                              |                        |             |                                   |           |    |
|--|---|------------------------------|------------------------|-------------|-----------------------------------|-----------|----|
| Subsurface Intake Alternative                            |   |                              |                        |             |                                   |           |    |
| Initial Screening Criteria                               | Vertical Beach Wells  | Onshore Infiltration Gallery | Radial Collector Wells | Slant Wells | Subsurface Infiltration Galleries | HDD Wells |    |
| <b>Geotechnical Hazards</b>                              |   |                              |                        |             |                                   |           |    |
| <b>1</b>   | <b>Seismic Hazard</b>   |                              |                        |             |                                   |           |    |
| a.   | Project facilities would cross a known fault line, or be exposed to a seismic hazard that could otherwise not be protected from loss by design  | PF                           | PF                     | PF          | PF                                | NF        | PF |
| <b>Hydrogeologic Factors</b>                             |   |                              |                        |             |                                   |           |    |
| <b>2</b>   | <b>Impact on existing freshwater aquifers, local water supplies, or existing water users</b>  |                              |                        |             |                                   |           |    |
| a.   | Volume of groundwater in storage is reduced due to subsurface intake pumping, impacting drought supply and requiring additional desalination to make up for loss of groundwater.                              | PF                           | PF                     | PF          | PF                                | PF        | PF |
| b.   | Operation of subsurface intake causes salt water intrusion into groundwater aquifers.   | PF                           | PF                     | PF          | PF                                | PF        | PF |
| <b>3</b>   | <b>Impact to sensitive habitats such as marshlands, drainage areas, etc.</b>  |                              |                        |             |                                   |           |    |
| a.   | Operation of subsurface intake drains surface water from sensitive habitat areas or adversely changes water quality.  | PF*                          | PF*                    | PF*         | PF*                               | PF        | PF |
| <b>4</b>   | <b>Insufficient length of beach available for replacing full yield derived from existing open ocean intake.</b>   |                              |                        |             |                                   |           |    |
| a.   | Small individual facility yield, large number of facilities required, and minimum spacing between facilities requires more shoreline than is available.   | PF*                          | PF*                    | PF*         | PF*                               | PF        | PF |
| <b>Benthic Topography</b>                                |   |                              |                        |             |                                   |           |    |
| <b>5</b>   | <b>Land type makes intake construction infeasible.</b>  |                              |                        |             |                                   |           |    |
| a.   | Depth to bedrock too shallow (i.e., less than 40-feet deep); rocky coastline; cliffs  | PF                           | PF                     | PF          | PF                                | PF        | PF |
| <b>Oceanographic Factors</b>                             |   |                              |                        |             |                                   |           |    |
| <b>6</b>   | <b>Erosion, sediment deposition, sea level rise, or tsunami hazards.</b>  |                              |                        |             |                                   |           |    |
| a.   | Oceanographic hazards make aspects of the project infrastructure vulnerable in a way that cannot be protected and/or would prevent the City from being able to receive funding or insurance for this concept. | PF                           | PF <sup>(4)</sup>      | PF          | PF                                | NF        | PF |

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| <b>Presence of Sensitive Habitats</b>   |  |                              |                        |             |                                   |           |
| <b>7</b>  | <b>Proximity to marine protected areas</b>   |                              |                        |             |                                   |           |
| a.  | Location would require construction within a marine protected area.  | PF                           | PF                     | PF          | PF                                | PF        |
| <b>Design and Construction Constraints</b>  |  |                              |                        |             |                                   |           |
| <b>8</b>  | <b>Adequate capacity</b>   |                              |                        |             |                                   |           |
| a.  | Subsurface material lacks adequate transmissivity to meet target yield of at least 15,898 gpm (i.e., build-out intake capacity necessary to produce 10,000 AFY). | PF*                          | PF*                    | PF*         | PF*                               | PF        |
| <b>9</b>  | <b>Lack of adequate linear beach front for technical feasibility</b>   |                              |                        |             |                                   |           |
| a.  | Length of beachfront available is not sufficient for construction of the required number of wells of all or portion of intake to meet target yield.              | PF*                          | PF*                    | PF*         | PF*                               | PF        |
| <b>10</b>   | <b>Lack of adequate land for required on-shore facilities</b>  |                              |                        |             |                                   |           |
| a.  | Surface area needed for on-shore footprint (i.e., pump house) of an intake unit is greater than the available onshore area.                                      | PF                           | PF                     | PF          | PF                                | PF        |
| b.  | Requires condemnation of property for new on-shore intake pumping facilities.  | PF                           | PF                     | PF          | PF                                | PF        |
| <b>11</b>   | <b>Lack of adequate land for required on-shore construction staging</b>  |                              |                        |             |                                   |           |
| a.  | The amount of land available to stage construction does not meet need.   | PF                           | PF                     | PF          | PF                                | PF        |
| <b>12</b>   | <b>Precedent for subsurface intake technology</b>  |                              |                        |             |                                   |           |
| a.  | Intake technology has not been used before in a similar seawater or fresh water application at a similar scale.  | PF                           | PF                     | PF          | PF                                | NF        |
| <b>Passes Initial Screening? Yes (Y) or No (N)</b>  |  | <b>N</b>                     | <b>N</b>               | <b>N</b>    | <b>N</b>                          | <b>N</b>  |
| <b>Notes:</b><br>(1) NF = Not Feasible<br>(2) PF = Potentially Feasible<br>(3) PF* = Potentially Feasible, but does not meet current study goals<br>(4) Potentially feasible at Leadbetter and West Beach only. Sediment transport conditions at East Beach make the implementation of an onshore infiltration gallery infeasible (refer to Section 3.4.2). |  |                              |                        |             |                                   |           |