



September 4, 2014  
Proposal to Provide:

# CITY OF MOUNTAIN VIEW

SHORELINE BOULEVARD PATHWAY  
(WRIGHT AVENUE TO VILLA STREET), PROJECT 15-32

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BKF Engineers (BKF) recognizes that an organized project delivery approach and work plan is critical for project success. BKF will comply with the scope of work identified in Exhibit B of the City of Mountain View (City) Shoreline Boulevard Pathway Improvements (Wright Avenue to Villa Street), Project 15-32 (Project) Request for Proposals. For the design phase of the Project, BKF approach is to develop a work plan which integrates the following key components: **managing** the process; **defining** the critical issues and constraints; **developing** coordinated design documents; and **validating** constructability which are described below:

## COMPONENT 1: Managing THE PROCESS – PROJECT MANAGEMENT

**Partnering:** Based on our extensive experience with similar projects, BKF understands that clear communication channels are critical to enhance the progress and approval of a project. Many of our projects involve multiple jurisdictional approvals which require clear definition of the lines of communication and keeping multiple stakeholders informed. Upon receiving the Notice to Proceed for the Project, BKF will meet with the City to confirm the lines of communications. BKF's Project Manager will keep the City continually abreast of the Project progress and any issues which may arise. Issues will be discussed, options offered and resolution reached for implementation.



**Project Work Program:** Working with the City, BKF will have a kick off meeting to present and obtain concurrence on a detailed project work program that identifies tasks and deliverables necessary to deliver the project. BKF will also discuss the design criteria and requirements, Project background and verify critical milestones and schedule.

**Defined Schedule:** We will develop our work program with reference to the schedule presented in our proposal. The schedule is a critical tool for the design team, and City to ensure all agree to the tasks, distribution of deliverables, delivery dates, number of meetings and durations required for reviews, and setting council agenda items. The schedule will be updated on bi-monthly basis in order to immediately address any slippages that can be mitigated with accelerations.

**Level of Effort:** BKF has developed an estimated level of effort for our team's services based on the tasks and schedule and will closely monitor the team's "burn rate" to ensure that it is consistent with the status of the design.

## COMPONENT 2: Defining CRITICAL ISSUES – PHASE I PRELIMINARY INVESTIGATION

**Documenting Existing Conditions:** Detailed improvements are essential to facilitating design recommendations and avoiding conflicts. As our staff regularly designs public infrastructure and has experience with construction, we understand that documenting the existing conditions is a critical component to controlling potential change orders during construction.

**Field Review, Review of Existing Information and Basis of Design:** BKF will obtain and review existing available data including the City's topographic survey and information necessary for the design of the Project. BKF will obtain utility information from the City and various utility owners to augment the Project sheets with utility information. Information contributing to the basis of design such as the City's standard provisions, details, codes, ordinances, and policies will be obtained. This includes City's standard for ADA transverse and longitudinal slopes. This is critical as Caltrans current standards exceed those of the Federal ADA standards.



BKF will conduct several site visits and a survey to understand constraints that may affect the design and evaluate and document the existing project site conditions. Given the sensitivity of meeting the ADA grades and determining location and heights of retaining walls, it is anticipated that although the City topographic information is thorough, a minor supplemental survey will be conducted at conform areas to verify the vertical alignment. We will invite and encourage City to attend a comprehensive site visit upon developing the initial vertical and horizontal path alignments. This will allow for the best most comprehensive review and discussion amongst the team and confirmation of proper implementation of the design basis and criteria.

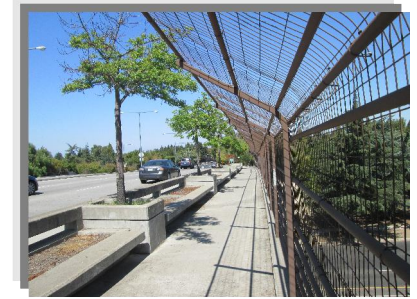
**Critical Considerations:** Prior to initiating the 65% design, BKF will prepare geometric alignment to ensure the objective and standards for the path construction are adequately addressed. The geometric design will consist of a strip map where the proposed path vertical and horizontal alignment and typical path cross sections can be presented on a single sheet. The locations of retaining walls and potential impacts to trees will also be identified.

BKF has already carefully assessed the proposed work and has highlighted key issues which will need to be evaluated and resolved early in the design. In terms of design criteria, as noted above we need to verify with the City which pedestrian pathway slopes will the Project be required to adhere to: Federal ADA standards or Caltrans standards. It is also important to establish the designation of the proposed facility: is it a pedestrian pathway or a Class I bikeway?

Upon confirmation of the above design criteria, the preliminary geometric alignment will need to address the following key design elements:

**Cross Section** The path cross section would need to be established. BKF noticed that there are a high number of bicyclists who use the path. If the path is deemed to be a Class I two-way bikeway, the minimum recommended width would be 8' wide but the City may want to consider a width of 10' to 12' and the implementation of shoulders.

**Vertical Clearance** The existing vertical clearances at the Shoreline Boulevard on and off ramp undercrossing is approximately 8' which is acceptable for both pedestrian and bicycle passage. Although there is no work proposed at the Shoreline Boulevard Bridge, the path on the bridge is 6' wide. A curved bridge fencing spans over approximately 2.5' of the path with a vertical clearance that ranges from 8' to 6'. If the path is to serve bicyclists, the City may want to consider replacing the fencing to not obstruct the vertical clearance for bicyclists who would be restricted within the 6' wide path.



**Longitudinal Slope** The reconstructed path would need to conform to the grades at the existing undercrossings, streets and the Shoreline Boulevard Bridge. In many areas the existing longitudinal slope exceeds 10% and exceeds 5% if a straight line interpolation is performed between the undercrossings and between Shoreline Boulevard Bridge and the Shoreline Boulevard Bridge off ramp undercrossing. In those two areas, the slope can be mitigated in several different manners:

- a sequence of ramps with flat areas can be added with rest stops which provides for an aggregate slope of approximately 6% but does not provide a smooth path of travel and will not mitigate both areas
- switch back ramps can be designed to create a longer path and thus flatter slopes but this is not favorable by bicycles who will not be able to ride their bikes through
- the path horizontal alignment can meander through the available area to create a longer path and thus flatter slopes; this alternative is shown in the Appendix



**Tree Preservation** There are a number of trees within the project area. The proposed design will impact trees. BKF arborist will assist the team in design refinements to maximize tree preservation and survival.

**Storm water Quality** Storm water treatment as regulated by the Regional Water Quality Control Board may at times introduce design challenges. BKF is a leader in the implementation of the storm water treatment requirements. We have reviewed the areas of disturbance related to this Project (existing path area=9780sf and proposed path area=12,530 sf.). For this Project, we will use the exclusion provided by the Board for trails that have the storm water directed to vegetated areas or permeable surface and not implement any special treatment requirements.



A summary of the issues as well as a possible path alignment which mitigates and conforms to ADA requirements has been developed and is shown in the Appendix.

The proposed strip map will consider all the above in the development of the geometrics and present the design to the City for comments and confirmation. This early establishment and agreement with the City on the geometrics will allow us to proceed into the design phase of the Project in an expeditious manner and possibly with City concurrence eliminate the 65% design submission and move straight into the 95% and 100% design document submittals.

**Defining Construction Risk:** Risk assessment is a key to managing the overall construction budget. Our experience is that characterizing certain issues such as identification of existing utilities, tree survival and staging is critical to managing unknowns that could lead to contractor change order and/or delays. It is imperative to characterize the information correctly so that the contractor does not make assumptions. An arborist report to identify trees and incorporate practices to ensure survival and providing pedestrian and bicycle traffic handling plans will control construction risk.

**Stakeholders:** Understanding the concerns of the Project's stakeholders at the earliest stage in the design process is essential to prevent delays or conflicts. BKF will coordinate with the City to understand project history, goals and objectives and ensure that we understand the priorities in balancing opposing criteria or design elements. We will additionally work with the County of Santa Clara for requirements and approvals related to conforming to Central Expressway, coordinate with utility owners for information and potential utility adjustments and as directed by the City coordinate with interested and/or effected stakeholders.

## COMPONENT 3: Developing COORDINATED DESIGN DOCUMENTS – PHASE II DESIGN

**Design Package:** BKF will develop the design package (plans, specifications, estimates) and will submit to the City and the County for review. Submittals for 65%, 95%, Draft 100% and Final 100% will be developed per the City cited requirements. For each submittal, we will provide an engineer's estimate, specifications, plans, and reports for the City and County review with an electronic and wet signed submittal for the Final 100%.





For the 65% submittal, BKF Team will use the preliminary engineering work completed earlier and develop all plan sheets, specifications and cost estimate (PS&E) required to construct the Project. Calculations for structural elements and the Arborist Report will be submitted as part of the 65%. The focus will be on refining, finalizing, and detailing the Project; including resolving and incorporating all design comments resulting from the geometric review. A major task associated with this phase is balancing opposing requirements. All gaps in the design caused by late-coming changes or pending design and policy decisions will be specifically targeted on the 95% design documents for immediate resolution. During the Draft 100% design phase, BKF's experienced Project Manager will closely monitor the resolution of critical activities, which have their own separate and defined timeline. Prior to completion of the Draft 100% design documents, the BKF team will coordinate with the City and stakeholders to iron-out any wrinkles remaining in design scope, schedule and construction operations

**Coordination:** The communication conduit with the City will be our Project Manager Mr. Cosentino. This single point of contact eliminates possible misunderstandings and duplication of effort. Mr. Jaggi Bhandal, our Project Engineer, will be responsible for leading and solving technical challenges while developing the design in accordance with the City's goals. We will coordinate the work with the City, our team, the County and utility owners to ensure collaboration of all project elements. After each submittal, the BKF team will meet with the City to resolve comments, to confirm design revisions and understanding and to ensure all aspects of the design is incorporating the goals of the City. BKF will log all submittals, comments, resolutions and action items in order to identify that committed work has been implemented.

**Coordinating Agencies:** BKF's experience with public infrastructure projects has taught us the value of having clear direct communication and being accessible at all times during critical project stages. Our working relationships with the City and County as well as utility companies, will allow us to streamline the process by minimizing costly lags in communication.

**Technology:** BKF implements the latest technology to develop designs including AutoCAD Civil 3D which can be provided to the City in AutoCAD 2012. We also have specialized simulation software to assist in the design of infrastructure. For preparation of illustrative exhibits, we have Adobe Illustrator, Photoshop, and InDesign. All staff has access to the most current complement of Microsoft Office and Microsoft Excel applications.

## COMPONENT 4: Validating IMPLEMENTATION

**Internal QA/QC:** BKF will complete an internal review of all project documents. Mr. Cecilio, under direct communication with Ms. Natalina Bernardi, will check the documents for errors, perform a constructability review, ensure our documents are coordinated with other disciplines, and suggest alternatives for cost savings. During the period we will conduct an interdisciplinary review to ensure there are no conflicts and that the design intent is consistent through-and-through. A formal meeting will be held to review findings, resolve inconsistencies and incorporate resolutions into the design package prior to submitting to the City.

**Construction Cost:** BKF integrates cost estimates at each design phase to guide both budget and client expectations. Estimates will be completed at each stage of the project, as well as in any analysis of alternatives. If necessary, the design package will incorporate bidding flexibility such as bid alternates to ensure the City can award the Project for the funding allocated.



**Risk Assessment:** BKF will identify risks that could impact the construction budget early in the process. These risk items will be tracked in the Outstanding Issues Matrix throughout the duration of the design process.

With BKF's four-component approach/ work plan, and continuous monitoring, we believe that partnering is both aligned and reinforced. This ensures that the City of Mountain View, together with BKF's leadership and technical expertise, will meet its goals and objectives for a successful project experience.

## POST DESIGN PROJECT PHASES

BKF will be an active member for the Project through the Bidding and Construction Phases.

For Phase III work, BKF's scope is comprised of assisting City throughout the bid process, attending the Pre-Bid Meeting, and providing clarifications and addendums to the Bid Documents related to contractor inquiries.

Similarly for Phase IV, BKF will attend the pre-construction meeting and field walk-through, review contractor submittals, evaluate and respond to RFIs and change order requests during the Construction Phase.

For Project closeout during Phase V, BKF will obtain the Contractor's red-lined record drawings and incorporate the revisions in order to provide to the City a signed, stamped Mylar set of the Record Drawings accompanied by an AutoCad and PDF electronic version.

## PROJECT COSTS BROKEN DOWN BY PHASE

PHASE	HOURS	COST
Project Management	80	\$13,217
Preliminary Investigations	258	\$57,107
Design	798	\$120,176
Bidding	36	\$4,500
<b>TOTAL DESIGN</b>	<b>1172</b>	<b>\$195,000</b>
Construction	140	\$19,841
Post-Construction	54	\$6,438
<b>TOTAL CONSTRUCTION</b>	<b>194</b>	<b>\$26,279</b>

## PROPOSAL ASSUMPTIONS AND LIMITATIONS

1. Scope of services excludes utility potholing.
2. Right of way mapping will be developed in CAD from City-provided right of way record information including Assessor Parcel Numbers (APN), Parcel, record of survey, and tract maps. It is assumed all work shall take place within the street right of way and no right of way acquisitions are needed.
3. BKF will only use field survey as the existing base in lieu of aerial mapping base. If an aerial mapping base is requested by the City, BKF will provide a separate cost for this work.
4. BKF assumes no undergrounding of overhead utilities.
5. All Environmental clearance/permits will be obtained by the City.
6. BKF will attend 2 Community Outreach Meetings.
7. Arborist tree survey report is only for purposes of determining which trees can remain, need to be removed, or require mitigation.
8. For the irrigation design it is assumed that the City will provide a water connection and an electrical connection at the site or existing connections are readily available.
9. BKF assumes that construction pathway will be closed during Construction or will be routed onto Shoreline Blvd. A separate temporary pathway is excluded.
10. Project Management meetings with client will occur after every submittal (65%, 95%, 100%) and will include review of City's comments.
11. Storm water data reports, drainage reports and traffic reports are not included in the scope of work.
12. City will waive fees for excavation permits.
13. Encroachment permits will not be required to perform non-destructive investigative work.
14. It is assumed pathway will be designed for pedestrian and bicycle use.
15. Hazardous materials investigations and reports are excluded in the scope of work.
16. Bridge structure modifications are excluded from the scope of work.

17. Construction Survey Staking is excluded from the scope of work.
18. Scope of services is limited to designing retaining walls to support a series of meandering pedestrian paths.
19. Cantilever retaining walls (fill and cut) based on Caltrans Standard Plans and Standard Details are assumed.
20. All structures will be prepared in accordance with Caltrans standards.
21. Structural submittals will be required at 65%, 95%, draft 100% and final 100% completion levels.
22. Scope of services is based on scope of services outlined in City of Mountain View RFP – Project 15-32
23. Engineer's Estimates of anticipated construction costs will consist of estimated, planning level costs based on readily available industry standards and recent project experience
24. Aesthetic enhancements for the retaining walls will be provided as an optional service at the request of the City. A separate fee will be provided upon request.
25. Geotechnical scope of work will include providing geotechnical recommendations for four wall locations. These walls are planned to be standard Caltrans walls with heights up to 8' and generally retain fill along the south side (downslope). A memo will be required confirming the use of Caltrans Standard retaining wall foundations. Special wall design is not anticipated and therefore excluded.
26. The proposed work will include performing field explorations at 4 locations (proposed walls) to a depth of 15' maximum. Truck mounted rig is assumed to drive over the curb and access the sites. We assume that the City will provide a no fee encroachment permit. We will mark and call for USA clearance, and drill into the native subgrade.
27. Limited laboratory tests will be performed to verify the strength of the subgrade materials and to validate the foundation bearing capacity of the standard footings. Visual classification will also be conducted.
28. Based on the field and laboratory test data limited engineering analyses will be conducted for the proposed walls. Log of Test borings will be prepared in gINT format (8.5"X11"). A geotechnical design memo will be prepared summarizing the findings and the recommendations as to the viability of using the Caltrans standard wall designs.



# Section 3 FEE PROPOSAL

## City of Mountain View Shoreline Boulevard Pathway (Wright Ave to Villa St), Project 15-32 FEE ESTIMATE

Task Description	Labor Hours										Labor Expenses	AEC (Electrical)	Biggs Cardosa (Structural)	David Gates & Assoc (Landscaping/Arborist)	Parikh Consultants (Geotechnical)	Reimbursable Expenses	Total Cost
	Principal-In Charge	Project Manager	Associate	Engineer IV Surveyor IV	Engineer III Surveyor III	Engineer II Surveyor II	Engineer I Surveyor I	Tech III (Drafter)	2-Man Survey Crew	Clerical							
<b>Rate</b>	<b>\$209.00</b>	<b>\$172.00</b>	<b>\$182.00</b>	<b>\$159.00</b>	<b>\$147.00</b>	<b>\$129.00</b>	<b>\$112.00</b>	<b>\$126.00</b>	<b>\$245.00</b>	<b>\$70.00</b>							
<b>Project Management</b>																	
Project Management	10	36								10	\$8,982.00					\$179.64	\$9,161.64
Public Outreach (Attend 2 Meetings)	8	8						8			\$4,056.00						\$4,056.00
<b>Sub-Totals</b>	<b>18</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>10</b>	<b>\$13,038.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$179.64</b>	<b>\$13,217.64</b>
<b>Phase I- Preliminary Investigation</b>																	
Visit Site and Meet with Staff	6	6									\$2,286.00					\$45.72	\$2,331.72
Perform Research and Data Collection		6				4	8				\$2,444.00			\$12,030.00		\$48.88	\$14,522.88
Perform Supplemental Survey		4	2			16			24		\$8,996.00					\$179.92	\$9,175.92
Perform Tree Survey											\$0.00		\$5,000.00				\$5,000.00
Prepare Project Schedule		4									\$688.00						\$701.76
Prepare Preliminary Design	8	20				30		40			\$14,022.00		\$2,500.00	\$8,600.00		\$252.56	\$25,374.56
<b>Sub-Totals</b>	<b>14</b>	<b>40</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>50</b>	<b>8</b>	<b>40</b>	<b>24</b>	<b>0</b>	<b>\$28,436.00</b>	<b>\$0.00</b>	<b>\$2,500.00</b>	<b>\$13,600.00</b>	<b>\$12,030.00</b>	<b>\$540.84</b>	<b>\$57,106.84</b>
<b>Phase II- Design</b>																	
65% PS&E	8	24		10	60			80			\$25,090.00	4000	16000	4000		\$501.80	\$49,591.80
95% PS&E	8	24					60	60			\$20,080.00	2240	14000	3500		\$401.60	\$40,221.60
Draft (100%) PS&E	4	20					20	20			\$9,036.00	880	8000	1000		\$180.72	\$19,096.72
Final (100%) PS&E	4	12					10	10			\$5,280.00	880	4000	1000		\$105.60	\$11,265.60
<b>Sub-Totals</b>	<b>24</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>60</b>	<b>90</b>	<b>170</b>	<b>0</b>	<b>0</b>	<b>\$59,486.00</b>	<b>\$8,000.00</b>	<b>\$42,000.00</b>	<b>\$9,500.00</b>		<b>\$1,189.72</b>	<b>\$120,175.72</b>
<b>Phase III - Bidding</b>																	
Bidding Support Services	2	6				8		8			\$3,490.00	\$440.00		\$500.00		\$69.80	\$4,499.80
<b>Total Design</b>	<b>58</b>	<b>170</b>	<b>2</b>	<b>0</b>	<b>10</b>	<b>118</b>	<b>98</b>	<b>226</b>	<b>24</b>	<b>10</b>	<b>\$104,450.00</b>	<b>\$8,440.00</b>	<b>\$44,500.00</b>	<b>\$23,600.00</b>	<b>\$12,030.00</b>	<b>\$1,980.00</b>	<b>\$195,000.00</b>
<b>Phase IV - Construction</b>																	
Construction Support Services	2	12		16		24		16			\$10,138.00	\$1,000.00	\$7,500.00	\$1,000.00		\$202.76	\$19,841
<b>Phase V - Post-Construction</b>																	
Post-Construction Services		2				8		24			\$4,400.00	\$450.00	\$1,000.00	\$500.00		\$88.00	\$6,438
<b>Total Construction</b>	<b>2</b>	<b>14</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>32</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>0</b>	<b>\$14,538.00</b>	<b>\$1,450.00</b>	<b>\$8,500.00</b>	<b>\$1,500.00</b>	<b>\$0.00</b>	<b>\$290.76</b>	<b>\$26,278.76</b>

**Notes**  
1)See Section 5 of Proposal for Proposal Exclusions and Limitations