

November 22, 2013

MEMORANDUM

To: Chris Kern, and
Jessica Range,
Planning Department, City and County of San Francisco

From: Michael Keinath

Subject: Screening Air Quality Analysis and Health Risk Assessment for the Refinements to the
Candlestick Point-Hunter Point Shipyard Phase II Development Plan

Planning Department Case File No: 2007.0946E

Introduction:

In 2009, ENVIRON International Corporation (ENVIRON) performed four ambient air quality (AAQ) human health risk assessments (HHRA) as part of the Environmental Impact Report (EIR) for the proposed Candlestick Point – Hunters Point Shipyard Phase II Development Plan (herein referred to as “Project”; also known as San Francisco Planning Department Case Number 2007.0946E). The EIR for the Project was certified in July 2010 and since that time the Project proponent, Lennar Urban, and the City of San Francisco, having been working to implement the Project plan. However, during that time, the professional football team, the San Francisco 49ers, has chosen to move to a stadium in Santa Clara, California, obviating the need for rebuilding a stadium on the Project site. Additionally, since the new stadium in Santa Clara will be ready for the fall 2014 football season, the existing stadium at the Project site will be vacant after January 2014. While the overall development program of the Project has not changed (i.e., total square footage by each land use), the phasing of the Project and the uses for particular parcels has changed from what was originally evaluated in 2009. A map showing this revised phasing is presented as Attachment A. To reflect this new phasing, TRC prepared a Construction Workers and Equipment Phasing Plan for the Project dated 11/18/13 (included as Attachment B).

ENVIRON has conducted a screening-level construction HHRA of the revised phasing plan (designated herein as the “2013 Phasing Plan”) to determine if the modified project would result in any new significant impacts not identified in the EIR or substantially increase the severity of an impact. Section III.H.4 of the EIR identified the construction thresholds of significance for toxic air contaminants as:

- Probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 1×10^{-5} (10 in one million)
- Ground level concentrations of non-carcinogenic air contaminants/pollutants resulting in a HI greater than 1 for the MEI

As discussed in Impact AQ-2 of the EIR, all impacts were determined to be less than Significant with Mitigation, namely Mitigation Measures AQ 2.1 and 2.2, listed below:

- MM AQ 2.1 Implement Emission Control Device Installation on Construction. To reduce DPM [diesel particulate matter] emissions during Project construction, the Project Applicant shall require construction equipment used for the Project to utilize emission control technology such that 50% of the fleet will meet US EPA Tier 2 standards outfitted with California ARB [Air Resources Board] Level 3 VDECS (Verified Diesel Emission Control Strategies) for particulate matter control (or equivalent) during the first two years of construction activities, increasing to 75% of the fleet in the third year and 100% of the fleet starting in the fourth year and for the duration of the Project.
- MM AQ 2.2 Implement Accelerated Emission Control Device Installation on Construction Equipment Used for Alice Griffith Parcels. In addition to mitigation measure MM AQ 2.1, in order to minimize the potential impacts to residents living in Alice Griffith from the construction activities in that area, the Project Applicant will require that all construction equipment used in the Alice Griffith parcels (CP01 through CP06) would utilize equipment which meets the US EPA Tier 2 standards outfitted with California ARB Level 3 VDECS (Verified Diesel Emission Control Strategies) for particulate matter control (or equivalent) throughout the entire duration of construction activities on those parcels.

Below we describe the methods used in this screening level HHRA to determine whether the proposed modifications to the Project Phasing Schedule would result in any new significant impact on air quality beyond those identified in the FEIR or substantially increase the severity of a significant impact.

Approach:

Other than modifications detailed below, for this updated HHRA, ENVIRON followed the methods outlined in Section III.H Air Quality of the EIR. As discussed there, the methods used to analyze the human health effects from emissions of DPM associated with Project construction equipment were developed consistent with Bay Area Air Quality Management District (BAAQMD), California Environmental Protection Agency (Cal/EPA), and United State Environmental Protection Agency (USEPA) risk assessment guidance. The analysis incorporates conservative (i.e., health protective) methodologies for the following: (1) the estimation of emissions, (2) the calculation of airborne concentrations of DPM during construction activities at receptor locations, and (3) the estimation of excess lifetime cancer risks and non-cancer health effects or hazard indices (HIs).

Revised Construction Phasing

As discussed earlier, TRC prepared an updated construction phasing schedule (dated 11/18/13) which included phase duration, construction equipment list and usage, number of construction workers, and number of construction truck trips for:

- Hunter's Point Shipyard
- Candlestick Point
- Development of Shoreline of Hunter's Point Shipyard and Candlestick Point
- Field management for the construction

Emissions Calculation

Emissions from off-road construction equipment associated with Project development as identified by TRC were calculated using CalEEMod[®] default equipment horsepower, load factor, and emission

factors.¹ CalEEMod[®] defaults were developed based on ARB's 2011 In-Use Off-road Equipment Inventory Model.² The original analysis assumed construction would begin in 2010. Therefore, implementation of MM AQ-2.1 has been adjusted to reflect the current construction schedule assuming that the Project would require construction equipment used for the Project to utilize emission control technology such that 50% of the fleet will meet US EPA Tier 2 standards outfitted with California ARB Level 3 VDECS (Verified Diesel Emission Control Strategies) for particulate matter control (or equivalent) during the first two years of construction activities (2014 and 2015), increasing to 75% of the fleet in the third year (2016), and 100% of the fleet starting in the fourth year (2017) and for the remaining duration of the Project. Similarly, MM AQ-2.2 was evaluated such that 100% of the construction equipment fleet at the Alice Griffith parcels will meet the Tier 2 standards and be outfitted with California ARB Level 3 VDECS for the entire duration of the Project.

Emissions from on-road mobile sources, particularly the running, idling, and starting emissions from worker commute trips and haul truck trips making deliveries and removing materials, were calculated using CalEEMod[®] default emission factors. CalEEMod[®] defaults were developed based on ARB's EMFAC2011 model.³ The worker vehicles were assumed to be 50% light duty vehicles (LDA) and 50% light duty trucks (i.e., 25% LDT1 and 25% LDT2). The haul trucks were assumed to be 100% medium heavy-duty trucks (MHDT). These are the same assumptions used in the 2009 analysis. The distance that the workers and haul trucks would travel along the hauling roads was assumed to be the same as the 2009 analysis. Since the distance that the workers and hauling trips originating from the Field Management phase was unknown, ENVIRON assumed an average travel distance based on the length of the other haul roads. Idling and starting emissions from on-road activity were allotted to the construction parcels. Running emissions from on-road activity were attributed to the hauling roads.

Air Dispersion Modeling

The air dispersion models (using the USEPA AERMOD) were run for the construction emissions as calculated in 2009 and the revised emissions as a method of comparing the impact of the revised phasing plan to the previously modeled receptor locations (as before, ground level receptors were assumed). The modeled receptor grid is presented in Attachment C. A 30 meter by 30 meter grid of volume sources (Attachment D) was developed for the revised construction emissions, with emissions within each parcel evenly distributed throughout the volume sources. The models used the same meteorological and terrain data as were used in the 2009 analysis. Mobile source starting and idling emissions associated with each parcel development were modeled along with the construction off-road equipment emissions through the volume sources. On-road mobile running emissions which occur off-site were not modeled considering the running emissions are likely to be lower due to cleaner engines as a result of the construction beginning in 2014, 4 years later than that assumed in the 2009 analysis.

Health Risk Assessment

The HHRA was conducted in the same way described in the EIR, including the assumption that all PM10 from diesel fueled construction equipment was assumed to be DPM. For this screening level update, the cancer risk was calculated using the total construction DPM emissions and a weighted average exposure factor assuming 9 years of exposure as a child and 13 years as an adult). The chronic HI was conservatively estimated based on the total DPM rather than the maximum year DPM emissions.

¹ <http://www.caleemod.com/>

² http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

³ http://www.arb.ca.gov/msei/categories.htm#onroad_motor_vehicles

Results:

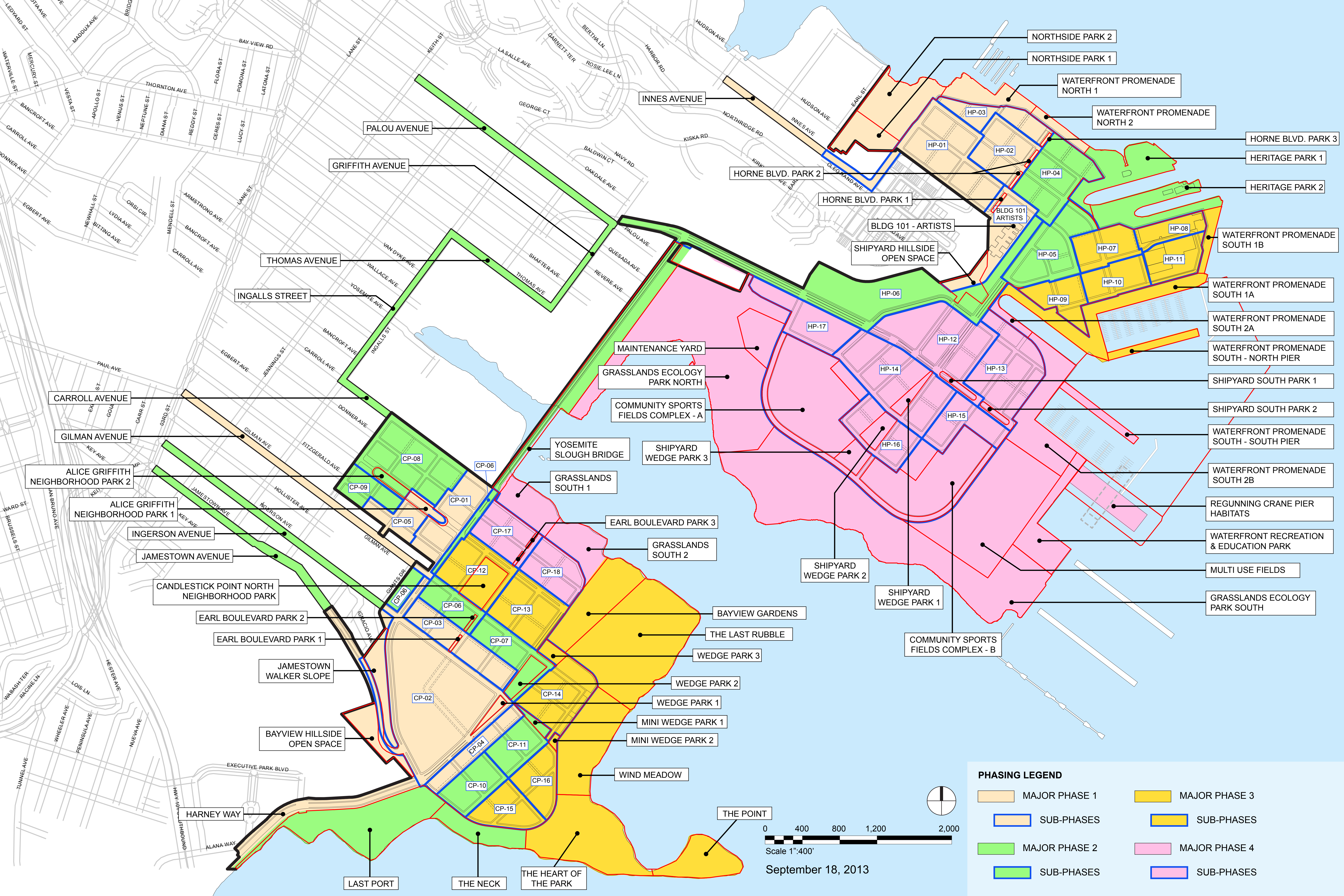
The modified Project with the new phasing schedule, beginning 4 years later than that assumed in the EIR and with the application of mitigation measures MM AQ-2.1 and 2.2. provided in the EIR, results in an excess cancer risk at the maximally exposed sensitive receptor location of less than 3 in a million and would not exceed the threshold of >10.0 in 1 million. The non-cancer impacts would be less than the Chronic Hazard Index (HI) threshold of >1 at the maximally exposed individual location. With mitigation, the results for the modified Project are below the significance thresholds for determining whether construction activities would expose sensitive receptors to substantial levels of DPM.

Implementation of the modified construction schedule would not result in any new significant effects related to emissions of DPM beyond those identified in the EIR or a substantial increase in the severity of a significant impact because:

1. The construction will begin 4 years later than what was assumed in the EIR. The cleaner equipment would reduce the unmitigated portion of the construction emissions during the first three years of construction.
2. Updated analysis pertaining to the application of the mitigation measures reflecting a construction start year of 2014.
3. The DPM emissions were updated using CalEEMod[®] default equipment data which are based on the newer version of OFFROAD (2011). The previous model (OFFROAD2007) overestimated the equipment load factor by 33%.

Therefore, no new mitigation measures would be required.

Attachment A
Revised Construction Phasing



PHASING LEGEND

MAJOR PHASE 1	MAJOR PHASE 3
SUB-PHASES	SUB-PHASES
MAJOR PHASE 2	MAJOR PHASE 4
SUB-PHASES	SUB-PHASES

0 400 800 1,200 2,000
Scale 1"=400'
September 18, 2013

Attachment B
Revised Construction Workers and Equipment Phasing Plan

DRAFT: CPHPSII Project: Construction Workers and Equipment for Hunters Point Shipyard Construction Phase (Revision Date: 11/18/2013) Prepared by TRC for EIR Analysis						Major Phase Indicator Subphase Color Coding								
						1 HP								
						2HP								
						3 HP								
						4 HP								
Year	Project Year	Horizontal (Site Prep) or Vertical Duration (Building Const.)	Construction Phase Type	Project Sub Phase	Duration (Months)	Construction Equipment			Daily Construction Workers		Daily Construction Truck Trips			
						Full Time	1/2 Time	1/4 Time	Max Number of Workers	Avg. Number of Workers	Max Number of Truck Trips	Avg. Number of Truck Trips	Number of On Site Equipment	
2014	1	Site Preparation	Abatement	Bldg 101 Artist	1	(1) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		10	8	8	4	5	
				Artist Replmt Space	1	(1) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		10	8	8	4	5	
			Demolition	Bldg 101 Artist	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		(1) Crane	18	14	8	4	9	
				Artist Replmt Space	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		(1) Crane	18	14	8	4	9	
			Grading & Infrastructure	Bldg 101 Artist	2	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Water Truck, (1) Off Road Dump Truck		(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13	
				Artist Replmt Space	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Water Truck, (1) Off Road Dump Trucks		(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13	
			Building Construction	Foundation Piles/Structure/Rough-In	Bldg 101 Artist	2	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck		10	8	8	4	5
				Interior and Exterior Finishes	Bldg 101 Artist	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5
2015	2	Building Construction	Foundation Piles/Structure/Rough-In	Artist Replmt Space	1	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck		10	8	8	4	5	
			Interior and Exterior Finishes	Artist Replmt Space	2	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5	
2016	3	Site Preparation	Abatement	HP-01 (HPS North - 1a, 2a, 2b, 1b, 4a, 4b)	5	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	8	4	7	
			Demolition	HP-01 (HPS North - 1a, 2a, 2b, 1b, 4a, 4b)	8	(2) Man Lifts, (2)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (2)Water Trucks, (1) Crane			25	20	24	16	13	
			Grading & Infrastructure	HP-01 (HPS North - 1a, 2a, 2b, 1b, 4a, 4b)	None								0	
		Building Construction	Foundation Piles/Structure/Rough-In	Artist Replmt Space	None								0	
			Interior and Exterior Finishes	Artist Replmt Space	None								0	
2017	4	Site Preparation	Abatement	HP-01 (HPS North - 1a, 2a, 2b, 1b, 4a, 4b)	None								0	
				HP-02 (HPS North - 5a, 6a, 5b, 6b)	4	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		25	20	24	16	13	
			Demolition	HP-01 (HPS North - 1a, 2a, 2b, 1b, 4a, 4b)	None									0
				HP-02 (HPS North - 5a, 6a, 5b, 6b)	7	(2) Man Lifts, (2)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (2)Water Trucks, (1) Crane			38	30	80	64	19	
			Grading & Infrastructure	HP-01 (HPS North - 1a, 2a, 2b, 1b, 4a, 4b)	5	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	38	30	96	80	19	
				HP-02 (HPS North - 5a, 6a, 5b, 6b)	2	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	38	30	80	64	19	
2018	5	Abatement	Horne Blvd P1	HP-01 (HPS North - 1a, 2a, 2b, 1b, 4a, 4b)	1	(1) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		10	8	8	4	5	
				HP-02 (HPS North - 5a, 6a, 5b, 6b)	None								0	
				HP-03 (HPS North - 3a, 3b, 7a, 7b)	4	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7	
				HP-06 (Roadway-YSB Connection)	1	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	8	4	7	
			Demolition	Horne Blvd P1	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		(1) Crane	18	14	8	4	9	
				HP-02 (HPS North - 5a, 6a, 5b, 6b)	None								0	
				HP-03 (HPS North - 3a, 3b, 7a, 7b)	6	(2) Man Lifts, (2)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (2)Water Trucks, (1) Crane			25	20	16	8	13	
				HP-06 (Roadway-YSB Connection)	2	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks			20	16	8	4	10	
		Grading & Infrastructure	Horne Blvd P1	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Water Truck, (1) Off Road Dump Truck		(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13		
			HP-02 (HPS North - 5a, 6a, 5b, 6b)	7	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	38	30	80	64	19		
			HP-03 (HPS North - 3a, 3b, 7a, 7b)	None								0		
			HP-06 (Roadway-YSB Connection)	2	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Scraper	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	35	28	16	8	18		
		Building Construction	Foundation Piles/Structure/Rough-In	HP-01 (HPS North - 1a, 2a, 2b, 1b, 4a, 4b)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck		20	16	16	8	10	
			Interior and Exterior Finishes	HP-01 (HPS North - 1a, 2a, 2b, 1b, 4a, 4b)	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		(1) Pile Driver	10	8	8	4	5	
		Roadway	Improvements	YS Bridge	9	(1)Excavators, (2)Loaders, (2) Off Road Dump Truck, (1) Dozer, (4) barges, (4) Cranes, (1) Drill Rig, (1)Water Truck	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Off Road Dump Truck, (1) Pile Driver	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (2) Pump Trucks	78	62	24	16	39	
				Innes Ave	10	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	12	8	15	
2019	6		Abatement	Northside P1	Northside P1	None								0
					Northside P2	None								0
		Horne Blvd P2			1	(1) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		10	8	8	4	5	
		HP-03 (HPS North - 3a, 3b, 7a, 7b)			None								0	
		Demolition		Northside P1	1	(1) Man Lifts, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks			13	10	8	4	7	
				Northside P2	1	(1) Man Lifts, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks			13	10	8	4	7	
				Horne Blvd P2	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		(1) Crane	18	14	8	4	9	
				HP-03 (HPS North - 3a, 3b, 7a, 7b)	None								0	
		Grading & Infrastructure	Northside P1	2	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	32	24	13		
			Northside P2	4	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	32	24	13		
			Horne Blvd P2	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Water Truck, (1) Off Road Dump Truck		(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13		
			HP-03 (HPS North - 3a, 3b, 7a, 7b)	9	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	38	30	80	64	19		
		Building Construction	Foundation Piles/Structure/Rough-In	HP-01 (HPS North - 1a, 2a, 2b, 1b, 4a, 4b)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	20	16	16	8	10	
				Horne Blvd P1	1	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck		18	14	16	8	9	
				HP-02 (HPS North - 5a, 6a, 5b, 6b)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	20	16	16	8	10	
				HP-01 (HPS North - 1a, 2a, 2b, 1b, 4a, 4b)	8	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5	
			Interior and Exterior Finishes	Horne Blvd P1	2	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5	
				HP-02 (HPS North - 5a, 6a, 5b, 6b)	5	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5	
Roadway	Improvements			YS Bridge	9	(1)Excavators, (2)Loaders, (2) Off Road Dump Truck, (1) Dozer, (4) barges, (4) Cranes, (1) Drill Rig, (1)Water Truck	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Off Road Dump Truck, (1) Pile Driver	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (2) Pump Trucks	78	62	24	16	39	
				Innes Ave	6	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	12	8	15	
2020	7	Abatement	Waterfront Prom N1	Waterfront Prom N1	None								0	
				Waterfront Prom N2	None								0	
				Horne Blvd P3	1	(1) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		10	8	8	4	5	
				HP-05 (Roadway-YSB Connection)	1	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7	
			Demolition	HP-04 (HPS North - 8a, 9a, 10a, 8b, 9b, 10b)	5	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7	
				Waterfront Prom N1	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks			15	12	8	4	8	
				Waterfront Prom N2	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks			15	12	8	4	8	
				Horne Blvd P3	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		(1) Crane	18	14	8	4	9	
		Grading & Infrastructure	HP-05 (Roadway-YSB Connection)	1	(2) Man Lifts, (2)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (2)Water Trucks, (1) Crane			25	20	24	16	13		
			HP-04 (HPS North - 8a, 9a, 10a, 8b, 9b, 10b)	9	(2) Man Lifts, (2)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (2)Water Trucks, (1) Crane			25	20	24	16	13		
			Waterfront Prom N1	5		(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13		
			Waterfront Prom N2	5		(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck, (1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13		
			Horne Blvd P3	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Water Truck, (1) Off Road Dump Truck		(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13		
			HP-05 (Roadway-YSB Connection)	4		(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	38	30	96	80	19		
			HP-06 (Roadway-YSB Connection)	4	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Scraper	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	35	28	16	8	18		
			HP-04 (HPS North - 8a, 9a, 10a, 8b, 9b, 10b)	5	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	38	30	96	80	19		
Foundation Piles/Structure/Rough-In	HP-02 (HPS North - 5a, 6a, 5b, 6b)	5	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	20	16	16	8	10				
	Northside P1	None								0				
	Northside P2	None								0				
	Horne Blvd P2	1	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck		18	14	16	8	9				

DRAFT: CPHPSII Project: Construction Workers and Equipment for Hunters Point Shipyard Construction Phase (Revision Date: 11/18/2013)						Major Phase Indicator Subphase Color Coding								
Prepared by TRC for EIR Analysis						1 HP								
						2HP								
						3 HP								
						4 HP								
Year	Project Year	Horizontal (Site Prep) or Vertical Duration (Building Const.)	Construction Phase Type	Project Sub Phase	Duration (Months)	Construction Equipment			Daily Construction Workers		Daily Construction Truck Trips			
						Full Time	1/2 Time	1/4 Time	Max Number of Workers	Avg. Number of Workers	Max Number of Truck Trips	Avg. Number of Truck Trips	Number of On Site Equipment	
		Building Construction		HP-03 (HPS North - 3a, 3b, 7a, 7b)	8	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		(1) Cement Truck, (1) Pump Truck, (1) Pile Driver	20	16	16	8	10	
				Interior and Exterior Finishes	HP-02 (HPS North - 5a, 6a, 5b, 6b)	6	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5
					Northside P1	3		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7
			Northside P2		7		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7	
			Roadway	Improvements	Horne Blvd P2	2	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5
					HP-03 (HPS North - 3a, 3b, 7a, 7b)	3	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5
		YS Bridge	6	(1)Excavators, (2)Loaders, (2) Off Road Dump Truck, (1) Dozer, (4) barges, (4) Cranes, (1) Drill Rig, (1)Water Truck	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck, (1) Pile Driver	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (2) Pump Trucks	78	62	24	16	39			
2021	8	Site Preparation	Abatement	HP-04 (HPS North - 8a, 9a, 10a, 8b, 9b, 10b)	None								0	
				HP-05 (R&D - 1, 2a, 3a, 2b)	2	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7	
			Demolition	HP-04 (HPS North - 8a, 9a, 10a, 8b, 9b, 10b)	None								0	
				HP-05 (R&D - 1, 2a, 3a, 2b)	5	(2) Man Lifts, (2)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (2)Water Trucks, (1) Crane			25	20	24	16	13	
			Grading & Infrastructure	HP-04 (HPS North - 8a, 9a, 10a, 8b, 9b, 10b)	5	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	38	30	96	80	19	
				HP-05 (R&D - 1, 2a, 3a, 2b)	3		(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	38	30	96	80	19	
		Building Construction	Foundation Piles/Structure/Rough-in	HP-03 (HPS North - 3a, 3b, 7a, 7b)	None								0	
				Waterfront Prom N1	None								0	
				Waterfront Prom N2	None								0	
				Horne Blvd P3	2	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5	
			Interior and Exterior Finishes	HP-03 (HPS North - 3a, 3b, 7a, 7b)	6	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5	
				Waterfront Prom N1	10		(1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift, (1)Bobcat	(1) Water Truck, (1)Loader	15	12	8	4	8	
				Waterfront Prom N2	10		(1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift, (1)Bobcat	(1) Water Truck, (1)Loader	15	12	8	4	8	
				Horne Blvd P3	2	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5	
2022	9	Site Preparation	Abatement	Heritage Park 1	None								0	
				HP-05 (R&D - 1, 2a, 3a, 2b)	None								0	
				HP-06 (HPS South - 1)	1	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	8	4	7	
			Demolition	Heritage Park 1	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks			15	12	8	4	8	
				HP-05 (R&D - 1, 2a, 3a, 2b)	None								0	
				HP-06 (HPS South - 1)	2	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	(1) Crane		20	16	8	4	10	
			Grading & Infrastructure	Heritage Park 1	5	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	32	24	13	
				HP-05 (R&D - 1, 2a, 3a, 2b)	5		(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	38	30	96	80	19	
		Building Construction	Foundation Piles/Structure/Rough-in	HP-06 (HPS South - 1)	5	(1)Excavators, (1)Loaders,(1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Scraper	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	35	28	16	8	18	
				HP-04 (HPS North - 8a, 9a, 10a, 8b, 9b, 10b)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20	
				Interior and Exterior Finishes	HP-04 (HPS North - 8a, 9a, 10a, 8b, 9b, 10b)	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		20	16	8	4	10	
				HP-05 (R&D - 1, 2a, 3a, 2b)	4				20	16	8	4	10	
2023	10	Site Preparation	Abatement	Heritage Park 2	None								0	
				HP-06 (HPS South - 1)	None								0	
			Demolition	Heritage Park 2	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks			15	12	8	4	8	
				HP-06 (HPS South - 1)	None								0	
			Grading & Infrastructure	Heritage Park 2	5	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	32	24	13	
				HP-06 (HPS South - 1)	3	(1)Excavators, (1)Loaders,(1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Scraper	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	35	28	16	8	18	
		Building Construction	Foundation Piles/Structure/Rough-In	HP-04 (HPS North - 8a, 9a, 10a, 8b, 9b, 10b)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20	
				Heritage Park 1	None								0	
				HP-05	6	(1) Cement Truck, (1) Pump Truck, (1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		(1) Pile Driver	40	32	16	8	20	
				HP-04 (HPS North - 8a, 9a, 10a, 8b, 9b, 10b)	8	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			20	16	8	4	10	
			Interior and Exterior Finishes	Heritage Park 1	12		(1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift, (1)Bobcat	(1) Water Truck, (1)Loader	15	12	8	4	8	
				HP-05	4		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		20	16	8	4	10	
2024	11	Site Preparation	Abatement	Shipyard Hillside OS	1	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	8	4	7	
				HP-07 (R&D - 3b, 4)	4	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7	
			Demolition	Shipyard Hillside OS	1	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	(1) Crane		20	16	8	4	10	
				HP-07 (R&D - 3b, 4)	6	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	(1) Crane		20	16	24	16	10	
			Grading & Infrastructure	Shipyard Hillside OS	3	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Scraper	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	35	28	16	8	18	
				HP-07 (R&D - 3b, 4)	None								0	
		Building Construction	Foundation Piles/Structure/Rough-In	HP-05 (R&D - 1, 2a, 3a, 2b)	6		(1) Cement Truck, (1) Pump Truck, (1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Pile Driver	40	32	16	8	20	
				Heritage Park 2	None								0	
				HP-06 (HPS South - 1)	7	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		(1) Cement Truck, (1) Pump Truck, (1) Pile Driver	20	16	8	4	10	
			Interior and Exterior Finishes	HP-05 (R&D - 1, 2a, 3a, 2b)	8		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		20	16	8	4	10	
				Heritage Park 2	12		(1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift, (1)Bobcat	(1) Water Truck, (1)Loader	15	12	8	4	8	
				HP-06 (HPS South - 1)	None								0	
		Roadway	Improvements	Palou Ave	6	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	12	8	15	
				Ing/Tho/Cri/Grif	10	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	12	8	15	
2025	12	Site Preparation	Abatement	HP-07 (R&D - 3b, 4)	None								0	
				HP-08 (R&D - 5)	4	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7	
			Demolition	HP-07 (R&D - 3b, 4)	None								0	
				HP-08 (R&D - 5)	6	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	(1) Crane		20	16	24	16	10	
			Grading & Infrastructure	HP-07 (R&D - 3b, 4)	8	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Scraper	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	35	28	32	24	18	
				HP-08 (R&D - 5)	None								0	
		Building Construction	Foundation Piles/Structure/Rough-In	HP-06 (HPS South - 1)	None								0	
				Shipyard Hillside OS	2	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		(1) Cement Truck, (1) Pump Truck, (1) Pile Driver	10	8	8	4	5	
			Interior and Exterior Finishes	HP-06 (HPS South - 1)	7	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5	
				Shipyard Hillside OS	2	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5	
		Roadway	Improvements	Ing/Tho/Cri/Grif	10	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	12	8	15	
				Ing/Tho/Cri/Grif	10	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	12	8	15	
2026	13	Site Preparation	Abatement	HP-08 (R&D - 5)	None								0	
				HP-09 (R&D - 9, 8a)	4	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	8	4	7	
			Demolition	HP-12	6	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	8	4	7	
				HP-08 (R&D - 5)	None								0	
				HP-09 (R&D - 9, 8a)	5	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	(1) Crane		20	16	8	4	10	
				HP-12	9	(2) Man Lifts, (2)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (2)Water Trucks, (1) Crane			25	20	24	16	13	
			Grading & Infrastructure	HP-08 (R&D - 5)	7	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Scraper	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	35	28	40	32	18	
				HP-09 (R&D - 9, 8a)	6	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Scraper	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	35	28	16	8	18	
		Building Construction	Foundation Piles/Structure/Rough-In	HP-12	None								0	
				HP-07 (R&D - 3b, 4)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		(1) Cement Truck, (1) Pump Truck, (1) Pile Driver	20	16	8	10	7	
		Abatement		Waterfront Prom S 1b	None								0	
				HP-09 (R&D - 9, 8a)	None								0	
				HP-10 (R&D - 8b, 7)	4	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7	
				HP-12 (HPS South - 14, 15a, 15b, 16a, 16b)	None								0	
				HP-13 (HPS South - 21a, 21b, 22, 17a, 17b, 18a, 18b, 19a, 19b)	5	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	8	4	7	

DRAFT: CPHPSII Project: Construction Workers and Equipment for Hunters Point Shipyard Construction Phase (Revision Date: 11/18/2013)						Major Phase Indicator Subphase Color Coding									
Prepared by TRC for EIR Analysis						1 HP									
						2HP									
						3 HP									
						4 HP									
Year	Project Year	Horizontal (Site Prep) or Vertical Duration (Building Const.)	Construction Phase Type	Project Sub Phase	Duration (Months)	Construction Equipment			Daily Construction Workers		Daily Construction Truck Trips				
						Full Time	1/2 Time	1/4 Time	Max Number of Workers	Avg. Number of Workers	Max Number of Truck Trips	Avg. Number of Truck Trips	Number of On Site Equipment		
2027	14	Site Preparation	Demolition	Waterfront Prom S 1b	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks			15	12	8	4	8		
				HP-09 (R&D - 9, 8a)	None							0			
				HP-10 (R&D - 8b, 7)	6	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	(1) Crane	20	16	24	16	10			
				HP-12 (HPS South - 14, 15a, 15b, 16a, 16b)	None										
				HP-13 (HPS South - 21a, 21b, 22, 17a, 17b, 18a, 18b, 19a, 19b)	9	(2) Man Lifts, (2)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (2)Water Trucks, (1) Crane		25	20	24	16	13			
			Grading & Infrastructure	Waterfront Prom S 1b	4		(1)Excavators, (1)Loaders, (1)Bobcat, (1)Off Road Dump Truck, (1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13		
				HP-09 (R&D - 9, 8a)	6	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Scraper	35	28	16	8	18			
				HP-10 (R&D - 8b, 7)	4	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Scraper	35	28	40	32	18			
				HP-12 (HPS South - 14, 15a, 15b, 16a, 16b)	11	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		38	30	80	64	19			
				HP-13 (HPS South - 21a, 21b, 22, 17a, 17b, 18a, 18b, 19a, 19b)	2	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		38	30	80	64	19			
		Building Construction	Foundation Piles/Structure/Rough-in	HP-07 (R&D - 3b, 4)	None								0		
				HP-08 (R&D - 5)	7	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		20	16	16	8	10			
			Interior and Exterior Finishes	HP-07 (R&D - 3b, 4)	8	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		10	8	8	4	5			
				HP-08 (R&D - 5)	7	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		10	8	8	4	5			
2028	15	Site Preparation	Abatement	HP-10 (R&D - 8b, 7)	None								0		
				HP-11 (R&D - 6)	4	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck	13	10	16	8	7			
				Shipyards South P1	1	(1) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck	10	8	8	4	5			
				HP-13 (HPS South - 21a, 21b, 22, 17a, 17b, 18a, 18b, 19a, 19b)	None							0			
				HP-14 (HPS South - 5, 6a, 6b, 8a, 8b, 10a, 10b)	6	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck	13	10	8	4	7			
				HP-10 (R&D - 8b, 7)	None							0			
			Demolition	HP-11 (R&D - 6)	5	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	(1) Crane	20	16	24	16	10			
				Shipyards South P1	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	8	4	9			
				HP-13 (HPS South - 21a, 21b, 22, 17a, 17b, 18a, 18b, 19a, 19b)	None							0			
				HP-14 (HPS South - 5, 6a, 6b, 8a, 8b, 10a, 10b)	9	(2) Man Lifts, (2)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (2)Water Trucks, (1) Crane		25	20	24	16	13			
				HP-10 (R&D - 8b, 7)	4	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Scraper	35	28	40	32	18			
				HP-11 (R&D - 6)	6	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Scraper	35	28	40	32	18			
			Grading & Infrastructure	Shipyards South P1	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Water Truck, (1) Off Road Dump Truck		25	20	8	4	13			
				HP-13 (HPS South - 21a, 21b, 22, 17a, 17b, 18a, 18b, 19a, 19b)	9	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		38	30	80	64	19			
				HP-14 (HPS South - 5, 6a, 6b, 8a, 8b, 10a, 10b)	2	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		38	30	80	64	19			
				HP-10 (R&D - 8b, 7)	None							0			
				Waterfront Prom S 1b	None							0			
				HP-09 (R&D - 9, 8a)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		20	16	16	8	10			
		Building Construction	Foundation Piles/Structure/Rough-in	HP-12	7	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		20	16	16	8	10			
				HP-08 (R&D - 5)	None							0			
				Waterfront Prom S 1b	10		(1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift, (1)Bobcat	(1) Water Truck, (1)Loader	15	12	8	4	8		
			Interior and Exterior Finishes	HP-09 (R&D - 9, 8a)	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		10	8	8	4	5			
				HP-12	3	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	10	8	8	4	5			
		2029	16	Site Preparation	Abatement	HP-11 (R&D - 6)	None								0
						Waterfront Prom S 2a	None								0
						Waterfront Prom S 2b	None								0
						Waterfront Prom SP	None								0
						Shipyards South P 2	1	(1) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck	10	8	8	4	5	
						HP-14 (HPS South - 5, 6a, 6b, 8a, 8b, 10a, 10b)	None								0
						HP-15 (HPS South - 12a, 12b, 13)	3	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck	13	10	8	4	7	
					Demolition	HP-11 (R&D - 6)	None								0
Waterfront Prom S 2a	1					(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		15	12	8	4	8			
Waterfront Prom S 2b	2					(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		15	12	8	4	8			
Waterfront Prom SP	1					(1) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		15	12	16	8	8			
Shipyards South P 2	1					(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	8	4	9			
HP-14 (HPS South - 5, 6a, 6b, 8a, 8b, 10a, 10b)	None												0		
HP-15 (HPS South - 12a, 12b, 13)	4					(2) Man Lifts, (2)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (2)Water Trucks, (1) Crane		25	20	24	16	13			
Grading & Infrastructure	HP-11 (R&D - 6)			None								0			
	Waterfront Prom S 2a			2		(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck, (1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13			
	Waterfront Prom S 2b			6		(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck, (1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13			
	Waterfront Prom SP			3		(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	28	22	16	8	14			
	Shipyards South P 2			1	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Water Truck, (1) Off Road Dump Truck		25	20	8	4	13				
	HP-14 (HPS South - 5, 6a, 6b, 8a, 8b, 10a, 10b)			9	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		38	30	80	64	19				
	HP-15 (HPS South - 12a, 12b, 13)			None								0			
	Foundation Piles/Structure/Rough-in			HP-09 (R&D - 9, 8a)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		20	16	16	8	10			
				HP-10 (R&D - 8b, 7)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		20	16	16	8	10			
				HP-12	7	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		20	16	16	8	10			
Building Construction	Shipyards South P1			1	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck		18	14	16	8	9			
				HP-13 (HPS South - 21a, 21b, 22, 17a, 17b, 18a, 18b, 19a, 19b)	7	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		20	16	16	8	10			
	Interior and Exterior Finishes			HP-09 (R&D - 9, 8a)	8	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		10	8	8	4	5			
				HP-10 (R&D - 8b, 7)									0		
				HP-12	10	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	10	8	8	4	5		
				Shipyards South P1	2	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		10	8	8	4	5			
				HP-13 (HPS South - 21a, 21b, 22, 17a, 17b, 18a, 18b, 19a, 19b)	4	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	10	8	8	4	5		
		Abatement	Waterfront Prom S 1a	None								0			
			Waterfront Prom NP	None								0			
			Shipyards South BP	1	(1) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck	10	8	8	4	5				
			Shipyards WP 1	1	(1) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck	10	8	8	4	5				
			HP-15 (HPS South - 12a, 12b, 13)	None								0			
			HP-16 (HPS South - 7a, 7b, 9a, 9b)	2	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck	13	10	8	4	7				
		Demolition	Waterfront Prom S 1a	2	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		15	12	8	4	8				
			Waterfront Prom NP	1	(1) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		15	12	16	8	8				
			Shipyards South BP	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	8	4	9				
			Shipyards WP 1	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	8	4	9				
		Site Preparation	HP-15 (HPS South - 12a, 12b, 13)	None								0			
			HP-16 (HPS South - 7a, 7b, 9a, 9b)	3	(2) Man Lifts, (2)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (2)Water Trucks, (1) Crane		25	20	24	16	13				
			Waterfront Prom S 1a	6		(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck, (1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13			

DRAFT: CPHPSII Project: Construction Workers and Equipment for Hunters Point Shipyard Construction Phase (Revision Date: 11/18/2013)						Major Phase Indicator Subphase Color Coding									
						1 HP									
						2HP									
						3 HP									
						4 HP									
Prepared by TRC for EIR Analysis															
Year	Project Year	Horizontal (Site Prep) or Vertical Duration (Building Const.)	Construction Phase Type	Project Sub Phase	Duration (Months)	Construction Equipment			Daily Construction Workers		Daily Construction Truck Trips				
						Full Time	1/2 Time	1/4 Time	Max Number of Workers	Avg. Number of Workers	Max Number of Truck Trips	Avg. Number of Truck Trips	Number of On Site Equipment		
2030	17		Grading & Infrastructure	Waterfront Prom NP	3		(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Trucks, (1) Dozer	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	28	22	16	8	14		
				Shipyards South BP	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Water Truck, (1) Off Road Dump Truck		(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors	25	20	8	4	13		
				Shipyards WP 1	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors	25	20	4	2	13		
				HP-15 (HPS South - 12a, 12b, 13)	5	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	38	30	80	64	19		
				HP-16 (HPS South - 7a, 7b, 9a, 9b)	None									0	
		Building Construction	Foundation Piles/Structure/Rough-In	HP-10 (R&D - 8b, 7)	None									0	
				HP-11 (R&D - 6)	5	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		(1) Cement Truck, (1) Pump Truck, (1) Pile Driver	20	16	16	8	10		
				HP-13 (HPS South - 21a, 21b, 22, 17a, 17b, 18a, 18b, 19a, 19b)	6	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	20	16	16	8	10		
				Waterfront Prom S 2a	None									0	
				Waterfront Prom S 2b	None									0	
				Waterfront Prom SP	None									0	
				Shipyards South BP	1	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck		18	14	16	8	9		
				HP-14 (HPS South - 5, 6a, 6b, 8a, 8b, 10a, 10b)	7	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	20	16	16	8	10		
				Shipyards South P2	1	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck		18	14	16	8	9		
			Interior and Exterior Finishes	HP-10 (R&D - 8b, 7)	8	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5		
				HP-11 (R&D - 6)	None									0	
				HP-13 (HPS South - 21a, 21b, 22, 17a, 17b, 18a, 18b, 19a, 19b)	9	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	10	8	8	4	5		
				Waterfront Prom S 2a	5		(1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift, (1)Bobcat	(1) Water Truck, (1)Loader	15	12	8	4	8		
				Waterfront Prom S 2b	12		(1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift, (1)Bobcat	(1) Water Truck, (1)Loader	15	12	8	4	8		
				Waterfront Prom SP	2	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5		
				Shipyards South BP	2	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5		
				HP-14 (HPS South - 5, 6a, 6b, 8a, 8b, 10a, 10b)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	10	8	8	4	5		
				Shipyards South P2	2	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4			
2031	18	Site Preparation	Abatement	Grassland EP South	3	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7		
				Community SFC B	4	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7		
				Multiuse Field	4	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7		
				Waterfront R&E Park	4	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7		
				Regunning Crane Pier	None								0		
				HP-16 (HPS South - 7a, 7b, 9a, 9b)	None								0		
			Demolition	HP-17 (HPS South 3)	3	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	8	4	7		
				Grassland EP South	6	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		(1) Crane	20	16	24	16	10		
				Community SFC B	6	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	(1) Crane		20	16	24	16	10		
				Multiuse Field	6	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	(1) Crane		20	16	24	16	10		
				Waterfront R&E Park	6	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	(1) Crane		20	16	24	16	10		
				Regunning Crane Pier	1	(1) Man Lifts, (1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks			15	12	8	4	8		
		Building Construction	Foundation Piles/Structure/Rough-In	HP-16 (HPS South - 7a, 7b, 9a, 9b)	None									0	
				HP-17 (HPS South 3)	5	(2) Man Lifts, (2)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (2)Water Trucks, (1) Crane			25	20	24	16	13		
				Grassland EP South	7	(1)Excavators, (2)Loaders, (1)Bobcat, (2) Off Road Dump Truck, (1)Water Truck		(1) Barge	20	16	120	104	10		
				Community SFC B	3	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors	25	20	8	4	13		
				Multiuse Field	3	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors	25	20	8	4	13		
				Waterfront R&E Park	3	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors	25	20	8	4	13		
				Regunning Crane Pier	3	(1)Excavators, (2)Loaders, (1)Bobcat, (2) Off Road Dump Truck, (1)Water Truck		(1) Barge	13	10	8	4	7		
				HP-16 (HPS South - 7a, 7b, 9a, 9b)	4	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	38	30	80	64	19		
				HP-17 (HPS South 3)	None									0	
			Interior and Exterior Finishes	HP-11 (R&D - 6)	None									0	
				Waterfront Prom S 1a	None									0	
				Waterfront Prom NP	None									0	
				HP-14 (HPS South - 5, 6a, 6b, 8a, 8b, 10a, 10b)	7	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	20	16	16	8	10		
				Shipyards South BP										0	
				Shipyards WP 1	None									0	
				HP-15 (HPS South - 12a, 12b, 13)	6	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	20	16	16	8	10		
				HP-11 (R&D - 6)	7	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5		
		2032	19	Site Preparation	Abatement	Shipyards WP 2 & 3	4	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7
						Community SFC A	4	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7
						HP-17 (HPS South 3)	None								0
					Demolition	Shipyards WP 2 & 3	6	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	(1) Crane		20	16	24	16	10
						Community SFC A	6	(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	(1) Crane		20	16	24	16	10
						HP-17 (HPS South 3)	None								0
Building Construction	Grading & Infrastructure			Shipyards WP 2 & 3	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors	25	20	4	2	13		
				Community SFC A	3	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors	25	20	8	4	13		
				HP-17 (HPS South 3)	6	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	38	30	80	64	19		
	Foundation Piles/Structure/Rough-In			HP-15 (HPS South - 12a, 12b, 13)	None									0	
				Grassland EP South	None									0	
				Community SFC B	None									0	
				Multiuse Field	None									0	
Interior and Exterior Finishes	Waterfront R&E Park	None									0				
	Regunning Crane Pier	None									0				
	HP-16 (HPS South - 7a, 7b, 9a, 9b)	10	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	20	16	16	8	10					
	HP-15 (HPS South - 12a, 12b, 13)	4	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	10	8	8	4	5					
	Grassland EP South	12		(1) Excavator, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift, (1)Bobcat	(1) Water Truck, (1)Loader	18	14	16	8	9					
	Community SFC B	8		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7					
		Site Preparation	Abatement	Waterfront R&E Park	6		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7		
				Regunning Crane Pier	10		(1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift, (1)Bobcat	(1) Water Truck	15	12	8	4	8		
				HP-16 (HPS South - 7a, 7b, 9a, 9b)	2	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	10	8	8	4	5		
			Demolition	Maintenance Yard	None									0	
				Grassland EP North	None									0	
			Grading & Infrastructure	Maintenance Yard	3	(1)Excavator, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks			13	10	24	16	7		

DRAFT: CPHPSII Project: Construction Workers and Equipment for Hunters Point Shipyard Construction Phase (Revision Date: 11/18/2013)

Prepared by TRC for EIR Analysis

Major Phase Indicator
Subphase Color Coding
1 HP
2HP
3 HP
4 HP

Year	Project Year	Horizontal (Site Prep) or Vertical Duration (Building Const.)	Construction Phase Type	Project Sub Phase	Duration (Months)	Construction Equipment			Daily Construction Workers		Daily Construction Truck Trips		
						Full Time	1/2 Time	1/4 Time	Max Number of Workers	Avg. Number of Workers	Max Number of Truck Trips	Avg. Number of Truck Trips	Number of On Site Equipment
2033	20	Building Construction	Foundation Piles/Structure/Rough-In	Grassland EP North	7	(1)Excavators, (2)Loaders, (1)Bobcat, (2) Off Road Dump Truck, (1)Water Truck		(1) Barge	20	16	120	104	10
				HP-16 (HPS South - 7a, 7b, 9a, 9b)	None								0
				Shipyards WP 2 & 3	None								0
				Community SFC A	None								0
			Interior and Exterior Finishes	HP-17 (HPS South 3)	6	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Scraper, (2) Off Road Dump Trucks, (1) Dozer		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1) Barge	20	16	16	8	10
				HP-16 (HPS South - 7a, 7b, 9a, 9b)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	10	8	8	4	5
				Shipyards WP 2 & 3	2		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	4	2	7
				Community SFC A	8		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7
				HP-17 (HPS South 3)	2	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	10	8	8	4	5
				HP-17 (HPS South 3)	None								0
			Interior and Exterior Finishes	Maintenance Yard	None								0
				Grassland EP North	None								0
				HP-17 (HPS South 3)	4	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	10	8	8	4	5
2034	21	Building Construction	Interior and Exterior Finishes	Maintenance Yard	8		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7
				Grassland EP North	12		(1) Excavator, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift, (1)Bobcat	(1) Water Truck, (1)Loader	18	14	16	8	9

Draft: CPHPSII Project: Construction Workers and Equipment for Candlestick Point Construction Phase (Revision Date: 11/18/2013) Prepared by TRC for EIR Analysis					Major Phase Indicator Subphase Color Coding										
					1 CP										
					2 CP										
					3 CP										
					4 CP										
Year	Project Year	Horizontal (Site Prep) or Vertical Duration (Building Const.)	Construction Phase Type	Project Sub Phase	Duration (Months)	Construction Equipment			Daily Construction Workers		Daily Construction Truck Trips				
						Full Time	1/2 Time	1/4 Time	Max Number of Workers	Avg. Number of Workers	Max Number of Truck Trips	Avg. Number of Truck Trips	Number of On Site Equipment		
2014	1	Site Preparation	Demolition	CP-01 (Alice Griffith - 1, 2, 4)	2		(1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		13	10	8	4	7		
				CP-02 (CP Center)	None								0		
				CP-03 (CP North - 1a, 2a, 10a, 11a)	None								0		
				CP-04 (CP South - 11a, 9a, 8a, 6a)	None								0		
			Grading & Infrastructure	CP-01 (Alice Griffith - 1, 2, 4)	4	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15			
				CP-02 (CP Center)	None								0		
				CP-03 (CP North - 1a, 2a, 10a, 11a)	None								0		
				CP-04 (CP South - 11a, 9a, 8a, 6a)	None								0		
2015	2	Site Preparation	Abatement	CP-01 (Alice Griffith - 1, 2, 4)	None								0		
				CP-02 (CP Center)	3	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	24	16	7		
				CP-03 (CP North - 1a, 2a, 10a, 11a)	None								0		
				CP-04 (CP South - 11a, 9a, 8a, 6a)	None								0		
				Wedge Park 1	None								0		
			Demolition	CP-01	None								0		
				CP-02 (CP Center)	10	(4) Man Lifts, (2)Excavators,(2) Off Road Dump Truck, (2)Loaders, (2)Dozer, (2)Water Trucks, (2) Crane			40	32	48	40	20		
				CP-03 (CP North - 1a, 2a, 10a, 11a)	None								0		
				CP-04 (CP South - 11a, 9a, 8a, 6a)	None								0		
				Wedge Park 1	None								0		
			Grading & Infrastructure	CP-01 (Alice Griffith - 1, 2, 4)	4	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15			
				CP-02 (CP Center)	5	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15			
				CP-03 (CP North - 1a, 2a, 10a, 11a)	None								0		
				CP-04 (CP South - 11a, 9a, 8a, 6a)	None								0		
				Wedge Park 1	None								0		
		Building Construction	Foundation Piles/Structure/Rough-In	CP-01 (Alice Griffith - 1, 2, 4)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck		18	14	16	8	9		
				CP-02 (CP Center)	None								0		
				CP-03 (CP North - 1a, 2a, 10a, 11a)	None								0		
				CP-04 (CP South - 11a, 9a, 8a, 6a)	None								0		
			Interior and Exterior Finishes	CP-01 (Alice Griffith - 1, 2, 4)	None								0		
				CP-02 (CP Center)	None								0		
				CP-03 (CP North - 1a, 2a, 10a, 11a)	None								0		
				CP-04 (CP South - 11a, 9a, 8a, 6a)	None								0		
2016	3	Site Preparation	Roadways Improvements		Harney Way	None								0	
			Abatement	Bayview Hillside OS	None									0	
				Jamestown Walker	None									0	
				CP-02 (CP Center)	None									0	
				CP-05 (Alice Griffith - 14, 8, 9)	1	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	8	4	7		
			Demolition	Bayview Hillside OS	None									0	
				Jamestown Walker	None									0	
				CP-02 (CP Center)	None									0	
				CP-03 (CP North - 1a, 2a, 10a, 11a)	1		(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		13	10	12	6	7		
				CP-04 (CP South - 11a, 9a, 8a, 6a)	1		(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	16	8	9		
			Grading & Infrastructure	CP-05 (Alice Griffith - 14, 8, 9)	2	(1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks			13	10	16	8	7		
				CP-02 (CP Center)	5	(2)Excavators, (1)Loaders,(1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15			
				Bayview Hillside OS	None								0		
				Wedge Park 1	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	4	2	13		
			Foundation Piles/Structure/Rough-In	CP-03 (CP North - 1a, 2a, 10a, 11a)	5	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	12	6	15			
				CP-04 (CP South - 11a, 9a, 8a, 6a)	6	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15			
				CP-05 (Alice Griffith - 14, 8, 9)	3	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15			
				CP-01 (Alice Griffith - 1, 2, 4)	None								0		
		Building Construction	Foundation Piles/Structure/Rough-In	CP-02 (CP Center)	5	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20		
				Wedge Park 1	None								0		
				CP-03 (CP North - 1a, 2a, 10a, 11a)	None								0		
				CP-04 (CP South - 11a, 9a, 8a, 6a)	None								0		
			Interior and Exterior Finishes	CP-01 (Alice Griffith - 1, 2, 4)	8	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5		
				CP-02 (CP Center)	2	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			20	16	8	4	10		
				Wedge Park 1	None								0		
				CP-03 (CP North - 1a, 2a, 10a, 11a)	None								0		
				CP-04 (CP South - 11a, 9a, 8a, 6a)	None								0		
2017	4	Site Preparation	Roadways Improvements		Harney Way	10	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	12	8	12		
			Abatement	CP-05 (Alice Griffith - 14, 8, 9)	None								0		
				Bayview Hillside OS	1		(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	16	8	9		
				Jamestown Walker	1		(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	16	8	9		
			Grading & Infrastructure	CP-05 (Alice Griffith - 14, 8, 9)	None								0		
				Bayview Hillside OS	4	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15			
				Jamestown Walker	4	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15			
				CP-05 (Alice Griffith - 14, 8, 9)	None								0		
			Foundation Piles/Structure/Rough-In	CP-01 (Alice Griffith - 1, 2, 4)	None								0		
				CP-02 (CP Center)	5	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20		
				Bayview Hillside OS	None								0		
				Jamestown Walker	None								0		
				CP-03 (CP North - 1a, 2a, 10a, 11a)	7	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20		
				CP-04 (CP South - 11a, 9a, 8a, 6a)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	20	16	16	8	10		
				CP-05 (Alice Griffith - 14, 8, 9)	None								0		
			Building Construction	Foundation Piles/Structure/Rough-In	CP-01 (Alice Griffith - 1, 2, 4)	7	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5	
					CP-02 (CP Center)	8	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			20	16	8	4	10	
					Bayview Hillside OS	None								0	
		Wedge Park 1			2		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	4	2	7		
		Interior and Exterior Finishes		CP-03 (CP North - 1a, 2a, 10a, 11a)	7	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5		
				CP-04 (CP South - 11a, 9a, 8a, 6a)	12	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5		
				CP-05 (Alice Griffith - 14, 8, 9)	None								0		
				CP-01 (Alice Griffith - 1, 2, 4)	None								0		
				CP-06 (CP North - 1b, 2b, 6, 7)	None								0		
		2018	5	Site Preparation	Abatement	AG Neighborhood P1	None								0
						CP-06 (CP North - 1b, 2b, 6, 7)	None								0
					Demolition	AG Neighborhood P1	None								0
CP-06 (CP North - 1b, 2b, 6, 7)	1						(1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		13	10	8	4	7		
Grading & Infrastructure	AG Neighborhood P1				1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	4	2	13		
	CP-06 (CP North - 1b, 2b, 6, 7)				4	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (2) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	33	26	16	8	17		
Foundation Piles/Structure/Rough-In	Bayview Hillside OS				3	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck		18	14	16	8	9		
	Jamestown Walker				3	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck		18	14	16	8	9		
	CP-04 (CP South - 11a, 9a, 8a, 6a)				6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	20	16	16	8	10		
	CP-05 (Alice Griffith - 14, 8, 9)	3	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	18	14	16	8	9					
	Bayview Hillside OS	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5					

Draft: CPHPSII Project: Construction Workers and Equipment for Candlestick Point Construction Phase (Revision Date: 11/18/2013) Prepared by TRC for EIR Analysis					Major Phase Indicator Subphase Color Coding										
					1 CP										
					2 CP										
					3 CP										
					4 CP										
Year	Project Year	Horizontal (Site Prep) or Vertical Duration (Building Const.)	Construction Phase Type	Project Sub Phase	Duration (Months)	Construction Equipment			Daily Construction Workers		Daily Construction Truck Trips				
						Full Time	1/2 Time	1/4 Time	Max Number of Workers	Avg. Number of Workers	Max Number of Truck Trips	Avg. Number of Truck Trips	Number of On Site Equipment		
			Interior and Exterior Finishes	Jamestown Walker	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5		
				CP-04 (CP South - 11a, 9a, 8a, 6a)	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5		
				CP-05 (Alice Griffith - 14, 8, 9)	6	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5		
		Roadways	Improvements	Gilman Ave	3	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	12	8	12			
2019	6		Abatement	CP-06 (CP North - 1b, 2b, 6, 7)	None								0		
				Earl Blvd Park 1 & 2	None								0		
				CP-07 (CP North- 10b, 11b)	None								0		
				CP-06 (CP North - 1b, 2b, 6, 7)	None								0		
				Earl Blvd Park 1 & 2									0		
				CP-07 (CP North- 10b, 11b)	1		(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	16	8	9		
			Grading & Infrastructure	CP-06 (CP North - 1b, 2b, 6, 7)	None								0		
				Earl Blvd Park 1 & 2	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	4	2	13		
				CP-07 (CP North- 10b, 11b)	6	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15		
				AG Neighborhood P1	None								0		
				CP-06 (CP North - 1b, 2b, 6, 7)	5	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		(1) Cement Truck, (1) Pump Truck, (1) Pile Driver	40	32	16	8	20		
				AG Neighborhood P1	3		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	4	2	7		
2020	7	Site Preparation	Abatement	CP-06 (CP North - 1b, 2b, 6, 7)	7	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			20	16	16	8	10		
				CP-07 (CP North- 10b, 11b)	None								0		
				CP-08 (Alice Griffith - 11, 12, 17, 18, 19, 20)	3	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	8	4	7		
			Demolition	CP-07 (CP North- 10b, 11b)	None								0		
				CP-08 (Alice Griffith - 11, 12, 17, 18, 19, 20)	4	(1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks			13	10	16	8	7		
				CP-07 (CP North- 10b, 11b)	None								0		
		Grading & Infrastructure	CP-08 (Alice Griffith - 11, 12, 17, 18, 19, 20)	5	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	8	4	15			
			CP-06 (CP North - 1b, 2b, 6, 7)	None								0			
			Earl Blvd Park 1 & 2	None								0			
			CP-06 (CP North - 1b, 2b, 6, 7)	None								0			
			Building Construction	Foundation Piles/Structure/Rough-In	AG Neighborhood P1	3								0	
				Interior and Exterior Finishes	Earl Blvd Park 1 & 2	1		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	4	2	7	
2021	8		Abatement	Wedge Park 2	None								0		
				CP-08 (Alice Griffith - 11, 12, 17, 18, 19, 20)	None								0		
				CP-09 (Alice Griffith - 15, 16, 13)	1	(2) Man Lifts, (1)Loader, (1) Rough Terrain Fork lift	(1) Water Truck		13	10	16	8	7		
				Wedge Park 2	None								0		
				CP-08 (Alice Griffith - 11, 12, 17, 18, 19, 20)	None								0		
				CP-09 (Alice Griffith - 15, 16, 13)	3		(1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		13	10	16	8	7		
			Grading & Infrastructure	Wedge Park 2	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	4	2	13		
				CP-08 (Alice Griffith - 11, 12, 17, 18, 19, 20)	5	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	8	4	15		
				CP-09 (Alice Griffith - 15, 16, 13)	4	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	8	4	15		
				Building Construction	Foundation Piles/Structure/Rough-In	CP-07 (CP North- 10b, 11b)	4	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20
					Interior and Exterior Finishes	CP-07 (CP North- 10b, 11b)	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			20	32	16	8	10
				2022	9		Abatement	AG Neighborhood P2	None						
CP-09 (Alice Griffith - 15, 16, 13)	None												0		
CP-10 (CP South - 11b, 9b)	None												0		
AG Neighborhood P2	None												0		
CP-09 (Alice Griffith - 15, 16, 13)	None												0		
CP-10 (CP South - 11b, 9b)	1		(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks						18	14	16	8	9		
Grading & Infrastructure	AG Neighborhood P2	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck				(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	4	2	13		
	CP-09 (Alice Griffith - 15, 16, 13)	None											0		
	CP-10 (CP South - 11b, 9b)	4					(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15		
	Building Construction	Foundation Piles/Structure/Rough-In	CP-07 (CP North- 10b, 11b)				None							0	
		Wedge Park 2	None											0	
	CP-08	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift					(1) Cement Truck, (1) Pump Truck	18	14	16	8	9		
2023	10		Abatement	CP-07 (CP North- 10b, 11b)	None								0		
				Wedge Park 2	None								0		
				CP-08	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		(1) Cement Truck, (1) Pump Truck	18	14	16	8	9		
				CP-07 (CP North- 10b, 11b)	None								0		
				Wedge Park 2	2		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	4	2	7		
				CP-08 (Alice Griffith - 11, 12, 17, 18, 19, 20)	10	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5		
			Grading & Infrastructure	CP-10 (CP South - 11b, 9b)	None								0		
				CP-11 (CP South - 8b, 6b)	4		(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15		
				Building Construction	Foundation Piles/Structure/Rough-In	CP-08 (Alice Griffith - 11, 12, 17, 18, 19, 20)	5	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		(1) Cement Truck, (1) Pump Truck	18	14	16	8	9
					AG Neighborhood 2	None								0	
				CP-09 (Alice Griffith - 15, 16, 13)	3	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		(1) Cement Truck, (1) Pump Truck	18	14	16	8	9		
				CP-08 (Alice Griffith - 11, 12, 17, 18, 19, 20)	10	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5		
Interior and Exterior Finishes	AG Neighborhood 2	3		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	4	2	7					
	CP-09 (Alice Griffith - 15, 16, 13)	6	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			10	8	8	4	5					
	Roadways	Improvements	Ingerson Ave	6	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	28	22	12	8	14				
		Jamestown Ave	6	(1)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	28	22	12	8	14					
	2024	11		Abatement	Last Port	None								0	
					The Neck	None								0	
CP-11 (CP South - 8b, 6b)					None								0		
Last Port					1		(1) Man Lifts, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		13	10	8	4	7		
The Neck					1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	13	10	8	4	7		
CP-11 (CP South - 8b, 6b)					None								0		
Grading & Infrastructure				Last Port	3	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13		
				The Neck	2	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13		
				Building Construction	Foundation Piles/Structure/Rough-In	CP-11 (CP South - 8b, 6b)	None							0	
					CP-09 (Alice Griffith - 15, 16, 13)	None								0	
				CP-10 (CP South - 11b, 9b)	3	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20		
				CP-09 (Alice Griffith - 15, 16, 13)	None								0		
2025	12		Abatement	CP-10 (CP South - 11b, 9b)	3	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			20	16	8	4	10		
				Mini Wedge Park 1	None								0		
				CP-12 (CP North - 3a, 3b)	None								0		
				Mini Wedge Park 1	None								0		
				CP-12 (CP North - 3a, 3b)	1		(1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		13	10	16	8	7		
				Mini Wedge Park 1	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	4	2	13		
			Grading & Infrastructure	CP-12 (CP North - 3a, 3b)	4	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (2) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	33	26	16	8	17		
				CP-10 (CP South - 11b, 9b)	None								0		
				Last Port	None								0		
				The Neck	None								0		
				CP-11 (CP South - 8b, 6b)	3	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20		
				CP-10 (CP South - 11b, 9b)	None								0		
Interior and Exterior Finishes	Last Port	5		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	4	2	7					
	The Neck	8		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7					
	CP-11 (CP South - 8b, 6b)	3	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			20	16	8	4	10					
	Abatement	CP-12 (CP North - 3a, 3b)	None								0				
		CP-13 (CP North - 8a, 8b, 9a, 9b)	None								0				

Draft: CPHPSII Project: Construction Workers and Equipment for Candlestick Point Construction Phase (Revision Date: 11/18/2013) Prepared by TRC for EIR Analysis					Major Phase Indicator Subphase Color Coding										
					1 CP										
					2 CP										
					3 CP										
					4 CP										
Year	Project Year	Horizontal (Site Prep) or Vertical Duration (Building Const.)	Construction Phase Type	Project Sub Phase	Duration (Months)	Full Time	1/2 Time	1/4 Time	Max Number of Workers	Avg. Number of Workers	Max Number of Truck Trips	Avg. Number of Truck Trips	Number of On Site Equipment		
2026	13	Site Preparation	Demolition	CP-12 (CP North - 3a, 3b)	None								0		
				CP-13 (CP North - 8a, 8b, 9a, 9b)	1		(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	16	8	9		
			Grading & Infrastructure	CP-12 (CP North - 3a, 3b)	None									0	
				CP-13 (CP North - 8a, 8b, 9a, 9b)	8	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15		
		Building Construction	Foundation Piles/Structure/Rough-In	CP-11 (CP South - 8b, 6b)	None									0	
				Mini Wedge Park 1	None									0	
				CP-11 (CP South - 8b, 6b)	None									0	
		Interior and Exterior Finishes	Mini Wedge Park 1	2		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	4	2	7			
2027	14	Site Preparation	Abatement	Bldv North Park	None								0		
				CP Neighborhood	None								0		
				CP-13 (CP North - 8a, 8b, 9a, 9b)	None								0		
				CP-14 (CP South - 4a, 2a, 4b, 2b)	None								0		
			Demolition	Bldv North Park	None									0	
				CP Neighborhood	1		(1) Man Lifts, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		13	10	4	2	7		
				CP-13 (CP North - 8a, 8b, 9a, 9b)	None								0		
				CP-14 (CP South - 4a, 2a, 4b, 2b)	1		(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	16	8	9		
				Grading & Infrastructure	Bldv North Park	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	4	2	13	
					CP Neighborhood	2	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	4	2	13	
			CP-13 (CP North - 8a, 8b, 9a, 9b)	None								0			
			CP-14 (CP South - 4a, 2a, 4b, 2b)	4		(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15			
		Building Construction	Foundation Piles/Structure/Rough-In	CP-12 (CP North - 3a, 3b)	2	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck, (1) Pile Driver	40	32	16	8	20			
			Interior and Exterior Finishes	CP-12 (CP North - 3a, 3b)	2	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		20	16	16	8	10			
		2028	15	Site Preparation	Abatement	Bldv Park South	None								0
						Wedge Park 3	None								0
						Bayview Gardens	None								0
CP-14 (CP South - 4a, 2a, 4b, 2b)	None												0		
CP-15 (CP South - 10b, 10a, 12b)	None												0		
Bldv Park South	None												0		
Demolition	Wedge Park 3				None								0		
	Bayview Gardens				1		(1) Man Lifts, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		13	10	8	4	7		
	CP-14 (CP South - 4a, 2a, 4b, 2b)				None								0		
	CP-15 (CP South - 10b, 10a, 12b)				1		(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	16	8	9		
	Grading & Infrastructure				Bldv Park South	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	4	2	13	
					Wedge Park 3	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	4	2	13	
Bayview Gardens					3	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13		
	CP-14 (CP South - 4a, 2a, 4b, 2b)				4		(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15		
	CP-15 (CP South - 10b, 10a, 12b)				4		(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15		
Building Construction	Foundation Piles/Structure/Rough-In			CP-12 (CP North - 3a, 3b)	None								0		
				Bldv Park North	None								0		
				CP Neighborhood	None								0		
	Interior and Exterior Finishes			CP-13 (CP North - 8a, 8b, 9a, 9b)	4	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20		
				CP-12 (CP North - 3a, 3b)	None								0		
				Bldv Park North	1		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	4	2	7		
				CP Neighborhood	5		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	4	2	7		
				CP-13 (CP North - 8a, 8b, 9a, 9b)	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			20	16	8	4	10		
2029	16	Site Preparation	Abatement	The Last Rubble	None								0		
				CP-15 (CP South - 10b, 10a, 12b)	None								0		
				CP-16 (CP South - 7a, 7b, 12a)	None								0		
			Demolition	The Last Rubble	1		(1) Man Lifts, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		13	10	8	4	7		
				CP-15 (CP South - 10b, 10a, 12b)	None								0		
				CP-16 (CP South - 7a, 7b, 12a)	1		(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	16	8	9		
		Grading & Infrastructure	The Last Rubble	3	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13			
			CP-15 (CP South - 10b, 10a, 12b)	None								0			
			CP-16 (CP South - 7a, 7b, 12a)	4		(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15			
			CP-15 (CP South - 10b, 10a, 12b)	4		(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck	(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15			
Building Construction	Foundation Piles/Structure/Rough-In	CP-13 (CP North - 8a, 8b, 9a, 9b)	4	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20				
		Bldv Park South	None								0				
		Wedge Park 3	None								0				
		Bayview Gardens	None								0				
		CP-14 (CP South - 4a, 2a, 4b, 2b)	4	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20				
	Interior and Exterior Finishes	CP-13 (CP North - 8a, 8b, 9a, 9b)	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			20	16	8	4	10				
		Bldv Park South									0				
		Wedge Park 3	2		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	4	2	7				
		Bayview Gardens	6		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7				
		CP-14 (CP South - 4a, 2a, 4b, 2b)	5	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			20	16	8	4	10				
2030	17	Site Preparation	Abatement	The Heart of Park	None								0		
				The Point	None								0		
				CP-16 (CP South - 7a, 7b, 12a)	None								0		
			Demolition	The Heart of Park	1		(1) Man Lifts, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		13	10	8	4	7		
				The Point	1		(1) Man Lifts, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		13	10	8	4	7		
				CP-16 (CP South - 7a, 7b, 12a)	None								0		
			Grading & Infrastructure	The Heart of Park	3	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13		
				The Point	2	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13		
			CP-16 (CP South - 7a, 7b, 12a)	None								0			
		Building Construction	Foundation Piles/Structure/Rough-In	CP-14 (CP South - 4a, 2a, 4b, 2b)	4	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20		
The Last Rubble	None										0				
CP-15 (CP South - 10b, 10a, 12b)	3	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift		(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20					
Interior and Exterior Finishes	CP-14 (CP South - 4a, 2a, 4b, 2b)	5	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			20	16	8	4	10					
	The Last Rubble	8		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7					
	CP-15 (CP South - 10b, 10a, 12b)	3	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			20	16	8	4	10					
2031	18	Site Preparation	Abatement	Wind Meadow	None								0		
				Mini Wedge 2	None								0		
				CP-17 (CP North - 4a, 5a, 4b, 5b)	None								0		
			Demolition	Wind Meadow	1		(1) Man Lifts, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		13	10	8	4	7		
				Mini Wedge 2	None								0		
				CP-17 (CP North - 4a, 5a, 4b, 5b)	1		(1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	16	8	9		
			Grading & Infrastructure	Wind Meadow	3	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	8	4	13		
				Mini Wedge 2	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	(1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers, (1)Compactors,	25	20	4	2	13		
				CP-17 (CP North - 4a, 5a, 4b, 5b)	7	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (2) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	33	26	16	8	17		
		Building Construction	Foundation Piles/Structure/Rough-In	CP-15 (CP South - 10b, 10a, 12b)	None								0		
				The Heart of Park	None								0		
				The Point	None								0		
			Interior and Exterior Finishes	CP-16 (CP South - 7a, 7b, 12a)	3	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20		
				CP-15 (CP South - 10b, 10a, 12b)	None								0		
				The Heart of Park	8		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7		
				The Point	8		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7		
				CP-16 (CP South - 7a, 7b, 12a)	3	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift			20	16	8	4	10		
Site Preparation	Abatement	CP-17 (CP North - 4a, 5a, 4b, 5b)	None								0				
		CP-18 (CP North - 7a, 6a, 7b, 6b)	None								0				
		CP-17 (CP North - 4a, 5a, 4b, 5b)	None								0				
	Demolition	CP-18 (CP North - 7a, 6a, 7b, 6b)	1		(2) Man Lifts, (1)Excavators,(1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks		18	14	16	8	9				
		CP-17 (CP North - 4a, 5a, 4b, 5b)	None								0				

**Draft: CPHPSII Project: Construction Workers and
Equipment for Candlestick Point Construction Phase
(Revision Date: 11/18/2013)
Prepared by TRC for EIR Analysis**

Major Phase Indicator
Subphase Color Coding

1 CP
2 CP
3 CP
4 CP

Year	Project Year	Horizontal (Site Prep) or Vertical Duration (Building Const.)	Construction Phase Type	Project Sub Phase	Duration (Months)	Construction Equipment			Daily Construction Workers		Daily Construction Truck Trips		
						Full Time	1/2 Time	1/4 Time	Max Number of Workers	Avg. Number of Workers	Max Number of Truck Trips	Avg. Number of Truck Trips	Number of On Site Equipment
2032	19	Building Construction	Grading & Infrastructure	CP-18 (CP North - 7a, 6a, 7b, 6b)	7	(2)Excavators, (1)Loaders, (1)Bobcat, (1)Compactors, (1)Water Truck, (1) Off Road Dump Truck		(1) Grader, (1) Asphalt Layer, (1) Soil stabilizer, (1) Roller, (1) Dozers	30	24	16	8	15
				CP-16 (CP South - 7a, 7b, 12a)	None						0		
			Foundation Piles/Structure/Rough-In	Wind Meadow	None					0			
				Mini Wedge 2	None					0			
				CP-16 (CP South - 7a, 7b, 12a)	None					0			
				Interior and Exterior Finishes	Wind Meadow	8		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4
Mini Wedge 2	2		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		(1) Water Truck	13	10	4	2	7			
2033	20	Site Preparation	Abatement	Earl Blvd Park 3	None								0
				Grassland S1	None							0	
				CP-18 (CP North - 7a, 6a, 7b, 6b)	None						0		
			Demolition	Earl Blvd Park 3	1		(1) Man Lifts, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	13	10	8	4	7	
				Grassland S1	1		(1) Man Lifts, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	13	10	8	4	7	
				CP-18 (CP North - 7a, 6a, 7b, 6b)	None						0		
		Grading & Infrastructure	Earl Blvd Park 3	1	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	25	20	8	4	13		
			Grassland S1	3	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	25	20	8	4	13		
			CP-18 (CP North - 7a, 6a, 7b, 6b)	None						0			
			Foundation Piles/Structure/Rough-In	CP-17 (CP North - 4a, 5a, 4b, 5b)	6	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	20	16	16	8	10
				Interior and Exterior Finishes	CP-17 (CP North - 4a, 5a, 4b, 5b)	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		10	8	8	4	5
													0
2034	21	Site Preparation	Abatement	Grassland S2	None		(1) Man Lifts, (1) Off Road Dump Truck, (1)Loaders, (1)Dozer, (1)Water Trucks	13	10	8	4	7	
			Demolition	Grassland S2	1							0	
			Grading & Infrastructure	Grassland S2	3	(1)Excavators, (1)Loaders, (1)Bobcat, (1) Off Road Dump Truck	(1)Water Truck	25	20	8	4	13	
		Building Construction	Foundation Piles/Structure/Rough-In	CP-17 (CP North - 4a, 5a, 4b, 5b)	None						0		
				Earl Blvd Park 3	None						0		
				Grassland S1	None						0		
			Interior and Exterior Finishes	CP-18	7	(1)Excavators, (1)Loaders,(1)Water Trucks, (1)Cranes, (1) Man Lift	(1) Cement Truck, (1) Pump Truck	(1) Pile Driver	40	32	16	8	20
				CP-17 (CP North - 4a, 5a, 4b, 5b)	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		10	8	8	4	5	
				Earl Blvd Park 3	1		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7
				Grassland S1	10		(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7
				CP-18 (CP North - 7a, 6a, 7b, 6b)	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		20	16	8	4	10	
2035	22	Building Construction	Foundation Piles/Structure/Rough-In	CP-18 (CP North - 7a, 6a, 7b, 6b)	None							0	
				Grassland S2	None							0	
			Interior and Exterior Finishes	CP-18 (CP North - 7a, 6a, 7b, 6b)	4	(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift		20	16	8	4	10	
Grassland S2	10			(1)Loader, (1) Man Lift, (1) Sweeper, (1) Rough Terrain Fork Lift	(1) Water Truck	13	10	8	4	7			

Draft: CPHPSII Project - Construction Workers and Equipment for Shoreline Improvements by Construction Phase (Revision Date: 11/18/2013)
Prepared by MACTEC for EIR analysis

Construction Phase	Yearly Average Duration (months)	Daily Construction Workers		Daily Construction Truck Trips ¹	Daily Construction Truck Trips ¹	Yearly Barge Trips		Construction Equipment ^{2,3}	Construction Equipment ²	Construction Equipment ²
		Max. Number of workers	Avg. Number of workers	Max. Number of truck trips	Avg. Number of truck trips			Full Time	1/2 Time	1/4 Time
Hunters Point Shipyard										
2020 Shoreline Demolition and Improvements (Waterfront Prom N1+ N2)	9	21	18	0	0	6	6	(1) Floating Platforms, (1) Bobcat		
2021 Shoreline Demolition and Improvements (Waterfront Prom N1 + N2)	9	21	18	0	0	6	6	(2) Floating Platforms, (1) Bobcat	(1) Cranes, (1)Barge, (1) Bobcat	
2022 Shoreline Demolition and Improvements (Heritage Parks 1)	5	12	11	0	0	20	4	(4) Floating Platforms, (4) Cranes, (2) Excavator, (2) Bobcat	(2)Barge	
2023 Shoreline Demolition and Improvements (Heritage Parks 1 +2)	9	24	21	0	0	40	7	(4) Floating Platforms, (4) Cranes, (2) Excavator, (2) Bobcat	(2)Barge	
2024 Shoreline Demolition and Improvements (Heritage Park 2)	5	24	21	0	0	30	7	(2) Floating Platforms, (2) Cranes, (1) Excavator, (1) Bobcat	(1)Barge	
2027 Shoreline Demolition and Improvements (Waterfront Prom S 1b)	3	8	7	0	0	8	4	(2) Floating Platforms, (2) Cranes, (1) Excavator, (1) Bobcat	(1)Barge	
2028 Shoreline Demolition and Improvements (Waterfront Prom S 1b)	3	8	7	0	0	8	4	(2) Cranes, (1) Excavator, (1) Bobcat	(1)Barge	
2029 Shoreline Demolition and Improvements (Waterfront Prom S 2b, Waterfront Prom South 2a)	9	24	21	0	0	40	7	(2) Cranes, (1) Excavator, (1) Bobcat	(1)Barge	
2030 Shoreline Demolition and Improvements (Waterfront Prom S 2b, Waterfront Prom S 2a, Waterfront Prom S 1a, Waterfront Prom NP)	7	17	15	0	0	18	7	(4) Floating Platforms, (4) Cranes, (2) Excavator, (2) Bobcat	(2)Barge	
2031 Shoreline Demolition and Improvements (Grassland EP South, Waterfront R&E Park, Waterfront Prom S 1a, Waterfront Prom NP, Regunning Crane Pier)	11	25	22	0	0	28	11	(2) Cranes, (1) Excavator, (1) Bobcat	(1)Barge	
2032 Shoreline Demolition and Improvements (Grassland EP South, Waterfront R&E Park, Regunning Crane Pier)	9	21	18	0	0	22	9	(2) Cranes, (1) Excavator, (1) Bobcat	(1)Barge	
2033 Shoreline Demolition and Improvements (Grassland EP North)	2	7	5	0	0	2	3	(1) Excavator		(1) Crane, (1) Barge
2034 Shoreline Demolition and Improvements (Grassland EP North)	2	7	5	0	0	2	3	(1) Excavator		(1) Crane, (1) Barge
Candlestick Point										
2024 Shoreline Improvements (Last Port + The Neck)	4	7	5	0	0	2	3	(1) Excavator		(1) Crane, (1) Barge
2028 Shoreline Improvements (Bayview Gardens)	2	7	5	0	0	2	3	(1) Excavator		(1) Crane, (1) Barge
2029 Shoreline Improvements (The Last Rubble)	2	7	5	0	0	2	3	(1) Excavator		(1) Crane, (1) Barge
2030 Shoreline Improvements (The Point + The Heart of the Park)	4	7	5	0	0	2	3	(1) Excavator		(1) Crane, (1) Barge
2031 Shoreline Improvements (Wind Meadow)	2	7	5	0	0	2	3	(1) Excavator		(1) Crane, (1) Barge
2033 Shoreline Improvements (Grasslands S1)	2	7	5	0	0	2	3	(1) Excavator		(1) Crane, (1) Barge
2034 Shoreline Improvements (Grasslands S2)	2	7	5	0	0	2	3	(1) Excavator		(1) Crane, (1) Barge

SOURCE: MACTEC

- Note:**
1. Number of truck trips making deliveries, and number of truck trips required for materials removal, see assumptions for trip details.
 2. The construction equipment in this table identifies what will be required in addition to the equipment already onsite performing infrastructure work.
 3. It should be assumed that all Floating Platforms referenced in the "Construction Equipment" columns will be propane or electric powered.
- (2) = Number of pieces of specified equipment.

Assumptions

Each truck will be able to carry 15 cy of material
Each barge will be able to carry 2500 tons of material
Hunters Point Shipyard import fill will be brought on site by barge (100%)
Candlestick Point import fill will be brought on site by barge (50%), and sourced on site (50%).
Quantities do not account for work performed by Navy.

Construction Phase	Yearly Average Duration (months)	Daily Construction Workers		Daily Construction Truck Trips ¹			Construction Equipment ³	Construction Equipment ³	Construction Equipment ³
		Max. Number of workers	Avg. Number of workers	Max. Number of truck trips	Avg. Number of truck trips	Number of on site equipment	Full Time	1/2 Time	1/4 Time
Field Management 2014	12	20	16	4	2	8		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2015	12	25	20	8	4	10		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2016	12	25	20	8	4	10		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2017	12	25	20	8	4	10		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2018	12	25	20	8	4	10		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2019	12	25	20	8	4	10		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2020	12	25	20	8	4	10		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2021	12	25	20	8	4	10		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2022	12	25	20	8	4	10		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2023	12	25	20	8	4	10		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2024	12	25	20	8	4	10		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2025	12	25	20	8	4	10		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2026	12	15	12	8	4	10		(2)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2027	12	15	12	8	4	10		(2)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2028	12	15	12	8	4	10		(2)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2029	12	15	12	8	4	10		(2)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2030	12	15	12	8	4	10		(2)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2031	12	15	12	8	4	10		(2)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2032	12	25	20	4	2	6		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2033	12	25	20	4	2	6		(6)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2034	12	15	12	4	2	6		(2)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	
Field Management 2035	12	15	12	4	2	6		(2)Onsite Field Trucks, Backup Equipment (see note 2): (1)Loaders, (1)Haul Trucks, (1)Water Trucks, (1) Man Lift	

Note:

1. Number of truck trips making deliveries, and number of truck trips required for materials removal, see assumptions for trip details.
 2. Back up equipment is kept onsite to minimize downtime if a piece of equipment breaks down and needs replacement. Typically this equipment will not be used on a day to day basis.
 3. It should be assumed that all Man Lifts referenced in the "Construction Equipment" columns will be propane or electric powered.
 4. Hunters Point and Candlestick Point will each utilize a new dedicated crushing plant located near the Bay. The crushing plants will be comprised of 1 loader, 1 hammer, 1 screener, 1 crusher and an adjacent batch plant. Each crushing plant will operate ½ time.
- (2) = Number of pieces of specified equipment.

Assumptions

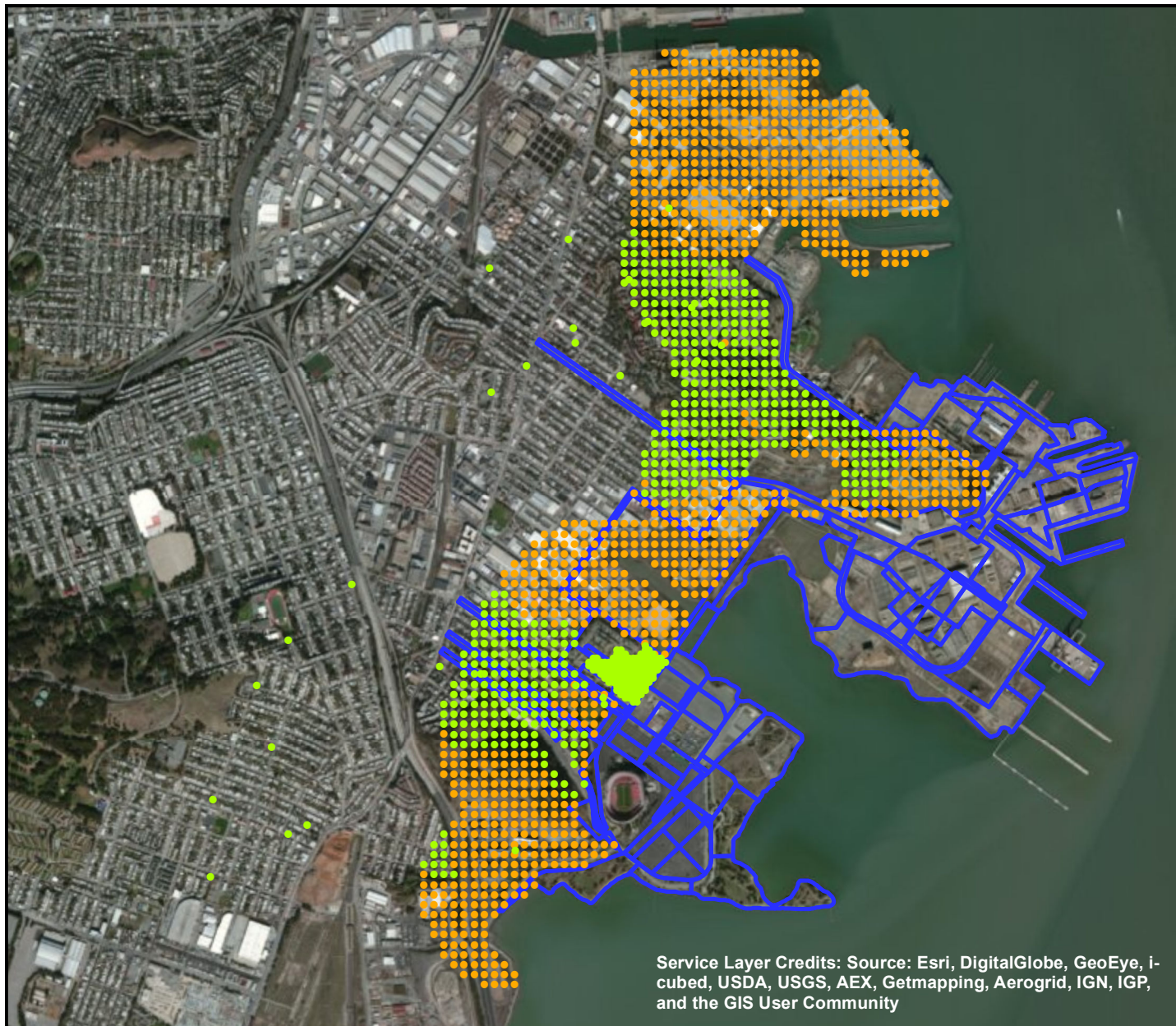
Max. number of round trips to 8 total trips

Each truck will be able to carry 20 tons of material

Personal vehicle trips to and from the construction site were not included in the truck trip calculations and are estimated to be 1 trip for every 2 workers as incentives will be offered for use of mass transit and car/van pooling.

Import fill will be brought onto the site through two primary modes; Trucks (60%) and Barge (40%).

Quantities do not account for concurrent remediation work occurring at Hunters Point Shipyard.



Legend

- Resident/Sensitive (Adult & Child)
- Worker
- Property Boundary

0 500 1,000
Meter

0 2,500 5,000
Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



Proposed Receptor Location Refinements to the Candlestick Point - Hunters Point Shipyards Phase II Development Plan San Francisco, California



Attachment
C



Legend

◆ Modeled Volume Source

Sources are modeled at
30 meter spacing within the grid.

0 500 1,000
Meter

0 1,000 2,000
Feet



**Modeled Source Location
Refinements to the Candlestick Point - Hunters Point
Shipyard Phase II Development Plan
San Francisco, California**



Attachment
D