

### **Hunters Point Shipyard Phase 2/Candlestick Point: Economic Impact Report**

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*July 12, 2010*





# City and County of San Francisco

## Office of the Controller - Office of Economic Analysis

### Hunters Point Shipyard Phase 2/Candlestick Point: Economic Impact Report

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#### Main Conclusions

The proposed redevelopment of Phase 2 of the Hunters Point Shipyard and Candlestick Point (the "Project") will transform more than 700 acres of mostly vacant, underutilized land in southeast San Francisco into productive areas designed to accommodate significant new employment, housing, parks and open space. The Project will provide a mix of land uses, including market-rate and affordable homes, regional and neighborhood retail, research and development (R&D) and office space, a hotel, a performance arena, community services, and a waterfront park system. In addition, the southern portion of the Shipyard may be developed as a new football stadium for the San Francisco 49ers, or as additional R&D/office space, if the 49ers do not locate within the Project.

The development of the Project will create thousands of construction jobs, and inject an estimated \$4.3 billion into the City's economy during its projected 20+year build-out. The development of either Project alternative will result in significant employment opportunities, with an average of about 2,100 direct and indirect jobs per year during build-out, with about 1,450 of these jobs representing direct employment in the construction trades, equivalent to about 6% of citywide construction jobs projected during the same period.

The Project will create the opportunity for significant job growth from businesses occupying the completed non-residential buildings, with an estimated 11,300 direct employees projected under the Stadium alternative and about 12,200 workers in the Non-Stadium alternative at build-out. A wide range of employment opportunities will be created in either Project alternative in numerous industries and occupations, from entry-level to advanced, with annual average pay ranging from \$25,000 to \$185,000 per year, and aggregate wages of more than \$1 billion per year in either alternative upon full build-out. Of particular note is the fact that nearly half of the direct jobs are in occupations that pay less than the City's current average salary of about \$74,000 per year.

An additional 13,000 indirect and induced jobs are estimated at build-out, that together with direct employment attributed to Project, will contribute about \$6.4 to \$6.6 billion annually to San Francisco's gross city product (a measure of total spending on goods and services produced in San Francisco), in the Stadium and Non-Stadium alternatives, respectively. This represents an expansion of about 1.7% to the City's existing gross product during the projection period.

The impact of new development will not be limited to the economic activity generated by its construction and permanent employment; ultimately, 10,500 new households will make approximately \$287 million per year in retail purchases, supporting businesses in San Francisco and the region, further stimulating the economy.

Build-out of the Project will also increase the City's property tax base by approximately \$11 billion, as buildings are constructed and sold or rented. Much of the property tax increment generated by the Project will be reinvested in the Project, primarily to help pay for community benefits. However, per California Redevelopment Law, a portion of tax increment generated by the Project is "passed-through" to existing taxing entities, including the General Fund, which is anticipated to receive an average of \$4.8 million per year (in 2010 dollars) during the 45-year life of the Redevelopment Areas.

## Highlights





- The redevelopment of Phase 2 of the Hunters Point Shipyard and Candlestick Point (the "Project") will transform more than 700 acres of mostly vacant, underutilized land in southeast San Francisco into productive areas designed to accommodate significant new employment, housing, parks and open space.
- The Project will provide a mix of land uses, including 10,500 housing units, over 3,340 of which will be available at below market rates, retail, research and development (R&D) and office space, hotel, performance arena, and an expansive waterfront park system. In addition, the southern portion of the Shipyard may be developed as a new football stadium for the San Francisco 49ers, or as additional R&D/office space, if the 49ers do not locate within the Project.
- The OEA has reviewed the market assumptions in the horizontal pro forma and determined that the rental rates, construction costs, and sales values are reasonable and consistent with the range of market value and cost data indicators maintained by the OEA for the mix of uses proposed
- Construction activity will contribute more than \$200 million per year, and about \$4.3 billion cumulatively at full build-out, to San Francisco's Gross City Product, defined as total spending on goods and services produced in San Francisco.
- The Project will create an estimated 11,000 to 12,000 direct permanent employment opportunities in numerous industries and occupations, from entry-level to advanced, with a wide range of annual salaries. Of particular note is that nearly half of the jobs are in occupations at, or below, the City's current average salary of about \$74,000 per year.
- The direct permanent employees are estimated to earn an aggregate salary of more than \$1 billion a year upon full build-out.
- An additional 13,000 indirect and induced jobs are projected to be generated by the Project. On average, direct and indirect employment generated by Project will contribute to an expansion of about 1.5% to the City's employment base during the projection period.
- Direct and indirect permanent employment will contribute about \$6.4 to \$6.6 billion annually to San Francisco's Gross City Product at build-out, an average expansion of about 1.7% during the projection period.
- The development of 10,500 housing units will expand the City's existing housing inventory by about 3% and add approximately 24,500 residents to San Francisco. At build-out, household spending on retail purchases are estimated at \$287 million per year, supporting businesses in San Francisco and the region.
- During the 45-year life of the Redevelopment Areas, the City's General Fund is anticipated to receive about \$4.8 million per year from the Project.
- Overall, either the Stadium or Non-Stadium Alternatives of the proposed Project will generate significant one-time and on-going economic impacts to the City.

# ECONOMIC SCORECARD: PROPOSED PROJECT AT BUILD-OUT

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The table below indicates the anticipated future change in San Francisco's economy resulting from development of the Project in either alternative.

It should be remembered that Project build-out will take about two decades, and that the area will accommodate a significant amount of development under the proposed Project, compared to current conditions.

	<b>Highly Negative Impact</b> <i>(-.5% +)</i>	<b>Moderately Negative Impact</b> <i>(-.01% to -.5%)</i>	<b>Neutral Impact</b> <i>(-0.1% to 0.1%)</i>	<b>Moderately Positive Impact</b> <i>(.1% to .5%)</i>	<b>Highly Positive Impact</b> <i>(.5% +)</i>
<b>Construction Employment</b>					
<b>Permanent Employment</b>					
<b>San Francisco Gross City Product</b>					
<b>Housing Supply</b>					

# INTRODUCTION

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## **Summary of Proposed Legislation**

*The main impact of the proposed legislation is the creation of regulatory conditions that will allow for significant new development in southeast San Francisco*

The proposed legislation amends the General Plan, Zoning Map, and Zoning Plan to establish the Candlestick Point Activity Node Special Use District and the Hunters Point Shipyard Phase 2 Special Use District.

The legislation, along with numerous other implementing agreements and documents<sup>1</sup>, will enable significant new development in the southeast section of San Francisco through the redevelopment of Phase 2 of the Hunters Point Shipyard and Candlestick Point (the “Project”) <sup>2</sup>. Once all of the necessary approvals are obtained, the Project will be developed according to the adopted Hunters Point Shipyard and Bayview Hunters Point Redevelopment Plans, and their guiding documents, chief among them the Design for Development, and the Disposition and Development Agreement between the Redevelopment Agency and the Project’s master developer, discussed below.

## **Redevelopment of Hunters Point Shipyard (Phase 2) and Candlestick Point**

The proposed Project will transform more than 700 acres of mostly vacant, underutilized land in southeast San Francisco into productive areas designed to accommodate significant new employment, housing, parks and open space. The Project will integrate with the existing Bayview / Hunters Point neighborhood, creating a major new mixed-use, transit-oriented district in southeast San Francisco.

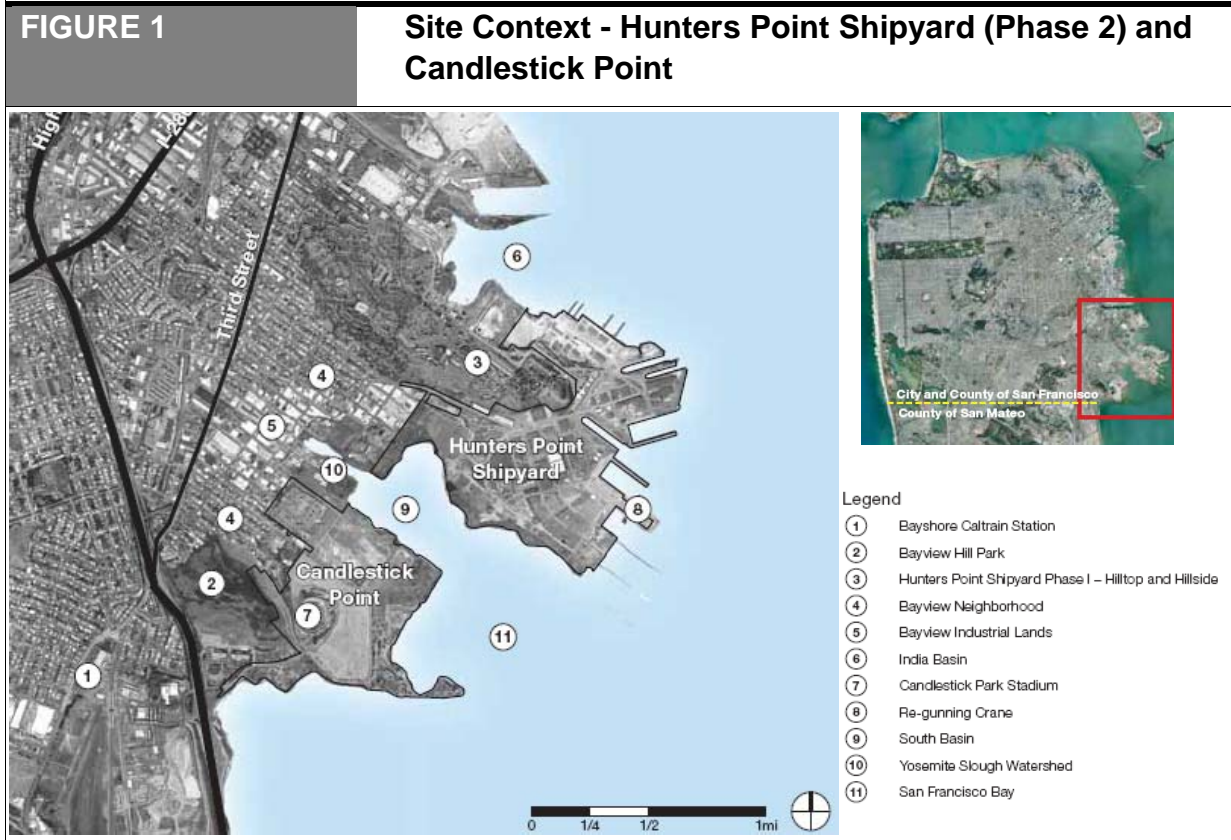
The Project will provide a mix of land uses, including market-rate and affordable homes, regional and neighborhood retail, research and development (R&D) and office space, a hotel, a performance arena, community services, and an expansive waterfront park system that extends along the entire shoreline of Candlestick Point and the Hunters Point Shipyard (“Shipyard”). In addition, the southern portion of the Shipyard may be developed as a new football stadium for the San Francisco 49ers, or as additional R&D/office space, if the 49ers do not locate within the Project.

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<sup>1</sup> In addition to the proposed amendments to the General Plan, Zoning Map and Zoning Code, there are numerous other regulatory approvals from various agencies required for redevelopment of the Project. For a full list of Project approvals and documents, see Exhibit G of the Executive Summary referenced in footnote 5.

<sup>2</sup> The Project, as defined in detail later, is consistent with the Conceptual Framework for integrated development endorsed by the Board of Supervisors and Mayor in May 2007 and approved by San Francisco voters in June 2008 through passage of Proposition G.

A site context map of the proposed Project, showing key landmarks, is presented in Figure 1<sup>3</sup>.



Because of the uncertainty of the 49ers stadium preference at this time, planning for the Project has included two alternatives: the Stadium Alternative, and the Non-Stadium Alternative, which expands commercial uses on portions of the Shipyard site currently reserved for the stadium and related uses<sup>4</sup>.

<sup>3</sup> Numerous documents have been generated regarding the Project, covering a range of topics, from environmental remediation on the former Navy Shipyard to an executive summary of the proposed Project, highlighting key elements of the public-private partnership, including details of community benefits, the deal structure between the City/Agency and master developer, related Project documents, and other information relating to the proposed project. These and other relevant documents can be found on the Office of Economic and Workforce Development's website: [http://www.oewd.org/Development\\_Projects-Candlestick\\_Park\\_Hunters\\_Point\\_Shipyard.aspx](http://www.oewd.org/Development_Projects-Candlestick_Park_Hunters_Point_Shipyard.aspx). Rather than repeating their content here, the OEA refers readers to this site for detailed information on the background and history of the Project.

<sup>4</sup> Even though the 49ers were successful in obtaining voter approval for a stadium plan in Santa Clara, uncertainty regarding the financial feasibility of a new stadium in that city remains. As such, it will likely take a number of years before the final stadium location is determined. The Project includes a location for the stadium on the Shipyard site; if certain conditions, including binding commitments from the 49ers to construct a new stadium in San Francisco, are not satisfied by 2014, the non-stadium alternative will prevail. The OEA analyzed the economic impacts of both alternatives, summarized in Table 1.

The Project will be developed through a public-private partnership between the City, through its Redevelopment Agency, and the master developer, led by Lennar. Briefly, the master developer is contributing private capital and its development expertise to construct the infrastructure (roads, parks, utilities, transit, public benefits, etc.) necessary to support the Project. The City's contribution to the partnership is primarily in the form of land from the Shipyard site and a commitment to reinvest a portion of the property tax increment generated by the Project to help fund the significant development costs, including community benefits<sup>5</sup>.

The terms of this partnership are governed by a legally binding Disposition and Development Agreement ("DDA") between the parties, which details obligations such as: the community benefits package and its timing, the financing plan, revenue sharing, and a timeline for development of the horizontal infrastructure, including penalties if this Schedule of Performance is not met.

Included in the DDA is a development pro forma (prepared jointly by the master developer and City), which provides detailed estimates of infrastructure costs, as well as anticipated revenue from the sale of finished land to vertical developers. These revenue and costs figures are projected over time, consistent with the Schedule of Performance, to test the financial feasibility of the Project (considering all infrastructure development costs, community benefit obligations, affordable housing program costs, etc. against anticipated revenue from finished land sales).

The pro forma was developed through an iterative process in which various land use mixes, public benefits, and market assumptions were tested, and refined over time, taking into account input from the community, while still maintaining a financially viable project.

The land use mix and development program which emerged from this process is the basis for the Project alternatives analyzed in this report, and is consistent with the DDA, other implementing documents, and the amendments contemplated by the proposed legislation. Further, the OEA has reviewed the market assumptions in the horizontal pro forma and

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<sup>5</sup>Through a community planning process and negotiations between the City and master developer, a public benefits package emerged which includes more than 330 acres of parks, 3,345 affordable housing units (nearly 32% of all units), transportation improvements, small and local business assistance, community facilities, and redeveloped space for existing Shipyard artists. For a detailed summary of public benefits generated by the Project, see page 6 of the Executive Summary of the proposed Project at: <http://www.oewd.org/media/docs/Draft%20Hunters%20Point%20Shipyard%20Phase%202-Candlestick%20Point%20Executive%20Summary%20with%20Attachments%202.2.10.pdf>

determined that the rental rates, construction costs, and sales values are within the range of market value and cost data indicators maintained by the OEA.

**Land Use,  
Population and  
Employment  
Assumptions**

*10,500 housing units  
will increase the City's  
existing housing  
inventory by more  
than 3%*

Table 1 summarizes the development program, population, and employment assumptions under both the Stadium and Non-Stadium alternatives upon full build-out of the Project, as discussed in the previous section. Appendices 1 and 2 detail the phasing assumptions of vertical construction and associated population and employment growth for both alternatives over time.

Both alternatives provide for the same amount of housing, retail, hotel, arena, and marina uses. The Stadium alternative has about 2,000 more parking spaces to accommodate additional parking demand from the 69,000-seat stadium. The Non-Stadium alternative requires fewer parking spaces, and can accommodate about 500,000 square feet of additional job-generating R&D/Office space, resulting in slightly more and varied employment in this alternative.

The development program and employment assumptions summarized in Table 1 are the basis for the economic impact analysis in the following section of the report<sup>6</sup>.

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<sup>6</sup> Although the Project is anticipated to be developed as described, because of the multiyear build-out of the Project, circumstances affecting such development may change over time, potentially affecting the timing of development and/or the development program. The DDA includes provisions, such as a Schedule of Performance to help ensure that development is timely. However, if market conditions deteriorate, for example, the DDA allows for a delay in the horizontal development (of up to 6 years cumulatively). In addition, the DDA includes a provision to refine select terms of the agreement (such as the land use mix) if the Developer can demonstrate why development is infeasible without the proposed changes, and the City/Agency agree. See Section 3.6 of the DDA for additional information. If a land use change were to be requested, the amendments would be reviewed by the OEA, and the economic impacts analyzed.

TABLE 1

### Hunters Point Shipyard Phase 2/Candlestick Point- Development Program, Population and Direct Employment Assumptions (at Build-out) (1)

	Stadium Alternative		Non-Stadium Alternative	
	Development Program (2)	Population/ Jobs(3)	Development Program (2)	Population/ Jobs(3)
<b>Residential</b>				
Housing (all types) (units)	10,500	<b>24,465</b>	10,500	<b>24,465</b>
<i>Affordable Housing (% of total units)</i> 31.9%	3,345		3,345	
Residential Property Management (jobs)		420		420
<b>Non-Residential</b>				
Neighborhood Retail (gross sq.ft.)	232,500	861	232,500	861
Regional Retail (gross sq.ft.)	635,000	1,814	635,000	1,814
Office (gross sq.ft.)	1,318,000	4,692	1,287,500	4,602
R&D (gross sq.ft.)	1,082,000	2,762	1,630,500	4,120
Hotel (220 rooms) (gross sq.ft.)	150,000	214	150,000	214
49er Stadium (seats)	69,000	359		-
Arena (seats)	10,000	87	10,000	87
Parks and Open Space (acres)	336	87	327	85
Marina (boat slips)	300	5	300	5
Parking (spaces - structured)	8,500	31	6,439	24
<b>Total Direct Employment</b>		<b>11,334</b>		<b>12,232</b>

**Sources and Notes:**

- (1) Appendices 1 and 2 detail vertical development phasing and the resulting population and employment generation on a multiyear basis during the 20+ year projection period for the Stadium and Non-Stadium alternatives, respectively.
- (2) Development program is based on Version 27 Base Stadium and Non Stadium Alternative Pro Formas, May 2010, consistent with the Disposition and Development Agreement (DDA) between the City/Agency and Master Developer, and the Zoning Map and code amendments contemplated by the proposed legislation.
- (3) Based on density assumptions in Draft Environmental Impact Report, November 2009 (EIR), pg. III.C-12. Population based on 2.33 people per household. Employment based on the following densities: residential property management = 25 units per job; neighborhood retail = 270 gross sq.ft. per job; regional retail = 350 gross sq.ft. per employee; office = 270 gross sq.ft. per employee; R&D = 400 gross sq.ft. per employee; Hotel = 700 gross sq.ft. per employee (about 1 employee/room); Parks and Open Space = 0.26 jobs per acre; Marina = 5 full time equivalent employees; structured parking = 270 spaces per job. Stadium based on 12 football games and 20 other events per year and 2,915 8-hour shifts per event, or 746,000 total hours annually; Arena employment based on 150 events per year and 300 4-hour shifts per event, or 180,000 total hours annually. Dividing stadium and arena annual hours by 2,080 hours provides an estimate of full time equivalent annual employment.

# ECONOMIC IMPACT FACTORS

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## Introduction

The Project has the potential to produce significant economic impacts on the entire City of San Francisco in general, and to the southeast part of the city in particular. The legislation will allow a major new mixed-use development, increasing the capacity of the City to accommodate employment growth in a variety of sectors and occupations, as well as increasing the City's housing supply and residential population.

The economic impacts can be distinguished as follows:

- One-time impacts associated with construction spending (on infrastructure and buildings), as measured by increases in employment and spending during the 20+ year build-out period;
- On-going impacts resulting from employment in the new commercial buildings, including an estimate of the distribution of employment and wages by industry and occupation, and an estimate of the impact of this employment on total spending in San Francisco;
- On-going impacts resulting from new resident spending captured by San Francisco businesses;
- On-going direct impacts from attendees at stadium events; and,
- A brief analysis of the impact of new development on the City's property tax base<sup>7</sup>.

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<sup>7</sup> Seifel Consulting, provided an estimate of property tax increment generated by the combined Project in its February 2010 "Bayview Hunters Point Redevelopment Plan Amendment - Preliminary Report" and "Hunters Point Shipyard Redevelopment Plan Amendment - Preliminary Report," prepared for the San Francisco Redevelopment Agency. The Seifel report estimated property taxes accruing to various taxing entities, including the 20% set-aside for housing, pass-through payments for the General Fund and other funds, and revenues flowing to other Redevelopment programs. Because the deal is structured so that all but the pass-through payments are reinvested in the Project, only this figure is reported.

**One-Time Construction Impacts**

The development of the Project will create thousands of construction jobs, and inject billions of dollars into the City's economy during its anticipated 20+year build-out.

Development costs for the Project are comprised of two components: horizontal infrastructure costs needed to support the proposed development (roads, utilities, transit, parks, etc.), and the cost to construct the vertical buildings (residential units, commercial space, etc.). Cost estimates for both alternatives are summarized in Table 2 below. A multi-year, dynamic cost estimate summarizing annual costs during the construction period is presented in Appendix 3 for both alternatives.

**TABLE 2** **Hunters Point Shipyard Phase 2/Candlestick Point- Vertical and Horizontal Development Cost Assumptions (at Build-out)**

	Stadium Alternative			Non - Stadium Alternative		
	Per Unit Cost (1)	Units/GSF	Total Cost (millions)	Per Unit Cost (1)	Units/GSF	Total Cost (millions)
<b>Vertical Costs</b>						
Residential	458,974	10,500	\$4,819	445,151	10,500	\$4,674
Neighborhood Retail	\$227	232,500	\$53	\$227	232,500	\$53
Regional Retail	\$228	635,000	\$145	\$228	635,000	\$145
Office	\$279	1,318,000	\$371	\$279	1,287,500	\$362
R&D	\$341	1,082,000	\$365	\$328	1,630,500	\$533
Hotel	139,284	220	\$31	139,284	220	\$31
Arena	\$1,101	75,000	\$83	\$1,101	75,000	\$83
Parking	\$22,000	8,500	\$187	\$22,000	6,439	\$142
49er Stadium	NA		\$900	NA		\$0
Marina	\$12,333	300	\$4	\$12,333	300	\$4
Sub-total			<u>\$6,957</u>			<u>\$6,025</u>
<b>Horizontal Costs (1)(2)</b>						
Direct (hard) Costs			\$1,553			\$1,804
Indirect (soft) Costs			\$311			\$328
Sub-total			<u>\$1,864</u>			<u>\$2,131</u>
<b>Total Construction Costs (3)</b>			<u>\$8,821</u>			<u>\$8,157</u>

Sources and Notes:

- (1) Average construction cost per unit, gross square foot, room, or space. Excludes land and developer profit. Construction costs are based on development assumptions in May 2010 pro forma (V27), the basis for the Disposition and Development Agreement (DDA) between the City/Agency and Master Developer. Vertical building costs are based on residual land pro formas, by unit type, land use, and location within the Project. These residual analyses are the basis for the finished land values in the horizontal pro forma, taking into account market conditions (for finished building value), and the cost to build the structures. The OEA has reviewed the pro formas and their assumptions and found them to be reasonable.
- (2) Excludes land acquisition cost, financing proceeds, and parking and stadium costs (which are included in the vertical costs). Includes cost for community facilities and artist space.
- (3) In 2010 \$. See Appendix 3 for a summary of development costs for both alternatives during the 20+ year projection period, consistent with the phasing assumptions in Appendices 1 and 2.

*Construction of the Project will generate an annual average of approximately 1,500 direct construction jobs, representing a significant share of citywide construction employment projected during the 20+ year build-out.*

The impact of the direct construction spending can be modeled using the OEA's econometric model of the San Francisco economy, prepared by Regional Economic Modeling Inc. (REMI).

The REMI model projects two key economic indicators that help explain the impact of constructing the Project: employment and *Gross City Product* (GCP)—an equivalent to Gross National Product (GNP) for San Francisco—which equals the total spending on goods and services produced in San Francisco<sup>8</sup>.

<b>TABLE 3</b>		<b>Hunters Point Shipyard Phase 2/Candlestick Point-Construction Period Economic Impacts</b>			
<b>Summary Output (1)</b>	<b>Stadium Alternative</b>		<b>Non - Stadium Alternative</b>		
	Total During Buildout	Annual Average (2)	Total During Buildout	Annual Average (2)	
Direct Construction Jobs	32,412	1,473	29,845	1,421	
Indirect/Induced Jobs	14,910	678	13,729	654	
Total Employment	47,322	2,151	43,574	2,075	
Gross City Product (2010\$) (3)	\$4,462,199,000	\$202,827,000	\$4,251,958,000	\$202,474,000	

**Sources and Notes:**

(1) San Francisco employment impacts associated with new construction per Regional Economic Modeling Inc. (REMI) run, 6/10/2010, based on development cost in Table 2 and phasing in Appendix 3. Direct construction employment was estimated based on construction multiplier of 1.46 (construction jobs x 1.46 = total jobs), based on previous construction multiplier analyses conducted by the OEA. Total development costs from Appendix 3 are the input source for the REMI model.

(2) Total during build-out divided by construction period (22 years in Stadium and 21 years in Non-Stadium).

(3) REMI output inflated to 2010\$ per Consumer Price Index (CPI) increase for the San Francisco MSA, per the US Department of Labor, Bureau of Labor Statistics (BLS).

Table 3 summarizes total employment, direct construction jobs, and spending (GCP) generated by the development of the Project, annually and during the 20+ year build-out.

<sup>8</sup> The REMI Policy Insight model is based on a multi-year baseline projection of San Francisco's economy. The model contains a number of policy variables, including construction spending, new employment by industry, and others, which can be modified to reflect changes resulting from proposed legislation, in this case the proposed Project. OEA economists assess the economic impact by re-running the projection under alternative scenarios (in this case, new construction spending and new employment and population in the different alternatives), and comparing the results with the baseline projection.

*An additional 650 indirect jobs per year are projected during the 20+ year build-out.*

*Construction of either alternative will contribute more than \$200 million per year, and about \$4.3 billion during the 20+ year build-out, to San Francisco's gross city product.*

As indicated, the development of either Project alternative will result in significant employment opportunities, with an average of about 2,100 direct and indirect jobs per year during build-out<sup>9</sup>. Direct employment in the construction trades is estimated to average about 1,450 jobs per year, providing significant employment opportunities in this sector<sup>10</sup>. In addition, construction activity will contribute an average of more than \$200 million per year to San Francisco's gross city product, and about \$4.3 to \$4.5 billion during the 20+ year build-out period, as shown in Table 3.

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<sup>9</sup> The REMI Policy Insight model captures not only direct construction jobs, but also the secondary intermediate and induced jobs. Intermediate jobs are created from the manufacturing of materials required for construction. Induced jobs are a result of new employees re-spending their wages.

<sup>10</sup> The annual average construction employment from the Project represents nearly 6% of the 25,300 citywide construction jobs projected annually during build-out, per REMI projections.

**On-Going Impacts:  
Permanent  
Employment**

*The 11,000 to 12,000 permanent employees are estimated to earn an aggregate salary of more than \$1 billion a year upon full build-out and absorption.*

*The Project will create a wide range of employment opportunities in numerous industries and occupations; the direct, induced and indirect employment attributed to the Project is anticipated to expand the City's employment base by an average of about 1.5% during the projection period.*

The Project will create the opportunity for significant job growth from businesses occupying the completed non-residential buildings. Table 1 presented an estimate of employment by general land use category, based on typical employment density assumptions and the land use mix of each alternative. As indicated, an estimated 11,300 direct employees are projected under the Stadium alternative, while the Non-Stadium alternative is projected to employ about 12,200 workers at build-out<sup>11</sup>.

To estimate the distribution of these workers by industry and occupation, including average wages, the OEA first selected the industries likely to occupy each type of space. The first column in the top section of Table 4 includes the industry employment assumptions for each land use category. For example the Retail land use category is assumed to be occupied by those in the retail trade (NAICS code 44-45). The next columns show the distribution of jobs among these industries, as well as average annual wages for these industries in San Francisco, per the U.S. Bureau of Labor Statistics. As indicated, the Non-Stadium alternative has a slightly higher average annual wage of \$95,000 (2010\$s), compared with \$92,000 in the Stadium alternative, primarily due to the inclusion of additional space devoted to office/R&D in the Non-Stadium alternative and the higher relative wages from this sector.

The bottom half of Table 4 summarizes employment by occupation for all of the industries in each alternative, based on the state Employment Development Department (EDD) occupational staffing patterns by industry. This database analyzes the specific types of occupations that different industries create as they grow. The OEA created a profile of each industry sector noted above, and then analyzed these occupational staffing patterns to illustrate the types of jobs created by the expansion of each sector of the economy. These sector-wide staffing patterns are shown on the bottom of Table 4, sorted by annual average salary.

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<sup>11</sup> In addition to the direct employment, an additional 13,000 induced and indirect permanent jobs are estimated, per REMI. During the projection period, the average increase in direct, induced, and indirect employment attributed to the Project was calculated and compared to the average employment projected by REMI for San Francisco as a whole. On average, total Project employment will contribute to an expansion of about 1.5% to the City's employment base during the projection period.

**TABLE 4**

**Hunters Point Shipyard Phase 2/Candlestick Point-  
Summary of Direct Employment Distribution by  
Land Use, Industry and Occupation**

	Stadium Alternative			Non-Stadium Alternative		
	% of Total Jobs	# of Jobs	Average Annual Wage (SF)(4)	% of Total Jobs	# of Jobs	Average Annual Wage (SF)(4)
<b>I. Employment by Land Use and Industry</b>						
Retail (NAICS 44-45; retail trade)	24%	2,675	\$40,992	22%	2,675	\$40,992
Office (NAICS 51,52,54; info, finance/insurance, prof.& bus.services)	41%	4,692	\$124,881	38%	4,602	\$124,875
R&D (NAICS 5417; Scientific Research and Development Services)	24%	2,762	\$102,995	34%	4,120	\$102,995
Hotel (NAICS 721; Accommodation)	2%	214	\$40,145	2%	214	\$40,145
Arena (NAICS 7113 Promoters of Performing Arts and Sports)	1%	87	\$33,176	1%	87	\$33,176
Parking (NAICS 8129; Parking Lot Attendants)	0%	31	\$28,313	0%	24	\$28,313
Stadium (NAICS 7113 Promoters of Performing Arts and Sports)	3%	359	\$33,176	0%	-	\$0
Parks/Open Space (NAICS 712; Museums, Parks and Historical Sites)	1%	87	\$36,238	1%	85	\$36,238
Marina (NAICS 7139; Other Amusement and Recreation)	0%	5	\$26,154	0%	5	\$26,154
Residential (NAICS 53; Real Estate Rental and Leasing)	4%	420	\$81,500	3%	420	\$81,500
<b>TOTAL Employment by Industry/Average Wage</b>	<b>100%</b>	<b>11,334</b>	<b>\$91,950</b>	<b>100%</b>	<b>12,232</b>	<b>\$94,709</b>
<b>II. Employment by Occupation (1)</b>						
	% of Industry Jobs (2)	# of Industry Jobs (3)	Average Annual Wage (SF)(4)	% of Industry Jobs (2)	# of Industry Jobs (3)	Average Annual Wage (SF)(4)
Personal Care and Service	2%	195	\$24,484	1%	97	\$28,401
Food Preparation and Serving Related	2%	226	\$30,466	2%	201	\$32,013
Transportation and Material Moving	2%	231	\$34,673	2%	215	\$35,694
Building and Grounds Cleaning and Maintenance	2%	210	\$34,933	2%	196	\$36,710
Healthcare Support	0%	18	\$42,070	0%	22	\$42,145
Protective Service	1%	62	\$44,700	2%	227	\$46,307
Production Occupations	2%	201	\$45,806	0%	46	\$56,752
Office and Administrative Support	17%	1,895	\$60,465	16%	1,954	\$60,848
Installation, Maintenance, and Repair	3%	301	\$62,018	2%	300	\$63,360
Sales and Related Occupations	19%	2,199	\$63,501	18%	2,185	\$64,063
Construction and Extraction	0%	46	\$78,127	0%	52	\$80,152
Healthcare Practitioners and Technical	1%	102	\$79,010	1%	116	\$78,832
Arts, Design, Entertainment, Sports, and Media	5%	569	\$84,249	4%	520	\$87,964
Life, Physical, and Social Science	10%	1,126	\$92,353	13%	1,599	\$91,916
Architecture and Engineering	4%	485	\$94,126	5%	641	\$93,904
Education, Training, and Library	0%	25	\$105,221	0%	29	\$116,177
Computer and Mathematical Occupations	9%	1,075	\$119,359	10%	1,191	\$117,652
Business and Financial Operations	9%	1,008	\$141,680	9%	1,073	\$138,141
Legal	2%	177	\$153,433	2%	186	\$155,012
Management	10%	1,181	\$185,671	11%	1,382	\$185,045
<b>TOTAL Employment by Occupation</b>	<b>100%</b>	<b>11,334</b>	<b>\$91,950</b>	<b>100%</b>	<b>12,232</b>	<b>\$94,709</b>
<b>Total Wages per Year (Billions \$) (at build-out)</b>			<b>\$1.0421</b>			<b>\$1.1584</b>

Sources and Notes:

- (1) This exhibit summarizes employment by occupation for ALL industries in both alternatives, based on each scenario's land use plan. The following NAICS codes were used to determine average wages in San Francisco: Retail (NAICS 44-45, Retail Trade); Office (NAICS 51, Information; NAICS 52, Finance and Insurance; and NAICS 54, Professional and Business Services); R&D (NAICS 5417, Scientific Research and Development); Hotel (NAICS 721, Accommodation); Parking (NAICS 8129, Parking Lot Attendants); Parks and Open Space (NAICS 712, Parks and Historical Sites); Marina (NAICS 7139, Other Amusement and Recreation); Property Management (NAICS 53 Real Estate Rental and Leasing); Stadium and Arena (NAICS 7112-13, Sports Teams and Promoters of Sports and Events). The clean-tech sector is emerging and comprises many industries; Moody's Economy.com is studying the potential for this sector in San Francisco. Although the report has not been released, a preliminary review of the occupational distribution of businesses in this sector is similar to the R&D industry, and is used as a proxy for purposes of this analysis.
- (2) Source: California Employment Development Department (EDD), Occupational Employment Survey (OES), San Francisco MSA, 1Q 2009. Figure represents summation of employment for all industries by occupation.
- (3) See Table 1 for total estimated employment generated by Project. Distribution by occupation based on "% of Industry Jobs" ratio applied to total estimated direct employment generated by the Project.
- (4) Source: US Bureau of Labor Statistics Quarterly Census of Employment and Wages (QCEW) for average San Francisco wage as of 2008, inflated to 2010\$ by CPI. San Francisco wage by occupation estimated based on MSA-level wage distribution by occupation applied to average San Francisco industry wage. May not total due to rounding.
- (5) See Appendices 4 and 5 for estimated phasing of employment and wages for each alternative.

As shown, a wide range of employment opportunities will be created in either Project alternative in numerous industries and occupations, from entry-level to advanced, with annual average pay ranging from \$25,000 to \$185,000 per year, and aggregate wages of more than \$1 billion per year in either alternative upon build-out.

The following table summarizes the occupational employment distribution by wage quintile presented in Table 4. As indicated, employment by wage is fairly evenly distributed, providing jobs for a wide range of workers with varying skills and education levels. Of particular note is the fact that nearly half of the jobs are at, or below, the City's current average salary of about \$74,000 per year, in occupations that include: personal care, food preparation, transportation, building and grounds maintenance, office and administrative support, and sales occupations, among others (See Table 4).

Income Range		Stadium Alternative			Non-Stadium Alternative		
		% of Jobs	# of Jobs	Average Annual Wage	% of Jobs	# of Jobs	Average Annual Wage
\$0 - \$37,000		8%	862	\$31,328	6%	709	\$33,931
\$37,001 - \$74,000		41%	4,677	\$61,078	39%	4,734	\$61,668
\$74,001 - \$111,000		21%	2,354	\$90,032	24%	2,957	\$91,170
\$111,001 - \$148,000		18%	2,082	\$130,161	19%	2,264	\$127,367
\$148,001 - \$185,000		12%	1,358	\$181,476	13%	1,568	\$181,479
		100%	11,334	\$91,950	100%	12,232	\$94,709

**Notes:**  
 (1) See Table 4 for detail. The income range at the Project is divided into quintiles, with the distribution shown above.

*Upon build-out, direct, indirect, and induced employment attributed to the Project will contribute \$6.4 to \$6.6 billion annually to San Francisco's Gross City Product, expanding the City's economy by about 1.7%.*

The impact of the Project's permanent employment on San Francisco's GCP was estimated by inputting the direct permanent employment estimates, by industry (as summarized in Appendices 5 and 6), into the REMI model. REMI calculated the indirect and induced employment (summarized in Table 6; an additional 13,000 jobs) from the Project. Together, the total employment will contribute about \$6.6 billion annually to the City's GCP in the Non-Stadium Alternative, and about \$6.4 billion annually in the Stadium Alternative (2010\$), upon build-out.

During the projection period, the average increase in GCP attributed to the Project was calculated and compared to the San Francisco's average baseline city product projected by REMI absent the Project. On average, the Project will contribute to an expansion of about 1.7% to the City's GCP during the projection period.

**On-Going Impacts:  
Resident Spending**

*Aggregate household retail spending in both alternatives is estimated at \$287 million per year at build-out*

The impact of new development will not be limited to the economic activity generated by its construction and permanent employment; ultimately, 10,500 new housing units will raise the city's population by approximately 24,500 people (about 3% of the existing population of about 800,000) (see Table 1).

The new household population at the Project will make retail purchases, supporting businesses in San Francisco and the region. Average retail spending per household was estimated at \$27,300 per year<sup>12</sup>. Thus upon build-out, residents in both alternatives will spend an aggregate of \$286.6 million per year on retail purchases, further stimulating the economy.

**On-Going Impacts:  
Stadium Spending**

The impact of direct concession spending by attendees of Stadium events was also estimated. As discussed in Table 1, an estimated 12 football games (at 100% occupancy) and 20 other events (at 50% occupancy) are anticipated annually at the 69,000-seat stadium, based on information provided by the 49ers. This equates to about 1.5 million fans attending stadium events annually. Assuming concession spending of \$10 per attendee, annual spending of about \$15 million is indicated in the Stadium alternative<sup>13</sup>.

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<sup>12</sup> Based on the weighted average household expenditures by affordability level in the following retail categories: Apparel, General Merchandise, Food Stores, Eating and Drinking Places, Home Furnishings and Appliances, Building Materials, Motor Vehicles and Parts, Service Stations, and other retail stores. Source: CBRE retail analysis: EIR Appendix U, Exhibit 29. Average household spending is multiplied by the cumulative completed housing units to derive total retail spending per year.

<sup>13</sup> Other than direct employment and stadium spending, the OEA did not analyze other potential economic impacts associated with the Stadium Alternative, such as out-of-town visitor spending on non-stadium purchases or accommodations, or the impact of potentially hosting the Superbowl, for example. Per capita concessions sales estimates per 49ers.

## **Property Tax Increment to General Fund**

*During the 45-year life of the Redevelopment Areas, the City's General Fund is anticipated to receive about \$220 million on a present value basis from the Project, or an average of about \$4.8 million per year*

Build-out of the Project will also increase the City's property tax base, as buildings are constructed and sold or rented. Upon build-out, the Project will add more than \$11 billion in assessed value to the property tax rolls, generating significant property tax revenue<sup>14</sup>.

As previously mentioned, much of the property tax increment generated by the Project will be reinvested in the Project, primarily to help pay for the community benefit package. However, per California Redevelopment Law, a portion of tax increment generated in a Redevelopment Area is "passed-through" to existing taxing entities, including the school and community college districts, BART, and the City's General Fund. During the 45-year life of both Redevelopment Areas, approximately 21% of property tax increment generated by the Project will be passed through, with about 85% of this amount flowing to the General Fund.

During the 45-year projection period, the City's General Fund is anticipated to receive about \$220 million in current 2010 dollars, or an average of about \$4.8 million per year.

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<sup>14</sup> Source: Seifel Consulting Inc. "Bayview Hunters Point Redevelopment Plan Amendment - Preliminary Report" and "Hunters Point Shipyard Redevelopment Plan Amendment - Preliminary Report," prepared for the San Francisco Redevelopment Agency, February 2010, Tables F-3,b,c, and d, and Tables D-3b, c, and d. Excludes value of 1,649 property tax exempt affordable housing units (Agency and Alice Griffith housing).

## Summary conclusions

Overall, either the Stadium or Non-Stadium Alternatives of the proposed Project will generate significant one-time and on-going economic impacts to the City. As indicated in Table 6, the Stadium Alternative, with its slightly higher construction costs, will generate marginally more employment during the build-out phase. In addition, this alternative includes additional impacts associated with spending at Stadium events. On the other hand, the Non-Stadium Alternative, which can accommodate additional buildings for employment generating uses, is anticipated to support about 900 more direct permanent jobs, generating about \$250 million more per year in gross city product, compared to the Stadium Alternative.

<b>TABLE 6</b>	<b>Hunters Point Shipyard Phase 2/Candlestick Point-Economic Impact Summary</b>	
	<b>Stadium Alternative</b>	<b>Non-Stadium Alternative</b>
<b>One-Time Impacts</b>		
<u>Construction Period Impacts (1)</u>		
Annual Average Employment	2,151	2,075
<i>Annual Direct Construction Employment</i>	1,473	1,421
Annual Gross City Product (2010\$s)	\$202,827,000	\$202,474,000
<b>On-Going Impacts (at build-out)</b>		
<u>Permanent Employment (2)</u>		
Direct Project Employment	11,334	12,232
Indirect and Induced Employment	12,738	13,438
Total Employment	24,072	25,670
Average Annual Wage (2010\$s)	\$91,950	\$94,709
Direct Aggregate Wages per Year (2010\$s)	\$1,042,185,884	\$1,158,444,912
Annual Gross City Product (2010\$s)	\$6,376,026,000	\$6,632,137,000
<u>Resident Spending (3)</u>		
Aggregate Retail Spending per Year (2010\$s)	\$286,640,000	\$286,640,000
<u>Stadium Spending (3)</u>		
Concession Spending per Year (2010\$s)	\$15,180,000	\$0
<b>Sources and Notes:</b>		
(1) Annual averages during 20+ year build-out period. Employment includes direct and indirect jobs. See Table 3.		
(2) See Tables 1, 4, and Appendices 4 and 5 for direct employment detail. Indirect and induced employment, and gross city product per 6.30.10 REMI run.		
(3) See text for detail.		

# APPENDIX 1: VERTICAL COMPLETION SCHEDULE AND POPULATION AND EMPLOYMENT ESTIMATES STADIUM ALTERNATIVE

A. Vertical Completion Schedule (1)			Total	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
<b>Residential (housing units)</b>																							
Residential (all unit types)			10,500	-	535	376	394	442	1,403	490	216	-	1,030	283	931	867	177	529	1,458	372	734	263	
<b>Non-Residential</b>																							
<b>Retail</b>	<b>Gross Sq.Ft.</b>	<b>Net Sq.Ft.</b>																					
Neighborhood	232,500	220,875	-	-	-	-	-	9,500	70,300	23,750	15,200	-	33,594	56,438	8,667	3,427	-	-	-	-	-	-	
Regional	635,000	603,250	-	-	-	-	-	-	-	-	-	-	198,438	333,375	51,197	20,241	-	-	-	-	-	-	
Sub-total	867,500	824,125	-	-	-	-	-	9,500	70,300	23,750	15,200	-	232,031	389,813	59,864	23,667	-	-	-	-	-	-	
<b>Commercial (R&amp;D &amp; Office)</b>																							
OFFICE	1,193,000	1,133,350	-	-	-	-	-	-	-	-	71,366	192,895	297,852	115,115	332,524	123,598	-	-	-	-	-	-	
R&D	957,000	909,150	-	-	-	-	-	79,800	-	59,734	161,455	173,142	53,241	278,326	103,452	-	-	-	-	-	-	-	
R&D/OFFICE (50% each)	250,000	237,500	-	-	-	237,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sub-total	2,400,000	2,280,000	-	-	-	237,500	-	79,800	-	131,100	354,350	470,994	168,356	610,850	227,050	-	-	-	-	-	-	-	
Hotel	150,000	112,500	-	-	-	-	-	-	-	-	-	-	71,837	40,663	-	-	-	-	-	-	-	-	
Arena (seats)	75,000	56,250	-	-	-	-	-	-	-	-	-	-	35,919	20,331	-	-	-	-	-	-	-	-	
Parking (spaces - structured)	8,500	-	-	-	-	-	68	3,254	170	227	485	1,870	1,472	643	311	-	-	-	-	-	-	-	
49er STADIUM (seats)	69,000	-	-	-	-	-	69,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Parks and Open Space (acres)	336.4	-	10	28	10	17	28	22	20	22	48	-	12	111	-	-	-	-	8	-	-	-	
Marina (slips)	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300	-	
<b>B. Population and Employment Estimates</b>																							
<b>Residential Population</b>			<b>Density (pp/hh)</b>	<b>Total</b>																			
Total Residential Population			2.33	24,465	-	1,247	876	918	1,030	3,269	1,142	503	-	2,400	659	2,169	2,020	412	1,233	3,397	867	1,710	613
<b>Cumulative Residential Population</b>					-	1,247	2,123	3,041	4,071	7,340	8,481	8,984	8,984	11,384	12,044	14,213	16,233	16,646	17,878	21,275	22,142	23,852	24,465
<b>Employment</b>			<b>Density (2)</b>	<b>Total</b>																			
<b>Retail</b>																							
Neighborhood	270	861	-	-	-	-	37	274	93	59	-	131	220	34	13	-	-	-	-	-	-	-	
Regional	350	1,814	-	-	-	-	-	-	-	-	-	597	1,003	154	61	-	-	-	-	-	-	-	
Sub-total		2,675	-	-	-	-	37	274	93	59	-	728	1,223	188	74	-	-	-	-	-	-	-	
Cumulative Retail Employment					-	-	37	311	404	463	463	1,191	2,413	2,601	2,675	2,675	2,675	2,675	2,675	2,675	2,675	2,675	
<b>Commercial (R&amp;D &amp; Office)</b>																							
Office Employment	276	4,322	-	-	-	-	-	-	272	736	1,136	439	1,268	471	-	-	-	-	-	-	-	-	
R&D Employment	400	2,393	-	-	-	-	210	-	157	425	456	140	732	272	-	-	-	-	-	-	-	-	
R&D/Office Employment	338	740	-	-	-	740	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sub-total		7,455	-	-	-	740	-	210	-	429	1,161	1,592	579	2,001	744	-	-	-	-	-	-	-	
Cumulative Office/R&D Employment					-	-	740	740	950	950	1,379	2,540	4,131	4,710	6,711	7,455	7,455	7,455	7,455	7,455	7,455	7,455	
<b>Hotel</b>																							
Hotel Employment	700	214	-	-	-	-	-	-	-	-	-	137	77	-	-	-	-	-	-	-	-	-	
Cumulative Hotel Employment					-	-	-	-	-	-	-	137	214	214	214	214	214	214	214	214	214	214	
<b>Arena</b>																							
Arena Employment	87	87	-	-	-	-	-	-	-	-	-	-	87	-	-	-	-	-	-	-	-	-	
Cumulative Arena Employment					-	-	-	-	-	-	-	-	87	87	87	87	87	87	87	87	87	87	
<b>Parking</b>																							
Parking Employment	270	31	-	-	-	-	0	12	1	1	2	7	5	2	1	-	-	-	-	-	-	-	
Cumulative Parking Employment					-	-	0	12	13	14	16	22	28	30	31	31	31	31	31	31	31	31	
<b>49er STADIUM</b>																							
Total Stadium Employment	359	359	-	-	-	-	359	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cumulative Stadium Employment					-	-	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	
<b>Parks and Open Space</b>																							
Parks and Open Space Employment	0.26	87	-	3	7	3	4	7	6	5	6	13	-	3	29	-	-	-	-	2	-	-	
Cumulative Parks and Open Space Employment					3	10	13	17	24	30	35	41	54	57	85	85	85	85	87	87	87	87	
<b>Marina</b>																							
Total Marina Employment	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	
Cumulative Marina Employment					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	
<b>Residential Property Management</b>																							
Residential Employment	25	420	-	21	15	16	18	56	20	9	-	41	11	37	35	7	21	58	15	29	11	-	
Cumulative Residential Employment					21	36	52	70	126	146	154	154	195	207	244	279	286	307	365	380	409	420	
<b>CUMULATIVE EMPLOYMENT</b>			<b>11,334</b>	<b>3</b>	<b>31</b>	<b>49</b>	<b>809</b>	<b>1,230</b>	<b>1,788</b>	<b>1,906</b>	<b>2,410</b>	<b>3,585</b>	<b>6,089</b>	<b>8,075</b>	<b>10,331</b>	<b>11,185</b>	<b>11,192</b>	<b>11,213</b>	<b>11,274</b>	<b>11,289</b>	<b>11,323</b>	<b>11,334</b>	

(1) Note: Assumes 2 year delay from finished lot delivery to finished vertical development. Source: DDA pro formas Version 27. Timing is consistent with DDA schedule of performance.

(2) Based on density assumptions in EIR; see Table 1 in report for detail.

# APPENDIX 2: VERTICAL COMPLETION SCHEDULE AND POPULATION AND EMPLOYMENT ESTIMATES NON-STADIUM ALTERNATIVE

A. Vertical Completion Schedule (1)		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
<b>Residential (housing units)</b>		<b>Total</b>																	
Residential (all unit types)	10,500 units	-	535	376	394	442	1,403	490	132	363	270	829	1,066	608	884	451	1,280	623	354
<b>Non-Residential</b>																			
<b>Retail</b>																			
Neighborhood	220,875 NSF	-	-	-	-	8,550	60,800	17,100	8,550	23,750	-	-	34,042	34,042	34,042	-	-	-	-
Regional	603,250 NSF	-	-	-	-	-	-	-	-	-	-	-	-	603,250	-	-	-	-	-
Sub-total	824,125	-	-	-	-	8,550	60,800	17,100	8,550	23,750	-	-	34,042	637,292	34,042	-	-	-	-
<b>Commercial (R&amp;D &amp; Office)</b>																			
OFFICE	1,133,350 NSF	-	-	-	-	-	-	-	-	207,867	222,913	68,546	358,333	275,691	-	-	-	-	-
R&D	1,459,200 NSF	-	-	-	-	-	79,800	-	131,100	146,483	157,087	48,304	252,517	93,859	550,050	-	-	-	-
R&D/OFFICE (50% each)	179,550 NSF	-	-	-	179,550	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	2,772,100	-	-	-	179,550	-	79,800	-	131,100	354,350	380,000	116,850	610,850	369,550	550,050	-	-	-	-
Hotel	112,500 NSF	-	-	-	-	-	-	-	-	-	-	-	-	112,500	-	-	-	-	-
Arena	56,250 NSF	-	-	-	-	-	-	-	-	-	35,919	20,331	-	-	-	-	-	-	-
Parking	6,439 spaces	-	-	-	416	27	301	54	206	560	400	160	643	3,093	579	-	-	-	-
49er STADIUM																			
Parks and Open Space	327.0 acres	10	27	10	17	26	22	20	21	48	-	12	106	-	-	-	8	-	-
Marina	300 slips	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300
<b>B. Population and Employment Estimates (2)</b>																			
<b>Residential Population</b>		<b>Total</b>																	
Residential Population	24,465 people	-	1,247	876	918	1,030	3,269	1,142	308	846	629	1,932	2,484	1,417	2,060	1,051	2,982	1,452	825
<b>Cumulative Residential Population</b>			<b>1,247</b>	<b>2,123</b>	<b>3,041</b>	<b>4,071</b>	<b>7,340</b>	<b>8,481</b>	<b>8,789</b>	<b>9,635</b>	<b>10,264</b>	<b>12,195</b>	<b>14,679</b>	<b>16,096</b>	<b>18,155</b>	<b>19,206</b>	<b>22,189</b>	<b>23,640</b>	<b>24,465</b>
<b>Employment</b>		<b>Total</b>																	
<b>Retail</b>																			
Neighborhood	861	-	-	-	-	33	237	67	33	93	-	-	133	133	133	-	-	-	-
Regional	1,814	-	-	-	-	-	-	-	-	-	-	-	-	1,814	-	-	-	-	-
Sub-total	2,675	-	-	-	-	33	237	67	33	93	-	-	133	1,947	133	-	-	-	-
<b>Cumulative Retail Employment</b>						<b>33</b>	<b>270</b>	<b>337</b>	<b>370</b>	<b>463</b>	<b>463</b>	<b>463</b>	<b>596</b>	<b>2,543</b>	<b>2,675</b>	<b>2,675</b>	<b>2,675</b>	<b>2,675</b>	<b>2,675</b>
<b>Commercial (R&amp;D &amp; Office)</b>																			
Office Employment	4,322	-	-	-	-	-	-	-	-	793	850	261	1,367	1,051	-	-	-	-	-
R&D Employment	3,840	-	-	-	-	-	210	-	345	385	413	127	665	247	1,448	-	-	-	-
R&D/Office Employment	559	-	-	-	559	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	8,722	-	-	-	559	-	210	-	345	1,178	1,264	389	2,031	1,298	1,448	-	-	-	-
<b>Cumulative Office/R&amp;D Employment</b>					<b>559</b>	<b>559</b>	<b>769</b>	<b>769</b>	<b>1,114</b>	<b>2,292</b>	<b>3,556</b>	<b>3,945</b>	<b>5,976</b>	<b>7,274</b>	<b>8,722</b>	<b>8,722</b>	<b>8,722</b>	<b>8,722</b>	<b>8,722</b>
<b>Hotel</b>																			
Hotel Employment	214	-	-	-	-	-	-	-	-	-	-	-	-	214	-	-	-	-	-
<b>Cumulative Hotel Employment</b>														<b>214</b>	<b>214</b>	<b>214</b>	<b>214</b>	<b>214</b>	<b>214</b>
<b>Arena</b>																			
Arena Employment	87	-	-	-	-	-	-	-	-	-	-	87	-	-	-	-	-	-	-
<b>Cumulative Arena Employment</b>												<b>87</b>	<b>87</b>	<b>87</b>	<b>87</b>	<b>87</b>	<b>87</b>	<b>87</b>	<b>87</b>
<b>Parking</b>																			
Parking Employment	24	-	-	-	2	0	1	0	1	2	1	1	2	11	2	-	-	-	-
<b>Cumulative Parking Employment</b>					<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>10</b>	<b>22</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>
<b>Parks and Open Space</b>																			
Parks and Open Space Employment	85	3	7	3	4	7	6	5	5	12	-	3	28	-	-	-	2	-	-
<b>Cumulative Parks and Open Space Employment</b>			<b>3</b>	<b>10</b>	<b>12</b>	<b>16</b>	<b>23</b>	<b>29</b>	<b>34</b>	<b>40</b>	<b>52</b>	<b>52</b>	<b>55</b>	<b>83</b>	<b>83</b>	<b>83</b>	<b>85</b>	<b>85</b>	<b>85</b>
<b>Marina</b>																			
Marina Employment	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
<b>Cumulative Marina Employment</b>																			<b>5</b>
<b>Residential Property Management</b>																			
Residential Employment	420	-	21	15	16	18	56	20	5	15	11	33	43	24	35	18	51	25	14
<b>Cumulative Residential Employment</b>			<b>21</b>	<b>36</b>	<b>52</b>	<b>70</b>	<b>126</b>	<b>146</b>	<b>151</b>	<b>165</b>	<b>176</b>	<b>209</b>	<b>252</b>	<b>276</b>	<b>312</b>	<b>330</b>	<b>381</b>	<b>406</b>	<b>420</b>
<b>CUMULATIVE EMPLOYMENT</b>		<b>12,232</b>	<b>3</b>	<b>31</b>	<b>49</b>	<b>629</b>	<b>687</b>	<b>1,197</b>	<b>1,289</b>	<b>1,679</b>	<b>2,979</b>	<b>4,255</b>	<b>4,767</b>	<b>7,003</b>	<b>10,499</b>	<b>12,116</b>	<b>12,134</b>	<b>12,188</b>	<b>12,232</b>

(1) Note: Assumes 2 year delay from finished lot delivery to finished vertical development. Source: DDA pro formas Version 27. Timing is consistent with DDA's schedule of performance.  
(2) Based on density assumptions in EIR; see Table 1 in report for detail.

# APPENDIX 3: HORIZONTAL AND VERTICAL CONSTRUCTION COST SUMMARY – STADIUM AND NON-STADIUM ALTERNATIVES

**Hunters Point Phase 2/Candlestick Point  
TOTAL HORIZONTAL AND VERTICAL CONSTRUCTION COST SUMMARY (1)  
Stadium and Non-Stadium Alternatives  
June 2010**

	Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
<b>STADIUM</b>																							
Horizontal	1,863,907,690	82,167,981	34,662,718	18,615,758	50,811,668	81,821,562	102,788,757	96,006,084	143,205,201	198,097,103	270,537,447	138,621,103	63,375,181	54,606,797	56,087,034	52,808,252	41,406,830	41,975,778	57,729,052	38,472,185	46,209,089	193,902,108	-
Vertical	6,956,981,766	-	-	-	115,946,684	198,067,799	206,409,273	522,365,418	764,978,919	780,215,057	186,076,342	135,350,381	463,282,395	576,927,569	507,350,880	577,224,655	287,582,084	165,434,139	470,049,550	434,394,190	264,385,427	238,511,675	62,429,329
<b>Total Cost</b>	<b>8,820,889,456</b>	<b>82,167,981</b>	<b>34,662,718</b>	<b>18,615,758</b>	<b>166,758,353</b>	<b>279,889,361</b>	<b>309,198,030</b>	<b>618,371,502</b>	<b>908,184,120</b>	<b>978,312,161</b>	<b>456,613,789</b>	<b>273,971,484</b>	<b>526,657,576</b>	<b>631,534,365</b>	<b>563,437,914</b>	<b>630,032,907</b>	<b>328,988,914</b>	<b>207,409,918</b>	<b>527,778,603</b>	<b>472,866,375</b>	<b>310,594,516</b>	<b>432,413,783</b>	<b>62,429,329</b>
<b>NON-STADIUM</b>																							
Horizontal	2,131,169,527	82,067,767	34,667,646	17,218,442	49,801,311	59,637,977	63,651,294	49,147,465	52,493,353	66,612,038	55,719,143	105,506,265	109,461,612	278,077,195	373,645,547	163,309,102	128,584,847	75,933,239	68,345,276	97,781,973	146,446,348	53,061,687	-
Vertical	6,025,443,898	-	-	-	115,843,777	197,880,242	201,372,398	216,760,457	430,378,712	444,067,432	166,368,926	199,631,233	268,116,670	323,687,568	539,204,838	695,076,322	645,989,530	387,542,567	406,500,096	460,317,950	238,947,002	87,758,178	-
<b>Total Cost</b>	<b>8,156,613,425</b>	<b>82,067,767</b>	<b>34,667,646</b>	<b>17,218,442</b>	<b>165,645,088</b>	<b>257,518,219</b>	<b>265,023,692</b>	<b>265,907,923</b>	<b>482,872,065</b>	<b>510,679,470</b>	<b>222,088,069</b>	<b>305,137,498</b>	<b>377,578,282</b>	<b>601,764,763</b>	<b>912,850,385</b>	<b>858,385,424</b>	<b>774,574,377</b>	<b>463,475,806</b>	<b>474,845,372</b>	<b>558,099,923</b>	<b>385,393,351</b>	<b>140,819,865</b>	<b>-</b>

Note:

(1) See Table 2 in the text for detailed assumptions and source notes. Cost phasing based on development program and timing in Appendices 1 and 2. The total cost for each alternative is the basis for the REMI model run to estimate construction period economic impacts.

# APPENDIX 4: SUMMARY OF EMPLOYMENT AND WAGE ESTIMATES – STADIUM ALTERNATIVE

Average Annual Wage	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
<b>Land Use</b>																				
<b>Retail</b>																				
Annual Employment	-	-	-	-	37	274	93	59	-	728	1,223	188	74	-	-	-	-	-	-	
Cumulative Employment	-	-	-	-	37	311	404	463	463	1,191	2,413	2,601	2,675	2,675	2,675	2,675	2,675	2,675	2,675	
Aggregate Annual Wages	\$39,980	-	-	-	1,480,741	12,438,222	16,140,074	18,509,259	18,509,259	47,605,676	96,487,655	103,994,531	106,962,365	106,962,365	106,962,365	106,962,365	106,962,365	106,962,365	106,962,365	
<b>Office</b>																				
Annual Employment	-	-	-	370	-	-	-	272	736	1,136	439	1,268	471	-	-	-	-	-	-	
Cumulative Employment	-	-	-	370	370	370	370	642	1,378	2,514	2,953	4,221	4,692	4,692	4,692	4,692	4,692	4,692	4,692	
Aggregate Annual Wages	\$121,797	-	-	45,043,218	45,043,218	45,043,218	45,043,218	78,194,085	167,797,518	306,155,413	359,628,448	514,092,274	571,505,733	571,505,733	571,505,733	571,505,733	571,505,733	571,505,733	571,505,733	
<b>R&amp;D</b>																				
Annual Employment	-	-	-	370	-	210	-	157	425	456	140	732	272	-	-	-	-	-	-	
Cumulative Employment	-	-	-	370	370	580	580	737	1,162	1,618	1,758	2,490	2,762	2,762	2,762	2,762	2,762	2,762	2,762	
Aggregate Annual Wages	\$100,452	-	-	37,149,408	37,149,408	58,244,328	58,244,328	74,034,848	116,715,021	162,484,643	176,558,801	250,133,469	277,480,818	277,480,818	277,480,818	277,480,818	277,480,818	277,480,818	277,480,818	
<b>Hotel</b>																				
Annual Employment	-	-	-	-	-	-	-	-	-	137	77	-	-	-	-	-	-	-	-	
Cumulative Employment	-	-	-	-	-	-	-	-	-	137	214	214	214	214	214	214	214	214	214	
Aggregate Annual Wages	\$39,154	-	-	-	-	-	-	-	-	5,357,561	8,390,143	8,390,143	8,390,143	8,390,143	8,390,143	8,390,143	8,390,143	8,390,143	8,390,143	
<b>Arena</b>																				
Annual Employment	-	-	-	-	-	-	-	-	-	-	87	-	-	-	-	-	-	-	-	
Cumulative Employment	-	-	-	-	-	-	-	-	-	-	87	87	87	87	87	87	87	87	87	
Aggregate Annual Wages	\$32,357	-	-	-	-	-	-	-	-	-	2,800,125	2,800,125	2,800,125	2,800,125	2,800,125	2,800,125	2,800,125	2,800,125	2,800,125	
<b>Parking</b>																				
Annual Employment	-	-	-	-	0	12	1	1	2	7	5	2	1	-	-	-	-	-	-	
Cumulative Employment	-	-	-	-	0	12	13	14	16	22	28	30	31	31	31	31	31	31	31	
Aggregate Annual Wages	\$27,614	-	-	-	6,937	339,716	357,059	380,316	429,908	621,161	77,1749	837,511	869,287	869,287	869,287	869,287	869,287	869,287	869,287	
<b>Stadium</b>																				
Annual Employment	-	-	-	-	359	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cumulative Employment	-	-	-	-	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	
Aggregate Annual Wages	\$32,357	-	-	-	11,608,696	11,608,696	11,608,696	11,608,696	11,608,696	11,608,696	11,608,696	11,608,696	11,608,696	11,608,696	11,608,696	11,608,696	11,608,696	11,608,696	11,608,696	
<b>Parks and Open Space</b>																				
Annual Employment	3	7	3	4	7	6	5	6	13	-	3	29	-	-	-	2	-	-	-	
Cumulative Employment	3	10	13	17	24	30	35	41	54	54	57	85	85	85	87	87	87	87	87	
Aggregate Annual Wages	\$35,343	95,583	352,120	446,586	605,549	858,533	1,064,220	1,248,571	1,448,467	1,892,180	1,892,180	2,001,031	3,018,554	3,018,554	3,018,554	3,018,554	3,091,249	3,091,249	3,091,249	
<b>Marina</b>																				
Annual Employment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	
Cumulative Employment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	
Aggregate Annual Wages	\$25,508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	127,540	
<b>Residential Property Management</b>																				
Annual Employment	-	21	15	16	18	56	20	9	-	41	11	37	35	7	21	58	15	29	11	
Cumulative Employment	-	21	36	52	70	126	146	154	154	195	207	244	279	286	307	365	380	409	420	
Aggregate Annual Wages	\$79,487	-	170,102	2,896,506	4,149,221	5,554,552	10,015,362	11,573,307	12,260,075	12,260,075	15,534,939	16,434,732	19,394,828	22,151,437	22,714,205	24,396,150	29,031,832	30,214,598	32,548,337	
<b>TOTAL EMPLOYMENT</b>																				
Annual Employment	3	29	18	760	421	558	118	504	1,175	2,504	1,986	2,257	854	7	21	60	15	34	11	
Cumulative Employment	3	31	49	809	1,230	1,788	1,906	2,410	3,585	6,089	8,075	10,331	11,185	11,192	11,213	11,274	11,289	11,323	11,334	
Aggregate Wages (\$M)	\$89,679	0.1	2.1	3.3	86.9	101.7	138.8	144.2	196.4	329.2	551.3	674.7	914.3	1,004.8	1,005.3	1,007.0	1,011.7	1,012.9	1,015.4	

Note: based on phasing and development program in Appendices 1 and 2. See Table 4 for detailed assumptions.

# APPENDIX 5: SUMMARY OF EMPLOYMENT AND WAGE ESTIMATES – NON- STADIUM ALTERNATIVE

Average Annual Wage	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<b>Land Use</b>																			
<b>Retail</b>																			
Annual Employment	-	-	-	-	33	237	67	33	93	-	-	133	1,947	133	-	-	-	-	-
Cumulative Employment	-	-	-	-	33	270	337	370	463	463	463	596	2,543	2,675	2,675	2,675	2,675	2,675	2,675
Aggregate Annual Wages	\$39,980	-	-	-	1,332,667	10,809,407	13,474,741	14,807,407	18,509,259	18,509,259	18,509,259	23,815,247	101,656,377	106,962,365	106,962,365	106,962,365	106,962,365	106,962,365	106,962,365
<b>Office</b>																			
Annual Employment	-	-	-	280	-	-	-	-	793	850	261	1,367	1,051	-	-	-	-	-	-
Cumulative Employment	-	-	-	280	280	280	280	280	1,072	1,923	2,184	3,551	4,602	4,602	4,602	4,602	4,602	4,602	4,602
Aggregate Annual Wages	\$121,791	-	-	34,050,962	34,050,962	34,050,962	34,050,962	34,050,962	130,604,141	234,146,424	265,985,676	432,429,896	560,487,031	560,487,031	560,487,031	560,487,031	560,487,031	560,487,031	560,487,031
<b>R&amp;D</b>																			
Annual Employment	-	-	-	280	-	210	-	345	385	413	127	665	247	1,448	-	-	-	-	-
Cumulative Employment	-	-	-	280	280	490	490	835	1,220	1,633	1,761	2,425	2,672	4,120	4,120	4,120	4,120	4,120	4,120
Aggregate Annual Wages	\$100,452	-	-	28,084,953	28,084,953	49,179,873	49,179,873	83,835,813	122,558,279	164,083,712	176,852,783	243,604,916	268,416,363	413,820,633	413,820,633	413,820,633	413,820,633	413,820,633	413,820,633
<b>Hotel</b>																			
Annual Employment	-	-	-	-	-	-	-	-	-	-	-	-	214	-	-	-	-	-	-
Cumulative Employment	-	-	-	-	-	-	-	-	-	-	-	-	214	214	214	214	214	214	214
Aggregate Annual Wages	\$39,154	-	-	-	-	-	-	-	-	-	-	-	8,390,143	8,390,143	8,390,143	8,390,143	8,390,143	8,390,143	8,390,143
<b>Arena</b>																			
Annual Employment	-	-	-	-	-	-	-	-	-	-	87	-	-	-	-	-	-	-	-
Cumulative Employment	-	-	-	-	-	-	-	-	-	-	87	87	87	87	87	87	87	87	87
Aggregate Annual Wages	\$32,357	-	-	-	-	-	-	-	-	-	2,800,125	2,800,125	2,800,125	2,800,125	2,800,125	2,800,125	2,800,125	2,800,125	2,800,125
<b>Parking</b>																			
Annual Employment	-	-	-	2	0	1	0	1	2	1	1	2	11	2	-	-	-	-	-
Cumulative Employment	-	-	-	2	2	3	3	4	6	7	8	10	22	24	24	24	24	24	24
Aggregate Annual Wages	\$27,614	-	-	42,525	45,287	76,092	81,615	102,724	159,987	200,897	217,250	283,012	599,366	658,583	658,583	658,583	658,583	658,583	658,583
<b>Parks and Open Space</b>																			
Annual Employment	2.6	7	3	4	7	6	5	5	12	-	3	28	-	-	-	2	-	-	-
Cumulative Employment	3	10	12	16	23	29	34	40	52	52	55	83	83	83	83	85	85	85	85
Aggregate Annual Wages	\$35,343	91,704	337,829	430,384	582,895	825,611	1,031,298	1,215,649	1,409,093	1,845,761	1,845,761	1,954,611	2,932,175	2,932,175	2,932,175	2,932,175	3,004,871	3,004,871	3,004,871
<b>Marina</b>																			
Annual Employment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Cumulative Employment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Aggregate Annual Wages	\$25,508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	127,540
<b>Residential Property Management</b>																			
Annual Employment	-	21	15	16	18	56	20	5	15	11	33	43	24	35	18	51	25	14	-
Cumulative Employment	-	21	36	52	70	126	146	151	165	176	209	252	276	312	330	381	406	420	420
Aggregate Annual Wages	\$79,487	1,701,022	2,896,506	4,149,221	5,554,552	10,015,362	11,573,307	11,992,999	13,147,150	14,005,609	16,641,398	20,030,724	21,963,848	24,774,508	26,208,454	30,278,188	32,259,004	33,384,540	33,384,540
<b>TOTAL EMPLOYMENT</b>																			
Annual Employment	3	28	18	581	58	510	92	390	1,300	1,276	512	2,237	3,496	1,618	18	53	25	19	-
Cumulative Employment	3	31	49	629	687	1,197	1,289	1,679	2,979	4,255	4,767	7,003	10,499	12,116	12,134	12,188	12,213	12,232	12,232
Aggregate Wages (\$M)	\$0	0.1	2.0	3.3	66.9	69.9	105.2	109.6	146.2	286.8	432.8	483.0	725.9	967.2	1,120.8	1,122.3	1,126.4	1,128.4	1,129.6

Note: based on phasing and development program in Appendices 1 and 2. See Table 4 for detailed assumptions.

# STAFF CONTACTS

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Kurt Fuchs, Senior Economist ([kurt.fuchs@sfgov.org](mailto:kurt.fuchs@sfgov.org)) 415-554-5369

Ted Egan, Chief Economist ([ted.egan@sfgov.org](mailto:ted.egan@sfgov.org)) 415-554-5268

Shyamali Choudhury, City Hall Fellow ([shyamali.choudhury@sfgov.org](mailto:shyamali.choudhury@sfgov.org)) 415-554-5159

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