Stirrup Key Homeowners Association

Marathon, Florida Keys

Proposal from Landmark Homes

Dear Residents of Stirrup Key,

Thank you for allowing Landmark the opportunity to submit a proposal for the anticipated bridge replacements, located in the Stirrup Key Community. The proposal includes the design and construction of two bridges. The design attached is for the largest (southwest) bridge. The final design of the smaller, (northeast) bridge will be similar in design.

Scope of Work

Division 1 – (General Conditions)

1. Phasing of the work to facilitate adequate traffic flow
2. Safety traffic barricades
3. Signage
4. Demolition as required of the existing bridges (concrete cutting)
5. Disposal Fees
6. Workman's compensation insurance
7. General liability insurance
8. Fuel & other misc. overhead items
9. Rental Equipment
10. Temporary Protection (guardrails)
11. Silt barriers
12. Misc. tools and equipment
13. Engineering & design
14. In house engineering inspections
15. Permit fees
16. Disposable items (i.e. concrete blades and bits)
17. Concrete pumping
18. Temporary shoring (below largest bridge)
19. Temporary utilities (water, electric)
20. Temporary facilities (Port-A-John)
21. Surveying (In house)

Division 2 – (Site Work)

1. Excavation (Cutting and removal of existing asphalt as required)
2. Suitable fill material, placement and compaction
3. Asphalt Paving
4. Driveway removal and replacement (as required) (At John's closest driveway near the small bridge) (Allowance: $6,500)
5. Landscape removal and repair (Mike and Joni's house. Allowance $750)
6. Site Utilities work (Reattachment of sewer line and electric conduit at large bridge)

Division 3 – (Concrete)

1. Form materials
2. Segregation material between old and new construction
3. Concrete forming, placement and stripping of forms (labor)
4. Concrete material (piers, bent caps, decks, barrier walls, and abutments)
5. Cutting, placement and tying reinforcement steel (labor)
6. Reinforcing steel (matl)
7. Auger holes
8. Labor for reinforcing steel fabrication (stirrups & other special fabrications)
9. Concrete curing material
10. Smoothing of concrete surfaces (rub concrete barrier walls as necessary)
11. Concrete finishing

Division 5 – Metals

1. Removal, modification and installation of existing aluminum handrails

Division 6 – Carpentry

1. Incl. in Division 3
2. Nails & fasteners

Division 9 – Finishes

1. Final finishes (i.e. waterproofing, painting of concrete barrier walls not included in proposal amount.) Recommend sher-crete and two finish coats on traffic barrier walls and abutment surfaces.

Other Items Included

1. Surface swales for storm water drainage

Other Items Excluded

1. Underground storm water collection systems and surface retention areas
2. Material Testing
3. Items not specifically enumerated in the scope of work (i.e. waterway silt barricades, governmental fees in addition to a standard building permit at the city of Marathon)

Proposal Amount = $479,600

The following list is a comparative analysis to the previous design, and clarifications relative to the costs which transpired through the engineering/design process.

1. The proposed bridge design is structurally independent of the existing structure. The original design is structurally dependent upon the integrity of the existing bulkheads. The bulkheads are deteriorated and the structural integrity/capacity of these bulkheads cannot be readily quantified. The original design calls for "spalling repairs." In other words, it has been previously noted that the supporting structure is in relatively poor condition.

2. The new design incorporates 24" diameter piers, eight per bridge, installed 3' into the cap rock. In comparison the original design specified a 2' x 3' concrete footing, referred to as an "anchor," at the bridge termination points. The "anchors" are located on top of the previous uncompacted fill material well above the cap rock. The compaction of soils below the "anchors" would most likely not pass a compaction density test. Stirrup Key is, for the most part, a dredge and fill site. The "fill" was not compacted. Typically, foundations require pilings or augured piers that extend into stable limestone cap rock for structural support.

3. The total number of piers increased from 12 to 16 during the design process. This is due to the necessity of actually constructing four independent bridges instead of two. (33% increase in the original number of anticipated pilings)

4. 24" diameter piers are required instead of 18" diameter. (An increase of 78% in size and load carrying capacity.) 452 sq. in. / 254 sq. in. = 1.78

5. An additional top mat of reinforcing steel is required at the largest bridge, due to the potential "negative moment" created by the future deterioration of the existing center bulkhead.

6. Engineering design specifications require no. 8 bars at 4" o.c. for the primary deck mat for both bridges. (No. 8 bars are 257% larger than no. 5 bars) (2.67 lbs./ft. vs. 1.04 lbs./ft.)

7. Repairs to the adjacent neighbors' property total $7,250. ($6,500 @ John's and $750 @ Mike & Joni's)