



COCHISE COUNTY PROCUREMENT DEPARTMENT

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16-04-ENG-04Z

Attachment 2 – Scope of Work

In accordance with 16-04-ENG-04Z, the Contractor shall provide all labor, materials, transportation and expertise in order to accomplish Bay Acres Design Concept Report to the satisfaction of the County. The Contractor shall complete the following tasks:

PHASE 1

County desires Design Concept Level hydrologic and hydraulic analyses and engineering design for a proposed diversion channel at Bay Acres, located near Highway 80 and Washington Avenue east of Douglas, Arizona to include:

Task 1 – The Contractor shall take in to account existing channelization and basin(s) completed by city of Douglas that affect flow in Palm Grove Wash upstream of proposed diversion confluence. The Contractor shall review and confirm historic and existing Hydrology and Hydraulics (H&H) analyses by County and other organizations for expected runoff for:

- Task 1 (a) – Cubic Feet Per Second (CFS) for Q5;
- Task 1 (b) – CFS for Q10;
- Task 1 (c) – CFS for Q25;
- Task 1 (d) – CFS for Q50; and/or
- Task 1 (e) – CFS for Q100.

Task 2 – In accordance with Task 1 (a) through (e), the Contractor shall use the information provided in those tasks to confirm diversion channel size and right-of-way (ROW) needed for the North-South Diversion channel from Highway 80 to Palm Grove Wash. Diversion to carry design flows at or below natural grade (with freeboard berm on downstream side) and maintenance access. The options for design storms less than Q100 would have spillway weirs (or equivalent) to return flows in excess of the design storm to their historic flow paths. The Contractor shall perform this task for each return period storm including:

- Task 2 (a) – Cubic Feet Per Second (CFS) for Q5;
- Task 2 (b) – CFS for Q10;
- Task 2 (c) – CFS for Q25;
- Task 2 (d) – CFS for Q50; and/or
- Task 2 (e) – CFS for Q100.

Task 3- The Contractor shall prepare a hydraulics model of diversion channel(s), confluence of diversion and Palm Grove, and Palm Grove Wash downstream to Pan American Avenue including:

- Task 3 (a) – Cubic Feet Per Second (CFS) for Q5;
- Task 3 (b) – CFS for Q10;
- Task 3 (c) – CFS for Q25;
- Task 3 (d) – CFS for Q50; and/or
- Task 3 (e) – CFS for Q100.

Task 4 - Develop concept level design for Palm Grove improvements (to carry additional flow from diversion channel). Identify possible channel configurations. Identify potential location for channel improvements and ROW widths needed.

- Task 4 (a) – Cubic Feet Per Second (CFS) for Q5;
- Task 4 (b) – CFS for Q10;
- Task 4 (c) – CFS for Q25;
- Task 4 (d) – CFS for Q50; and/or
- Task 4 (e) – CFS for Q100.

Task 5 - Concept level cost estimate for engineering design and construction (not to include ROW acquisition)

Task 5 (a) - Diversion channel and confluence:

- Task 5 (a) (1) – Cubic Feet Per Second (CFS) for Q5;
- Task 5 (a) (2) – CFS for Q10;
- Task 5 (a) (3) – CFS for Q25;
- Task 5 (a) (4) – CFS for Q50; and/or
- Task 5 (a) (5) – CFS for Q100.

Task 5 (b) - Palm Grove Wash

- Task 5 (b) (1) – Cubic Feet Per Second (CFS) for Q5;
- Task 5 (b) (2) – CFS for Q10;
- Task 5 (b) (3) – CFS for Q25;
- Task 5 (b) (4) – CFS for Q50; and/or
- Task 5 (b) (5) – CFS for Q100.

Task 6 - Cost/benefit estimation: Diversion channel and Palm Grove Wash Improvements/Value of Bay Acres Subdivision including:

- Task 6 (a) – Cubic Feet Per Second (CFS) for Q5;
- Task 6 (b) – CFS for Q10;
- Task 6 (c) – CFS for Q25;
- Task 6 (d) – CFS for Q50; and/or
- Task 6 (e) – CFS for Q100.

DELIVERABLES

Phase 1 (Concept Design Report to include)

- Diversion channel Q 5, 10, 25, 50 & 100 (existing conditions, as required within Phase 1)
- Diversion channel dimensions
- Diversion channel ROW widths (to include freeboard berm & maintenance access)
- Palm Grove Wash H&H model with diversion channel flow added
- Palm Grove Wash conceptual channel design with potential footprint and location(s)
- Concept level cost estimates for engineering design and construction
- Cost/Benefit ratio

PHASE 2

Phase 2 is for informational purposes only, and may be requested by the County, at a later date through a modification of the Contract. Phase 2 shall include, but not be limited to:

Task 1 - Final design plans and construction cost estimate for

- Diversion channel
- Palm Grove Wash improvements (based on selected design storm from County)

Task 2 - Conditional Letter of Map Revision (CLOMR) to include diversion and Palm Grove improvements and previous City of Douglas projects that affect this one (previous Letters of Map Revisions (LOMRs) for the projects are not available).

Task 3 - LOMR upon construction completion.

The contractor shall complete all required tasks and provide all deliverables, as outlined, for Phase 1 within 120 days from issuance of Offer Acceptance Award Letter.