



Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: Katy Allen

SUBJECT: HAPPY HOLLOW PARK & ZOO-
PEDESTRIAN BRIDGE
(PHASE IIB) PROJECT

DATE: 06-02-08

Approved

Date

6/5/08

COUNCIL DISTRICT: Citywide

RECOMMENDATION

Approval of the first amendment to the agreement with HNTB Corporation, for design services for the Happy Hollow Park & Zoo Pedestrian Bridge project increasing the total compensation by \$650,000, from \$99,000 to \$749,000.

OUTCOME

Approval of the recommendation allows preparation of the construction documents for re-bid of the Happy Hollow Park and Zoo Pedestrian Bridge project.

EXECUTIVE SUMMARY

Bids received in August 2007 for the construction of a pedestrian bridge over Coyote Creek at the Happy Hollow Park and Zoo were significantly higher than the estimated cost. In November 2007, the City Council rejected all of the bids and directed the Department of Public Works (DPW) to re-bid the project in an effort to reduce project costs. DPW retained the services of HNTB Corporation, an engineering consultant with bridge design expertise, to perform a value engineering study of the original bridge. HNTB evaluated the original design concept and determined that a cost savings can be realized by utilizing a different type of bridge superstructure. DPW recommends amending the HNTB consulting agreement to include preparation of construction documents for re-bid of the Happy Hollow Zoo and Attractions Pedestrian Bridge project.

BACKGROUND

The Measure P Parks Bond Program, approved by City voters in 2002, provided funding for the renovation of parks and recreation facilities throughout the City. Happy Hollow Park and Zoo is the largest of the Measure P projects and includes three distinct phases of work; 1) expansion and renovation of the zoo and amusement park, 2) construction of a new parking lot on the Roberts

Landfill, and 3) construction of a new pedestrian bridge over Coyote Creek, connecting the parking lot to the new park entrance. Contract Package 1 for the construction of the zoo and attractions improvements was awarded by the City Council on November 20, 2007, and is currently under construction.

The pedestrian bridge was designed concurrently with the zoo and attractions package as an asymmetrical, single tower, cable-stayed bridge with two different span lengths, supported by a single tubular steel tower located within the flood plain of Coyote Creek. The project was advertised for bid in June 2007, separately from the zoo and attractions package, and after a significant number of design clarifications were issued during the bid period, bids were received on August 16, 2007. The estimated cost of the construction bid was \$3.0 million. Four bids were received with the lowest responsive bid at approximately \$7.4 million. After substantial evaluation, staff recommended and the City Council acted to reject all bids in November 2007, directing DPW to re-bid the project.

Subsequently, DPW evaluated the design concept to determine if the bridge could be redesigned such that it could be constructed at a significantly reduced cost. In researching other bridge projects in the area, DPW learned that the City of Cupertino recently experienced a similar situation with its bridge project. The City of San José DPW staff contacted its counterparts in the Cupertino Public Works Department and learned that Cupertino had retained the services of HNTB Corporation, a Delaware-based engineering firm specializing in bridge design with a local office in San José. HNTB performed a value engineering analysis of the Cupertino bridge and provided a redesign of the bridge per its recommendations. The City of Cupertino re-bid the project with the revised design and realized significant cost savings.

In February 2008, DPW solicited statements of qualifications for bridge design and evaluation from local engineering firms, including HNTB Corporation, in accordance with the Council approved Qualification Based Consultant Selection Process. After evaluation, HNTB Corporation was found to be the highest rated of the firms that responded. A consultant agreement was negotiated with HNTB Corporation to perform a value engineering study on the Happy Hollow Pedestrian Bridge and provide a conceptual design of a less costly bridge.

Construction and renovation of the Happy Hollow Park and Zoo is currently in progress, with a contractual completion schedule of August 2009. Ideally the bridge construction would be complete and available for use at the time the Park and Zoo reopen.

ANALYSIS

HNTB Corporation was retained to complete a value engineering analysis of the current bridge design. The objective of this value engineering effort included development and completion of a conceptual bridge design consistent with the following criteria:

1. Provide a revised bridge design concept with the lowest possible engineer's total estimate within a \$4-\$6 million dollar range with expectations of bids within seven (7) percent of the total estimate;
2. Meet a 16 to 18 month schedule for redesign, bid, and construction;
3. Respect the original design and alignment to the extent practical;
4. Minimize environmental impact beyond that of the original design;
5. Consider bridge aesthetics, but not at the expense of cost reductions.

HNTB completed its value engineering effort and submitted a professional opinion letter describing its findings and recommendations. HNTB recommended changing the current bridge design from an asymmetrical, cable-stayed structure with a wood deck to a symmetrical, dual, equal-span steel arch with a concrete deck. HNTB estimates that a bridge of this revised design can be constructed for approximately \$5.2 million, a savings of over \$2 million in construction costs from the original bid results. The savings that are anticipated from the change in design of the bridge would be offset by the additional cost of redesign, for a total anticipated savings of approximately \$1.4 million which is a savings of approximately 20 percent. Further cost reductions may be found as design and preparation of bid documents proceeds through completion.

HNTB's proposed conceptual design reduced the estimated construction cost of the bridge by incorporating the following considerations:

- Design that makes only minor adjustments to the alignment for which permits have already been obtained;
- Reduces the overall length of the crossing thereby requiring less material;
- Simplifies the design - two identical arched bridges that hinge at the center point; the loads are evenly distributed in a way that simplifies the solution to the seismic and structural stability;
- Simplifies the construction - reduces the number of unique components within the structure; utilizes repetitive components; fabrication of many components can be done off-site;
- Simplifies the materials - utilizes readily available materials that can be acquired from more sources and from regionally local vendors and fabricators;
- Simplifies the fabrication, assembly and installation of bridge components – for the span this strategy allows for off-site assembly for inspection and fine-tuning of the design, and off-site assembly of large bridge components that can be transported on the highway without special permits, easily assembled further on-site to be craned into place.

Staff evaluated the information provided by HNTB Corporation and agrees with its assessment of the possibility of a significant cost savings by changing the bridge design concept. As time is of the essence, staff recommends the amendment of the current consulting agreement with HNTB for the additional services necessary to complete the design through construction of the project. Staff believes that a consultant selection for the final bridge engineering, construction

documents, and construction support services would result in the selection of the same consultant for the following reasons:

1. HNTB is a renowned, highly experienced bridge design consultant and is highly qualified to complete the design and engineering, prepare construction documents and provide construction support services;
2. HNTB understands the design criteria applicable to the project, including project history, cost sensitivity, schedule, and environmental requirements;
3. HNTB has completed the value engineering of the existing bridge and has proposed the conceptual design scheme for the new bridge; and
4. HNTB has successfully completed a similar effort recently for the City of Cupertino and is familiar with the local design and regulatory requirements, and local market conditions.

Assuming Council approves the recommendation staff anticipates the following schedule:

- Complete construction documents and bid the project - December 2008
- Complete construction – March 2010

The consultant recommends a 14-month construction time frame to ensure adequate time for material acquisition, fabrication, and proper engineering validation during fabrication and assembly. Should the Package 1-Zoo & Attractions contract complete as planned in August 2009, the completion of the bridge project occurs after the re-opening of the Happy Hollow Park and Zoo. An interim plan for meeting the parking and access to the park entry would be necessary. As the two projects progress a determination will be made as to whether and how to address the parking and access needs.

Overall Project Funding

Of the 3 contract packages that comprise the overall Happy Hollow Park and Zoo renovation and expansion project, the Zoo & Attractions contract was awarded and is currently under construction. The Pedestrian Bridge and the Parking Lot remain to be awarded.

The current estimate to complete all three phases of the HHPZ project is \$73.2 million. Funding for the project, including funds expended, currently appropriated and future allocations, totals \$70.8 million, leaving a shortfall of \$2.4 million.

The proposed alternative design for the pedestrian bridge is estimated to cost \$7.3 million to implement, inclusive of the design, the construction contract, the contingency allocation and contract management costs. The remaining costs to implement the current design of the Parking Lot is estimated at \$6.1 million, inclusive of \$1.1 million in modifications to the current bid package to provide for add-alternates and/or phased implementation, the construction contract, the contingency allocation and contract management costs. The cumulative estimated total future costs for the Pedestrian Bridge and Parking Lot is \$13.4 million.

There is a funding gap of approximately \$2.4 million between the available funding and the estimated costs to implement the parking lot. Staff proposes to close the gap by two means, 1)

seek additional funding and, 2) modify the Parking Lot bid package to provide bid options to reduce the scale of the parking lot improvements, potentially deferring full build-out to a future project. Depending on actual bid results between the two projects, the City may need to construct remaining elements in follow up projects as funds become available in bond reserves or other sources.

EVALUATION AND FOLLOW UP

Upon completion of the construction documents and bidding, staff will return to the City Council with a bid report and recommendation based on the bid results.

POLICY ALTERNATIVES

Alternative #1: Re-bid the bridge as currently designed.

Pros: Avoids expenditures for redesign.

Cons: Market conditions in the construction industry have not changed significantly since the initial bid.

Reason for not recommending: It is unlikely that any substantial cost savings could be realized without significant de-escalation in construction costs.

Alternative #2: Cancel the bridge project.

Pros: Eliminates the expenditure of capital funding.

Cons: Requires that operational funding be continually spent to provide and maintain a shuttle service to carry park visitors back and forth from the new parking lot to the park entrance during the hours of park operation. Requires modifications to the point of entry to Happy Hollow Park and Zoo that is currently being constructed which would add cost to that project.

Reason for not recommending: Operational costs would run in perpetuity and liability would be increased because of vehicular transport of park visitors on city streets in city vehicles.

Alternative #3: Solicit qualifications from other consultants for execution of an agreement for bridge re-design.

Pros: Eliminates the need to amend the current agreement with HNTB.

Cons: Delays completion of the bridge.

Reason for not recommending: Further delay in the project schedule will severely impact the operational costs of the facility for operation and maintenance of a shuttle service from the parking lot to the park entrance.

PUBLIC OUTREACH/INTEREST

- Criterion 1:** Requires Council action on the use of public funds equal to \$1 million or greater.
- Criterion 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**

- Criterion 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

This item does not meet any of the above criteria. This memorandum will be posted on the City's website for the June 24, 2008, City Council agenda.

COORDINATION

This memorandum was coordinated with the Departments of Parks, Recreation and Neighborhood Services, Planning, Building and Code Enforcement, Finance, the City Attorney's Office and the City Manager's Budget Office.

FISCAL/POLICY ALIGNMENT

This project is consistent with the Council-approved Budget Strategy to continue with capital investments that spur construction spending in our local economy.

COST SUMMARY/IMPLICATIONS

1. AMOUNT OF RECOMMENDATION: \$650,000
2. COST OF PROJECT (ALL PHASES): \$73,224,000

	Phase IIA (Zoo & Attracts)	Phase IIB Pedestrian Bridge	Phase I Parking Lot
Project Delivery	\$15,436,267	2,298,443	2,831,440
Construction	39,255,000	5,200,000	4,700,000
Contingency	2,747,850	520,000	235,000
TOTAL PROJECT COST	\$57,439,117	\$8,018,443	\$7,766,440
Prior Year Expenditures	8,903,640	718,443	1,697,576
Remaining Project Costs	\$48,535,477	\$7,300,000	\$6,068,864

3. COST ELEMENTS OF AGREEMENT (Phase IIB Pedestrian Bridge):

Original Agreement	\$99,000
First Amendment to Master Agreement	650,000
Total Project Costs	\$749,000

4. SOURCE OF FUNDING:

471 – Parks and Recreation Bond Projects Fund
391 – Construction Tax and Property Conveyance Tax Fund: City-Wide Parks Purposes
375 – Subdivision Park Trust Fund

5. **OPERATING COSTS:** When the renovated Happy Hollow Park and Zoo re-opens in 2009-2010, the estimated additional operating and maintenance cost totals \$654,000. However, starting in 2010-2011, due to an anticipated increase in the revenue estimate, the operating and maintenance cost will be offset by the park's revenue. This funding was included in the 2009-2013 General Fund Forecast, released on February 29, 2008.

BUDGET REFERENCE

The following table identifies the fund and appropriation proposed to fund the Happy Hollow Park and Zoo remaining project costs, including project delivery, construction, and contingency costs.

Fund #	Appn. #	Appn. Name	Total Appn.	Amt. for Phase IIA (Zoo & Attracts)	Amount for Phase IIB (Pedestrian Bridge)*	Amt. for Phase I (Parking Lot)	2007-2008 Adopted Budget Page	Last Budget Action (Date, Ord. No.)
Remaining Project Costs			\$61,904,341	\$48,535,477	\$7,300,000	\$6,068,864		
Current Funding Available								
471	4787	Happy Hollow Park & Zoo Renovation and Improvements**	\$43,911,000	40,105,477	\$2,918,165*	\$887,358	V - 816	2/12/08, Ord. No. 28241
391	5583	Happy Hollow East Side Improvements***	\$2,630,000	1,430,000	\$1,200,000		V - 560	2/12/08, Ord. No. 28241
391	5037	Happy Hollow Park & Zoo Phase II Renovations****	\$6,408,000	6,408,000			V - 561	
391	4567	Happy Hollow Zoo/Paul Chaffee State Grant	\$248,000	\$248,000			V - 590	
375	5037	Happy Hollow Park & Zoo Phase II Renovation	\$344,000	\$344,000			V - 680	
391	5584	Kelley Park East Picnic Grounds & Restroom	\$1,436,000			\$1,436,000	V - 563	
391	4787	Happy Hollow Park & Zoo & Kelley Park Misc. Improvements	\$82,000			\$82,000	V - 562	10/16/07, Ord. No. 28143
Total Funding Available			\$55,059,000	\$48,535,477	\$4,118,165	\$2,405,358		
Future Funding in Proposed 2009-2013 CIP								
391	5037	Happy Hollow Park & Zoo Phase II Renovations****	\$1,913,000		\$1,913,000		V - 561	

471	NEW	Reserve: Happy Hollow Park and Zoo Bridge and Parking Lot	\$2,500,000		\$1,268,835	\$1,231,165		
Total Project Funding			\$59,472,000	\$48,535,477	\$7,300,000	\$3,636,523		

* Costs reflected for the Phase IIB Pedestrian Bridge include an increase of \$749,000 for the HNTB Contract.

** \$2.7 million was added to the appropriation in February 2008 to partially replenish the funds used for Phase IIA: Zoo and Attractions. Of this amount, \$749,000 is now being proposed to be used for the pedestrian bridge design consultant agreement.

*** \$1,200,000 was added to the appropriation in February 2008 which together with the \$2.7 m above (Fund 471, Appropriation 4787) replenishes the funds used for Phase IIA: Zoo and Attractions.

**** Grant funding totaling \$600,000 is included in this appropriation from the First Five Grant.

***** Additional funding totaling \$1,913,000 is anticipated to be allocated in the Parks City-Wide Construction and Conveyance Tax Fund in 2008-2009 (funding included in the 2009-2013 Proposed Capital Improvement Program).

The table above reflects a funding deficit of \$2.4 million for the Phase I Parking Lot project. Staff is currently reviewing the project cost for the parking lot, and preliminary estimates indicate this phase of the project may increase by \$1.1 million (increasing the deficit to \$3.5 million). If necessary, revised project costs and related appropriation actions may be brought forward at a later date for City Council consideration.

CEQA

CEQA: Mitigated Negative Declaration, File No. PP05-142, dated April 2007.

KATY ALLEN
Director, Public Works Department

For questions please contact DAVID SYKES, ASSISTANT DIRECTOR, at 408-535-8300.