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Addendum 7 to the CP-HPS2 2010 FEIR

Addendum Date:	August 23, 2024
Case No.:	2007.0946E
Project Title:	Candlestick Point–Hunters Point Shipyard Phase II Development Plan Project
EIR:	Certified June 3, 2010
Project Sponsor:	CP Development Co., LLC
Lead Agency:	Office of Community Investment & Infrastructure
OCII Staff Contact:	José Campos – 415.749.2554 jose.campos@sfgov.org
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CONTENTS

I. Project Description 1
I.A Introduction 1
I.A.1 Project Location 1
I.A.2 Previous Approvals 3
I.B Summary of the 2024 Modified Project Variant 5
I.B.1 2024 Modified Project Variant Proposed Modifications 5
I.B.2 2024 Modified Project Variant Elements that Remain Unchanged at CP as Compared to the 2019 Modified Project Variant 8
I.B.3 2024 Modified Project Variant Development Scenario 9
I.C Detailed Description of the 2024 Modified Project Variant 9
I.C.1 CP Proposed Modifications 9
I.C.2 Site Preparation and Earthwork/Grading 21
I.C.3 Construction Methods and Equipment 24
I.C.4 Construction Assumptions 25
I.D Construction Duration and Phasing 25
I.D.1 Construction Duration 25
I.D.2 Construction Phasing 27
I.E Approvals 30

II. Environmental Analysis 31
II.A Approach to the Analysis 31
II.A.1 Introduction 31
II.A.2 Authority for Use of an Addendum 31

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II.A.3 Analytic Method 32
II.A.4 Other Analytic Considerations 33
II.B Summary of Analysis of Environmental Effects 35
II.B.1 Land Use and Plans 37
II.B.2 Population, Housing, and Employment 43
II.B.3 Transportation and Circulation 55
II.B.4 Aesthetics 103
II.B.5 Shadows 123
II.B.6 Wind 133
II.B.7 Air Quality 137
II.B.8 Noise and Vibration 157
II.B.9 Cultural Resources and Paleontological Resources 179
II.B.10 Hazards and Hazardous Materials 185
II.B.11 Geology and Soils 207
II.B.12 Hydrology and Water Quality 219
II.B.13 Biological Resources 235
II.B.14 Public Services 253
II.B.15 Recreation 259
II.B.16 Utilities 263
II.B.17 Energy 283
II.B.18 Greenhouse Gas Emissions 297

III. Conclusion 303

IV. References 305

Appendices

Appendix A Addendum 7 Mitigation Monitoring and Reporting Program
Appendix B Analysis of Transportation Effects
Appendix C Additional Shadow Figures
Appendix D Wind Memorandum
Appendix E1 Air Quality Construction Methods Memorandum
Appendix E2 Air Quality Operational Emissions Data
Appendix F Construction Resource Information
Appendix G Traffic Data Used in Noise Analysis

Figures

Figure 1 Project Location 2
Figure 2 2010 Project Land Use Plan 12
Figure 3 2024 Modified Project Variant Land Use Plan 15
Figure 4 Approved 2019 CP Maximum Building Heights 16
Figure 5 Proposed 2024 CP Maximum Building Heights 17
Figure 6 2024 Modified Project Variant Phasing Map 29
Figure 7 With NAPOTS Acquisition Cross-Sections 64
Figure 8 Without NAPOTS Acquisition Cross-Sections 65
Figure 9 Candlestick Point Transit Service Comparison, Two-Way Capacity vs. Demand 84
Figure 10 Viewpoint Locations 109
Figure 11 Existing and Proposed Views from View 6: Northeast from NB-101 Harney Way Off-Ramp 111
Figure 12 Existing and Proposed Views from View 9: Northeast from CPSRA South of Harney 115
Figure 13 Existing and Proposed Views from View 11: Northwest from CPSRA 116
Figure 14 Existing and Proposed Views from View 16: Southwest from Mariner Village 119
Figure 15 2010 Tower Variant 3D Annual Shadow 127
Figure 16 2019 Modified Project Variant 128
Figure 17 2024 Modified Project Variant 129
Figure 18 Select 2010 FEIR and 2019 Modified Project Variant Long-Term Measurement Locations 173

Tables

Table 1 Project Site Acreage 3
Table 2 Summary of Proposed Changes to the 2019 Modified Project Variant Documents 6
Table 3 2024 Modified Project Variant Development Scenario 10
Table 4 Land Use Comparison 13
Table 5 Maximum Allowed Parking Supply 18
Table 6 Estimated Minimum Class 1 Bicycle Parking Spaces 18
Table 7 CP Earthwork Information for the 2024 Modified Project Variant 22
Table 8 CP Vertical Construction Duration 25
Table 9 2024 Modified Project Variant Phasing 28
Table 10 Initial Project Approvals 30
Table 11 Subsequent Project Approvals 30
Table 12 Employment by Land Use 45
Table 13 2024 Modified Project Variant Construction Employment 47
Table 14 Housing Demand 51
Table 15 2024 Modified Project Variant Vehicle Travel Demand 62
Table 16 2024 Modified Project Variant Street Segment Improvements—Candlestick Point 70
Table 17 2024 Modified Project Variant – Delay, Level of Service (LOS), and Volume to Capacity (V/C) Ratio Intersection Operations for Year 2030s 72
Table 18 Transit Phasing 82
Table 19 Transit Ridership and Capacity Utilization at Study Area Cordons 86
Table 20 Transit Ridership and Capacity Utilization at Downtown Screenlines 87
Table 21 Existing and Future Year VMT per Capita Rates 101
Table 22 Emissions Comparison for CP 148
Table 23 CO Concentration Comparison—2030 Future Project 150
Table 24 Project-Related Construction Equipment 160
Table 25 Deep Dynamic Compaction Vibration Impact Distance Thresholds 165

Table 26 Modeled Traffic Noise Levels Compared with the 2010 FEIR 174
Table 27 Modeled Traffic Noise Levels Compared with the 2010 FEIR, Cumulative 176
Table 28 Pervious and Impervious Acreage at CP and HPS2: 2010 Project, 2019 Modified Project Variant, and 2024 Modified Project Variant 226
Table 29 Estimated Stormwater Peak Flow Rates and Runoff Volumes without BMPs 229
Table 30 2024 Modified Project Variant—Water Demand 267
Table 31 2024 Modified Project Variant—Wastewater Generation 269
Table 32 Solid Waste Generation 271
Table 33 Electricity Demand from Plug-In Appliances for Candlestick Point 284
Table 34 Electricity Demand from Building Envelopes (MWh) for Candlestick Point 286
Table 35 Natural Gas Demand, Baseline (MMBtu) for Candlestick Point 288
Table 36 Petroleum Demand 290
Table 37 Electricity Consumption in San Francisco, by Land Use, 2022 292
Table 38 Natural Gas Consumption in San Francisco, by Land Use, 2022 294

I. PROJECT DESCRIPTION

I.A Introduction

The Candlestick Point–Hunters Point Shipyard Phase II (CP-HPS2) Project was approved in 2010 (2010 Project). The Project Sponsor[1] now proposes the 2024 Modified Project Variant. The previously approved 2019 Modified Project Variant was described and analyzed in Addendum 6 and approved by OCII on October 15, 2019, by Resolution No. 27-2019. The 2024 Modified Project Variant does not impact the Project approvals for the 2019 Modified Project Variant, which would remain in place unless and until the Project Applicant formally elects to implement the 2024 Modified Project Variant.

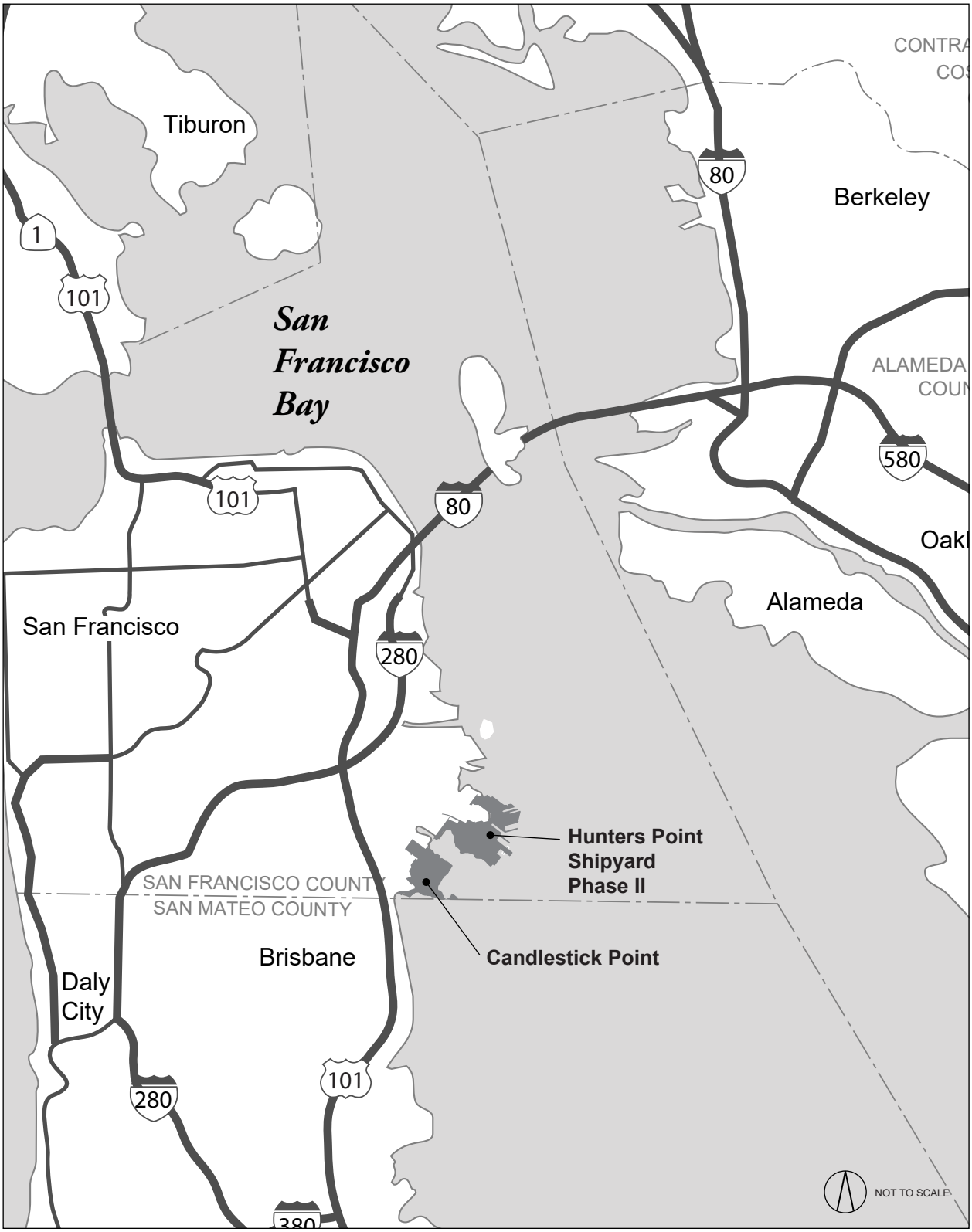
The 2024 Modified Project Variant includes changes primarily at Candlestick Point (CP), as well as related changes to the Hunters Point Shipyard Phase II (HPS2) to allow the transfer of up to 2,050,000 square feet of research and development/office (R&D/office) uses. This addendum (Addendum 7) to the CP-HPS2 2010 Final Environmental Impact Report (2010 FEIR) evaluates the environmental impacts of the changes proposed in the 2024 Modified Project Variant.

A summarized description of the 2024 Modified Project Variant is provided in Section I.B (Summary of the 2024 Modified Project Variant), and a more-detailed description of the 2024 Modified Project Variant is provided in Section I.C (Detailed Description of the 2024 Modified Project Variant).

I.A.1 Project Location

The Project covers approximately 692.6 acres along the southeastern waterfront of San Francisco, bordered by India Basin on the north; the Executive Park area and San Mateo County line on the south; Bayview Hill, the Bayview-Hunters Point (BVHP) neighborhood, Yosemite Slough, and Hunters Point Hill on the west; and San Francisco Bay on the north and the east. The CP site is 271.6 acres in area and is located east of Bayview Hill and southeast of the BVHP neighborhood. The HPS2 site is 421.0 acres in area and is located to the southeast of the BVHP neighborhood. Table 1 (Project Site Acreage) presents the acreage of the Project site, and Figure 1 (Project Location) illustrates the Project boundaries.

[1] The Project Sponsor is CP Development Co., LLC, the entity that is entitling the CP HPS2 Development Plan Project. The Project Applicant is a developer (or vertical developer) that will construct specific elements of the CP HPS2 Development Plan Project.



SOURCE: Clement Designs, 2008; ESA 2018

FIGURE 1 Addendum 7 to the CP-HPS2 2010 FEIR

PROJECT LOCATION

TABLE 1 PROJECT SITE ACREAGE

Development Area	*Acres*
Candlestick Point	271.6[a,b]
Hunters Point Shipyard Phase II	421.0
Total	***692.6***

SOURCE: FivePoint, 2019.

a. The 2010 FEIR reflected 281 acres for CP; however, the 9.4-acre Jamestown parcel was removed from CP as part of the adoption of the BVHP Redevelopment Plan amendments in 2018 (and as described and evaluated in Addendum 5), which reduced the size of CP to 271.6 acres.

b. CP includes the approximately 120.2-acre Candlestick Point State Recreation Area (CPSRA).

I.A.2 Previous Approvals

On June 3, 2010, the San Francisco Planning Commission and the San Francisco Redevelopment Agency (SFRA) Commission certified the 2010 FEIR, San Francisco Planning Department File Number 2007.0946E and SFRA File Number ER6.05.07. On July 14, 2010, the San Francisco Board of Supervisors affirmed the Planning Commission's certification of the 2010 FEIR (Motion No. M10-110).

Between June 3, 2010, and August 3, 2010, the SFRA Commission, Planning Commission/, Board of Supervisors, and other City Boards and Commissions adopted findings of fact, evaluation of mitigation measures and alternatives, a statement of overriding considerations (File No. 100572), and a mitigation monitoring and reporting program (MMRP) in fulfillment of the requirements of the California Environmental Quality Act (CEQA). These entities then adopted various resolutions, motions and ordinances related to Project approval and implementation, including but not limited to (1) General Plan amendments; (2) Planning Code amendments; (3) Zoning Map amendments; (4) BVHP Redevelopment Plan amendments; (5) HPS Redevelopment Plan amendments; (6) an Interagency Cooperation Agreement; (7) Design for Development (D4D) documents; (8) Health Code, Public Works Code, Building Code, and Subdivision Code amendments; (9) a Disposition and Development Agreement (DDA), which included as attachments a Phasing Plan and Schedule of Performance, a Transportation Plan, an Open Space Plan and an Infrastructure Plan, among other items; (10) Real Property Transfer Agreement; (11) Public Trust Exchange Agreement; (12) Park Reconfiguration Agreement; and (13) Tax Increment Allocation Pledge Agreement.

The 2010 FEIR evaluated several variants[2] of the 2010 Project. In 2010, it was not known whether the 49ers football team would require a new stadium as part of the Project. As a result, the 2010 FEIR

[2] Variants proposed and analyzed in the 2010 FEIR included (1) 2010 R&D Variant (Variant 1): this variant would not include a stadium, but would increase R&D space at the previously proposed stadium location; (2) 2010 Housing Variant (Variant 2): this variant would not include a stadium, but would relocate 1,350 residential units from CP to the previously proposed stadium location; (3) 2010 Housing/R&D Variant (Variant 2A): this variant would not include a stadium, but would relocate 1,650 residential units from CP to the previously proposed stadium location and would include an additional 500,000 sf of R&D when compared to the Project; (4) 2010 Tower Variants A, B, C, and D (Tower Variants 3A, 3B, 3C, and 3D, respectively): these variants would have the same development scenario and overall description as with the Project, but would have different locations and heights for residential towers at CP; (5) 2010 Utilities Variant (Variant 4): this variant would include an automated solid waste collection system, decentralized wastewater treatment, and district energy; and (6) Shared Stadium Variant (Variant 5): this variant would include a shared stadium where both the San Francisco 49ers and the Oakland Raiders would play at the stadium at HPS2.

included, and the City approved, several potential land use and development options for the Project, specifically:

1. The 2010 Project with a stadium, as described in Chapter II of the 2010 FEIR, with Candlestick Point Tower Variant 3D, Utilities Variant (Variant 4), and Shared Stadium Variant (Variant 5);
2. The 2010 Project without the stadium, with R&D Variant (Variant 1), Tower Variant 3D, and Utilities Variant (Variant 4);
3. The 2010 Project without the stadium, with Housing Variant (Variant 2), Housing/R&D Variant (Variant 2A), Tower Variant 3D, and Utilities Variant (Variant 4); and
4. Sub-alternative 4A, which provides for the preservation of four historic structures in HPS2; Sub-alternative 4A could be implemented with either the stadium variant or non-stadium variants (refer to Board of Supervisors CEQA Findings pp. 2–4).

Since certification of the 2010 FEIR, six addenda have been prepared to address proposed modifications to the 2010 Project, although only four of the projects described in those addenda were pursued by the Project Sponsor and approved by OCII and various City agencies (Addenda 1, 4, 5, and 6).[3]

The approvals associated with Addenda 1, 4, 5, and 6 are summarized as follows:

- **Addendum 1 (published on January 7, 2014):** The Project Sponsor received approval for changes to the Phasing Plan and Schedule of Performance, the schedules for implementation of the Transportation Plan (including the Transit Operating Plan of the Infrastructure Plan), and other public benefits. In addition, approvals to the Master Streetscape Plan and Signage Plan were received and mitigation measures MM TR-16 and MM UT-2 were amended.
- **Addendum 4 (published on March 3, 2016):** The Project Sponsor received approval for modifications of the approved Project Candlestick Point D4D (2016 CP D4D) and proposed transportation system changes that required modification of the Major Phase 1 CP Approval, including the Schedule of Performance, the Candlestick Point Infrastructure Plan, and the Candlestick Point Hunters Point Shipyard Phase II Transportation Plan. In addition, MM TR-16 was further amended and MM TR-23.1 was also amended.
- **Addendum 5 (published on April 9, 2018):** The Project Sponsor received approval for implementation of the 2018 Modified Project Variant. Approval actions included amendments to the Hunters Point Shipyard and Bayview Hunters Point Redevelopment Plans, the HPS1 and CP-HPS2 Disposition and Development Agreements, HPS2 D4D (2018 HPS2 D4D) amendments, HPS2 Streetscape Master Plan & Signage Master Plan, Transportation Plan, and Infrastructure Plan, as well as an update to the CP-HPS2 Phasing

[3] The 2010 FEIR and Addenda 1–6 are available at https://sfocii.org/projects/hunters-point-shipyard-candlestick-point-2/document-library. Addendum 2 to the 2010 FEIR, published on May 2, 2014, evaluated the potential environmental impacts of the Automatic Waste Collection System described in the 2010 FEIR as part of Utility Variant 4 (in more detail). The Project Sponsor did not pursue this option. Addendum 3 to the 2010 FEIR, published on September 19, 2014, evaluated the potential environmental impacts of a proposal to demolish Candlestick Park stadium with explosives rather than conventional and/or mechanical demolition. This proposal was not pursued by the Project Sponsor, and the stadium was demolished using conventional and mechanical means.

Plan and Schedule of Performance. In addition, MM TR-16, MM TR-17, MM TR-VAR-1, MM NO-2a, MM CP-2a, MM GE-5a, MM HY-6a.1, MM HY-12a.1, MM HY-12a.2, MM HY-14, MM BI-19b.1, MM BI-20a.1, MM BI-20a.2, MM RE-2, MM UT-2, and MM GC-2 were amended.

- **Addendum 6 (published on October 1, 2019):** The Project Sponsor received approval for implementation of the 2019 Modified Project Variant. Approval actions included amendments to the following: (1) Major Phase 1 CP Amendment which proposes modifications to the development program at Candlestick Center and includes the transfer of 118,500 square feet (sf) of R&D/office use from HPS2 to CP and the conversion of 455,500 sf of Regional Retail use, 20,000 sf of Hotel use and 6,000 sf of Entertainment (Performance Arts) use into Office use, and the conversion of 9,500 sf of Regional Retail use to Neighborhood Retail use; (2) Sub-Phases CP-02, CP-03 and CP-04; (3) CP-HPS2 Transportation Plan and Transit Operating Plan (Conforming Amendments); (4) CP Infrastructure Plan (Conforming Amendments) to show the new community uses and the extension of recycled water lines from the recycled water plant at HPS2 to CP; and (5) an update to the CP Phasing Plan and Schedule of Performance. In addition, MM TR-16, MM CP-2a, MM CP-3a, MM GE-5a, and MM GC-2 were amended in 2019, as reflected in Addendum 6 (Appendix A, Addendum 6 Mitigation Monitoring and Reporting Program, Section 7, CP-HPS2 FEIR Addendum 6 Revised Mitigation Measures).

I.B Summary of the 2024 Modified Project Variant

I.B.1 2024 Modified Project Variant Proposed Modifications

The 2024 Modified Project Variant would generally include the following modifications at CP:

1. Increase the R&D/office uses approved for Candlestick Center (i.e., CP Center or CP-02) from 750,000 sf to 2,800,000 sf, which includes a transfer of up to approximately 2,050,000 sf of R&D/office use from HPS2 with a commensurate reduction of R&D/office use at HPS2.
2. Allow a parking ratio of 2 parking spaces per 1,000 square feet for the first 1,700,000 sf of R&D/office development at Candlestick Center. The Project Sponsor would conduct a parking study once the 1,700,000 square feet of development is completed to right size the remaining parking needs, subject to review and approval by the San Francisco Municipal Transportation Agency (SFMTA). If the parking study is either not completed or not approved, a maximum parking ratio of 1.3 parking spaces per 1,000 square feet will apply to the remaining 1,100,000 square feet of R&D/office.
3. Authorize hotel use, which is currently permitted within Candlestick Center, as a Principal Use[4] within the Candlestick Mixed-Use Residential District.
4. Authorize Commercial, Entertainment, and Visitor-Serving Uses (i.e., film arts center and performance venue) as Secondary Uses[5] within the Candlestick Mixed Use Residential District. Provide for transportation plan options that modify roadway improvements along

[4] As defined in the Bayview Hunters Point Redevelopment Plan.
[5] As defined in the Bayview Hunters Point Redevelopment Plan. Secondary Uses would be subject to discretionary approval and additional environmental review, as necessary, prior to approval.

Arelious Walker Drive, Gilman Avenue, and Egbert Ave. The transportation plan options would be implemented if the Project Sponsor does not acquire the parcels bounded by Arelious Walker Drive, Gilman Avenue, and Egbert Ave and Donahue Street.

5. Modify the Schedule of Performance and the Project's Phasing Plan, including the elimination of the Sub-Phase boundaries and approvals.
6. Provide a modified construction schedule for the 2024 Modified Project Variant, as further described in Section I.D, Construction Duration and Phasing, of this Project Description. Construction began at CP in 2014 with development of the first phase of the Alice Griffith Housing Project, including limited horizontal infrastructure activities: these activities ended in 2019. No construction activities are currently underway. The 2024 Modified Project Variant assumes that construction activities at CP would resume in Quarter 4 (Q4) of 2025.
7. Amend the CP Design for Development (development controls) to increase the maximum allowable building height from a maximum of 120 feet to maximum 180 feet and to increase maximum building bulk and massing, among other changes to the development standards at Candlestick Center to accommodate the development of up to 2,050,000 additional square feet of R&D/office.

Additional information regarding the 2024 Modified Project Variant at CP is provided in Addendum 7 Section I.C.1 (CP Proposed Modifications). A summary of the proposed changes to the Project documents associated with the 2024 Modified Project Variant listed is provided in Table 2 (Summary of Proposed Changes to the 2019 Modified Project Variant Documents).

TABLE 2 SUMMARY OF PROPOSED CHANGES TO THE 2019 MODIFIED PROJECT VARIANT DOCUMENTS

Document	*Summary of Key Proposed Changes*
BVHP Redevelopment Plan	● Allow for the transfer of up to approximately 2,050,000 square feet of commercial uses from the Shipyard Site to commercially-zoned areas of Candlestick Point; ● Clarify that certain commercial uses currently authorized within the Shipyard Site are also allowed within the Candlestick Site; ● Authorize a hotel use, which is currently permitted within Candlestick Center, as a Principal Use[6] within the Candlestick Mixed-Use Residential District and Commercial, Entertainment, and Visitor-Serving Uses as Secondary Uses[7] within the Candlestick Mixed Use Residential District; ● Extend the limitations relating to time for establishing loans, advances, and indebtedness, the effectiveness of the redevelopment plan, and the time to repay indebtedness and receive property taxes, in connection with the Project; ● Authorize property tax increment revenues from the Shipyard Site and Candlestick Site to be combined to fund costs under the Project agreements; ● Adjust the limit on the amount of bonded indebtedness that can be outstanding at one time by establishing a single limit on the amount of bonded indebtedness applicable to the Shipyard Site and Candlestick Site; and ● Other minor amendments to the definitions, regulations, and standards of the BVHP Plan.

[6] As defined in the Bayview Hunters Point Redevelopment Plan.
[7] As defined in the Bayview Hunters Point Redevelopment Plan. Secondary Uses would be subject to discretionary approval and additional environmental review, as necessary, prior to approval.

TABLE 2 SUMMARY OF PROPOSED CHANGES TO THE 2019 MODIFIED PROJECT VARIANT DOCUMENTS

Document	*Summary of Key Proposed Changes*
HPS Redevelopment Plan	● Allow for the transfer of up to approximately 2,050,000 square feet of commercial uses from the Shipyard Site to commercially-zoned areas of Candlestick Point; ● Subject to additional environmental analysis, as necessary, and future OCII Commission discretionary review and approval, allow the transfer of residential units from the Shipyard Site to Candlestick Point; ● Extend the limitations relating to time for establishing loans, advances, and indebtedness, the effectiveness of the redevelopment plan, and the time to repay indebtedness and receive property taxes, in connection with the Project; ● Authorize property tax increment revenues from the Shipyard Site and Candlestick Site to be combined to fund costs under the Project agreements; ● Adjust the limit on the amount of bonded indebtedness that can be outstanding at one time by establishing a single limit on the amount of bonded indebtedness applicable to the Shipyard Site and Candlestick Site; and ● Other minor amendments to the definitions, regulations, and standards of the HPS Plan.
Fourth Amendment to DDA	● Sets forth proposed development scenario and updates maps; ● Streamline planning process by eliminating Sub-Phase Application requirement; ● Implement SB 143 by establishing the time limit for the effectiveness of the BVHP and HPS Plans, which are coterminous with the Term of the DDA; ● Remove Outside Dates for submitting a Complete Major Phase while retaining Outside Dates for the Commencement and Completion of Infrastructure; ● Clarify Developer requirement for providing Adequate Security; ● Establish process for Developer and Agency to prepare an amended and restated DDA that incorporates the First Amendment, Second Amendment, Third Amendment, and Fourth Amendment to the DDA; and ● Other clarifying changes.
Development Plan	● Land use map to be updated consistent with proposed land use changes.
Phasing Plan (Candlestick Point)	● Eliminate Sub-Phases and adjust Major Phase boundaries to reflect proposed development plan.
Schedule of Performance (Candlestick Point)	● Outside Dates for Commencement and Completion of Infrastructure and Completion of Parks are changed per Phasing Plan
Design Review & Document Approval Procedure	● Eliminate Sub-Phase and Design Development process; ● Other clarifying changes.
Below Market Rate Housing Plan	● Adjust dates in Cumulative Agency Subsidy schedule to reflect updated development timeline and Schedule of Performance; and ● Adjust timing for payment of Agency Subsidy for remaining Alice Griffith Replacement Units and remaining associated Subsidized Agency Affordable Units.
Financing Plan	● Implement SB 143 by authorizing tax increment revenue to flow between Candlestick Point and Shipyard Site; ● Update Summary Proforma framework; ● Eliminate Major Phase Increment Allocation framework; and ● Other clarifying changes.
Infrastructure Plan	● No changes proposed
Parks and Open Space Plan	● No changes proposed
Sustainability Plan	● No changes proposed
Transportation Plan	● Modify parking ratio at Candlestick Point to reflect updated development program and research and development and office use contemplated at Candlestick Center; ● Modify Transit Operating Plan to be consistent with revised phasing plan; ● Include changes to reflect SFMTA's requests to delay CPX and BRT to later phases, advance 29-Sunset and 56 Rutland to Major Phase 2 and change the frequency of service to 10 minutes (instead of 5 minutes); and ● Other clarifying and conforming changes.

TABLE 2 SUMMARY OF PROPOSED CHANGES TO THE 2019 MODIFIED PROJECT VARIANT DOCUMENTS

Document	*Summary of Key Proposed Changes*
Candlestick Point Design for Development	● Establish supplementary standards and guidelines for the Candlestick Center "Innovation District"; ● Establish standards applicable to a Central Promenade, which is envisioned to be a vibrant community gathering space; ● Increase the maximum allowable building height at specified parcels along Arelious Walker Drive to up to 180 feet; the range of maximum allowable building heights for the remainder of Candlestick Center would be 85 to 160 feet (prior heights were 85 to 120 feet; and ● Provide other new design controls to implement the "Innovation District".
First Amendment to Tax Increment Allocation Pledge Agreement	● Implement SB 143 by establishing the time for establishing loans, advances, and indebtedness, and the time to repay indebtedness and receive property taxes, in connection with the Project; ● Implement SB 143 by authorizing tax increment revenue to flow between Candlestick Point and Shipyard Site; and ● Other clarifying changes.
State Parks Agreement	● No changes proposed

SOURCE: FivePoint 2024

I.B.2 2024 Modified Project Variant Elements that Remain Unchanged at CP as Compared to the 2019 Modified Project Variant

The 2024 Modified Project Variant would:

- Allow up to 7,218 residential units
- Allow up to 50,000 sf of community uses
- Maintain a 130,000 sf (220 room) hotel
- Maintain a 64,000 sf (1,220 seat) film arts center
- Maintain a 5,000 sf (4,400 seat) performance venue
- Maintain 170,000 sf of regional retail uses
- Maintain 134,500 sf of neighborhood retail uses
- Continue to provide up to a total of 105.7 acres of park and recreational uses and up to 7.1 acres of other parks
- Continue to provide conventional domestic water, sewer, and storm drain utilities; PG&E natural gas systems; a ground-source geothermal heating and cooling system; and a joint trench that includes both power and communication utilities
- Continue to provide the option of providing a geothermal heating and cooling system at CP supplement the conventional utilities systems
- Continue to provide bicycle parking at the ratios established in the CP-HPS2 Transportation Plan (refer to Section I.C.1 [CP Proposed Modifications], Transportation and Transit Improvements, p. 18, for the number of spaces provided under the 2019 Modified Project Variant)

I.B.3 2024 Modified Project Variant Development Scenario

Table 3 (2024 Modified Project Variant Development Scenario) provides the land uses studied under the 2024 Modified Project Variant for both CP and HPS2, recognizing that the uses at HPS2 remain the same as allowed under the 2019 approvals evaluated in Addendum 6 other than the transfer of 2,050,000 sf of R&D/office uses to CP. Table 4 (Land Use Comparison) provides the land uses proposed under the 2024 Modified Project Variant, the 2010 Project,[8] and the 2019 Modified Project Variant.

Amendments are proposed to the Bayview Hunters Point Redevelopment Plan and the Hunters Point Shipyard Redevelopment Plan to allow for the transfer of residential units from HPS2 to CP subject to Commission approval and any necessary future environmental review. This Addendum does not evaluate any transfer of residential units from HPS2 to CP.

I.C Detailed Description of the 2024 Modified Project Variant

The description provided below focuses on the proposed modifications associated with the 2024 Modified Project Variant. Elements that have remained unchanged from the 2019 Modified Project Variant are not further discussed.

I.C.1 CP Proposed Modifications

Development Status

Following the 2010 Project approvals, development at CP has included construction associated with Phase 1 of the Alice Griffith Housing Development (in CP-01) in the northern portion of the CP site. In the southeastern portion of CP, the former Candlestick stadium was demolished in 2015 and infrastructure improvements associated with CP-02, CP-03, and CP-04 have been initiated generally north of Harney Way, west of Ingerson Avenue, and east of Jamestown Avenue.

Development Plan

Development Scenario

Under the 2024 Modified Project Variant, CP would continue to consist of regional retail, neighborhood retail, R&D/office, hotel, residential, and performance uses. As identified in Table 4, the only land use modification as compared to the 2019 Modified Project Variant proposed at CP is R&D/office uses in CP Center would increase by 2,050,000 sf, to 2,800,000 sf, resulting from the transfer of up to 2,050,000 sf of R&D/office uses from HPS2.

[8] The 2010 Project is the Project (with a stadium) that is described in Chapter II of the 2010 FEIR, along with the other approved elements, which include the 2010 R&D Variant (Variant 1), the 2010 Tower Variant 3D, and the 2010 Utilities Variant (Variant 4).

TABLE 3 2024 MODIFIED PROJECT VARIANT DEVELOPMENT SCENARIO

	2024 Modified Project Variant					
Use	***CP***		***HPS2***		***Total***	
Hotel	130,000	sf	120,000	sf	**250,000**	**sf**
	220	rooms	175	rooms	**395**	**rooms**
R&D/Office	2,800,000	sf	2,096,500	sf	**4,896,500**	**sf**
Regional Retail	170,000	sf	100,000	sf	**270,000**	**sf**
Neighborhood Retail	134,500	sf	226,000	sf	**360,500**	**sf**
Artist Studio	0	sf	255,000	sf	**255,000**	**sf**
Community Uses	50,000	sf	50,000	sf	**100,000**	**sf**
Maker Space	Authorized Use[a]		75,000	sf	**75,000**	**sf**
Institutional	0	sf	410,000	sf	**410,000**	**sf**
Football Stadium	0	sf	0	sf	**0**	**sf**
	0	seats	0	seats	**0**	**seats**
Performance Venue	5,000	sf	0	sf	**5,000**	**sf**
	4,400	seats	0	seats	**4,400**	**seats**
Film Arts Center	64,000	sf	0	sf	**64,000**	**sf**
	1,200	seats	0	seats	**1,200**	**seats**
Gross-Square-Foot Total	**3,353,500**	**sf**	**3,332,500**	**sf**	**6,686,000**	**sf**[b]
Residential	7,218	units	3,454	units	**10,672**	**units**[b]
Car Parking						
Off-Site Residential (Structured) Parking	7,218	spaces	3,454	spaces	**10,672**	**spaces**
Off-Site Commercial (Structured) Parking	5,613	spaces	3,821	spaces	**9,434**	**spaces**
On-street	1,360	spaces	1,487	spaces	**2,847**	**spaces**[c]
Parking Total	**14,191**	**Spaces**	**8,762**	**spaces**	**22,953**	**spaces**[d]
Marina	0	slips	300	slips	**300**	**slips**
Water Taxi	No		Yes		**Yes**	
Parks and Open Space						
New Parks	9.0	acres	173.9	acres	**182.9**	**acres**
New Sports Fields and Active Urban Recreation	0.0	acres	58.1	acres	**58.1**	**acres**
State Parkland	96.7	acres	0.0	acres	**96.7**	**acres**
Parks and Open Space Total	**105.7**	**acres**	**232.0**	**acres**	**337.7**	**acres**
Other Parks	7.1	acres	17.3	acres	**24.4**	**acres**[e]

SOURCE: FivePoint, 2024.

a. Maker Space is authorized as a land use at CP pursuant to the Bayview Hunters Point Redevelopment Plan. Maker Space that is developed at CP will be considered either retail or R&D/office use for purposes of calculating development square footage for the Project. Proposed Makers Space uses that include manufacturing or the use of hazardous materials or emissions of toxic air contaminants would be subject to mitigation measures applicable to R&D uses.

b. Total development square footage and residential units remains the same as compared to the 2019 Modified Project Variant.

c. On-street parking would be in addition to structured parking.

d. Total is an estimate based on the 2024 Modified Project Variant and the parking space ratios provided in the approved CP-HPS2 Transportation Plan.

e. Other Parks is open space that OCII does not count as creditable parkland, such as street landscaping, hillside landscaping, or habitat. Other Parks are detailed in Table A-5 of Addendum 5 Appendix A and occur in both CP and HPS2. They are included in this table for informational purposes only and are not assumed in the final calculation of useable parks and open space.

Figure 2 (2010 Project Land Use Plan) illustrates the arrangement of land uses under the 2010 Project, and Figure 3 (2024 Modified Project Variant Land Use Plan) illustrates the arrangement of land uses under the 2024 Modified Project Variant.

While this Project Description compares the 2024 Modified Project to the 2019 Modified Project Variant in terms of land uses changes, as well as land uses that remain the same, the impacts of the 2024 Modified Project Variant are compared to the impacts and mitigation measures provided in the 2010 Final EIR, which is the same approach used for all previous addenda.

Building Height

The 2024 Modified Project Variant would increase the maximum allowable building height at CP Center from a maximum of 120 feet to a maximum 180 feet, excluding rooftop mechanical equipment and screening.[9] Mixed-use residential areas outside of Candlestick Center have a variety of maximum heights, from low-rise buildings to high-rise towers. The CP D4D establishes the allowable building heights and includes standards and guidelines that promote variation that responds to adjacent neighborhoods. Rooftop mechanical equipment and screening on residential, mixed use, and commercial buildings are assumed to reach 18 to 20 feet in height.

Figure 4 (Approved 2019 CP Maximum Building Heights) shows the allowable heights at CP allowed under the 2016 approvals, and Figure 5 (Proposed 2024 CP Maximum Building Heights) shows the proposed height of buildings at CP under the 2024 Modified Project Variant.

CP Design for Development

The 2024 Modified Variant would include amendments to the CP D4D that would define the urban design–related requirements for uses at CP-02. The amendments would include topics such as overall vision, key urban design concepts, land use descriptions, and requirements for plazas, paseos, open space areas, developable area coverage, building height, façade composition, bulk, massing and stepbacks, street walls, ground floor activation, screening, and shared parking structures.

The proposed D4D amendment to allow additional height for mechanical equipment and screening on towers is described above, under "Building Height."

[9] The proposed D4D measures height as follows: "Heights shall be measured from curb level of the fronting street to the top of a flat roof or mid-point of a sloped roof. For sloping sites, the height measurement shall be taken from the highest mid-point along the streets that the building fronts, from there drawing a flat plane across the site to establish building height."

SOURCE: Lennar Urban, 2009

FIGURE 2 Addendum 7 to the CP-HPS2 2010 FEIR

2010 PROJECT LAND USE PLAN

TABLE 4 LAND USE COMPARISON

Land Use Plan Components	2010 Project			2019 Modified Project Variant			2024 Modified Project Variant			2019–2024 Net Change			2010–2024 Net Change		
	CP	*HPS2*	*Total*	*CP*	*HPS2*	*Total*	*CP*	*HPS2*	*Total*	*CP*	*HPS2*	*Total*	*CP*	*HPS2*	*Total*
Hotel (gsf)	150,000	0	**150,000**	130,000	120,000	**250,000**	130,000	120,000	**250,000**	0	0	**0**	-20,000	120,000	**100,000**
Hotel (rooms)															
Research & Development/Office (gsf)	150,000	2,500,000	**2,650,000**	750,000[a]	4,146,500	**4,896,500**	2,800,000	2,096,500	**4,896,500**	2,050,000	-2,050,000	**0**	2,650,000	-403,500	**2,246,500**
Regional Retail (gsf)	635,000	0	**635,000**	170,000	100,000	**270,000**	170,000	100,000	**270,000**	0	0	**0**	-465,000	100,000	**-365,000**
Neighborhood Retail (gsf)	125,000	125,000	**250,000**	134,500	226,000	**360,500**	134,500	226,000	**360,500**	0	0	**0**	9,500	101,000	**110,500**
Artists' Studios/Art Center (gsf)	0	255,000	**255,000**	0	255,000	**255,000**	0	255,000	**255,000**	0	0	**0**	0	0	**0**
Community Uses (gsf)	50,000	50,000	**100,000**	50,000	50,000	**100,000**	50,000	50,000	**100,000**	0	0	**0**	0	0	**0**
Maker Space (gsf)[b]	0	0	**0**	0	75,000	**75,000**	0	75,000	**75,000**	0	0	**0**	0	75,000	**75,000**
Institution (gsf)	0	0	**0**	0	410,000	**410,000**	0	410,000	**410,000**	0	0	**0**	0	410,000	**410,000**
Football Stadium (gsf)	0	1,860,000	**1,860,000**	0	0	**0**	0	0	**0**	0	0	**0**	0	-1,860,000	**-1,860,000**
Football Stadium (seats)	*0*	*69,000[c]*	*69,000*	*0*	*0*	***0***	*0*	*0*	***0***	*0*	*0*	***0***	*0*	*-69,000*	***-69,000***
Performance Venue/Arena (gsf)	75,000	0	75,000	5,000	0	**5,000**	5,000	0	**5,000**	0	0	**0**	-70,000	0	**-70,000**
Performance Venue (seats)	*10,000*	*0*	*10,0000*	*4,400*	*0*	***4,400***	*4,400*	*0*	***4,400***	*0*	*0*	***0***	*-5,600*	*0*	***-5,600***
Film Arts Center (gsf)	0	0	**0**	64,000	0	**64,000**	64,000	0	**64,000**	0	0	**0**	64,000	0	**64,000**
Film Arts Center (seats)	*0*	*0*	***0***	*1,200*	*0*	***1,200***	*1,200*	*0*	***1,200***	*0*	*0*	***0***	*1,200*	*0*	***1,200***
Residential Units	7,850	2,650	**10,500**	7,218	3,454	**10,672**	7,218	3,454	**10,672**	0	0	**0**	-632	804	**172**
Marina (slips)	0	300	**300**	0	300	**300**	0	300	**300**	0	0	**0**	0	0	**0**
Yosemite Slough Bridge		Auto/BRT/Ped			BRT/Ped			BRT/Ped						—	
Parking (spaces):															
• Residential	7,850	2,650	**10,500**	7,218	3,454	**10,672**	7,218	3,454	**10,672**	0	0	**0**	-632	804	**172**
• Commercial	2,346	4,028	**6,374**	2,112	6,339[d]	**8,451**	5,613	3,821	9,434	3,501	-2,518	**983**	3,267	-207	**3,060**
• General and Commercial (on-street)	1,360	683	**2,043**	1,360	1,487	**2,847**	1,360	1,487	**2,847**	0	0	**0**	0	804	**804**
Total Parking (Spaces)		*18,917*			*21,970*			*22,953*			*983*			*4,036*	
Total Parks and Recreation Space (acres):													0	0	**0**
• New Parks[d]	8.1	140.0	**148.1**	9.0	173.9	**182.9**	9.0	173.9	**182.9**	0	0	**0**	0.9	33.9	**34.8**
• Active Recreation	0	91.6	**91.6**	0	58.1	**58.1**	0	58.1	**58.1**	0	0	**0**	0	-33.5	**-33.5**
• State Parkland	96.7	N/A	**96.7**	96.7	0	**96.7**	96.7	0	**96.7**	0	0	**0**	0	N/A	**0**
Subtotal Parks and Recreation Space	*104.8*	*231.6*	***336.4***	*105.7*	*232.0*	***337.7***	*105.7*	*232.0*	***337.7***	*0*	*0*	***0***	*0.9*	*0.4*	***1.3***

SOURCES: San Francisco Planning Department, *Candlestick Point–Hunters Point Shipyard Phase II Project California Environmental Quality Act Findings: Findings of Fact, Evaluation of Mitigation Measures and Alternatives, and Statement of Overriding Considerations*, 2010, Table A (Comparison of Land Use Development Scenarios [Stadium and Non-Stadium Options]); FivePoint, 2024.

a. While 1,000,000 sf of R&D/office uses were analyzed in Addendum 6 for CP, only 750,000 sf of R&D/office uses were approved; therefore, the additional 250,000 sf of R&D/office uses that were not approved at CP remain in HPS2.

b. Maker Space is authorized as a land use at CP pursuant to the Bayview Hunters Point Redevelopment Plan. Maker Space that is developed at CP will be considered either retail or R&D/office use for purposes of calculating development square footage for the Project. Proposed Makers Space uses that include manufacturing or the use of hazardous materials or emissions of toxic air contaminants would be subject to mitigation measures applicable to R&D uses.

c. While the Findings associated with the 2010 FEIR reflected 70,000 seats for the stadium, the 2010 FEIR and the traffic analysis associated with the 2010 FEIR assumed 69,000 seats.

d. During San Francisco Municipal Transportation Agency's (SFMTA) approval of the Transportation Plan in 2018, which occurred after Addendum 5 was finalized, the parking ratio for retail uses at HPS2 was reduced by SFMTA. This action resulted in a lower parking supply for retail uses than reflected in Addendum 5, as reflected in this table; however, the parking ratios at CP remain the same as assumed in the 2010 FEIR and Addendum 5.

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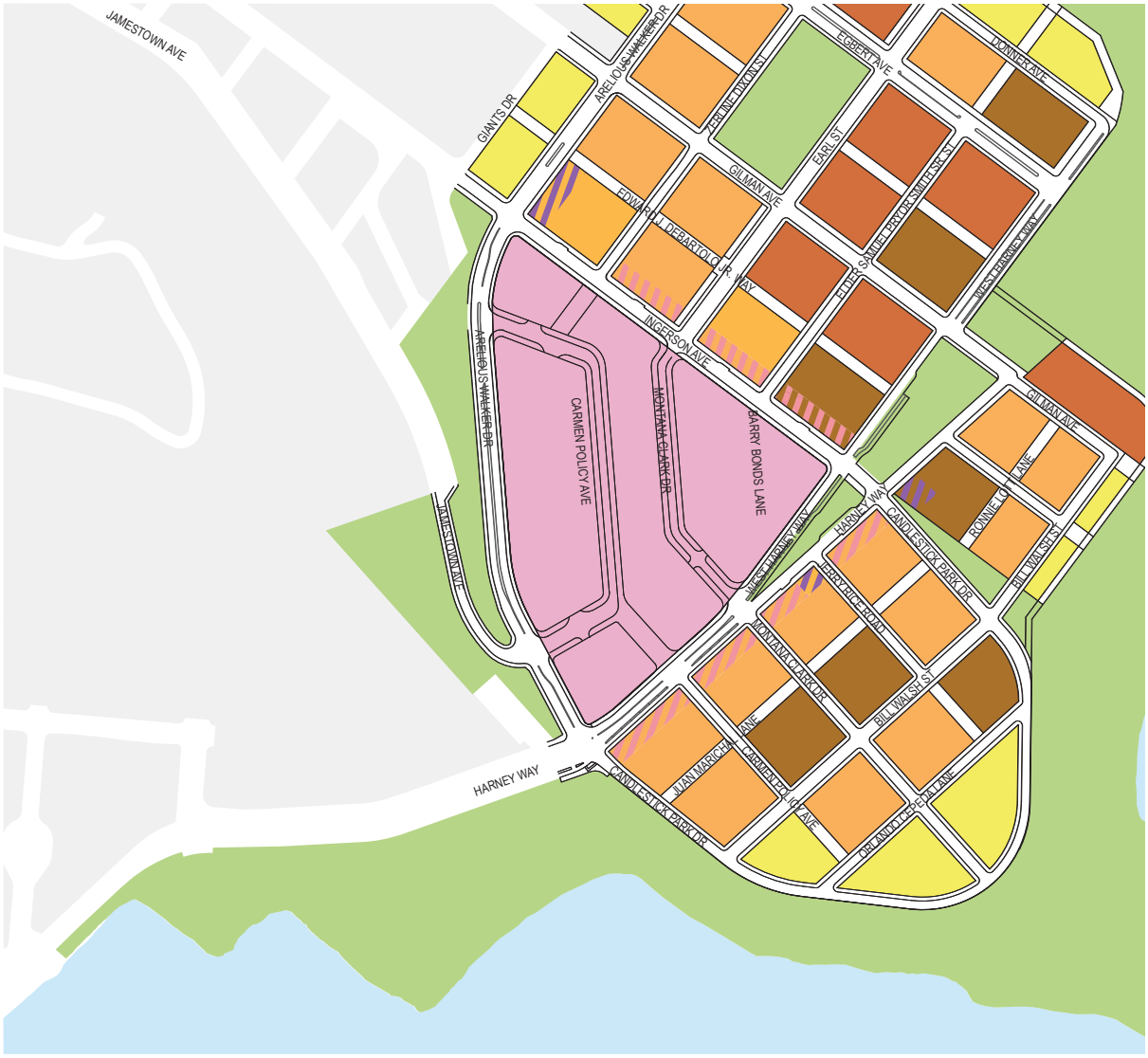


LAND USE

N

0’ 500’

Scale: 1” = 500’

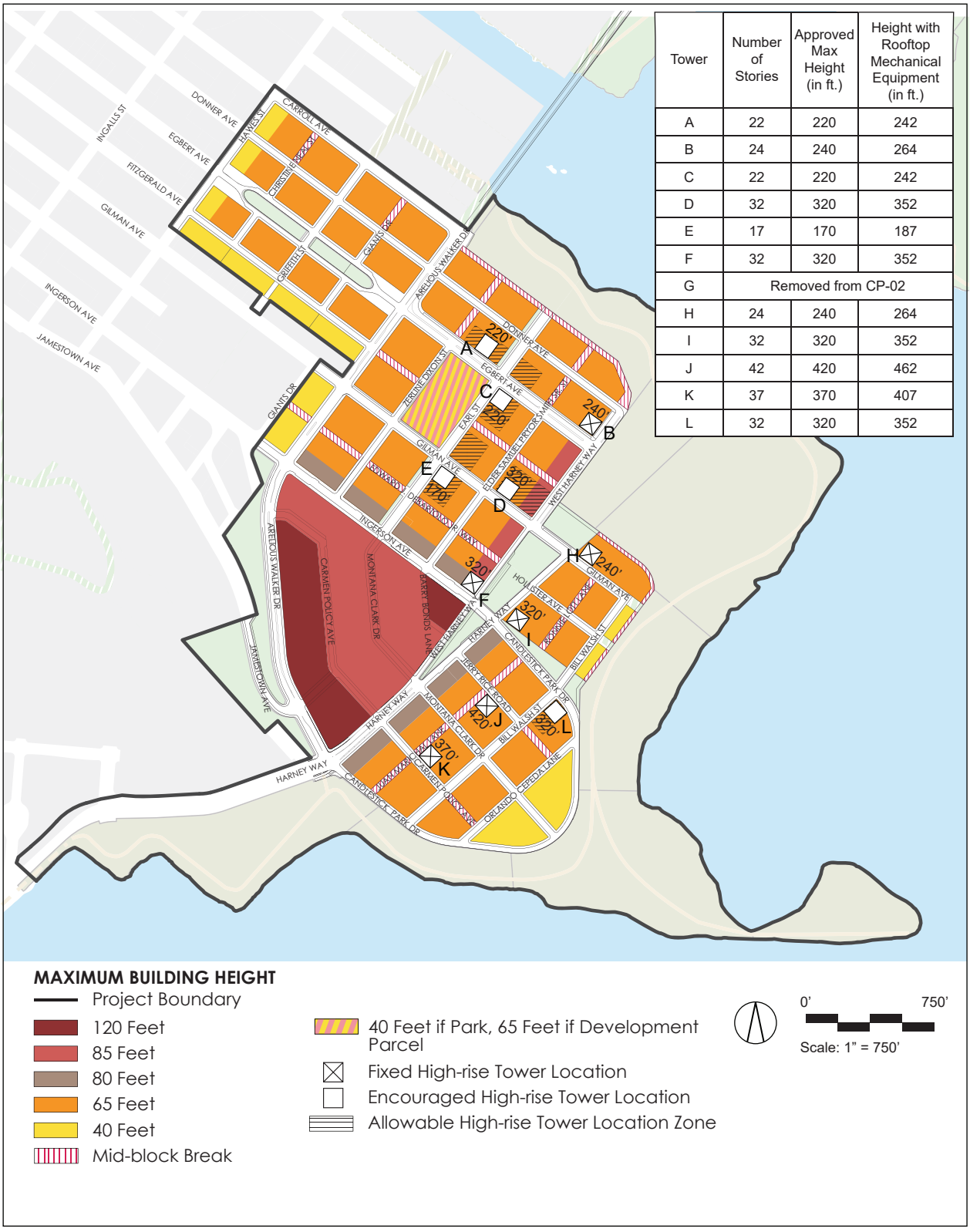
MAP GENERATED JUL 9, 2024

- Residential Density I (15-75 Units Per Acre)
- Residential Density II (50-125 Units Per Acre)
- Residential Density III (100-175 Units Per Acre)
- Residential Density IV (175-285 Units Per Acre)
- Community Use
- Parks and Open Space
- Innovation District (Commercial & Retail)
- Active Ground Floor Use
- Existing Use to Remain

SOURCE: FivePoint, 2024

FIGURE 3 Addendum 7 to the CP-HPS2 2010 FEIR

2024 MODIFIED PROJECT VARIANT LAND USE PLAN

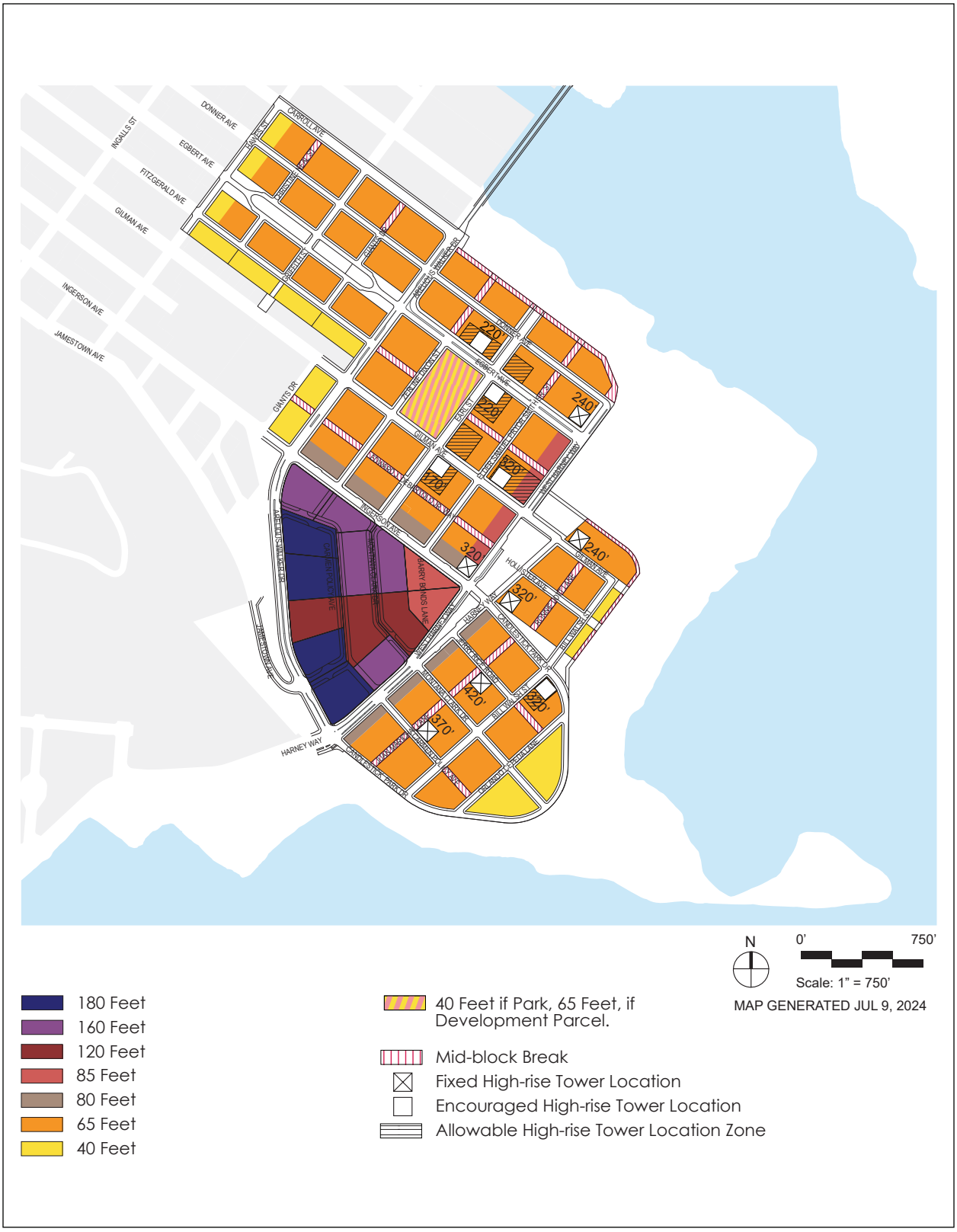


Tower	Number of Stories	Approved Max Height (in ft.)	Height with Rooftop Mechanical Equipment (in ft.)
A	22	220	242
B	24	240	264
C	22	220	242
D	32	320	352
E	17	170	187
F	32	320	352
G	Removed from CP-02		
H	24	240	264
I	32	320	352
J	42	420	462
K	37	370	407
L	32	320	352

SOURCE: FivePoint, 2019

FIGURE 4 Addendum 7 to the CP-HPS2 2010 FEIR

APPROVED 2019 CP MAXIMUM BUILDING HEIGHTS



SOURCE: FivePoint, 2024

FIGURE 5 Addendum 7 to the CP-HPS2 2010 FEIR

PROPOSED 2024 CP MAXIMUM BUILDING HEIGHTS

Transportation and Transit Improvements

Parking

The 2024 Modified Project Variant would change the vehicular parking ratios in the approved Transportation Plan for R&D/office to allow a parking ratio of 2 parking spaces per 1,000 square feet for the first 1,700,000 sf of R&D/office development at Candlestick Center (CP Center). The Project Sponsor would conduct a parking study once the 1,700,000 square feet of development is completed to right size the remaining parking needs, subject to review and approval by SFMTA. If the parking study is either not completed or not approved, a maximum parking ratio of 1.3 parking spaces per 1,000 square feet will apply to the remaining 1,100,000 square feet of R&D/office. Table 5 (Maximum Allowed Parking Supply) shows the total number of on-street and off-street parking spaces to be provided under the 2024 Modified Project Variant as follows:

TABLE 5 MAXIMUM ALLOWED PARKING SUPPLY

	2010 Project			*2010 R&D Variant (Variant 1)*			*2019 Modified Project Variant*			*2024 Modified Project Variant*		
	CP	***HP***	***Total***	***CP***	***HP***	***Total***	***CP***	***HP***	***Total***	***CP***	***HP***	***Total***
On-Street	1,360	683	***2,043***	1,360	1,678	***3,038***	1,360	1,487	***2,847***	1,360	1,487	***2,847***
Off-Street	10,196	6,678	***16,874***	10,196	9,678	***19,874***	9,330	9,793	***19,123***[a]	12,831	7,275	***20,106***
Total	***11,556***	***7,361***	***18,917***	***11,556***	***11,356***	***22,912***	***10,690***	***11,280***	***21,970***	14,191	***8,762***	***22,953***

SOURCES: San Francisco Planning Department, *Candlestick Point–Hunters Point Shipyard Phase II Development Plan EIR*, 2010; FivePoint, 2024.

a. Total is an estimate based on the 2024 Modified Project Variant and the parking space ratios provided in the approved CP-HPS2 Transportation Plan.

Bicycle Parking

The 2024 Modified Project Variant would not change the bicycle parking ratios identified in the approved Transportation Plan; however, based on those established ratios and the revised development scenario, the number of bicycle parking spaces supply would change. As shown below in Table 6 (Estimated Minimum Class 1 Bicycle Parking Spaces), the 2024 Modified Project Variant would include a minimum of 3,934 Class 1 bicycle parking spaces (consisting of2,507 spaces at CP and 1,427 spaces at HPS2).

TABLE 6 ESTIMATED MINIMUM CLASS 1 BICYCLE PARKING SPACES

	2010 R&D Variant (Variant 1)			*2019 Modified Project Variant*			*2024 Modified Project Variant*		
	CP	***HP***	***Total***[a]	***CP***	***HP***	***Total***[a]	***CP***	***HP***	***Total***[a]
Class 1 Bicycle Spaces[b,c,d,e]	2,197	1,816	***4,012***	2,148	1,787	***3,934***	2,507	1,427	***3,934***

SOURCES: San Francisco Planning Department, *Candlestick Point–Hunters Point Shipyard Phase II Development Plan EIR*, 2010; FivePoint, 2019.

a. The minimum number of bicycle parking spaces is subject to mathematical rounding and may reflect a higher number than the addition of bicycle parking spaces for CP and HPS2 individually, each of which may have been rounded down.

b. Total is an estimate based on the 2024 Modified Project Variant and the bicycle space ratios provided in the approved CP-HPS2 Transportation Plan.

c. Estimate assumes the performance venue and film arts center use the retail rate.

d. Estimates assume all residential uses are "typical" residential and do not assume group or senior housing. The minimum number of units are calculated based total number of units proposed in CP (7,218 units).

e. Parking ratios are taken from the approved CP-HPS2 Transportation Plan (July 2024).

Commercial Off-Street Parking

Similar to the 2010 Project Variants, the 2024 Modified Project Variant continues to propose access to Candlestick Center (also referred to as CP-02 in prior plans and Addenda) and its parking facilities via Arelious Walker Drive near Ingerson Avenue, the Arelious Walker Drive and Jamestown Avenue intersection, and at the Ingerson Avenue and Zerline Dixon Street intersection. Similar to the 2019 Modified Project Variant, access to the parking facilities would be provided through internal roads within Candlestick Center. There are no changes to access points proposed.

Transit Phasing

The 2024 Modified Project Variant would incorporate refinements to the transit phasing program to align with the proposed CP development phasing modifications, including the addition of the 56 Rutland. The modified Transit Operating Plan would ensure that appropriate transit service is provided as development occurs. Transit service would correspond with the new CP development schedule which extends to 30 years, rather than 19 years as identified in the 2010 FEIR.

Street Cross-Section Revisions

There are no anticipated street cross-section revisions for the 2024 Modified Project Variant.

Conventional Utility System Improvements

Recycled Water Line from HPS2 to CP

The 2019 Modified Project Variant proposed a recycled water facility to supply recycled water to both the CP and HPS2 sites. The facility is anticipated to be completed by 2032. Prior to operation of the water recycled facility, the CP recycled water system would temporarily connect to the CP low-pressure water system. The temporary connections would include back flow preventers to prevent contamination of the potable water system in the event of a large pressure drop. When operational, recycled water from the recycled water facility would be delivered from HPS2 to CP via a distribution main traveling from the facility within Crisp Road to Arelious Walker Drive, across the Yosemite Slough Bridge, and ultimately connecting to the CP recycled water system at Carroll Avenue and Arelious Walker Drive.

Alternative Utility System

The 2010 Utilities Variant (Variant 4), which was approved in 2010, analyzed implementation of a district heating and cooling system, an on-site wastewater treatment facility, and an automatic waste collection system, the latter of which is no longer proposed. Additionally, the 2010 FEIR acknowledged that the Project Sponsor would implement renewable energy strategies at HPS2 and CP, including the use of PV cells to reduce energy usage.

The 2019 Modified Project Variant proposed a ground-source geothermal heating and cooling system as the primary source of building heating and cooling and a solar electricity generation,

distribution, and storage system for CP, which are similar to the system that was proposed for HPS2 and evaluated in Addendum 5 for the 2018 Modified Project Variant. The 2024 Modified Project Variant proposes the same alternative utility systems as described and analyzed in Addendum 6 for the 2019 Modified Project Variant. Therefore, the alternative utility system is summarized in this Project Description, and the analysis of the alternative utility system from Addendum 6 is incorporated by reference in the relevant sections of this Addendum.

The use of the term "alternative utility system" does not mean that these alternative systems would entirely supplant the use of traditional utility systems in the Project; instead, the alternative utility systems would be supplementary to traditional utility systems.

Vertical Bore Geothermal Heat Exchange System

The CP geothermal system would require up to 8,340 geothermal boreholes to meet heating and cooling demand.[10] Boreholes would be located in clusters throughout CP. Boreholes could extend as deep as 600 feet and would typically be 6 inches in diameter and spaced at least 15 to 20 feet apart. The conveyance piping that extends from the bores is typically buried a minimum of 3 feet deep and could be buried deeper to avoid conflicts with foundations, utility lines, and other shallow subsurface features if necessary. The geothermal boreholes would be located outside of public rights-of-way to limit interference with other subsurface infrastructure and would also be excluded from certain residential areas, the community use site, and all parks and open spaces. There are no proposed changes to potential areas for boreholes since Addendum 6.

Solar PV System

The utilities network would incorporate building-scale solar PV systems in select areas to generate renewable energy that could supplement SFPUC's power supply to the site.

Solar PV systems would be installed in select areas on newly constructed buildings to maximize on-site renewable power output. Power produced by the PV cells would be delivered either directly to the building or directly to the local utility (SFPUC) distribution grid at street level utilizing industry standard bi-directional smart meters.

The solar PV system across CP would have a 10.5- to 16-megawatt (MW) generating capacity, depending on the efficiency of the panels selected. Solar panels would be installed where vertical PV elements could be integrated within building envelopes as a replacement for conventional building materials. These elements would be developed as buildings become available. The PV system would consist of mounted solar PV panels/tables, solar inverters, and cabling connecting the solar panels to inverters, batteries, and electric conduits in roadways. Each solar PV panel would be approximately 3 feet by 5 feet and, depending on spacing and planning to optimize sunlight capture, may be grouped

[10] The number of boreholes assumed for CP provides for location flexibility during the planning stages for the geothermal heating and cooling system.

together as one larger "table" consisting of multiple panels. Panels/tables located on rooftops may be up to 5 feet high to optimize sunlight capture.

PV arrays have minimal maintenance requirements and zero emissions associated with their operation. The panels would require occasional cleaning during their 20- to 30-year lifespan to ensure that they continue to operate at optimal efficiency. The electronic components of the inverters would also need to be replaced during that lifespan; however, this would be infrequent and not cause any impacts to the panels and buildings.

I.C.2 Site Preparation and Earthwork/Grading

Earthwork and Grading

No changes are proposed for the amount of excavated material and fill compared to the 2019 Modified Project Variant at CP as analyzed under Addendum 6. The proposed buildings at CP will continue to be built on slab elevations with structures rising from existing grade; therefore, the amount of excavated material and fill would remain the same for the 2024 Modified Project Variant as compared to the 2019 Modified Project Variant, even with an increase in square footage and building heights at CP. Earthwork and grading activities are summarized below.

As reflected in Table 7 (CP Earthwork Information), for the 2024 Modified Project Variant, the total quantity of excavated soil at CP would be approximately 1,487,500 cubic yards (cy) (as compared to 1,111,000 cy at CP assumed for the 2010 Project), with the increase due to additional utility trenching, installation of the geothermal boreholes, and more refined information regarding construction activities. Excavation associated with the geothermal boreholes would result in approximately 31,500 cy of soil.

The 2024 Modified Project Variant would utilize up to 913,000 cy of on-site earthwork backfill at CP for the developed areas and open space areas, excluding CPSRA. Up to 31,000 cy of sand would be imported for water (low-pressure water, recycled water, and auxiliary water supply system) trenches and joint trench utilities. The imported sand would not be used for storm and sewer utilities because these utilities are usually trenched with on-site earthwork backfill; storm and sewer utilities are accounted for under the "utility trench spoils" category in Table 7. Imported fill (i.e., dirt and sand) would be screened for contaminants in accordance with soil import criteria that would be developed for the Project to comply with local, state, and federal regulatory requirements.

TABLE 7 CP EARTHWORK INFORMATION FOR THE 2024 MODIFIED PROJECT VARIANT

Type	*Quantity*
EARTHWORK ACTIVITY	
Excavation	
Site Earthwork—Cut[a,b,c,d,e]	865,000 cy
Basement Excavations[f,g]	456,000 cy
Utility Trench Spoils	53,000 cy
Geothermal Boring Spoils[h]	31,500 cy
Surcharge Spoils (Final CP Sub-phases)[i]	82,000 cy
Subtotal Excavation[j]	*1,487,500 cy*
Fill[j]	
Site Earthwork Fill[a,b,c,d,e]	913,000 cy
Imported Sand for Trenches[k]	31,000 cy
Subtotal Import	*944,000 cy*
Net Earthwork Activity—Off-Haul/Export	***543,500 cy***

SOURCE: BKF, 2024.

a. Site earthwork cut/fill quantities are from the Candlestick Point Grading and Storm Drain Master Plan, November 30, 2017, Master Utility Plan Amendment.
b. Earthwork quantities do not include expansion factors for cut or compaction factors for fill.
c. Earthwork quantities do not include spoils for roadway or sidewalk spoils, or added fill to account for settlement of existing grades during surcharging.
d. Earthwork quantities are based on finished floor design. These quantities do not include import material for surcharging.
e. Earthwork quantities are limited to the CP Development Area. These quantities do not include potential earthwork in the Candlestick Point State Recreation Area (CPSRA).
f. Assumes each proposed high-rise tower block in CP will have two levels of underground parking. High-rise tower lots are shown on Figure 5 (Proposed 2024 CP Maximum Building Heights), p. 17, in Addendum 7 to the CP-HPS2 FEIR. A high-rise tower is no longer proposed at CP-02, and no underground parking excavations would occur in the Alice Griffith area.
g. The CP-02 parking facility along Montana-Clark Drive would include one level of underground parking.
h. Earthwork quantities for geothermal boring spoils assume 8,340 borings located throughout CP and is based on information provided by FivePoint on May 22, 2019. FivePoint assumes each boring would be approximately 6 inches in diameter and up to 600 feet in depth, and would result in a total of 31,500 cubic yards of excavation.
i. Earthwork quantities for surcharge spoils are based on preliminary surcharge depths for CP North (CP-14, CP-15, CP-16, CP-17). Preliminary surcharge depths are based on the figure titled "Preliminary Surcharge Plan Candlestick Point Redevelopment San Francisco, California," dated November 11, 2013, by ENGEO.
j. The transfer of up to 2,050,000 sf of R&D/office uses from HPS2 to CP would not result in additional excavation activities or import of fill.
k. Sand backfill is assumed for the following utilities: low pressure water (LPW), reclaimed and/or recycled water (RW), Auxiliary Water Supply System (AWSS), Pacific Gas and Electric (PG&E) Gas, Joint Trench, and Chiller/Hot water lines.

Geotechnical Stabilization

Site preparation at CP would include geotechnical treatments to address the potential hazards of variable artificial fill, liquefaction, and long-term Young Bay Mud settlement.

In areas of the CP site containing loose artificial fill with a greater risk of liquefaction settlement during a major earthquake, a range of ground-improvement techniques could be used to densify the fill and reduce seismically induced settlement risk, including but not limited to deep dynamic compaction (DDC),[11] drilled displacement columns, vibro-compaction, vibro-densification, deep soil

[11] DDC utilizes impact energy from a large weight free falling from a significant height to densify the ground. The weight is repeatedly dropped in a specific grid pattern at a defined drop height. At impact with the ground, energy is transmitted at depth to densify loose material.

mixing (DSM), stone columns, and grout columns. The use of DDC is identified as a potential solution to address seismically induced ground failure related to liquefaction, and/or settlement in MM GE-5a of the 2010 FEIR.[12] In addition, the use of DDC at HPS2 for the 2019 Modified Project Variant was evaluated in Addendum 5.

In areas where soft Young Bay Mud[13] underlies the artificial fill material long-term settlement as a result of site development will occur, static soil surcharging would be implemented following DDC to mitigate settlement prior to construction of future improvements. Static soil surcharging is accomplished by using soil placed on the footprint of a proposed building or street location and leaving the surcharge pile in place for an extended period of time (typically 6 to 24 months, depending on local conditions). Wick drains are typically installed in the area of the surcharge pile to allow for groundwater to dissipate out of the compressible soil to accelerate the duration of the surcharge program.[14] It is anticipated that excess surcharge material remaining at the end of a sub-phase would be used in future sub-phases in CP and HPS2. Once the proposed surcharge program is complete, any excess surcharge would be removed prior to building and infrastructure construction.

In areas where settlement of liquefiable soil and/or Young Bay Mud from moderate to heavy loading conditions (i.e., multistory podiums and high-rise towers) is too great to mitigate with geotechnical treatment, the building can be supported on deep foundations. Foundation systems may consist of driven precast prestressed concrete piles, driven H-piles, auger-cast piles, cast-in-drill-hole piles, torque down piles, micropiles, and other specialty pile foundation systems.

Where shallow foundations for low-rise and mid-rise structures would be underlain by limited artificial fill overlying native competent soil or bedrock, geotechnical treatments could employ a combination of removal and recompaction. Where complete removal and recompaction of artificial fill is not possible and the residual settlement is limited, placement of a geogrid[15] beneath structures and stiffening shallow foundations to distribute any differential settlement that might occur, would be a building design that is consistent with the San Francisco Building Code.

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[12] ENGEO, Inc., *Evaluation of Deep Dynamic Compaction for Densification of Artificial Fill*, August 10, 2017, and ENGEO, Inc., *Technical Memorandum to Daniel Hansen from Leroy Chan: Potential Constraints on Implementation of Deep Dynamic Compaction (DDC)*, December 14, 2017, revised December 21, 2017.

[13] *Young Bay Mud* is soft water-saturated estuarine deposits less than 10,000 years old that underlie the southern part of San Francisco Bay and the present and former marshlands that border the bay (United States Geological Society, Map showing thickness of young bay mud, southern San Francisco Bay, California, Abstract, 1978, https://pubs.er.usgs.gov/publication/mf976, accessed March 13, 2019).

[14] Both wick drains and surcharging were described in the 2010 FEIR.

[15] *Geogrids* are synthetic fabrics (fiberglass, polyester, treated steel, etc.) formed into nets with openings no more than 0.25 inch in size to allow the fabric to interlock with surrounding soil, rock, and other below-ground-level materials and to function as reinforcement.

I.C.3 Construction Methods and Equipment

Borehole Installation

Approximately 8,340 boreholes would be installed in clusters throughout CP. This is a conservatively high estimate, intended to provide flexibility as to the ultimate location of boreholes. The final location and number of boreholes could be adjusted as necessary based on further-refined engineering and design plans, but it is assumed that the same or similar construction methods as those evaluated in Addendum 5 would apply.

Installation of the boreholes would generate approximately 31,500 cy of excavated soil. The excavated soil would be retained on site, as much as practical, for the purposes of raising the grade (refer to Section I.C.2).

Multiple drilling rigs would be operational at the site at one time, depending on the final construction phasing and the need to avoid conflicts with other contractors on site. Each rig would be expected to complete two boreholes per day.

Boreholes would be 6 inches in diameter and would be drilled through unconsolidated material and into bedrock. During the drilling process, a bentonite clay and water mixture (drilling fluid) would be used to form a filter cake on the borehole wall. This would prevent the borehole from collapsing. Once the borehole is drilled to the design depth, the geothermal heat exchanger and grout pipe would be installed and pressure tested. Following pressure testing of the geothermal heat exchanger, the borehole would be grouted in a continuous operation from the bottom to the top, until the grout flows from the borehole at the ground surface. If grout backfill settling occurs within the first 12 hours, then grout would be topped off to ground surface.

Once the boring has reached its design depth, the geothermal heat exchanger piping and grout pipe would be installed. The geothermal heat exchanger piping would be pressure tested and, upon successful completion of the testing, the hole would be grouted to the surface with a cement-bentonite slurry.

Trenching

Approximately 36,200 linear feet of trenching would occur along roadways for installation of the sanitary sewer and utility systems. Trenches would vary in dimensions, netting approximately 53,000 cy of spoils, which would be handled in accordance with adopted mitigation measures and any additionally applicable federal, state, and local regulatory requirements. It is anticipated that a majority of the spoils would be managed on site by placing the spoils either back in the trench as backfill or elsewhere on the site in accordance with the regulatory requirements. Any spoils that cannot be reused on site would be disposed of off-site in accordance with regulatory requirements for land disposal. Approximately 31,000 cy of sand would be imported to use as fill at the base of the trenches.

I.C.4 Construction Assumptions

The construction scenario for the 2024 Modified Project Variant, which is provided in Appendix F, includes a conservative estimate of construction activities that would occur based on the land use and development assumptions associated with the 2024 Modified Project Variant; the number and type of construction equipment that would be used (and for what duration); the number of daily construction workers and field management staff; and the number of daily construction truck trips. These estimates may be refined in the future as planning efforts transition into construction details. Appendix F also provides a figure delineating the anticipated phasing of major phases at CP.

I.D Construction Duration and Phasing

I.D.1 Construction Duration

Table 8 (CP Vertical Construction Duration) shows the construction phasing for the 2010 Project, the 2019 Modified Project Variant, and the 2024 Modified Project Variant. The proposed construction schedule is assumed for environmental analysis purposes. Potential impacts associated with construction activities according to this schedule are evaluated in applicable topics of this addendum.

At CP, demolition of the Alice Griffith Housing project began in 2014 and construction of the first phase of new housing ended in 2019, with occupancy beginning immediately after. Other completed demolition and construction include stadium demolition in 2015, surcharging on portions of Harney Way and Ingerson Avenue, and trenching work for utilities. Under the 2024 Modified Project Variant, horizontal construction of other areas at CP is anticipated to begin in 2025 in CP-04 and the outfield and conclude in 2046.

TABLE 8 CP VERTICAL CONSTRUCTION DURATION

Year	*2010 FEIR*	*2019 Modified Project Variant (Addendum 6)*	*2024 Modified Project Variant (Addendum 7)*
2011			
2012			
2013	●		
2014	●	●	
2015	●	●	
2016	●	●	
2017	●	●	
2018	●	●	
2019	●	●	
2020	●	●	
2021	●	●	
2022	●	●	
2023	●	●	
2024	●	●	
2025	●	●	

TABLE 8 CP VERTICAL CONSTRUCTION DURATION

Year	*2010 FEIR*	*2019 Modified Project Variant (Addendum 6)*	*2024 Modified Project Variant (Addendum 7)*
2026	●	●	
2027	●	●	
2028	●	●	
2029	●	●	●
2030	●	●	●
2031	●	●	●
2032		●	●
2033		●	●
2034			●
2035			●
2036			●
2037			●
2038			●
2039			●
2040			●
2041			●
2042			●
2043			●
2044			●
2045			●
2046			●
2047			●
2048			●
2049			●
2050			●
2051			●
2052			●
2053			●
2054			●
2055			●
2056			●
2057			●
2058			●
Years of Work	***19***	***20***	***30***

SOURCES: San Francisco Planning Department, *Candlestick Point–Hunters Point Shipyard Phase II Development Plan EIR*, 2010; FivePoint, 2019 and 2024.

I.D.2 Construction Phasing

CP would be constructed in seven major phases under the 2024 Modified Project Variant, as compared to three major phases under the 2019 Modified Project Variant, in order to efficiently manage logistics and sequencing of ground improvements, infrastructure, vertical construction, and adjacent parks. Table 9 (2024 Modified Project Variant Phasing) and Figure 6 (2024 Modified Project Variant Phasing Map) describe and illustrate the proposed construction phasing plan.

The phasing plan is used in this CEQA analysis to evaluate construction-related impacts as it presents a conservative (or optimistic) construction schedule for both horizontal and vertical development. For the evaluation of construction-related impacts, a more aggressive schedule produces the most conservative impact results because emissions standards for construction equipment continue to improve over time.[16]

The Schedule of Performance is a separate document prepared by OCII and FivePoint that establishes "outside" (or later) dates and deadlines for the delivery of only horizontal development associated with infrastructure and public parks/open spaces; as such, it is mentioned in this document as a plan that will be modified, but it is not used in the impact analyses as it would produce less-conservative results; further, it only addresses horizontal, not vertical, development.

[16] At the request of the Lead Agency, the phasing plan for the 2024 Modified Project Variant was recently modified to accelerate the construction of additional housing at Alice Griffith. This was not originally studied for Addendum 7. Therefore, the relevant analyses (i.e., air quality and health risk assessment) have been updated; they show no change in environmental impacts.

TABLE 9 2024 MODIFIED PROJECT VARIANT PHASING

	Phase							
	1 AG 1	***2 Outfield + CP-04***	***3 Infield + CP-03***	***4 AG 2 + CP-East***	***5 CP-South***	***6 AG3***	***7 CP North***	***Total***
Horizontal Construction ~22 Years	Complete							
Land Development Start Date		10/1/2025	10/31/2028	11/30/2031	12/29/2033	1/27/2038	2/25/2041	
Land Development End Date		9/30/2028	10/31/2031	11/29/2033	12/28/2037	1/26/2041	2/24/2047	
Date of First Land Sale		10/30/2028	12/2/2031	12/31/2033	1/29/2038	2/27/2041	3/28/2047	
Duration in Days		1,095	1,095	730	1,460	1,095	2,190	***7,665***
Duration in Years		3	3	2	4	3	6	***21***
Vertical Construction								
Total Residential Units	337	643	848	914	1,683	524	2,269	***7,218***
Total Commercial GSF		1,313,332	1,634,475	80,000	319,900	0	5,793	***3,353,500***
Parks – CP Development Co			Willie Mays Plaza (Phase 1 & 2A) (Formerly Wedge Plaza)	Mini Wedge Park; Alice Griffith Neighborhood Park (Phase 1)		Alice Griffith Neighborhood Park (Phase 2); Bayview Hillside Open Space & Jamestown Walker Slope	CP Neighborhood Park, Willie Mays (Phase 2B & 3)	
CPSRA					Wind Meadow Heart of the Park The Point		Grasslands South 1 & 2 Bayview Gardens Last Rubble	

SOURCE: FivePoint, 2024.

SOURCE: FivePoint, 2024

FIGURE 6 Addendum 7 to the CP-HPS2 2010 FEIR

2024 MODIFIED PROJECT VARIANT PHASING MAP

I.E Approvals

Key approvals required to implement the 2024 Modified Project Variant are anticipated to include the following:

TABLE 10 INITIAL PROJECT APPROVALS

	Project Approval	*Agency*
1	CP D4D Amendment	OCII Commission; San Francisco Planning Commission
2	Amendment of the Bayview Hunters Point Redevelopment Plan and Hunters Point Shipyard Redevelopment Plan to increase permitted amount of R&D/office uses at CP and commensurately reduce those uses at HPS2, by up to an additional 2,050,000 sf, for a total of 2,800,000 sf at CP, together with amendments of Major Phase 1 CP	OCII Commission; San Francisco Board of Supervisors
3	CP-HPS2 Transportation Plan and Transit Operating Plan Amendment to describe option without other privately owned parcels, amend parking ratio, and update transit phasing plan dates	SFMTA Director
4	4th Amendment to Disposition and Development Agreement, including amended Exhibits	OCII Commission; Oversight Board; Department of Finance (DOF)

SOURCE: FivePoint, 2024.

TABLE 11 SUBSEQUENT PROJECT APPROVALS

	Project Approval	*Agency*
1	Major Phase 1 CP Amendment (with inclusion of up to 2,800,000 sf R&D/office uses)	OCII Commission
2	CP Infrastructure Plan Amendment to describe options without other privately owned parcels and location options for Outfall #2	Director of San Francisco Department of Public Works (SFDPW); Director of SFPUC

SOURCE: FivePoint, 2024.

II. ENVIRONMENTAL ANALYSIS

II.A Approach to the Analysis

II.A.1 Introduction

This section describes the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000 et seq.) and CEQA Guidelines (14 CCR Sections 15000 et seq.) requirements for use of an addendum and the basic analytical approach used in this Addendum 7 to evaluate the potential impacts of the 2024 Modified Project Variant. Individual topical sections provide greater detail, as needed, with respect to the methodology used in the analysis.

The development plan analyzed in Addendum 7 is proposed by the Project Sponsor as a new variant, the "2024 Modified Project Variant," which is described in detail in Chapter I (Project Description) of this Addendum. If approved, the 2024 Modified Project Variant would be implemented as the "Project."

II.A.2 Authority for Use of an Addendum

CEQA Guidelines Section 15164 provides for the use of an addendum to document the basis for a lead agency's decision not to require a subsequent Environmental Impact Report (EIR) for a project that is already adequately covered in a previously certified EIR. The lead agency's decision to use an addendum must be supported by substantial evidence showing that the conditions that would trigger the preparation of a subsequent EIR, as provided in CEQA Guidelines Section 15162, are not present. CEQA Guidelines Section 15162 provides:

> (a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in light of the whole record, one or more of the following:
>
> (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
>
> (2) Substantial changes occur with respect to the circumstances under which the project would be undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
>
> (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
>
> (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation or alternative.

This document has been prepared to satisfy the requirements of CEQA and the CEQA Guidelines. CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects.

As required by CEQA, Addendum 7 has been prepared to identify and assess the anticipated environmental impacts of the 2024 Modified Project Variant as compared to the 2010 Project. For select resource areas, Addendum 7 also discusses information from CP-HPS2 Addendum 6, either for informational purposes or to describe impacts in HPS2. Development in HPS2 for the 2024 Modified Project Variant remains the same as described in Addendum 6, with the exception of the proposed transfer of approximately 2,050,000 sf of R&D/office use from HPS 2 to CP.

II.A.3 Analytic Method

In Addendum 7, the 2024 Modified Project Variant is primarily described and assessed in relation to the 2010 Project (as described in 2010 FEIR Chapter II [Project Description]). However, because the Project approved in 2010 included approval of certain variants analyzed in the 2010 FEIR, Addendum 7 assesses certain impacts in comparison to the 2010 Tower Variant 3D, 2010 R&D Variant (Variant 1), and 2010 Utilities Variant (Variant 4). The analysis used in Addendum 7 reflects the analytical approach mandated by the applicable sections of the CEQA Guidelines (Sections 15162 through 15164) and comprehensively reviews and compares the effects of the 2024 Modified Project Variant to those disclosed in the 2010 FEIR. In addition, a few topical sections also include a comparison to the approved 2019 Modified Project Variant, for informational purposes.

The analysis provided in Addendum 7 covers each of the technical issue areas addressed in the 2010 FEIR. Each of the topical sections addresses: (1) changes in the Project proposed in the 2024 Modified Project Variant that are relevant to the particular issue area; and (2) impacts associated with construction and implementation of the 2024 Modified Project Variant as compared to the 2010 Project and/or variants analyzed in the 2010 FEIR. To provide context, each impact discussion includes a brief summary of the 2010 FEIR conclusions.

The analytic methods for each topical section generally follow the same methods used in the 2010 FEIR. In some cases, the methods are different in certain respects and the reasons for these

differences are provided in the relevant topical sections of Addendum 7. A section titled "New Regulations" is only provided for those topical sections where relevant new regulations have taken effect since 2010 and were not otherwise discussed in Addendum 6.

The 2010 FEIR impact statements included in Addendum 7 address changes proposed by the 2024 Modified Project Variant. Impacts that are not covered in this addendum are explained in footnotes attached to the summary tables, which are provided at the beginning of each topical section as to why further analysis is not required. The impact statement numbers in Addendum 7 match those in the 2010 FEIR. Impact statements not addressed in this Addendum include impacts localized at HPS2.

The 2010 FEIR proposed a number of mitigation measures, which were approved in the Mitigation Monitoring and Reporting Program (MMRP). Subsequently, modifications to certain mitigation measures were proposed in Addenda 1, 4, 5, and 6 and were approved by the OCII and City as revisions to the MMRP. In Addendum 7, further modifications to certain mitigation measures are proposed and are shown in underline and strikethrough as compared to the current MMRP. The text for all mitigation measures, which includes the revisions proposed in Addendum 7, as well as the previously approved revisions, is provided in the proposed MMRP for Addendum 7 (refer to Appendix A).

Addendum 7 does not reanalyze previously approved elements of the Project or mitigation measures that are not changing under the 2024 Modified Project Variant.

In summary, the discussion for each threshold addresses the conclusions of the previous (most relevant) environmental analysis; the effects of the 2024 Modified Project Variant related to the previous environmental conclusions; and an overall statement as to whether the 2024 Modified Project Variant would result in new or substantially more severe significant environmental impacts than were previously identified or whether there are mitigation measures or alternatives that were previously found to be infeasible and/or are new or considerably different that would substantially reduce or eliminate one or more significant effects, but that the project proponent declines to adopt. This analysis focuses the reader on the project-specific impacts that are peculiar to the 2024 Modified Project Variant. The 2024 Modified Project Variant would be mitigated by either existing mitigation measures (even if significant and unavoidable impacts remain, as was the case in the 2010 FEIR) or through the imposition of uniformly or commonly applied development policies or standards (e.g., as contained in existing laws, regulations, or conditions of approval) or previously approved mitigation measures that have been slightly modified.

II.A.4 Other Analytic Considerations

Transfer of R&D/Office Use from HPS2 to CP

Addendum 7 does not analyze potential impacts at HPS2 associated with the transfer of 2,050,000 sf of R&D/office uses from HPS2 because the transfer would not result in an increase in the area of development or building heights at HPS2 from what is already approved, or otherwise result in new

or substantially more severe physical environmental impacts at HPS2. The effect of the square footage transfer from HPS2 to CP is taken into account, as appropriate, in the CP impacts and the relevant combined impacts of CP and HPS2 (e.g., water and traffic). Further, the transfer of square footage would not result in an increase in the horizontal area of ground disturbance at CP.

The transfer of R&D/office square footage from HPS2 to CP (under Addendum 7 or previous Addenda) would not alter the provision of public park/open space amenities or utility infrastructure from what has already been approved at HPS2. Further, this Addendum assumes the construction schedule and construction employees at HPS2 would not change, even with the transfer of square footage, which is a conservative assumption. The analysis of impacts associated with full buildout of HPS2 (and CP) were fully evaluated in the 2010 FEIR. This analysis focuses on the changes resulting from the increase in square footage at CP and the associated localized impacts at CP, including HPS2 impacts only where relevant to combined impacts (e.g., water and traffic).

Cumulative Impacts

The 2024 Modified Project Variant proposes a transfer of 2,050,00 sf from HPS2 to CP; it does not propose any changes to the overall development program. As demonstrated in this Addendum, based on substantial evidence, the 2024 Modified Project Variant would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects as compared to the 201 FEIR. In summary, the 2024 Modified Project Variant would not change any of the 2010 FEIR's findings or impact conclusions, including those related to cumulative impact.

The 2010 FEIR identified significant and unavoidable cumulative impacts associated with traffic (construction and operational), air quality (sensitive receptors and operational emissions), and noise (construction, primarily related to pile driving). Therefore, this Addendum evaluates (in detail) potential changes to cumulative impacts associated with these previously identified significant and unavoidable impacts. For air quality, two new projects were included in the cumulative impact analysis due to their proximity to the project site and the potential to contribute to impacts to sensitive receptors (the SF Logistics Center Project and the San Francisco Fire Department Training Facility).

For other topics, because the 2024 Modified Project Variant does not propose any changes to the overall development program, the cumulative impacts disclosed in the 2010 FEIR remain the same.

CP Design for Development

The proposed new chapter for the CP Design for Development (D4D) addresses development controls for the development of an Innovation District at Candlestick Center and, except for the increase in maximum allowable building heights and bulk at Candlestick Center, the changes to the development controls do not result in environmental impacts related to the significance criteria

identified in the 2010 FEIR. Therefore, most elements of the D4D are not addressed in this addendum.

II.B Summary of Analysis of Environmental Effects

Sections II.B.1 through II.B.18 describe the environmental effects of the 2024 Modified Project Variant and conclude that the proposed modifications would not result in any new significant environmental impacts or a substantial increase in the severity of previously identified significant environmental impacts and would not require the adoption of previously infeasible mitigation or alternatives that are feasible or the adoption of any new mitigation measures or alternatives.

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II.B.1 Land Use and Plans

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
10. Land Use and Planning. Would the project:					
B.a Physically divide an established community?	2010 FEIR p. III.B-33 (Impact LU-1) Addendum 6 p. 43 (Impact LU-1)	No	No	No	None
B.b Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	2010 FEIR p. III.B-37 (Impact LU-2) Addendum 6 p. 45 (Impact LU-2)	No	No	No	None
B.c Have a substantial adverse impact on the existing character of the vicinity?	2010 FEIR p. III.B-39 (Impact LU-3) Addendum 6 p. 45 (Impact LU-3)	No	No	No	None

Changes to Project Related to Land Use and Plans

The following elements of the 2024 Modified Project Variant are addressed in this Land Use and Plans analysis:

- Transfer 2,050,000 square feet (sf) of R&D/office uses from HPS2 to Candlestick Center clarify that R&D uses are allowed within Candlestick Center; and authorize a hotel within the Candlestick Mixed Use Residential District.

Comparative Impact Discussions

Impact LU-1: Implementation of the Project would not physically divide an established community. ***[Criterion B.a]***

	2010 CP-HPS2 FEIR	2010 CP-HPS2 FEIR Addendum 7
Significance after Mitigation	No Impact	No Impact

The 2010 FEIR described how the Project site is physically isolated from nearby neighborhoods. Most non-arterial streets from neighborhoods to the west of CP do not extend into CP. Bayview Hill creates a physical barrier to the south and limits access from this direction, except at Harney Way. Pedestrian access from surrounding land uses to the Candlestick Point State Recreation Area (CPSRA) and the shoreline is limited. Much of the site is barren with no or limited activities.

The 2010 FEIR recognized the Project would change land uses in the area and increase the density and intensity of development on the Project site. The 2010 FEIR acknowledged the Project would develop new mixed-use districts, a new street grid, new pedestrian, transit, and bicycle access, public gathering places, and new open space and recreational uses that would facilitate connections between the Project site and the surrounding communities. Additionally, the Project would improve and widen Harney Way. The new land uses would provide services, commercial uses, jobs, entertainment, recreational opportunities, and other amenities that would be used by the existing surrounding community and the new Project residents. The 2010 FEIR found the Project, including circulation improvements, would improve the connectivity of the site to the surrounding neighborhoods and the city. Consequently, the 2010 FEIR determined the Project would have no impact with regard to the potential to physically divide an established community.

Similar to the 2010 Project, the 2024 Modified Project Variant would develop a new mixed-use community with distinct districts at CP. The Project would continue to include the following uses: residential, cultural and entertainment, community, R&D/office, regional retail, neighborhood retail, and parks and open space.

The square footage of uses in Candlestick Center would change to increase R&D/office uses from 150,000 sf under the 2010 FEIR and 750,000 sf under the 2019 Modified Project Variant to up to 2,800,000 sf. There would be a corresponding reduction of 2,050,000 sf of R&D/office use at HPS2, which would maintain the overall development intensity of the CP/HP Project as a whole. The 2024 Modified Project Variant would maintain the same amount of residential, cultural and entertainment, community, regional retail, neighborhood retail, and parks and open space uses identified in the 2019 Modified Project Variant.

The transfer of R&D/office use square footage (as described in Table 3 [Land Use Comparison], p. 13) would be contained within the boundaries of CP that were proposed as part of the 2010 Project. The changes at CP would not alter planned new physical connections to surrounding neighborhoods, or diminish the improved vehicle, pedestrian, bicycle, and transit access to the site, or access to the CPSRA and the shoreline.

Similar to the 2010 Project, the 2024 Modified Project Variant would redevelop the largely vacant and underused CP Project site with an active urban community that would create new connections to nearby neighborhoods. The 2024 Modified Project Variant would continue to provide new and improved vehicle, pedestrian, bicycle, and transit access to and within the site consistent with the 2010 Project. The new CP mixed-use community would draw people to the site and provide homes, services, employment, entertainment, and recreational opportunities for the new Project residents, the surrounding neighborhoods, and the city. The 2024 Modified Project Variant would continue to fulfill the Project objective to create an integrated development that would improve connectivity between CP and the surrounding communities. Thus, the 2024 Modified Project Variant would not divide an established community, and no impact would occur.

Impact LU-2: Implementation of the Project would not conflict with land use plans, policies, or regulations adopted to avoid or mitigate an environmental effect. ***[Criterion B.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR reviewed the Project's consistency with applicable land use plans and policies. The 2010 FEIR determined the Project was generally consistent with applicable land use plans and acknowledged that various land use plans would be amended as part of the Project approval actions. No conflicts with plans, policies or regulations adopted to avoid or mitigate environmental impact were identified. The potential impact was determined to be less than significant.

The 2024 Modified Project Variant would require amendments to certain Project regulatory and entitlement documents as reflected by Table 9 (Project Approvals), p. 30. None of these amendments would result in a conflict with land use plans, policies, or regulations adopted to avoid or mitigate an environmental effect. The impact would remain less than significant, and no mitigation is required.

Impact LU-3: Implementation of the Project would not have a substantial adverse impact on the existing character of the vicinity. ***[Criterion B.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR acknowledged the Project would substantially alter the land use character of the Project site by replacing the existing character of the site with a new mixed-use development, including a range of residential, commercial, cultural and entertainment, infrastructure, and parks and open space uses. Additionally, the 2010 FEIR acknowledged the scale of development proposed by the Project would contrast with nearby low-scale residential neighborhoods and industrial areas. The 2010 FEIR concluded the Project would improve existing land use conditions at the Project site by revitalizing the area and would not have an adverse effect on the existing character of the vicinity. With respect to CP, the 2010 FEIR stated "[t]he mixed-use pattern with the Project at CP would transition from lower-density residential uses near existing neighborhoods to higher density residential and commercial uses. Development at CP would have similar land uses as existing and proposed uses in Executive Park immediately to the west. With the transition in scale and uses, the extension of the existing street grid, and with connectivity of new open space with existing shoreline open space, the Project would be compatible with surrounding land uses" (2010 FEIR p. III.B-39). Based on this analysis, the 2010 FEIR concluded that the Project would result in a less-than-significant impact on the existing character of the vicinity.

The 2024 Modified Project Variant would transfer R&D/office use square footage from HPS2 to Candlestick Center; however, the overall square footage of development between HPS2 and CP would remain the same. The 2024 Modified Project Variant would allow an additional 2,080,000 sf of R&D uses (currently authorized at HPS2) within Candlestick Center and continue to allow a hotel

(currently permitted) and a film arts center and performance venue (allowed as a Secondary Use) within the Candlestick Mixed Use Residential District. These are not new uses at CP.

While uses at CP would not change, the square footage of development would increase under the 2024 Modified Project Variant due to the transfer of 2,080,000 sf of R&D/office uses from HPS2 to CP. As a result, building height and massing would increase relative to the approved 2019 Modified Project Variant. The 2024 Modified Project Variant would increase the maximum allowable height at CP Center from 120 feet to 180 feet. No changes in the maximum heights of CP development that are directly adjacent to existing neighborhoods are proposed, as illustrated by Figure 5 (Proposed 2024 CP Maximum Building Heights).

Figure 11 through Figure 14 of this Addendum (provided in Section II.B.4, *Aesthetics*) illustrate the change in height and massing as compared to the 2019 Modified Project Variant, as well as the 2010 Project, using the locations selected from the 2010 FEIR viewpoints to show changes that would occur in CP Center, which is the focus of this analysis. As Figure 11 through Figure 14 illustrate, while there would be an increase in height and massing, it is comparatively limited. Lower-density residential development would continue to be located near existing residential neighborhoods, with higher-density residential, commercial, and some retail and performance uses located in the interior of the site further from existing development. Overall, uses at CP would continue to be similar to those provided at Executive Park, to the west, including residential, R&D/office, and retail uses.

Similar to the 2010 Project, the 2024 Modified Project Variant would extend the existing street grid, increase vehicle, pedestrian, bicycle, and transit access to the various urban uses on the site and connect new open space and recreational opportunities, including shoreline access with the existing shoreline open space.

Although the 2024 Modified Project Variant would modify certain aspects of the development plan, including the transfer of R&D/office use square footage, and allowing uses currently permitted within Candlestick Center within the Candlestick Mixed Use Residential District, the general scale, arrangement, and intensity of land uses would be similar to the 2010 Project. As acknowledged in the 2010 FEIR, the Project would result in a substantially different built environment compared to the existing character of the site and vicinity. The scale of development would contrast with existing patterns; however, the mixed-use pattern with the Project at CP would transition from lower-density residential uses near existing neighborhoods to higher density residential and commercial uses. Development at CP would have similar land uses as existing and proposed uses in Executive Park immediately to the west. With the transition in scale and uses, the extension of the existing street grid, and with the connectivity of new open space with existing shoreline open space, the Project would be compatible with surrounding land uses. The 2024 Modified Project Variant would improve conditions at the Project site and connect the site to the larger urban fabric of the surrounding area and the city. The Project would not result in a substantial adverse change in the existing land use character at Candlestick Point or adjacent areas. The impact would be less than significant, and no mitigation is required.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to land use and plans impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to land use and plans, on either a Project-related or cumulative basis.

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II.B.2 Population, Housing, and Employment

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
13. Population, Housing, and Employment. Would the Project:					
C.a Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	2010 FEIR p. III.C-14 (Impact PH-1) p. III.C-14 (Impact PH-2a) Addendum 6 p. 55 (Impact PH-1) p. 56 (Impact PH-2)	No	No	No	None
C.b Displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing elsewhere?[17]	2010 FEIR p. III.C-21 (Impact PH-3a)	No	No	No	None
C.c Displace substantial number of people, necessitating the construction of replacement housing elsewhere?[18]	2010 FEIR p. III.C-21 (Impact PH-3a)	No	No	No	None

Changes to Project Related to Population, Housing, and Employment

The following elements of the 2024 Modified Project Variant are addressed in this Population, Housing, and Employment analysis:

- An update in Project employment, which is based on the development scenario for the 2024 Modified Project Variant; and
- An update in construction employment, which is based on a modified construction phasing schedule.

Population and Housing

The 2010 FEIR proposed 10,500 residential units, including both CP and HPS2. The approved 2019 Modified Project Variant included an additional 172 residential units at HPS2, resulting in a total of 10,672 residential units. The 2024 Modified Project Variant would continue to include 7,218 units at CP and 3,454 units at HPS2, as proposed under the 2019 Modified Project Variant; therefore, the

[17] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR. The 2024 Modified Project Variant would have no effect on the impact because the modifications do not alter the activity that causes the impact.

[18] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR. The 2024 Modified Project Variant would have no effect on the impact because the modifications do not alter the activity that causes the impact.

population at CP would continue to be 16,818[19] and the population at HPS2 would continue to be 8,048,[20] resulting in 24,866 people.

Project Employment

Under the 2024 Modified Project Variant, project employment estimates would be slightly reduced compared to those identified in the 2010 R&D Variant and would show a greater reduction from those identified in the 2019 Modified Project Variant as shown in Table 12 (Employment by Land Use). In summary, the total number of permanent employment opportunities at CP and HPS2 would be slightly reduced from 16,635 jobs under the 2010 R&D Variant (Variant 1) to a total of 16,316 jobs under the 2024 Modified Project Variant. As shown in Table 12, 2,050,000 sf of Research and Development would be transferred from HPS2 to the R&D/office uses category at CP, with a job generation rate of 400 sf per job.[21] It was assumed in Addendum 6 that R&D square footage transferred to CP would be more office-oriented than the R&D square footage remaining at HPS2, and therefore would generate jobs at a higher rate of 276 sf/job. Due to changes in office demand stemming from the COVID-19 pandemic, the 400 sf/job ratio is more realistic and, therefore, is applied to the 2024 Modified Project Variant in Table 12.

CP would have 8,727 jobs and HPS2 would have 7,589 jobs under the 2024 Modified Project Variant. Under the 2010 R&D Variant, CP would have 3,476 jobs and HPS2 would have 13,159 jobs. Compared to the 2010 R&D Variant, the total number of permanent employment opportunities at CP would increase by 8,394 jobs and decrease by 5,570 at HPS2 for the 2024 Modified Project Variant.

Jobs at CP associated with all uses except for R&D/office uses would remain the same under the 2024 Modified Project Variant as under the 2019 Modified Project Variant; Jobs associated with R&D/office uses at CP would increase and R&D jobs at HPS2 would decrease under the 2024 Modified Project Variant due to the transfer of such square footage from HPS2 to CP.

At HPS2, jobs decreased compared to the 2019 Modified Project Variant due to the transfer of 2,050,000 sf of R&D/office uses from HPS2 to CP. Under the 2019 Modified Project Variant, a total of 12,089 jobs were projected for HPS2, while under the 2024 Modified Project Variant a total of 7,589 jobs are projected for HPS2, a decrease of 4,500 jobs.

[19] This assumes a conservative 2.33 people per household, as identified in 2010 FEIR Table III.C-6.
[20] This assumes a conservative 2.33 people per household, as identified in 2010 FEIR Table III.C-6.
[21] Economic and Planning Systems, Inc., *Fiscal and Economic Impact of Candlestick Point*, April 2, 2024, p. 14.

TABLE 12 EMPLOYMENT BY LAND USE

Land Use	Employment Factor[a]	2024 Modified Project Variant						2010 R&D Variant (Variant 1)	2019 Modified Variant
		Candlestick Point		HPS2		Total			
		Development Program[b]	Employment (jobs)	Development Program[b]	Employment (jobs)	Development Program[b]	Employment (jobs)	Employment (jobs)[c]	Employment (jobs)[c]
Residential	25 units/job	7,218 units	289	3,454 units	138	***10,672 units***	***427***	420	427
Regional Retail	350 gsf/job	170,000 gsf	486	100,000 gsf	286	***270,000 gsf***	***772***	1,814	772
Neighborhood Retail/Maker Space	270 gsf/job and 400 gsf/job[d]	134,500 gsf	498	301,000 gsf	1,025	***435,500 gsf***	***1,523***	926	1,523
R&D/Office	400 gsf/job	2,800,000 gsf	7,000	0 gsf	—	***2,800,000 gsf***	***7,000***	543	3,623
Research and Development[e]	400 gsf/job	0 gsf	—	2,096,500 gsf	5,241	***2,096,500 gsf***	***5,241***	12,500	9,741
Hotel	700 gsf/job	130,000 gsf	186	120,000 gsf	171	***250,000 gsf***	***357***	214	357
Football Stadium	2,915 jobs/event	0 events	—	0 events	—	***0 events***	***—***	—	—
Performance Venue/Arena									
Performance Venue/Arena (2010)	300 jobs/event; 150 events/year	—	—	—	—	—	—	87	—
Performance Venue (2019)	750 gsf/job	5,000 sf	7	—	—	***5,000 sf***	***7***	—	7
Film Arts Center (2019)	750 gsf/job	64,000 sf	85	—	—	***64,000 sf***	***85***	—	85
Total Performance Venue/Film Arts Center (2010 and 2024)							***92***	***87***	92
Artists' Studios	850 gsf/job[h]	0 gsf	—	255,000 gsf	300	***255,000 gsf***	***300***	N/A[j]	300
Institutional/Schools	2,050 gsf/job[f]	0 gsf	—	410,000 gsf	200	***410,000 gsf***	***200***	N/A[j]	200
Water Taxi[g]	4 jobs/day	0 trips/day	—	16 trips/day	4	***16 trips/day***	***4***	N/A[j]	4
Community Use	355 gsf/job	50,000 gsf	141	50,000 gsf	141	***100,000 gsf***	***282***	N/A[j]	282
Public Parking	270 spaces/job[i]	2,112 spaces	8	6,339 spaces	23	***8,451 spaces***	***31***	46	31
Parks and Open Space	0.26 job/acre	105.7 acres	27	232.0 acres	60	***337.7 acres***	***87***	85	87
Total			***8,727***		***7,589***		***16,316[k]***	***16,635***	***17,439***

SOURCES: Economic and Planning Systems (EPS), Inc., *Fiscal Analysis of the Candlestick Point/Hunters Point Shipyard Redevelopment Project*, 2024; FivePoint, 2024.

NOTES:

gsf = gross square feet; N/A = not available

a. Employment factors are from City and County of San Francisco, *Transportation Impact Analysis Guidelines*, October 2002, as well as more current industry standards and EPS studies for individual land use types. The recycled water facility would only result in one employee and, therefore, is not included in this table, as it would not change any analysis or conclusions.

b. Based on buildout floor areas provided in Table 3 (2024 Modified Project Variant), p. 10.

c. The total employment is subject to mathematical rounding and may reflect a higher number than the addition of employment for CP and HPS2 individually, each of which may have been rounded down.

d. Includes 360,500 gsf for neighborhood retail between CP and HPS2 (at 270 gsf/job) and 75,000 gsf for maker space at HPS2 (at 400 gsf/job).

TABLE 12 EMPLOYMENT BY LAND USE

Land Use	Employment Factor[a]	2024 Modified Project Variant						2010 R&D Variant (Variant 1)	2019 Modified Variant
		Candlestick Point		HPS2		Total			
		Development Program[b]	Employment (jobs)	Development Program[b]	Employment (jobs)	Development Program[b]	Employment (jobs)	Employment (jobs)[c]	Employment (jobs)[c]

e. The 2010 FEIR indicates that R&D uses are defined to include research and development, office, and light-industrial uses.

f. Based on generalized population density at institutions, such as schools.

g. Assumes capacity for 22 passengers plus captain and crew members.

h. Based on information about number of studios and artists provided by FivePoint.

i. Includes all off-street parking.

j. The employment value for these land use categories were not provided in the 2010 FEIR for the following reasons: (1) artists' studios were an existing use; (2) institutional/school uses and a water taxi were not proposed; and (3) community uses were not sufficiently defined to accurately estimate employment.

k. Total employment calculated by adding individual totals for each land use category. This number may reflect a higher number than the addition of employment for CP and HPS2 individually, each of which may have been rounded down.

Construction Employment

Table 13 (2024 Modified Project Variant Construction Employment) shows the yearly distribution of workers associated with the 2024 Modified Project Variant. Over the course of the entire Project, the total number of maximum daily construction workers associated with the 2024 Modified Project Variant (for CP) would be higher than what was identified in the 2010 FEIR by about 817 maximum daily workers and 472 average daily workers due to the modifications to the development scenario under the 2024 Modified Project Variant and the proposed construction schedule. The construction worker calculation assumes that all the maximum and average workers identified in Table 13 of the 2024 Modified Project Variant (and in the 2010 FEIR in Table III.C-8) work for the duration of each year specified.

TABLE 13 2024 MODIFIED PROJECT VARIANT CONSTRUCTION EMPLOYMENT

	2024 Modified Project Variant Construction Workers (CP)		*2024 Modified Project Variant Field Management (CP)*		*2024 Modified Project Variant CP Construction Workers and Field Management (Combined)*		*2010 Project (CP Construction Workers and Field Management)*[a]	
Year	*Max. Number of Daily Workers*	*Avg. Number of Daily Workers*	*Max. Number of Daily Workers*	*Avg. Number of Daily Workers*	*Max. Number of Daily Workers*	*Avg. Number of Daily Workers*	*Max. Number of Daily Workers*	*Avg. Number of Daily Workers*
2011	—	—	—	—	—	—	—	—
2012	—	—	—	—	—	—	—	—
2013	—	—	—	—	—	—	93	74
2014	43	34	15	12	58	46	158	126
2015	58	46	15	12	73	58	163	130
2016	140	110	15	12	155	122	163	130
2017	134	104	15	12	149	116	163	130
2018	92	72	15	12	107	84	176	139
2019	40	32	15	12	55	44	218	174
2020	0	0	3	2	3	2	218	174
2021	0	0	3	2	3	2	115	92
2022	40	30	3	2	43	32	255	203
2023	24	18	3	2	27	20	285	228
2024	0	0	3	2	3	2	235	187
2025	18	12	3	2	21	14	208	166
2026	102	78	3	2	105	80	155	133
2027	98	46	15	12	113	58	162	129
2028	45	36	15	12	60	48	282	225
2029	111	83	15	12	126	95	328	262
2030	78	62	15	12	93	74	163	130
2031	351	278	15	12	366	290	70	56
2032	123	98	15	12	138	110	—	—
2033	164	130	15	12	179	142	—	—
2034	234	188	15	12	249	200	—	—

TABLE 13 2024 MODIFIED PROJECT VARIANT CONSTRUCTION EMPLOYMENT

	2024 Modified Project Variant Construction Workers (CP)		*2024 Modified Project Variant Field Management (CP)*		*2024 Modified Project Variant CP Construction Workers and Field Management (Combined)*		*2010 Project (CP Construction Workers and Field Management)*[a]	
Year	*Max. Number of Daily Workers*	*Avg. Number of Daily Workers*	*Max. Number of Daily Workers*	*Avg. Number of Daily Workers*	*Max. Number of Daily Workers*	*Avg. Number of Daily Workers*	*Max. Number of Daily Workers*	*Avg. Number of Daily Workers*
2035	223	178	15	12	238	190	—	—
2036	139	110	15	12	154	122	—	—
2037	139	111	15	12	154	123	—	—
2038	151	120	15	12	166	132	—	—
2039	139	106	15	12	154	118	—	—
2040	113	91	15	12	128	103	—	—
2041	94	74	15	12	109	86	—	—
2042	182	142	15	12	197	154	—	—
2043	63	49	15	12	78	61	—	—
2044	63	52	15	12	78	64	—	—
2045	176	44	15	12	191	56	—	—
2046	114	90	15	12	129	102	—	—
2047	58	46	15	12	73	58	—	—
2048	76	60	15	12	91	72	—	—
2049	60	48	15	12	75	60	—	—
2050	28	22	15	12	43	34	—	—
2051	28	22	15	12	43	34	—	—
2052	20	16	15	12	35	28	—	—
2053	13	10	15	12	28	22	—	—
2054	20	16	15	12	35	28	—	—
2055	13	10	15	12	28	22	—	—
2056	13	10	15	12	28	22	—	—
2057	20	16	3	2	23	18	—	—
2058	13	10	3	2	16	12	—	—
Total	***3,853***	***2,910***	***567***	***450***	***4,420***	***3,360***	***3,603***	***2,888***

SOURCES: MACTEC, 2010; TRC, 2024.

NOTES:

Number of daily workers includes on-site construction, off-site roadway improvements, and shoreline improvements and assumes construction of the alternative utility system.

a. The 2010 FEIR noted that the construction schedule for the 2010 R&D Variant would be similar to that proposed for the 2010 Project. Therefore, the 2010 Project's construction employment for CP is shown in this table.

Changes in Circumstances

Environmental Setting

Employment

San Francisco is a primary employment hub for the Bay Area and contains regional employment centers. According to Association of Bay Area Governments (ABAG) Plan Bay Area 2050,[22] San Francisco had about 682,000 jobs in 2015.[23] The city is projected to have a total of approximately 918,000 jobs by 2050, resulting in an approximately 35 percent increase (236,000 total jobs) over the 35-year period.[24] Between 2015 and 2050, the total number of jobs in the nine-county Bay Area is expected to increase by almost 1,403,000 jobs, a 35 percent increase. During this period, San Francisco's share of regional employment is expected to increase at the same rate of 35 percent and represents 17 percent of the regional job growth.[25]

At the time of the 2000 Census, the 2010 FEIR indicated that about 55 percent of the workers holding jobs in San Francisco lived in the city, while the remaining 45 percent lived in other jurisdictions.[26] For this reason, the daytime population associated with local employment substantially exceeded the residential (nighttime) population according to the 2000 Census.

Based on the latest available U.S. Census American Community Survey (ACS) 5-year data set from 2016 to 2020, commuters into the city held 46 percent of the jobs in San Francisco,[27] meaning that approximately 54 percent of workers resided in the city, which is similar to the data from the 2000 Census.

Comparative Impact Discussions

Impact PH-1: Construction of the Project would not induce substantial direct population growth. ***[Criterion C.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As disclosed in the 2010 FEIR, there would be direct but temporary construction job growth at the Project site as a result of the Project. It was assumed that construction employees not already living in the Bayview Hunters Point neighborhood (which includes and surrounds CP) would commute

[22] ABAG and MTC's *Plan Bay Area 2050, The Final Blueprint Growth Pattern*, January 21, 2021, contains updated projections for the number of jobs (total employment) within the Bay Area region and within San Francisco. These updated numbers do not significantly alter or affect the conclusions from the 2010 FEIR or Addendum 5 to the 2010 FEIR.
[23] Ibid, p. 1.
[24] Ibid.
[25] Ibid.
[26] U.S. Department of Transportation, *Census 2000 Transportation Planning Package*, 2006. It should be noted that a certain percentage of San Francisco residents also commute to other communities.
[27] U.S. Census Bureau, Table 1,Residence County to Workplace County Commuting Flows for the United States and Puerto Rico Sorted by Residence Geography: 5-Year ACS, 2016–2020, accessed March 28, 2024, https://www.census.gov/data/tables/2020/demo/metro-micro/commuting-flows-2020.html.

from elsewhere in the Bay Area rather than relocate to the Bayview Hunters Point neighborhood for a temporary construction assignment, and construction hiring policies associated with the 2010 Project would aim to maximize hiring among local residents.

Table 13 shows the estimated average and maximum number of daily construction workers for each Project year under the 2024 Modified Project Variant. The peak year for construction at CP is 2023, with 366 maximum daily workers (and 290 average daily workers).

Overall, the total number of daily construction workers and field management staff associated with the 2024 Modified Project Variant (for all years of construction) would increase by approximately 7 percent as compared to the 2010 Project at CP. The increase is associated with changes made through Addendum 6, which included (1) the import of fill to raise the site 2 to 12 feet over the existing ground surface at CP such that finished floor elevations would be 5.5 feet above the base flood elevation; (2) installation of geothermal boreholes; and (3) increased excavation to accommodate subsurface parking facilities. The 2024 Modified Project Variant also increases the overall duration of construction (from 19 years under the 2010 Project to 30 years under the 2024 Modified Project Variant).[28]

As assumed in the 2010 FEIR, it is anticipated that construction employees not already living in the nearby Bayview Hunters Point neighborhood would commute from elsewhere in the Bay Area rather than relocate to the Bayview Hunters Point neighborhood for a temporary construction assignment, and construction hiring policies associated with the Project would aim to maximize hiring among local residents. Thus, development of the 2024 Modified Project Variant would not generate a substantial, unplanned population increase. Impacts associated with construction employment resulting from the 2024 Modified Project Variant would remain less than significant, and no mitigation is required.

Impact PH-2: Operation of the development at Candlestick Point would not induce substantial direct or indirect population growth. ***[Criterion C.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR concluded that infrastructure, public services, and housing associated with direct population growth were anticipated in ongoing local and regional planning activities, and development of the Project would not expand infrastructure to areas that were not previously served, nor create new transportation access to a previously inaccessible area, resulting in indirect growth. As with the 2010 Project, the 2024 Modified Project Variant would result in an increase in population and employment at CP; however, growth in this area has long been the subject of many

[28] While the length of construction activities at CP would increase under the 2024 Modified Project Variant compared to the 2010 Project and previously analyzed 2019 Modified Project Variant, there is less overlap of construction activities, which results in a longer overall period of construction.

planning activities. The primary objective of the Project is to provide new housing and non-residential uses, including employment generating uses, in order to redevelop the Project site. In addition, the infrastructure needed to support the level of growth anticipated under the Project was planned based on population projections that included the housing and employment associated with the Project. The 2010 FEIR defined "substantial" growth as increases in population that are unplanned, without consideration of or planning for infrastructure, services, and housing needed to support proposed residents, employees, and visitors. Therefore, as with the 2010 Project, the 2024 Modified Project Variant would not induce substantial direct or indirect population growth.

The 2010 R&D Variant proposed 10,500 residential units, including both CP and HPS2. The 2024 Modified Project Variant would include 10,672 units (7,218 units at CP and 3,454 units at HPS2), unchanged from the 2019 Modified Project Variant; therefore, as reported in Addendum 6, the population at CP would continue to be 16,818[29] and the population at HPS2 would continue to be 8,048,[30] resulting in 24,866 people. As disclosed in the 2010 R&D Variant, 16,635 jobs would be generated as a result of the Project; 3,476 associated with CP and 13,159 associated with HPS2. The 2024 Modified Project Variant would result in a total of 16,316 jobs; CP would have 8,727 and HPS2 would have 7,589.

Employment growth would be considered substantial if it resulted in housing demand that would exceed planned regional housing development. Table 14 (Housing Demand) estimates the number of housing units that would be needed to provide housing for employees of jobs created as a result of the 2024 Modified Project Variant. The calculation for housing demand is based on total employment, which has changed with the 2024 Modified Project Variant as compared to the 2010 R&D Variant (Variant 1).

TABLE 14 HOUSING DEMAND

Analysis Area	*2024 Modified Project Variant Employment[a,b]*	*2024 Modified Project Variant Housing Demand, San Francisco[c]*	*2024 Modified Project Variant Housing Demand, Other Communities[d]*	*2024 Modified Project Variant Total Housing Demand*	*2010 Project Total Housing Demand*	*2010 R&D Variant 1 Total Housing Demand*	*2019 Modified Project Variant Housing*	*2010 Project and Variant 1 Housing*
Candlestick Point	8,727	3,760	3,202	***6,962***	2,677	7,044	7,218	7,850
HPS2	7,589	3,269	2,785	***6,054***	5,586	5,763	3,454	2,650
Project Site Total	***16,316***	***7,029***	***5,987***	***13,016***	***8,263***	***12,807***	***10,672***	***10,500***

SOURCES: *Candlestick Point–Hunters Point Shipyard Phase II Development Plan EIR*, 2010; FivePoint, 2024.

a. Does not include existing employment.

b. Project employment data are derived from Table 12 (Employment by Land Use), p. 45.

c. Calculated as the projected employment divided by 1.35, plus 7.7% additional housing units to account for vacancy rate, times 54% total demand in San Francisco. The vacancy rate is based on U.S. Census Bureau, "Selected Housing Characteristics," American Community Survey, ACS 1-Year Estimates Data Profiles, Table DP04, 2022, accessed March 29, 2024, https://data.census.gov/table/ACSDP1Y2022.DP04?q=housing%20vacancy%20rate&g=050XX00US06075.

d. Based on existing commuting patterns, housing demand in other communities is estimated to be 46% of total housing demand; calculated as projected employment divided by 1.35, plus 7.7% additional housing units to account for vacancy rate, times 46% total demand in other communities.

[29] This assumes a conversation 2.33 people per household, as identified in 2010 FEIR Table III.C-6.

[30] This assumes a conversation 2.33 people per household, as identified in 2010 FEIR Table III.C-6.

The calculations to determine housing demand within the city and within other communities, as shown in Table 14, were derived from existing Census Bureau employment and commuting pattern data.[31] The average household would be expected to have 1.35 workers. This rate is based on the 2022 U.S. Census data of households and persons in the labor force in San Francisco.[32] Utilizing the rate of 1.35 workers per dwelling unit, the 2024 Modified Project Variant, with a total employment of 16,316 workers, would require 0.74 housing unit per worker (calculated as 1 dwelling unit/1.35 workers equals the number of dwelling units per worker, which is 0.74). The calculations also assume a vacancy rate of 7.7 percent,[33] which requires an add-on demand to account for the vacancy rate (refer to footnotes c and d in Table 14). Based on these assumptions, and assuming the housing demand from other communities has remained relatively constant,[34] the 2024 Modified Project Variant would result in a total demand for 13,016 housing units based on employee demand, and a total of 10,672 units would be provided.[35] However, as shown in Table 14, it is assumed that approximately 54 percent of the workers would seek housing in the city, consistent with existing commuting patterns.[36] Thus, to meet the housing demand of the 2024 Modified Project Variant within the city, approximately 7,029 housing units are required. As discussed above, the 2024 Modified Project Variant would provide approximately 10,672 housing units, which would exceed estimated housing demand of 7,029 housing units within the city. Therefore, the population increase associated with employment from the 2024 Modified Project Variant could be accommodated. It is likely that some employees would elect to live elsewhere in the city or within surrounding Bay Area communities. Based on existing commuting patterns, the 2024 Modified Project Variant would generate a demand for about 5,987 units in surrounding Bay Area communities. This housing

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[31] U.S. Census Bureau, Table 1, Residence County to Workplace County Commuting Flows for the United States and Puerto Rico Sorted by Residence Geography: 5-Year ACS, 2016–2020, accessed March 28, 2024, https://www.census.gov/data/tables/2020/demo/metro-micro/commuting-flows-2020.html.

[32] U.S. Census Bureau. "Selected Social Characteristics in the United States," American Community Survey, ACS 1-Year Estimates Data Profiles, Table DP02, 2022, accessed March 29, 2024, https://data.census.gov/table/ACSDP1Y2022.DP02?q=household&g=050XX00US06075; U.S. Census Bureau, "Selected Economic Characteristics," American Community Survey, ACS 1-Year Estimates Data Profiles, Table DP03, 2022, accessed March 29, 2024, https://data.census.gov/table/ACSDP1Y2022.DP03?q=Employment%20and%20Labor%20Force%20Status&g=050XX00US06075, The 1.35 rate is based on 490,027 persons in the labor force and 361,912 households in San Francisco.

[33] This rate is based on U.S. Census Bureau Selected Housing Characteristics. American Community Survey, ACS 1-Year Estimates Data Profiles, Table DP04, 2022, accessed March 29, 2024, https://data.census.gov/table/ACSDP1Y2022.DP04?q=housing%20vacancy%20rate&g=050XX00US06075.

[34] The 2010 FEIR reported that 55 percent of the workers holding jobs in San Francisco lived in the City, while the remaining 45 percent lived in other jurisdictions. Based on recent information from the U.S. Census, (Table 1, Residence County to Workplace County Commuting Flows for the United States and Puerto Rico Sorted by Residence Geography: 5-Year ACS, 2016-2020, https://www.census.gov/data/tables/2020/demo/metro-micro/commuting-flows-2020.html), the number of inbound commuters to San Francisco is approximately 46 percent (calculated as 336,128 inbound commuters divided by a total workers of 737,684). This is an increase of approximately 1 percent and would not change the conclusions provided in this addendum. In addition, the City is developing a Housing Affordability Strategy to determine how to better deliver housing that is needed across the income spectrum.

[35] It should be noted that one of the Project objectives is to provide employment opportunities for existing residents in the Bayview Hunters Point neighborhood; thus, it is anticipated that some of the future employees at CP would include residents already living in the neighborhood. Although total housing demand could include existing households, this analysis conservatively assumes that all housing demand generated by the Project would need to be accommodated by new units.

[36] This assumption provides a conservatively high estimate of the housing demand that the Project would generate in other Bay Area communities, such as nearby cities in San Mateo County. Information pertaining to commuting trends was derived from the U.S. Census.

demand would be dispersed throughout the Bay Area, and it is likely that many of the workers are currently residents of the Bay Area and would not require new housing. However, in the event that new housing is required for some of these workers, communities in the Bay Area have both existing housing stock and housing projects under construction or planned for future development pursuant to local General Plans, Housing Elements, and other planning processes. Therefore, the 2024 Modified Project Variant would not substantially increase the housing demand within the Bay Area.

The 2024 Modified Project Variant, as with the 2010 R&D Variant (Variant 1) and the 2010 Project, would provide all on-site infrastructure for connections to city mains and would include on-site treatment of stormwater runoff. Typically, off-site infrastructure would induce growth. As previously mentioned, the Project site infrastructure is primarily focused within the Project site plus minimal off-site improvements needed to connect new on-site infrastructure to existing systems. However, these off-site improvements would not be susceptible to growth because the improvements are not intended to serve off-site development and the surrounding area is already heavily developed. Therefore, the 2024 Modified Project Variant would not encourage growth where appropriate infrastructure would not be available.

Therefore, the analysis and conclusions reached in the 2024 Modified Project Variant and the 2010 FEIR Project with respect to direct or indirect population growth would remain the same. The impact would be less than significant, and no mitigation is required.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to population, housing, and employment impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to population, housing, and employment, on either a Project-related or cumulative basis.

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II.B.3 Transportation and Circulation

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
17. Transportation and Circulation. Would the project:					
D.a Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	2010 FEIR p. III.D-69 (Impact TR-2) p. III.D-71 (Impact TR-3) p. III.D-81 (Impact TR-4) p. III.D-82 (Impact TR-5) p. III.D-83 (Impact TR-6) p. III.D-83 (Impact TR-7) p. III.D-84 (Impact TR-8) p. III.D-85 (Impact TR-9) p. III.D-85 (Impact TR-10) p. III.D-86 (Impact TR-11) p. III.D-90 (Impact TR-12) p. III.D-90 (Impact TR-13) p. III.D-94 (Impact TR-14) p. III.D-95 (Impact TR-15) p. III.D-96 (Impact TR-16) p. III.D-144 (Impact TR-51) p. IV-21 (Variant 1 Impacts) Addendum 6 p. 71 (Impact TR-2) p. 77 (Impact TR-3) p. 78 (Impact TR-4) p. 78 (Impact TR-5) p. 79 (Impact TR-6) p. 79 (Impact TR-7) p. 80 (Impact TR-8) p. 80 (Impact TR-9) p. 81 (Impact TR-10) p. 82 (Impact TR-11) p. 82 (Impact TR-12) p. 83 (Impact TR-13) p. 83 (Impact TR-14) p. 84 (Impact TR-15) p. 84 (Impact TR-16) p. 104 (Impact TR-51) p. 104 (Impact TR-52) p. 104 (Impact TR-53) p. 104 (Impact TR-54) p. 104 (Impact TR-55)	No	No	No	MM TR-2, MM TR-4, MM TR-6, MM TR-7, MM TR-8, MM TR-16, MM TR-17, MM TR-51, R&D Variant (Variant 1) Mitigation Measure

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
D.b Exceed, either individually or cumulatively, a LOS standard established by the county congestion management agency for designated roads or highways (unless it is practical to achieve the standard through increased use of alternative transportation modes)?	2010 FEIR p. III.D-71 (Impact TR-3) p. III.D-81 (Impact TR-4) p. III.D-82 (Impact TR-5) p. III.D-83 (Impact TR-6) p. III.D-83 (Impact TR-7) p. III.D-84 (Impact TR-8) p. III.D-85 (Impact TR-9) p. III.D-86 (Impact TR-11) p. III.D-90 (Impact TR-12) p. III.D-90 (Impact TR-13) p. III.D-94 (Impact TR-14) p. III.D-95 (Impact TR-15) p. III.D-144 (Impact TR-51) p. IV-21 (Variant 1 Impacts) Addendum 6 p. 77 (Impact TR-3) p. 78 (Impact TR-4) p. 78 (Impact TR-5) p. 79 (Impact TR-6) p. 79 (Impact TR-7) p. 80 (Impact TR-8) p. 80 (Impact TR-9) p. 82 (Impact TR-11) p. 82 (Impact TR-12) p. 83 (Impact TR-13) p. 83 (Impact TR-14) p. 84 (Impact TR-15) p. 104 (Impact TR-51) p. 104 (Impact TR-52) p. 104 (Impact TR-53) p. 104 (Impact TR-54) p. 104 (Impact TR-55)	No	No	No	MM TR-4, MM TR-6, MM TR-7, MM TR-8, MM TR-51, R&D Variant (Variant 1) Mitigation Measure
D.c Result in a change in air traffic patterns, including either an increase in traffic levels, obstructions to flight, or a change in location, that causes substantial safety risks?	2010 FEIR p. III.D-149 (Impact TR-56) Addendum 6 p. 105 (Impact TR-56)	No	No	No	No
D.d Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?	2010 FEIR p. III.D-149 (Impact TR-57) Addendum 6 p. 105 (Impact TR-57)	No	No	No	No
D.e Result in inadequate parking capacity that could not be accommodated by alternative solutions?	2010 FEIR p. III.D-118 (Impact TR-35) p. III.D-124 (Impact TR-36) p. III.D-148 (Impact TR-55) Addendum 6 p. 103 (Impact TR-35) p. 103 (Impact TR-36) p. 104 (Impact TR-51) p. 104 (Impact TR-52) p. 104 (Impact TR-53) p. 104 (Impact TR-54) p. 104 (Impact TR-55)	No	No	No	No

	Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
D.f	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts, bicycle racks, etc.), or cause a substantial increase in transit demand that cannot be accommodated by existing or proposed transit capacity or alternative travel modes?	2010 FEIR p. III.D-97 (Impact TR-17) p. III.D-99 (Impact TR-18) p. III.D-101 (Impact TR-19) p. III.D-102 (Impact TR-20) p. III.D-147 (Impact TR-52) Addendum 6 p. 86 (Impact TR-17) p. 93 (Impact TR-18) p. 94 (Impact TR-19) p. 95 (Impact TR-20) p. 104 (Impact TR-51) p. 104 (Impact TR-52) p. 104 (Impact TR-53) p. 104 (Impact TR-54) p. 104 (Impact TR-55)	No	No	No	MM TR-17, MM TR-23.1

The transportation and circulation impact findings herein are based on the following significance criteria used by the San Francisco Planning Department and the Redevelopment Agency in the 2010 FEIR for the determination of impacts associated with a proposed project, with exception to item D.g, Traffic. Since the certification of the 2010 FEIR, the State of California enacted amendments to CEQA and the Office of Planning and Research (OPR) has issued new CEQA Guidelines concerning the assessment of transportation impacts, which remove level of service (LOS) as the sole criterion for determining impacts Additional information and impact criteria are provided in section D.g., Traffic, below:

D.g Traffic[37]—OCII, as lead agency, has determined that it may not use automobile delay described solely by LOS as a criterion for determining significant impacts on the environment. In addition to the foregoing LOS-based analysis, provided for continuity with the previous analysis performed in the 2010 FEIR and subsequent addenda, the lead agency is providing an assessment of transportation impacts of the 2024 Modified Project Variant using a vehicle miles travelled (VMT) threshold and methodology, which the Commission of Community Investment and Infrastructure adopted for compliance with CEQA in 2019. The Project would result in a significant impact on the environment if it would cause substantial additional VMT – specifically, the Project would be considered a significant impact if the Project VMT per capita is over the existing regional VMT per capita minus 15-percent for residential, office, or retail uses.

As described above, a LOS analysis is provided for continuity with the previous analysis performed in the 2010 FEIR. The following summarizes the LOS criteria used in the 2010 FEIR and this analysis:

- The Project results in a significant adverse impact at a signalized intersection if the addition of the Project causes the intersection to degrade from LOS D or better to LOS E or LOS F, or from LOS E to LOS F. The operational impacts on unsignalized intersections are considered potentially significant if Project-related traffic causes the level of service at the worst approach to deteriorate from LOS D or better to LOS E or LOS F and Caltrans signal warrants would be met, or causes Caltrans signal warrants to be met when the worst approach is already at LOS E or LOS F.
- For an intersection that operates at LOS E or LOS F under existing conditions, there may be a significant adverse impact depending upon the magnitude of the Project's contribution to the worsening of delay.
- In addition, a project would have a significant adverse effect if it would cause major traffic hazards, or would contribute considerably to the cumulative traffic increases that would cause the deterioration in LOS to unacceptable levels (i.e., to LOS E or LOS F).
- The operational impacts on freeway mainline segments and freeway on-ramp merge and off-ramp diverge operations are considered significant when Project-related traffic causes the level of service to deteriorate from LOS D or better to LOS E or LOS F, or from LOS E to LOS F. In addition, a project would have a significant effect on the environment if it would contribute substantially to congestion at unacceptable levels.

[37] Five of the study intersections are in the City of Brisbane. The level of service standard for all arterial streets within the City of Brisbane is LOS D, except for the intersections on Bayshore Boulevard at Old County Road and San Bruno Avenue, which shall not be less than LOS C.

Criterion	*Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)*	*Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?*	*Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?*	*Any New Information of Substantial Importance?*	*Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant*
	2010 FEIR p. III.D-71 (Impact TR-3) p. III.D-81 (Impact TR-4) p. III.D-83 (Impact TR-6) p. III.D-83 (Impact TR-7) p. III.D-84 (Impact TR-8) p. III.D-85 (Impact TR-9) p. III.D-86 (Impact TR-11) p. III.D-90 (Impact TR-12) p. III.D-90 (Impact TR-13) p. III.D-94 (Impact TR-14) p. III.D-95 (Impact TR-15) p. III.D-144 (Impact TR-51) p. IV-21 (Variant 1 Impacts) Addendum 6 p. 86 (Impact TR-17) p. 93 (Impact TR-18) p. 94 (Impact TR-19) p. 95 (Impact TR-20) p. 104 (Impact TR-51) p. 104 (Impact TR-52) p. 104 (Impact TR-53) p. 104 (Impact TR-54) p. 104 (Impact TR-55)	No	No	No	MM TR-4, MM TR-6, MM TR-8, MM TR-51, R&D Variant (Variant 1) Mitigation Measure

D.h Parking—Parking supply is not considered to be a part of the permanent physical environment in San Francisco.[38] Parking conditions are not static, as parking supply and demand varies due to seasonal and temporal factors. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, as parking changes over time as people change their modes and patterns of travel.

Parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact (CEQA Guidelines § 15131(a)). The social inconvenience of parking deficits, such as having to find a parking space when parking spaces are scarce, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. Scarcity of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot), and a relatively dense pattern of urban development, may cause drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the Project site and then seek parking farther away if convenient parking is unavailable.

[38] Under California *Public Resources Code*, Section 21060.5, "environment" can be defined as "the physical conditions which exist within the area which will be affected by a Project, including land, air, water, minerals, flora, fauna, noise, and objects of historic or aesthetic significance."

	Criterion	*Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)*	*Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?*	*Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?*	*Any New Information of Substantial Importance?*	*Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant*
		2010 FEIR p. III.D-118 (Impact TR-35) p. III.D-124 (Impact TR-36) p. III.D-148 (Impact TR-55) Addendum 6 p. 103 (Impact TR-35) p. 103 (Impact TR-36) p. 104 (Impact TR-51) p. 104 (Impact TR-52) p. 104 (Impact TR-53) p. 104 (Impact TR-54) p. 104 (Impact TR-55)	No	No	No	No
D.i	Transit—The Project would have a significant effect on the environment if it would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; or cause a substantial increase in operating costs or delays such that significant adverse impacts in transit service levels could result. The Project would also have a significant effect on the environment if it would increase transit travel times on a particular route such that existing (or proposed) headways could not be maintained based on the existing (or proposed) vehicle fleet.	2010 FEIR p. III.D-99 (Impact TR-18) p. III.D-101 (Impact TR-19) p. III.D-104 (Impact TR-21) p. III.D-106 (Impact TR-22) p. III.D-109 (Impact TR-23) p. III.D-111 (Impact TR-24) p. III.D-113 (Impact TR-25) p. III.D-113 (Impact TR-26) p. III.D-115 (Impact TR-27) p. III.D-116 (Impact TR-28) p. III.D-116 (Impact TR-29) p. III.D-116 (Impact TR-30) p. III.D-149 (Impact TR-52) Addendum 6 p. 93 (Impact TR-18) p. 94 (Impact TR-19) p. 95 (Impact TR-20) p. 95 (Impact TR-21) p. 96 (Impact TR-22) p. 96 (Impact TR-23) p. 97 (Impact TR-24) p. 98 (Impact TR-25) p. 98 (Impact TR-26) p. 99 (Impact TR-27) p. 99 (Impact TR-28) p. 100 (Impact TR-29) p. 100 (Impact TR-30) p. 104 (Impact TR-52)	No	No	No	MM TR-21.1, MM TR-21.2, MM TR-23.1, MM TR-23.2, MM TR-24.1, MM TR-24.2, MM TR-25, MM TR-26.1, MM TR-26.2, MM TR-27.1, MM TR-27.2
D.j	Pedestrians—The Project would have a significant effect on the environment if it would result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.	2010 FEIR p. III.D-118 (Impact TR-33) p. III.D-119 (Impact TR-34) p. III.D-150 (Impact TR-54) Addendum 6 p. 102 (Impact TR-33) p. 102 (Impact TR-34) p. 104 (Impact TR-54)	No	No	No	No

	Criterion	*Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)*	*Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?*	*Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?*	*Any New Information of Substantial Importance?*	*Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant*
D.k	Bicycles—The Project would have a significant effect on the environment if it would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.	2010 FEIR p. III.D-117 (Impact TR-31) p. III.D-118 (Impact TR-32) p. III.D-150 (Impact TR-53) Addendum 6 p. 101 (Impact TR-31) p. 101 (Impact TR-32) p. 104 (Impact TR-53)				MM TR-32
D.l	Loading—The Project would have a significant effect on the environment if it would result in a loading demand during the peak hour of loading activities that could not be accommodated within the proposed on-site loading facilities or within convenient on-street loading zones, and if it would create potentially hazardous traffic conditions or significant delays affecting traffic, transit, bicycles or pedestrians.	2010 FEIR p. III.D-126 (Impact TR-37) Addendum 6 p. 104 (Impact TR-37)	No	No	No	No
D.m	Emergency Vehicle Access—The Project would have a significant impact on the environment if it would result in inadequate emergency vehicle access.	2010 FEIR p. III.D-152 (Impact TR-58) Addendum 6 p. 105 (Impact TR-58)	No	No	No	No
D.n	Construction—Construction-related impacts generally would not be considered significant due to their temporary and limited duration. However, in circumstances involving large development plans where construction would occur over long periods of time, construction-related impacts may be considered significant.	2010 FEIR p. III.D-67 (Impact TR-1) Addendum 6 p. 67 (Impact TR-1)	No	No	No	No

Changes to Project Related to Transportation and Circulation

The following elements of the 2024 Modified Project Variant are addressed in this Transportation and Circulation analysis:

- Modifications to the land use program, with a focus on the resulting change in vehicle trips;
- Changes to the Candlestick Center, herein referred to as CP Center (previously referred to as CP-02 in prior addenda and Project plans), parking facilities;
- Modifications to the Transit Operating Plan, as reflected on Table 18 (Transit Phasing);
- Modified roadway cross-sections that would apply only if certain existing privately owned parcels in CP are not acquired; and
- Changes in construction phasing at CP.

Subsequent to certification of the FEIR in 2010, the State of California enacted amendments to CEQA, and, in response, the Office of Planning and Research (OPR) issued revised CEQA Guidelines (in July 2020) concerning the assessment of transportation impacts. Since July 2020, the CEQA Guidelines require the use of a Vehicle Miles Traveled (VMT) metric to analyze transportation impacts. Pursuant to PRC Section 21099(b)(2), automobile delay described by level of service (LOS) or parking, as described in CEQA Section 21099(d), are no longer used as criterion for determining significant impacts on the environment (see also CEQA Guidelines Section 15064.3). Therefore, LOS and parking impacts are no longer required to be analyzed pursuant to CEQA or the CEQA Guidelines. However, for comparison purposes, automobile delay (LOS) and parking analyses are included in this Addendum to compare the 2024 Modified Project Variant to the 2010 FEIR findings. Additionally, a VMT analysis evaluating the 2024 Modified Project Variant is included at the end of this chapter.

Since the overall 2024 Modified Project Variant development scenario is the same as the 2019 Modified Project Variant (for CP and HPS2 combined, recognizing the reallocation of 2,050,000 sf of R&D/office uses from HPS2 to CP under the 2024 Modified Project Variant), the analysis of the 2024 Modified Project Variant focuses on localized impacts that would be most affected by the proposed land use changes. As described below, the 2024 Modified Project Variant results in similar or fewer trips generated compared to the 2010 R&D Variant (Variant 1) and 2019 Modified Project Variant, as summarized in Table 15 (2024 Modified Project Variant Vehicle Travel Demand). Further, the travel demand analysis utilizes the same methodology as the 2010 travel demand analysis, which utilizes the project land use assumptions, such as number of dwelling units and square footage, to estimate the vehicle trip generation. As shown, in the AM peak hour, the 2024 Modified Project Variant would generate approximately 20 more vehicles trips compared to the 2010 R&D Variant (Variant 1) and approximately 100 fewer vehicle trips compared to the 2019 Modified Project Variant. In the PM peak hour, the 2024 Modified Project Variant would generate approximately 360 and 60 fewer trips compared to the 2010 R&D Variant (Variant 1) and the 2019 Modified Project Variant, respectively. Overall, the changes compared to the 2010 R&D Variant (Variant 1) represent an increase of less

than 1 percent during the AM peak hour and a decrease of 4 percent in the PM peak hour. Compared to the 2019 Modified Project Variant, the 2024 Modified Project Variant would result in a decrease of 2 percent during the AM peak hour and a decrease of less than 1 percent during the PM peak hour.

TABLE 15 2024 MODIFIED PROJECT VARIANT VEHICLE TRAVEL DEMAND

	Scenarios				
Peak Hour	*2010 R&D Variant (Variant 1)*	*2019 Modified Project Variant*	*2024 Modified Project Variant*	*Difference Between 2024 Modified Project Variant and 2010 R&D Variant (Variant 1)*	*Difference Between 2024 Modified Project Variant and 2019 Modified Project Variant*
AM	5,375	5,494	5,393	**+18 (+<1%)**	**-101 (-2%)**
PM	8,047	7,749	7,690	**-357 (-4%)**	**-59 (<-1%)**

SOURCE: Fehr & Peers, 2024.

As described above, the 2019 Modified Project Variant and 2024 Modified Project Variant CPHPS2 development scenarios are the same, and the minor change in the 2024 Modified Project Variant trip generation compared to the 2019 Modified Project Variant is due to optimal internalization at CP compared to HPS2; therefore, there is a minor decrease in the overall project trip generation.

The 2019 Modified Project Variant proposed four standalone parking facilities in CP Center with access to/from Arelious Walker Drive, Ingerson Avenue, and Harney Way with driveways located on internal roadways with CP Center. The 2024 Modified Project Variant proposes to modify the CP Center design to include parking facilities that would accommodate the proposed parking supply. Similar to the 2019 Modified Project Variant, the 2024 Modified Project Variant would include access via Arelious Walker Drive, Ingerson Avenue, Harney Way.

The 2024 Modified Project would modify the Transit Operating Plan based on the revised construction schedule. As shown in Appendix B, Analysis of Transportation Effects, Table 4, the 2024 Modified Project Variant transit demand is slightly lower than the 2010 R&D Variant (Variant 1) and 2019 Modified Project Variant. While the total transit demand has decreased, the 2024 Modified Project Variant construction schedule has changed and requires modifications to the Transit Operating Plan. The 2024 Modified Project Variant would employ the same "triggers," which require transit improvements based on traffic volumes, transit capacity, or phase of construction. The following changes are proposed:

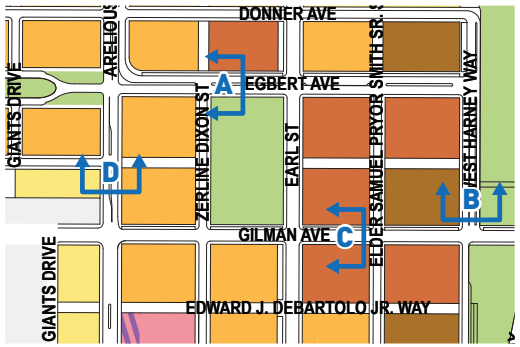
- Under the 2024 Modified Project Variant, the 28R/BRT triggers are similar with the approved 2019 Transit Operating Plan in that due to the delay in construction at HPS2, BRT service would initially serve only CP starting at CP Major Phase 7, which would occur approximately in 2050. The BRT route would follow the same route within CP as provided by the Candlestick Point Express (CPX).
- The 2024 Transit Operating Plan initiates the CPX route with development of CP Major Phase 4. Service frequencies on the CPX are required to increase as part of CP Major Phase 5. Initial service is expected in 2036, with increase in 2041 following the completion of CP Major Phase 5.

- Similar to the 2010 FEIR, the 2024 Modified Project Variant would initiate service of the 29 Sunset with CP Major Phase 2 in 2031. Service is anticipated to increase with occupancy of CP Major Phase 3 in 2034.
- The 2024 Transit Operating Plan also includes the extension of the 56 Rutland upon occupancy of CP Major Phase 2, from its existing final terminus at Thomas Mellon Circle to CP Center. The 56 Rutland would follow the same route within CP as provided by the CPX and BRT.

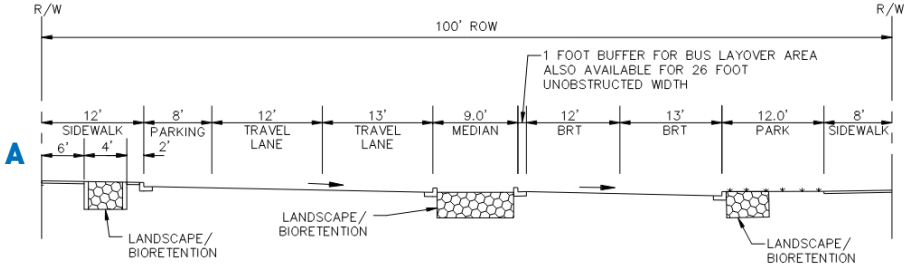
The Transit Operating Plan would require changes at HPS2 given the shift of 2,050,000 square feet of R&D/office uses from HSP2 to CP. However, given the uncertainty and timing of HPS2, a revised Transit Operating Plan at HPS2 will be provided once development proceeds.

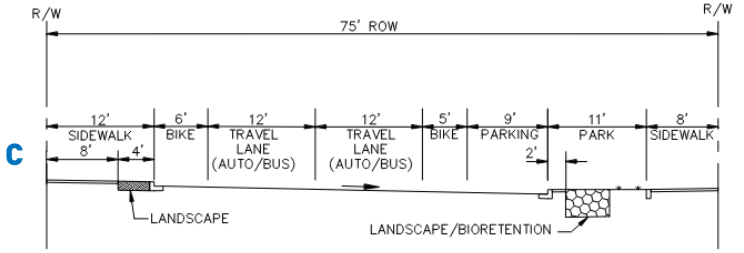
The 2024 Modified Project Variant also includes alternative cross-sections in the event certain privately owned properties, (herein referred to as NAPOTS [Not a Part of This Subdivision]), are not acquired by the Developer or City. The NAPOTS properties are comprised of ten privately-owned parcels and three public rights-of-way for proposed streets included in the Project. The NAPOTS properties are approximately bounded by Arelious Walker to the west, Egbert Avenue to the north, West Harney Way to the east, and Gilman Avenue to the south. The 2010 FEIR assumes acquisition of the NAPOTS properties and the three public rights-of-way by the Developer or City, which would be reconfigured into development blocks and new public rights-of-way.

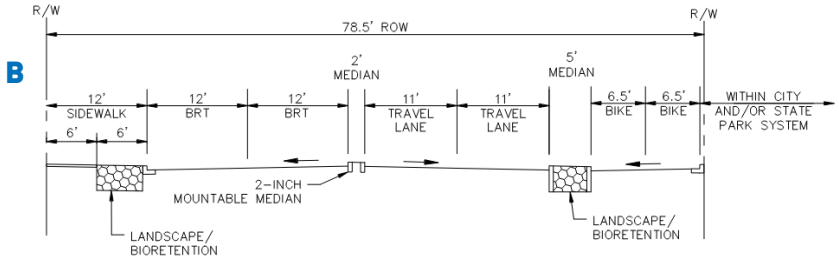
The 2024 Modified Project Variant includes modified cross-sections that would be required in the event the Developer or City do not acquire the NAPOTS properties prior to adjacent development at CP. Figure 7 (With NAPOTS Acquisition Cross-Sections) and Figure 8 (Without NAPOTS Acquisition Cross-Sections) illustrate the cross-sections with and without NAPOTS acquisition. As shown, the West Harney Way, Egbert Avenue, and Gilman Avenue cross-sections remain consistent and require no modifications in the event the Developer or City do not acquire the NAPOTS. The Arelious Walker cross-section would require some modifications with removal of an 8 foot-wide median, and reduced sidewalks on the east side of the street. The lane configurations along Arelious Walker would remain as proposed and would not alter the capacity of the roadway.

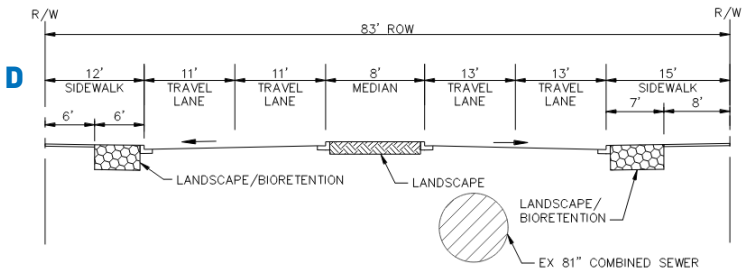


Cross-Section Acquiring NAPOTS Parcels





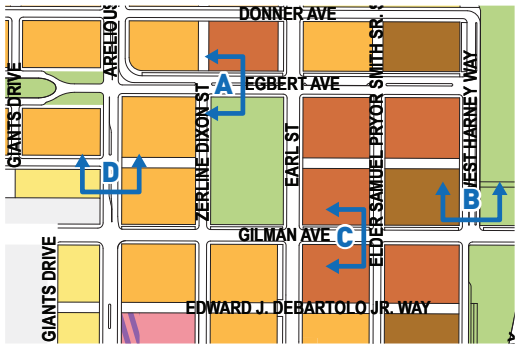




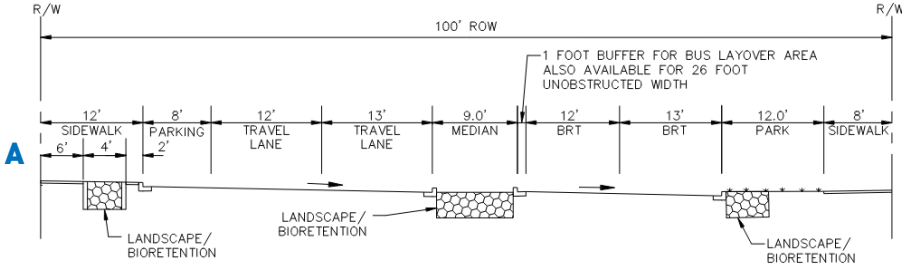
SOURCE: Fehr & Peers, 2024

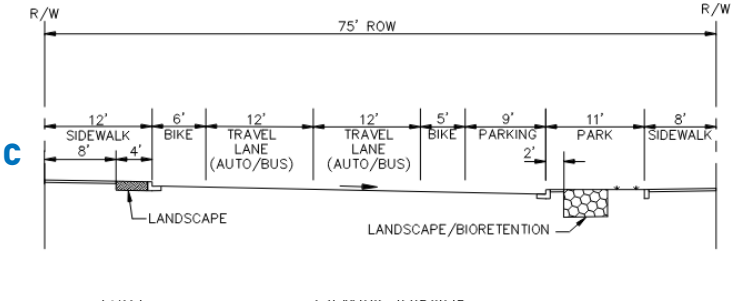
FIGURE 7 Addendum 7 to the CP-HPS2 2010 FEIR

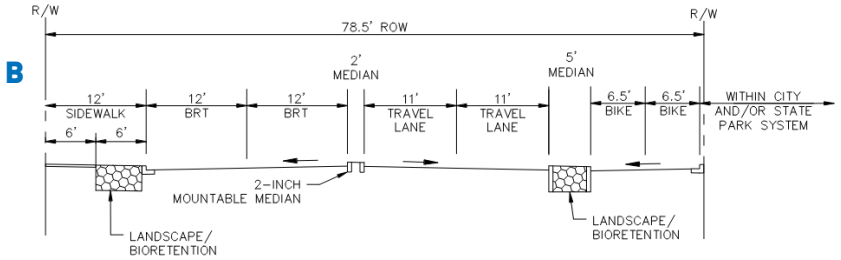
WITH NAPOTS ACQUISITION CROSS-SECTIONS

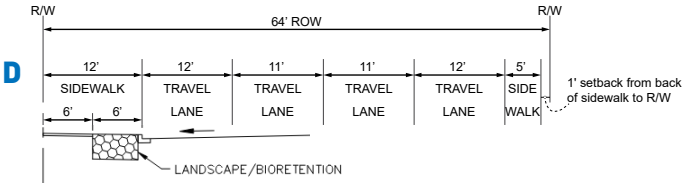


Cross-Section without Acquiring NAPOTS Parcels









SOURCE: Fehr & Peers, 2024

FIGURE 8 Addendum 7 to the CP-HPS2 2010 FEIR

WITHOUT NAPOTS ACQUISITION CROSS-SECTIONS

Comparative Impact Discussions

Impact TR-1: Construction of the Project would result in transportation impacts in the Project vicinity due to construction vehicle traffic and roadway construction and would contribute to cumulative construction impacts in the Project vicinity. ***[Criterion D.n]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR found that construction of the Project would result in Project-related and cumulative transportation impacts in the Project vicinity due to construction vehicle traffic and roadway construction. The 2010 FEIR concluded that implementation of mitigation measure MM TR-1, which would require the Project Applicant to develop and implement a Construction Traffic Management Plan (CTMP) to reduce the impact of construction activities on transportation facilities, would reduce the impacts caused by construction, but not to a less-than-significant level.

The construction anticipated to occur as part of the 2024 Modified Project Variant would be the same as, or less than, described for the 2010 FEIR Project, although the construction phasing would be different. Table 8 (CP Vertical Construction Duration) of the Project Description chapter, illustrates construction phasing for the 2010 Project, the 2019 Modified Project Variant, and the 2024 Modified Project Variant. The 2010 FEIR Project analysis anticipated development phasing that would create more construction activities in HPS2 in the early years of Project build-out, with increased construction levels at CP during later phases. Additionally, the 2010 FEIR Project included construction of a new NFL stadium in the early phases of development, which would have resulted in more intense construction activities than would occur under any of the non-stadium variants.

Similar to the 2019 Modified Project Variant analyzed under Addendum 6, the revised phasing proposed for the 2024 Modified Project Variant would result in more construction activities in CP during the earlier years and more activity in the HPS2 site during later years since development at HPS2 has been delayed and the timing of development is speculative. At CP, construction activities were delayed 1 year (2014 instead of 2013), and the length of construction is expected to increase 30 years, as compared to 19 years assumed in the 2010 FEIR.

While the construction duration is changing, there are no changes in the Project that would require revisions of the 2010 FEIR; accordingly, the impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

Impact TR-2: Implementation of the Project would cause an increase in traffic that would be substantial relative to the existing and proposed capacity of the street system, even with implementation of a Travel Demand Management Plan. ***[Criterion D.a]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR found that general traffic increases in the Project vicinity would be substantial compared to the existing and proposed capacity of the street system, even with implementation of a Travel Demand Management (TDM) Plan. As further discussed in the Travel Demand section of Appendix B, the 2024 Modified Project Variant would slightly increase forecasted traffic volumes as compared to the 2010 R&D Variant (Variant 1) by less than 1 percent in the AM peak hour and decrease forecasted traffic volumes from the 2010 R&D Variant (Variant 1) by approximately 4 percent in the PM peak hour. Similarly, compared to the 2019 Modified Project Variant, the 2024 Modified Project Variant would result in a decrease of approximately 2 percent during the AM peak hour and a decrease of less than 1 percent during the PM peak hour. As described above, while the 2019 Modified Project Variant and 2024 Modified Project Variant CPHPS2 development scenarios are the same, and the minor change in the 2024 Modified Project Variant trip generation compared to the 2019 Modified Project Variant is due to optimal internalization at CP compared to HPS2; therefore, there is a minor decrease in the overall project trip generation.

At CP Center, the 2024 Modified Project Variant proposes to modify the parking facilities in CP Center to accommodate the proposed parking supply. Similar to the 2019 Modified Project Variant, access to the parking facilities would be provided to/from Arelious Walker Drive, Ingerson Avenue, and Harney Way. The 2010 Project assumed two parking facilities at CP Center with access from Arelious Walker Drive. CP Center will continue to be designed consistent with the standards included in the Design for Development (D4D) and Infrastructure Plan. The 2024 Modified Project Variant does not propose any roadway cross-section modifications along internal roads within CP Center and remains consistent with the 2019 Modified Project Variant.

As described above, the 2024 Modified Project Variant also includes a modified cross-section that would be required in the event the Developer or City do not acquire the NAPOTS properties prior to adjacent development at CP. As illustrated in Figure 7 and Figure 8, the West Harney Way, Egbert Avenue, and Gilman Avenue cross-sections remain consistent with the full-build alternative and require no modifications without acquisition of NAPOTS. The Arelious Walker cross-section would require some modifications with removal of an 8 foot-wide median, and reduced sidewalks on the east side of the street. The lane configurations along Arelious Walker would remain as proposed and would not alter the capacity of the roadway. Therefore, the modified cross-sections without acquisition of NAPOTS is not anticipated to alter roadway capacity and is not anticipated to trigger any additional impacts beyond those identified in the 2010 FEIR.

With exception to the roadway cross-section modifications related to NAPOTS, the 2024 Modified Project Variant does not propose any roadway cross-section modifications in the Project site and remains consistent with the 2019 Modified Project Variant analyzed in Addendum 6.

As described in Table 15, p. 62, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1). A subset of intersections, expected to experience the majority of traffic volume changes, were evaluated. As described in Table 17 (2024 Modified Project Variant – Delay, Level of Service (LOS), and Volume to Capacity (V/C) Ratio Intersection Operations for Year 2030s), p. 72, none of the intersections evaluated results in an increase in LOS or delay; therefore, it can be reasonably concluded that changes to other intersections further away from the Project site would be even smaller and would be imperceptible to the public as Project traffic disperses the further away from the project site. Therefore, at build-out, the 2024 Modified Project Variant would result in very small changes to operating characteristics and would not change the 2010 FEIR conclusion for this impact.

As required by mitigation measure MM TR-2, the Candlestick Hunters Point Shipyard Phase II Transportation Plan includes proposal of a TDM Plan for both CP and HPS2, as well as the creation of the Candlestick Point Hunters Point Shipyard Transportation Management Association (CPHPSTMA). As described in prior, approved iterations of the Transportation Plan, including the 2019 Transportation Plan, the CPHPSTMA will be formed to develop, implement, operate and administer strategies and programs to manage transportation resources in CP, HPS2, and Hunters Point Shipyard Phase 1 (HPS1). As described above, timing of HPS2 is speculative, therefore, the timing of TDM strategies that would also benefit HPS1 is unknown. Additionally, the TDM strategies needed to address the impact of the HPS1 development are far fewer than the TDM strategies needed to support the CP and HPS2 development. Therefore, the rationale to create a shared CPHPSTMA that includes CP, HPS1, and HPS2 may not be applicable and HPS1 can establish a separate TMA to serve its initial needs. The CPHPS2 TMA can commence as development at CP moves forward and while not necessary, a combined CPHPSTMA (inclusive of CP, HPS1, and HPS2), could be established once development at HPS2 occurs.

The 2010 FEIR also included an analysis of infrastructure phasing such that roadways were constructed with land development to ensure adequate circulation. The 2010 FEIR phasing of traffic improvements was set forth in a memorandum included as 2010 FEIR Appendix A4 (Fehr & Peers, Roadway and Transit Phasing Plan, March 17, 2010).[39] An analysis of the 2024 Modified Project Variant development phasing and roadway construction/improvements was conducted to determine whether the 2024 Modified Project Variant would provide auto circulation and access at a level adequate to meet the travel demand throughout the build-out period. This analysis is presented below.

[39] Fehr & Peers, *Roadway and Transit Phasing Plan*, March 17, 2010.

Candlestick Point

As shown in Table 8 (CP Vertical Construction Duration), p. 25, the 2024 Modified Project Variant includes a delayed construction schedule at CP compared to the 2019 Modified Project Variant. Construction is expected to occur between 2029 and 2058, as opposed to ending in 2033, as assumed in the 2019 Modified Project Variant, resulting in a total duration of 30 years compared to 20 years under the 2019 Modified Project Variant

The 2024 Modified Project Variant includes revisions to the implementation of infrastructure roadway improvements to correspond with land use phasing.[40] As shown in Table 16 (2024 Modified Project Variant Street Segment Improvements—Candlestick Point), most roadway improvements are scheduled to be implemented to the corresponding trigger (relative to development levels or adjacency) as proposed in the 2010 FEIR and 2019 Modified Project Variant. The prior triggers identified in the 2019 Modified Project Variant included a major phase and sub-phase trigger; however, the 2024 Modified Project Variant removes sub-phases and proposes seven major phases at CP (Phases 1 through 7), illustrated in Figures 2 through 8 of Appendix B.

Hunters Point Shipyard

As noted earlier, development at HPS2 is anticipated to occur later than anticipated in the 2010 FEIR and 2019 Modified Project Variant. Timing of HPS2 is speculative; therefore, the triggers for HPS2 will be identified at a later date when development at HPS2 proceeds. Until then, the 2024 Modified Project Variant triggers associated with infrastructure roadway improvements would remain consistent with the 2019 Modified Project Variant.

Given the transfer of land uses from HPS2 to CP, no new or substantially increased significant traffic volumes are expected as a result of the 2024 Modified Project Variant, including the modified phasing, compared to the traffic impacts described in the 2010 FEIR associated with the 2010 R&D Variant (Variant 1). Conditions would continue to operate similarly or better to conditions described in the 2010 FEIR. The impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

The 2010 FEIR included mitigation measure MM TR-2, which calls for the Project to develop and implement a Transportation Demand Management Plan, which would apply to the 2024 Modified Project Variant. Although the mitigation measure would reduce the severity of the Project's impact, the impact would remain significant and unavoidable.

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[40] Although previous EIR addenda also considered revisions to the Project phasing compared to what was analyzed in the 2010 FEIR, the comparison in Addendum 7 compares the 2024 Modified Project Variant with the 2010 FEIR Project and/or the 2019 Modified Project Variant.

TABLE 16 2024 MODIFIED PROJECT VARIANT STREET SEGMENT IMPROVEMENTS—CANDLESTICK POINT

		2010 FEIR Project (Non-Stadium Variant)[a]		*2019 Modified Project Variant*		*2024 Modified Project Variant*	
Intersection	*Improvement*	*Traffic Volume Trigger?*	*Trigger*[b]	*Traffic Volume Trigger?*	*Trigger*[b]	*Traffic Volume Trigger?*	*Trigger*[b]
Arelious Walker Drive, Shafter Avenue to Carroll Avenue	Construct Yosemite Slough Bridge[c]	No	Implementation of BRT	No	Implementation of BRT (HP-04)	No	Implementation of BRTat HPS2
Arelious Walker Drive, Carroll Avenue to Gilman Avenue	Interim Two-Lane Condition (refer to Addendum 2)	N/A		No	CP-01 (Adjacency)	No	CP 0 (Complete with initial construction of Alice Griffith)
	Ultimate Condition (refer to description above)	No	Implementation of BRT	Yes	Implementation of BRT (CP-07)	No	CP 7 (Adjacency)[f]
Arelious Walker Drive, Gilman Avenue to Harney Way	Construct two travel lanes in each direction with center median/turn lane	No	Implementation of BRT	No	CP-02 (Adjacency)	No	CP 2 (Adjacency)
Harney Way Widening, Arelious Walker Drive to Thomas Mellon Drive	Near Term (refer to Addendum 2)	Yes	3,537 PM Peak Hour Vehicle Trips or Implementation of BRT	No	CP-02 (Adjacency)	No	CP 2 (Adjacency)
	Long-Term (refer to Addendum 2)	To Be Determined (TBD)[d]	Per MM TR-16	TBD[d]	Per MM TR-16	TBD[d]	Per MM TR-16
Jamestown Avenue, Arelious Walker Drive to Third Street	Resurface and Restripe	No	Demolition of Candlestick Park	No	CP-07	No	CP 7
Ingerson Avenue, Arelious Walker Drive to Third Street	Resurface and Restripe	No	Demolition of Candlestick Park	No	CP-07	No	CP 7
Gilman Avenue, Arelious Walker Drive to Third Street	Reconstruct or Resurface and Restripe	No	TBD	No	CP-02	No	CP 4
Carroll Avenue, Arelious Walker Drive to Ingalls Street	See Figures 2.1.2A–2.1.2G of the Infrastructure Plan	Yes	3,131 PM Peak Hour Vehicle Trips (CP & HP)[e]	Yes	HP-04 (Approximately 3,900 PM Peak Hour Vehicle Trips, CP & HP)[b,e]	Yes	4,000 PM Peak Hour Vehicle Trips (CP & HP)[b,e]
Ingalls Street, Carroll Avenue to Thomas Avenue	See Figures 2.1.2A–2.1.2G of the Infrastructure Plan	Yes	3,131 PM Peak Hour Vehicle Trips (CP & HP)[e]	Yes	HP-04 (Approximately 3,900 PM Peak Hour Vehicle Trips, CP & HP)[b,e]	Yes	4,000 PM Peak Hour Vehicle Trips (CP & HP)[b,e]

TABLE 16 2024 MODIFIED PROJECT VARIANT STREET SEGMENT IMPROVEMENTS—CANDLESTICK POINT

		2010 FEIR Project (Non-Stadium Variant)[a]		*2019 Modified Project Variant*		*2024 Modified Project Variant*	
Intersection	*Improvement*	*Traffic Volume Trigger?*	*Trigger*[b]	*Traffic Volume Trigger?*	*Trigger*[b]	*Traffic Volume Trigger?*	*Trigger*[b]

SOURCE: Fehr & Peers, 2024.

a. As summarized in the 2010 FEIR (Comments and Responses, Appendix A4, Roadway and Transit Phasing Plan, Fehr & Peers, March 17, 2010. The "Original Non-Stadium Option" as presented in the 2010 FEIR and replicated here is applicable to all non-stadium options.

b. Where multiple triggers are provided, the trigger shall be whichever event occurs first. When a sub-phase is listed as the trigger, the improvement shall be fully constructed and operational prior to occupancy of the sub-phase.

c. The cross-section for Yosemite Slough Bridge has been modified from what is shown in the 2010 FEIR for the Non-Stadium alternative. However, at 45 feet in width, the structure would be smaller than the bridge approved in the Stadium scenario.

d. The isolated intersection analysis conducted for this study shows that the two intersections along Harney Way would operate acceptably with the near-term configuration even with full build-out of the Project. However, because Harney Way is part of a complex series of roadway improvements and due to the inherent uncertainty in traffic forecasts, a study would be conducted prior to construction of each development phase to determine whether conditions are better or worse than projected. The results of that study would indicate whether additional development could be accommodated under the near-term configuration while maintaining acceptable LOS or whether widening is required.

e. Although these segments are technically part of the CP improvements, they are part of an overall strategy to provide increased auto capacity between HPS2 and CP and should be implemented simultaneously with other improvements on Carroll Avenue and Ingalls Street that are triggered by development in HP.

f. Although improvements along this segment are based on construction of adjacent development, intersection improvements such as a traffic signal, may be installed in advance of the trigger if the intersection meets signal warrants or other City criteria. Prior variants assumed that the ultimate cross-section would be completed with the implementation of BRT; however, prior iterations assumed BRT service would extend to HPS2. As described above, timing of HPS2 and BRT service to HPS2 is speculative, therefore, under the 2024 Modified Project Variant, the ultimate cross-section would be constructed with CP Phase 7 development when adjacent blocks are developed.

g. The 2019 Modified Project Variant includes three major phases at CP and HP, with additional sub-phases compared to the 2024 Modified Project Variant which includes seven major phases in CP and three major phases in HP.

h. Gilman Avenue off-site improvements are planned with CP Phase 4; however, may be constructed earlier to meet transportation requirements consistent with the CEQA mitigation measures.

Impact TR-3: Implementation of the Project would contribute traffic to significant cumulative impacts at intersections in the Project vicinity. ***[Criteria D.a, D.b, D.g]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable	Significant and Unavoidable

The 2010 FEIR, including the 2010 R&D Variant (Variant 1), evaluated approximately 60 study intersections during the weekday AM and PM peak hours and identified significant Project-specific impacts and considerable contributions to significant cumulative impacts at eleven study intersections projected to operate at acceptable LOS without the Project and unacceptable LOS with the Project, where no feasible mitigation was identified. This includes nine intersections that were identified for the 2010 FEIR Project, as well as two additional intersections (Ingalls/Carroll and Bayshore/Oakdale) that were identified specifically for 2010 R&D Variant (Variant 1).

A subset of intersections that would experience the majority of traffic volume changes related to the 2024 Modified Project Variant (i.e., intersections near CP), were evaluated to assess the degree to which these Project changes may affect the conclusions identified in the 2010 FEIR. Table 17 (2024 Modified Project Variant – Delay, Level of Service (LOS), and Volume to Capacity (V/C) Ratio Intersection Operations for Year 2030s) summarizes the intersection LOS findings for the subset of intersections. A detailed description is included in Appendix B.

TABLE 17 2024 MODIFIED PROJECT VARIANT – DELAY, LEVEL OF SERVICE (LOS), AND VOLUME TO CAPACITY (V/C) RATIO INTERSECTION OPERATIONS FOR YEAR 2030S

	2010 R&D Variant (Variant 1)[b,c,d]				*2024 Modified Project Variant[b,c]*			
	AM Peak Hour		*PM Peak Hour*		*AM Peak Hour*		*PM Peak Hour*	
Intersections[a]	*Delay/LOS*	*V/C*	*Delay*	*V/C*	*Delay/LOS*	*V/C*	*Delay/LOS*	*V/C*
9. Gilman Avenue/Third Street[e]	**>80/F**	**2.02**	**>80/F**	**3.40**	**>80/F**	**1.79**	**>80/F**	**2.88**
27. Harney Way/US-101 Southbound Ramps	**>80/F**	**2.34**	**>80/F**	**3.28**	**>80/F**	**2.34**	**>80/F**	**3.24**
28. Harney Way/US-101 Northbound Ramps	**>80/F**	**1.39**	**>80/F**	**1.75**	**>80/F**	**1.39**	**>80/F**	**1.71**
29. Harney Way/Arelious Walker Drive	25/C	—	53/D	—	23/C	—	53/D	—
32. Ingalls Street/Carroll Avenue	31/C	—	**59/E**	**1.01**	29/C	—	44/D	—
33. Ingalls Street/Egbert Avenue	9/A	—	9/A	—	9/A	—	9/A	—
34. Gilman Avenue/Arelious Walker Drive[e]	30/C	—	38/D	—	40/D	—	49/D	—
59. Harney Way/Executive Park Boulevard	25/C	—	27/C	—	24/C	—	27/C	—

SOURCE: Fehr & Peers, 2024.

a. Intersection numbers are based on EIR intersection numbering for reference and comparison purposes illustrated on Figure III.D-2 of the 2010 FEIR.

b. Delay in seconds per vehicle. For intersections operating at LOS F, delay calculations are not relevant, based on the HCM methodology; therefore, delay is simply reported as greater than 80 seconds per vehicle. To allow for comparison in operating conditions at intersections operating at LOS F, the volume to capacity ratio (V/C) is also shown.

c. Intersections operating at LOS E or F shown in **bold**.

d. Refer to Tables 45 and 46, on pp. 167-172 of the Project's Transportation Impact Study, included as Appendix D to the 2010 FEIR for LOS results for 2010 R&D Variant (Variant 1).

e. The analysis of conditions with the Modified Project at (9) Gilman/Third and (34) Gilman/Arelious Walker Drive was performed using a more detailed and sophisticated software, known as the Synchro platform, than what was used in the FEIR in order to capture unique features of those intersections. Analysis of 2019 Modified Project Variant at Gilman/Third also reflects updated lane configurations established by SFMTA subsequent to publication of the EIR. See Appendix B for detailed calculations.

As shown in Table 17, the 2024 Modified Project Variant would not result in increases to auto delay or the volume-to-capacity ratio and intersection LOS would be similar or better to that identified in the 2010 R&D Variant (Variant 1) LOS analysis. As described above, the 2010 R&D Variant (Variant 1) would result in a significant and unavoidable impact at the Ingalls/Carroll Avenue intersection; however, the 2024 Modified Project would result in improved operating conditions such that the intersection would operate at an acceptable LOS and would no longer result in a significant and unavoidable impact. Otherwise, of the eight intersections analyzed, the same intersections projected to operate at unacceptable operations under the 2010 R&D Variant (Variant 1) would continue to operate unacceptably, but the impact would be similar or less severe under the 2024 Modified Project Variant. In summary, Impact TR-3 would remain significant and unavoidable, and there continues to be no feasible mitigation measures to reduce the level of this impact.

Impact TR-4: At the intersection of Tunnel/Blanken, implementation of the Project would result in significant Project AM peak hour traffic impacts, and would contribute to cumulative PM peak hour traffic impacts. ***[Criteria D.a, D.b, D.g]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR identified a significant Project-specific impact and a considerable contribution to a significant cumulative impact at the intersection of Tunnel/Blanken. The 2010 FEIR identified mitigation measure MM TR-4, which consisted of striping changes at the intersection, to reduce the severity of the impact; however, the mitigation measure would not reduce the impact to less-than-significant levels. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. As such, it can be reasonably concluded that changes to other intersections further away from the Project site would be even smaller and would be imperceptible to the public as Project traffic disperses the further away from the project site. Therefore, the 2024 Modified Project would result in similar traffic operations as evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

Impact TR-5: Implementation of the Project would contribute traffic at some study area intersections that would operate at LOS E or LOS F under 2030 No Project conditions. ***[Criteria D.a, D.b, D.g]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable	Significant and Unavoidable

The 2010 FEIR identified considerable contributions to significant cumulative impacts at 17 study intersections projected to operate at unacceptable LOS under conditions without the Project, and where no feasible mitigation was identified. This includes 16 intersections that were identified for the 2010 FEIR Project, as well as one additional intersection (Evans/Jennings) that was identified specifically for 2010 R&D Variant (Variant 1). As shown in Table 15, p. 62 (2024 Modified Project Variant Vehicle Travel Demand), the 2024 Modified Project Variant would increase traffic volumes in the AM peak hour by less than 1 percent and decrease volumes in the PM peak hour by 4 percent compared to the 2010 R&D Variant (Variant 1). Based on the intersection LOS analysis, summarized in Table 17, p. 72, which evaluated eight intersection that would experience the majority of traffic volume changes related to the 2024 Modified Project Variant, the 2024 Modified Project Variant would result in similar or better LOS compared to the 2010 R&D Variant (Variant 1). Therefore, it can be reasonably concluded that changes to other intersections further away from the Project site would be even smaller and would not worsen LOS or delay as project traffic disperses further away from the project site. As such, the 2024 Modified Project Variant would not change conclusions from the 2010 FEIR, the impact would remain significant and unavoidable, and there continues to be no feasible mitigation measures to reduce the level of this impact.

Impact TR-6: Implementation of the Project could contribute traffic at the intersections of Geneva/US-101 Southbound Ramps and Harney/US-101 Northbound Ramps, which would operate at LOS F under 2030 No Project conditions. ***[Criteria D.a, D.b, D.g]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR identified a significant Project-specific impact and a considerable contribution to a significant cumulative impact at the intersections of Geneva/US-101 Southbound Ramps and Harney Way/US-101 Northbound Ramps. The 2010 FEIR identified mitigation measure MM TR-6, which called for the Project to pay a fair-share contribution to construction of the Geneva Avenue extension and reconstruction of the Geneva Avenue/Harney Way/US-101 interchange; however, the impact would remain significant and unavoidable because implementation of the mitigation is uncertain. As summarized in Table 17, p. 72, the Geneva/US-101 Southbound and Harney Way/US-101 Northbound Ramp intersections are expected to operate at unacceptable LOS F under both the 2010 R&D (Variant 1) Project and 2024 Modified Project Variant. The 2024 Modified Project Variant would continue to result in an impact, and the impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

Impact TR-7: Implementation of the Project could contribute traffic to the intersections of Amador/ Cargo/Illinois, which would operate at LOS E under 2030 No Project. ***[Criteria D.a, D.b, D.g]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR identified a significant Project-specific impact and a considerable contribution to a significant cumulative impact at the intersection of Amador/Cargo/Illinois. The 2010 FEIR identified mitigation measure MM TR-7, which consisted of striping changes at the intersection, to reduce the severity of the impact; however, the impact would remain significant and unavoidable since its feasibility was uncertain. The 2010 FEIR noted that if it were found to be feasible, the mitigation measure would reduce the Project's impact at this intersection to less-than-significant levels. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes during the AM peak hour and decrease traffic volumes during the PM peak hour compared to the 2010 R&D Variant (Variant 1). Based on the intersection LOS analysis, summarized in Table 17, p. 72, which evaluated eight intersection that would experience the majority of traffic volume changes related to the 2024 Modified Project Variant, the 2024 Modified Project Variant would result in similar or better LOS compared to the 2010 R&D Variant (Variant 1). Therefore, it can be reasonably concluded that changes to other intersections further away from the Project site would operate similar to the 2010 R&D Variant (Variant 1) conditions as project traffic disperses further away from the project site, and the 2024 Modified Project Variant would not worsen LOS or delay. The impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

Impact TR-8: Implementation of the Project could contribute traffic to the intersections of Bayshore/Geneva, which would operate at LOS F under 2030 No Project. ***[Criteria D.a, D.b, D.g]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR identified a significant Project-specific impact and a considerable contribution to a significant cumulative impact at the intersection of Bayshore/Geneva. The 2010 FEIR identified mitigation measure MM TR-8, which called for the Project to contribute a fair share contribution toward improvements along Geneva Avenue associated with its extension to Harney Way, and would account for projected traffic volume increases to improve forecasted operations at the intersection. However, because implementation of this mitigation is uncertain the impact would remain significant and unavoidable. As discussed in Appendix B, the 2024 Modified Project Variant would slightly change traffic volumes compared to the 2010 R&D Variant (Variant 1). Based on the intersection LOS analysis, summarized in Table 17, p. 72, which evaluated eight intersections that would experience the majority of traffic volume changes related to the 2024 Modified Project Variant, the 2024 Modified Project Variant would result in similar or better LOS compared to the 2010 R&D Variant (Variant 1). Therefore, it can be reasonably concluded that changes to other

intersections further away from the Project site would operate similar to the 2010 R&D Variant (Variant 1) conditions as project traffic disperses further away from the project site, and the 2024 Modified Project Variant would not worsen LOS or delay. The impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

Impact TR-9: Implementation of the Project would have less-than-significant Project and cumulative impacts at some study area intersections that would operate at LOS E or LOS F under 2030 No Project conditions. ***[Criteria D.a, D.b, D.g]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Less Than Significant	Less than Significant

The 2010 FEIR identified a number of intersections where the Project would have a less-than-significant impact. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1). Furthermore, the study, summarized in Table 17, p. 72, and provided in Appendix B, included an analysis of intersection LOS at eight 2010 FEIR study intersections, closest to the area of the Project most affected by the Project changes related to the 2024 Modified Project Variant, to demonstrate whether the slight changes would affect intersection LOS. The study found that the slight change would not create new significant transportation-related impacts at the subset intersections, which could reasonably be extrapolated to suggest that none of the study intersections that were forecasted to experience a less-than-significant impact due to the 2010 R&D Variant (Variant 1) would now experience a new significant impact associated with the 2024 Modified Project Variant as other intersections would be further from the CP area that would be most affected by Project changes related to the 2024 Modified Project Variant. There would continue to be a less-than-significant impact, and no mitigation measures are required.

Impact TR-10: Implementation of the Project would result in significant Project traffic spillover impacts and contribute to cumulative traffic spillover impacts. ***[Criterion D.a]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

In addition to the specific intersection impact analysis, the 2010 FEIR identified Impact TR-10, which noted that Project-related traffic may result in significant "spillover" traffic into neighborhood streets. Mitigation measures MM TR-2, which requires the Project Applicant to prepare and implement a final TDM Plan that includes elements such as unbundled parking, transit strategies, carshare services, and much more, and MM TR-17, which requires implementation of the Transit Operating Plan, were identified to reduce the overall effects of traffic spillover by encouraging use of non-automobile modes; however, because spillover traffic may still occur during periods of congestion, the impacts were expected to remain significant and unavoidable, even with implementation of these mitigation measures.

Based on the intersection LOS analysis, summarized in Table 17, p. 72, and in detail in Appendix B, which evaluated eight intersections that would experience the majority of traffic volume changes related to the proposed changes, the 2024 Modified Project Variant would result in similar or better LOS compared to the 2010 R&D Variant (Variant 1). Therefore, it can be reasonably concluded that the amount of 2024 Modified Project Variant-related traffic resulting in spillover traffic into neighborhood streets would be similar to or less than the 2010 FEIR.

In summary, there are no changes in the Project that would require revisions of the 2010 FEIR; accordingly, the impact would remain significant and unavoidable, even with implementation of the identified mitigation measures.

Impact TR-11: Implementation of the Project would contribute to significant cumulative traffic impacts at four freeway segments. ***[Criteria D.a, D.b, D.g]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable	Significant and Unavoidable

The 2010 FEIR found that the Project would contribute to significant cumulative traffic impacts on freeway segments. No mitigation measures were identified to reduce the severity of these impacts. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that changes to other roadway segments, including freeways, would not result in a substantial change in freeway operations, and the slight change would be nearly imperceptible. The impact would remain significant and unavoidable, and there would continue to be no feasible mitigation measure to reduce the level of this impact.

Impact TR-12: Implementation of the Project would result in significant impacts at four freeway on-ramp locations. ***[Criteria D.a, D.b, D.g]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable	Significant and Unavoidable

The 2010 FEIR found that the Project would contribute to significant cumulative traffic impacts on the following freeway on-ramps:

- US-101 northbound on-ramp from Alemany Boulevard
- US-101 northbound on-ramp from Harney Way
- US-101 northbound on-ramp from Bayshore Boulevard/Cesar Chavez Street

- US-101 southbound on-ramp from Harney Way/Geneva Avenue

No mitigation measures were identified to reduce the severity of these impacts. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 Variant (R&D Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project would result in similar traffic operations as evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, and there continues to be no feasible mitigation measure to reduce the level of this impact.

Impact TR-13: Implementation of the Project would contribute to significant cumulative traffic impacts at 12 freeway ramp locations. ***[Criteria D.a, D.b, D.g]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable	Significant and Unavoidable

The 2010 FEIR found that the Project would contribute to significant cumulative traffic impacts on the following freeway ramps:

- US-101 northbound on-ramp from Sierra Point Parkway
- US-101 northbound on-ramp from Harney Way
- US-101 northbound on-ramp from Alemany Boulevard
- US-101 northbound on-ramp from Bayshore Boulevard/Cesar Chavez Street
- US-101 southbound off-ramp to Bayshore Boulevard/Cesar Chavez Street
- US-101 southbound on-ramp from Third Street/Bayshore Boulevard
- US-101 southbound on-ramp from Harney Way/Geneva Avenue
- US-101 southbound on-ramp from Sierra Point Parkway
- I-280 northbound off-ramp to Cesar Chavez Street
- I-280 northbound on-ramp from Indiana Street/25th Street
- I-280 southbound off-ramp to Pennsylvania Avenue/25th Street
- I-280 southbound on-ramp from Pennsylvania Avenue/25th Street

No mitigation measures were identified to reduce the severity of these impacts. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72,

which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project would result in similar traffic operations as evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, and there continues to be no feasible mitigation measure to reduce the level of this impact.

Impact TR-14: Implementation of the Project could result in significant impacts related to freeway diverge queue storage at the Harney/US-101 Northbound Off-ramp. ***[Criteria D.a, D.b, D.g]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR found that the Project would cause a significant traffic impact related to freeway diverge segment and queue storage at the off-ramp to Harney Way from northbound US-101. Mitigation measure MM TR-6, identified as part of the Project's impacts to the interchange intersections at Harney Way, would also serve to reduce impacts to the off-ramp diverge section and queue storage. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease traffic volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project would result in similar traffic operations as evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

Impact TR-15: Implementation of the Project could contribute to significant cumulative traffic impacts related to freeway diverge queue storage at some off-ramp locations (US-101 Northbound off-ramp to Harney Way, and US-101 Southbound Off-ramp to Harney Way/Geneva Avenue). ***[Criteria D.a, D.b, D.g]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR found that the Project would contribute to significant cumulative traffic impacts related to freeway diverge segment and queue storage at the off-ramps to Harney Way from northbound and southbound US-101. The 2010 FEIR also identified that the Project would also contribute cumulatively significant traffic increases at off-ramps where queues may extend onto freeway mainline segments under 2030 No Project conditions at the following locations:

- US-101 northbound off-ramp to Harney Way
- US-101 northbound off-ramp to Bayshore/Cesar Chavez

- US-101 southbound off-ramp to Harney/Geneva
- US-101 southbound off-ramp to Sierra Point/Lagoon
- I-280 northbound off-ramp to Cesar Chavez

Mitigation measure MM TR-6, identified as part of the Project's impacts to the interchange intersections at Harney Way, would also serve to reduce impacts to the off-ramp diverge sections and queue storage capacities. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes slightly in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project would result in similar traffic operations as evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

Impact TR-16: Implementation of the Project would increase traffic volumes, but would not make a considerable contribution to cumulative traffic volumes on Harney Way. ***[Criterion D.a]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR found that the Project would increase traffic volumes along Harney Way from northbound and southbound US-101. Mitigation measure MM TR-16, identified as part of the Project's impacts to the interchange intersections at Harney Way, would also serve to reduce impacts to the off-ramp diverge sections and queue storage capacities, such that implementation would reduce the Project's impact to less than significant. Mitigation measure MM TR-16 was revised for the 2019 Modified Project Variant to provide turn pockets along Harney Way and driveway access to the State Park. While the 2024 Modified Project would increase traffic volumes slightly in the AM peak hour and decrease volumes in the PM peak hour compared to 2010 R&D Variant (Variant 1); the slight change would be imperceptible compared to the daily fluctuations in traffic. The impact would remain less-than-significant with implementation of the identified mitigation measure.

Impact TR-17: Implementation of the Project would not exceed available transit capacity, because the Project and the Project's contribution to cumulative demand would be accommodated within the existing transit service, proposed TEP service, plus the service proposed as part of the Project. ***[Criterion D.f]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

Similar to traffic impacts, the 2024 Modified Project Variant's transit impacts at build-out would be similar to what was described in the 2010 for R&D Variant (Variant 1). As noted above, the 2024 Modified Project Variant would slightly change traffic volumes within each site (i.e., CP and HPS2); however, as discussed in Table 17, p. 72, and described in greater detail in Appendix B, the change in traffic volumes is not expected to substantially increase intersection delays. Additionally, the land use changes contemplated as part of the 2024 Modified Project Variant would not substantially change the total transit demand compared to 2010 R&D Variant (Variant 1). Therefore, the 2024 Modified Project Variant would not result in additional or substantially more severe significant impacts beyond those identified in the 2010 FEIR under build-out conditions as it relates to transit capacity impacts.

External to the site, the 2010 FEIR included mitigation measure MM TR-22.1, which proposes transit-only lanes along Palou Avenue to maintain the proposed headways of the 23-Monterey, 24-Divisadero, and 44-O'Shauhnessy.Monitoring would be required to determine when or if the mitigation is needed. As described above, the changes in travel demand proposed in the 2024 Modified Project Variant are relatively minor, and are not expected to increase conflicts or travel times along Palou Avenue. If the 2024 Modified Project Variant were to increase conflicts or trigger mitigations sooner than originally forecasted, the monitoring program would ensure that the mitigation identified in MM TR-22.1 was implemented in time to keep impacts from becoming more severe than identified in the 2010 FEIR.

Similarly, the 2010 FEIR identified mitigation measure MM TR-24.1, which proposes transit-only lanes along Evans Avenue to maintain the 48-Quintara proposed headways. A similar monitoring program was established, such that if transit delays associated with the 2024 Modified Project Variant are greater (or materialize more quickly in the buildout stages of the 2024 Modified Project Variant) than identified in the 2010 FEIR, the mitigation measure would simply be implemented sooner, meaning that excessive transit delays would still be avoided. Therefore, the 2024 Modified Project Variant would not increase transit delays associated with traffic congestion, and mitigation measure MM TR-17, which calls for the Project Applicant to work with San Francisco Municipal Transportation Agency (SFMTA) to implement the proposed transit service increases, would still apply.

Similar to the Project's roadway infrastructure, the Project's transit network was proposed to be implemented at various levels throughout the development as described in the Transit Operating Plan. As a result of proposed changes to the development phasing, the transit phasing has been modified in order to ensure that the appropriate transit service is provided throughout the

development as currently envisioned. The Transportation Plan denotes that SFMTA has discretion to adjust transit service to address changes in the operating environment and service demands based on SFMTA's planning methodology and public input if modifications result in:

- Similar or higher transit mode share to what was projected in the 2010 FEIR
- Adequate capacity to serve projected transit ridership
- Similar or less severe traffic impacts to those identified in the 2010 FEIR

The proposed changes to development phasing would affect the future operating environment and service demands. The proposed changes to the Transit Operating Plan would better meet those future demands consistent with the provisions in MM TR-17.

The transit phasing proposed in the 2010 Project, the 2019 Modified Project Variant, and 2024 Modified Project Variant are shown in Table 18 (Transit Phasing).

TABLE 18 TRANSIT PHASING

		2010 Project/Approved Transit Operating Plan		*2019 Modified Project Variant*		*2024 Modified Project Variant*	
Route	*Frequency*	*Major Phase*	*Approx. Year*	*Major Phase/ Sub-phase*	*Approx. Year*	*Major Phase*	*Approx. Year*
Hunters Point Shipyard							
Hunters Point Express (HPX)	20	1	2017	1/HP-01	2034[b]	HP 1	TBD[e]
	10	1	2019	2/HP-04	2037	HP 2	TBD[e]
	6	N/A	N/A	3/HP-06	2037	HP 3	TBD[e]
23 Monterey	20	1	2017	1/HP-01	2034	HP 1	TBD[e]
23 Monterey or 24 Divisadero[a]	15	2	2023	2/HP-04	2037	HP 2	TBD[e]
	10	2	2025	3/HP-06	2037	HP 3/	TBD[e]
48 Quintara	15	1	2015	1/HP-01	2034	HP 1	TBD[e]
	10	1	2019	2/HP-03	2035	HP 2	TBD[e]
44 O'Shaughnessy	10	N/A	N/A	1/HP-02	2033	HP 1	TBD[e]
	7.5	1	2017	2/HP-03	2035	HP 2	TBD[e]
	6.5	1	2019	3/HP-06	2037	HP 3	TBD[e]
Candlestick Point							
Candlestick Point Express (CPX)	20	2	2021	N/A	N/A	N/A	N/A
	15	2	2022	1/CP-03	2024	CP 4	2036
	10	3	2027	1/CP-02	2025 (Residential)	--	--
	5	--	--	--	--	CP 5	2041
29 Sunset	10	2	2021	1/CP-03	2024	CP 2	2031
	5	2	2022	1/CP-02	2026 (Non-Residential)	CP 3	2034
56 Rutland	20	--	--	--	--	CP 2	2031

TABLE 18 TRANSIT PHASING

Route	Frequency	2010 Project/Approved Transit Operating Plan: Major Phase	2010 Project/Approved Transit Operating Plan: Approx. Year	2019 Modified Project Variant: Major Phase/ Sub-phase	2019 Modified Project Variant: Approx. Year	2024 Modified Project Variant: Major Phase	2024 Modified Project Variant: Approx. Year
Routes Serving Both Sites							
28R/BRT to CP[c]	8	N/A	N/A	N/A	N/A	CP 7	2050
	5	N/A	N/A	3/CP-07	2028	N/A	N/A
28R/BRT to CP and HPS (includes construction of Yosemite Slough Bridge)[d]	8	2	2021	N/A	N/A	N/A	N/A
	5	2	2022	2/HP-04	2037	TBD	TBD[c,e]
T Third	6	2	2020	No Change—Not triggered by Project development		No Change—Not triggered by Project development	
	5	3	2025				

SOURCE: Fehr & Peers, 2024.

NOTES:

Based on discussions with SFMTA, the agency will provide transit service commensurate with customer demand as phases of development are built out and passenger destinations are better known. Given the substantial delay in the HPS2 development and delay in other developments along the Geneva-Harney corridor, demand for BRT service will likely be substantially lower than originally expected as initial phases of the CP development are built out. Changes to BRT and other transit serving the CP-HPS2 site may be necessary to meet customer demand during that time. Mitigation measure MM TR-17 notes that the transit operating plan may be modified from what was approved in the 2010 FEIR "to address changes in the operating environment and service demands" based on SFMTA's planning methodology and public input if modifications result in:

- Similar or higher transit mode share to what was projected in the 2010 FEIR
- Adequate capacity to serve projected transit ridership
- Similar or less severe traffic impacts to those identified in the 2010 FEIR

a. The 23 Monterey service may extend into HPS2 until SFMTA's fleet is modified to eliminate the need for an Overhead Contact System (OCS) wires extended into the HPS2 site, at which point the 24 Divisadero would be extended and the 23 Monterey would return to its original (existing) routing. The Approved Transit Operating Plan also called for three levels of service, corresponding to 15-, 10-, and 7.5-minute frequencies. The Modified Transit Operating Plan has been changed to reduce service levels on this route and increase service levels on express bus routes based on direction from SFMTA staff.

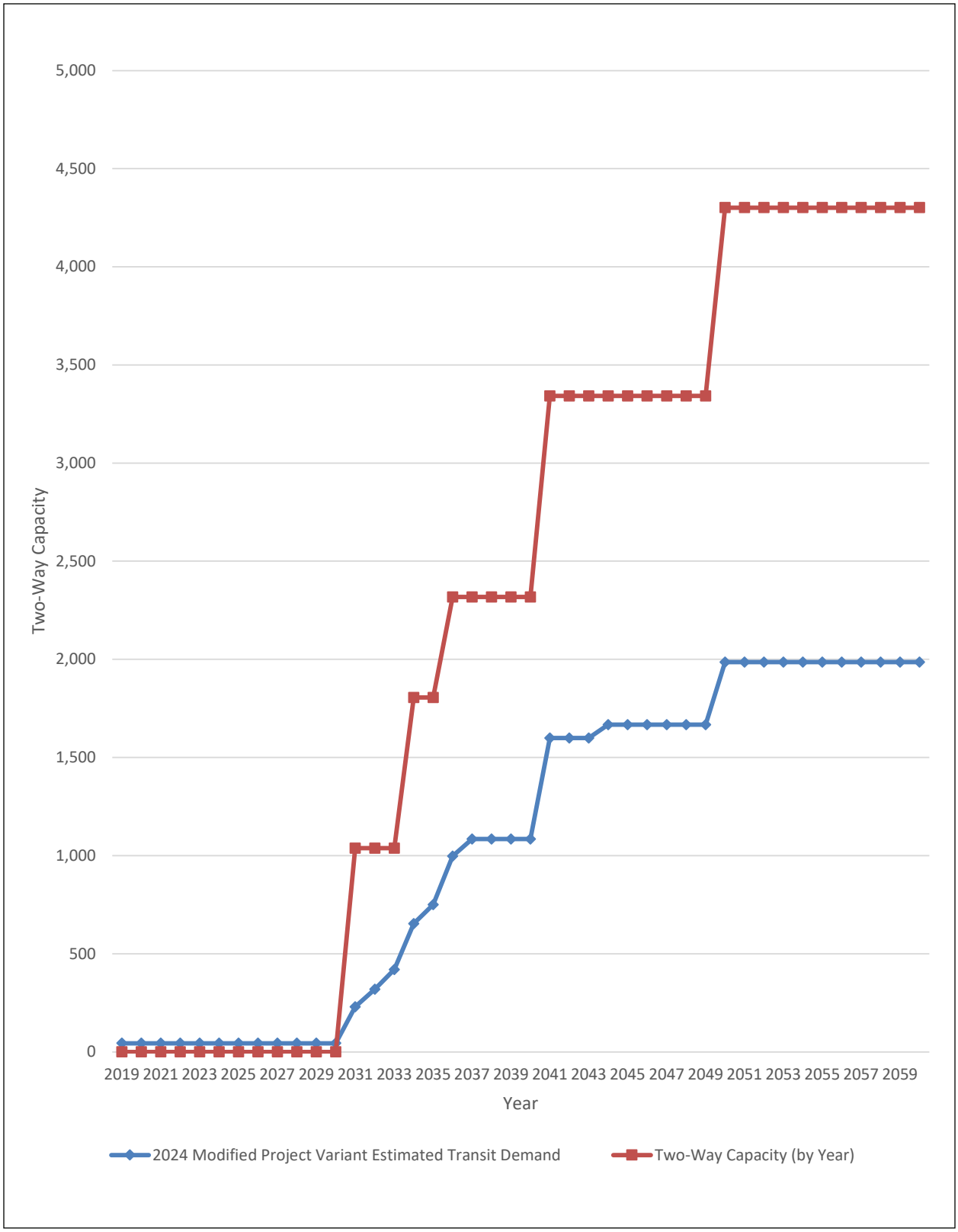
b. Under the 2019 Modified Project Variant, the anticipated development schedule calls for the first portions of HP-01 to be completed in 2029, that portion is primarily reconstruction of existing artists' studios. The first portion of new development is scheduled to be complete by approximately 2034, which is when new transit service would likely be warranted. Similarly, the 2024 Modified Project Variant anticipates the first portion of new development to occur by approximately 2039, which is when new transit service would likely be warranted. Timing of HPS2 is speculative, therefore, the approximate year of the trigger will be determined at a later date, once development at HPS2 proceeds

c. Due to the delay in construction at HPS2, the BRT is only expected to initially serve CP. The BRT route would not extend into HPS2 until a later phase as identified.

d. The construction of the Yosemite Slough Bridge would not be triggered until the BRT extends from CP to HPS2.

e. Timing of HPS2 is speculative, therefore, the approximate year of the trigger will be determined at a later date, once development at HPS2 proceeds.

As noted earlier, development at CP and HPS2 is anticipated to occur later than anticipated in the 2010 FEIR and 2019 Modified Project Variant. The 2024 Transit Operating Plan has been revised to correspond to the revised development schedule for routes serving CP. The Transit Operating Plan would also require changes at HPS2 given the shift of 2,050,000 square feet of R&D/office uses from HSP2 to CP. However, given the uncertainty and timing of HPS2, a revised Transit Operating Plan at HPS2 will be provided once development proceeds. Figure 9 (Candlestick Point Transit Service Comparison, Two-Way Capacity vs. Demand) illustrates that the 2024 Transit Operating Plan provides sufficient Muni service during each year of buildout at CP. As shown in Figure 9, the level of transit service capacity will always remain substantially higher than the demand at CP.



SOURCE: SFMTA, 2024

FIGURE 9 Addendum 7 to the CP-HPS2 2010 FEIR

CANDLESTICK POINT TRANSIT SERVICE COMPARISON TWO WAY CAPACITY VS DEMAND

Therefore, transit capacity would be adequate to serve the expected demand, and the mode split (i.e., the percentage of trips made by transit) would remain similar to the 2019 Modified Project Variant, which showed a transit capacity that was adequate to, or better than, the 2010 FEIR, meaning that there would not be additional significant transit impacts beyond those described in the 2010 FEIR, nor would the 2024 Modified Project Variant substantially increase the severity of significant impacts identified in the 2010 FEIR. The impact would remain less than significant with implementation of the identified mitigation measure.

Impact TR-18: With full implementation of the Project with proposed transit improvements, the Project demand and the Project's contribution to cumulative demand would not exceed the proposed transit system's capacity at the study area cordons. ***[Criteria D.f, D.i]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR found that the Project would cause a less-than-significant impact related to transit crowding, with implementation of the Project's Transit Operating Plan, identified as mitigation measure MM TR-17. Table 19 (Transit Ridership and Capacity Utilization at Study Area Cordons) describes Transit Ridership and Capacity Utilization at Study Area Cordons for the 2010 R&D Variant (Variant 1) and 2019 Modified Project Variant.

As shown in Table 19, the 2010 R&D Variant (Variant 1) is expected to operate under Muni's 85 percent capacity utilization standard at the study area cordons. Similarly, the 2024 Modified Project Variant is expected to operate under Muni's 85 percent capacity utilization standards. Therefore, transit capacity would continue to remain adequate to serve the 2024 Modified Project Variant. Impacts would remain less than significant with implementation of the identified mitigation measures.

As shown in Table 19, the 2010 R&D Variant (Variant 1) is expected to operate under Muni's 85 percent capacity utilization standard at the study area cordons. Similarly, the 2024 Modified Project Variant is expected to operate under Muni's 85 percent capacity utilization standards. Therefore, transit capacity would continue to remain adequate to serve the 2024 Modified Project Variant. Impacts would remain less than significant with implementation of the identified mitigation measures.

TABLE 19 TRANSIT RIDERSHIP AND CAPACITY UTILIZATION AT STUDY AREA CORDONS

	2010 R&D Variant (Variant 1)		*2024Modified Project Variant*	
Cordon/Peak Hour	*Ridership*	*Capacity Utilization*	*Ridership*	*Capacity Utilization*
AM Peak Hour				
East of Third				
Inbound	2,585	65%	2,594	65%
Outbound	1,841	46%	1,829	46%
North Cordon				
Inbound	2,490	70%	2,499	70%
Outbound	2,257	64%	2,243	64%
West Cordon				
Inbound	3,108	78%	3,119	78%
Outbound	2,073	52%	2,060	52%
PM Peak Hour				
East of Third				
Inbound	2,280	57%	2,259	56%
Outbound	2,214	56%	2,200	56%
North Cordon				
Inbound	2,889	81%	2,863	80%
Outbound	2,299	65%	2,284	65%
West Cordon				
Inbound	2,076	52%	2,057	52%
Outbound	2,442	61%	2,427	61%

SOURCE: Fehr & Peers, 2024.

Impact TR-19: Implementation of the Project would add transit trips and the Project's contribution to cumulative transit trips to the Downtown Screenlines would not increase demands in excess of available capacity. ***[Criterion D.f, D.i]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

The 2010 FEIR found that the Project would cause a less-than-significant impact related to transit crowding at the Downtown Screenlines. Table 20 (Transit Ridership and Capacity Utilization at Downtown Screenlines) illustrates the Transit Ridership and Capacity Utilization at Downtown Screenlines for the 2010 R&D Variant (Variant 1) and the 2024 Modified Project Variant.

As shown in Table 20, the 2010 R&D Variant (Variant 1) is expected to operate under Muni's 85 percent capacity utilization standard at the Downtown screenlines. Similarly, the 2024 Modified Project Variant is expected to operate under Muni's 85 percent capacity utilization standards. Therefore, transit capacity would continue to remain adequate to serve the 2024 Modified Project Variant. There would continue to be a less-than-significant impact, and no mitigation measures are required.

TABLE 20 TRANSIT RIDERSHIP AND CAPACITY UTILIZATION AT DOWNTOWN SCREENLINES

	2010 R&D Variant (Variant 1)		*2024 Modified Project Variant*	
Cordon/Peak Hour	*Ridership*	*Capacity Utilization*	*Ridership*	*Capacity Utilization*
AM Peak Hour				
Northeast	3,008	78%	3,007	78%
Northwest	8,949	75%	8,946	75%
Southeast	7,573	74%	7,570	74%
Southwest	7,674	76%	7,671	76%
Total All AM Peak Hour Screenlines	***27,204***	***75%***	***27,194***	***75%***
PM Peak Hour				
Northeast	3,140	78%	3,128	78%
Northwest	8,155	75%	8,123	75%
Southeast	8,306	84%	8,274	84%
Southwest	8,829	82%	8,795	82%
Total All PM Peak Hour Screenlines	***28,430***	***80%***	***28,320***	***80%***

SOURCE: Fehr & Peers, 2024.

Impact TR-20: Implementation of the Project would add transit trips and the Project's contribution to cumulative transit trips would not contribute significantly to Regional Screenlines conditions where overall ridership is projected to exceed available capacity. ***[Criterion D.f, D.i]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

The 2010 FEIR found that the Project would cause no impact related to transit crowding on regional transit providers. As discussed in Appendix B, the 2024 Modified Project Variant would very slightly change transit demand compared to 2010 R&D Variant (Variant 1); however, despite the change and as shown in Table 19 and Table 20, above, the 2024 Modified Project Variant transit capacity would operate similar to the 2010 FEIR and remain adequate to serve the Project's cumulative transit demand at study area cordons and Downtown screenlines. Therefore, it can be reasonably concluded that transit capacity would continue to remain adequate to serve the 2024 Modified Project Variant at the regional screenline. There would continue to be no impact, and no mitigation measures are required.

Impact TR-21: Implementation of the Project could increase congestion and contribute to cumulative conditions at intersections along San Bruno Avenue, which would increase travel times and impact operations of the 9-San Bruno. ***[Criterion D.i]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR found that the Project would cause a significant impact related to transit service on the 9-San Bruno due to delays associated with Project-related traffic congestion. The 2010 FEIR identified mitigation measures MM TR-21.1 and MM TR-21.2, which called for physical improvements to improve transit speeds or, if not feasible, additional vehicles added to the route to maintain headways. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project would result in similar traffic operations as evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

Impact TR-22: Implementation of the Project would contribute traffic to cumulative conditions at intersections along Palou Avenue, which would increase travel times and impact operations of the 23-Monterey, 24-Divisadero, and the 44-O'Shaughnessy. ***[Criterion D.i]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR found that the Project would cause a significant impact related to transit service on Palou Avenue due to delays associated with Project-related traffic congestion. The 2010 FEIR identified mitigation measures MM TR-22.1 and MM TR-22.2, which called for physical improvements to improve transit speeds or, if not feasible, additional vehicles added to the route to maintain headways. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project would result in similar traffic operations as evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

Impact TR-23: Implementation of the Project would increase congestion at intersections along Gilman Avenue and Paul Avenue, which would increase travel times and would impact operations of the 29 Sunset. ***[Criterion D.i]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR found that the Project would cause a significant impact related to transit service on the 29-Sunset due to delays associated with Project-related traffic congestion. Mitigation measures MM TR-23.1 and MM TR-23.2 are included in the approved Mitigation Monitoring and Reporting Program and call for physical improvements to improve transit speeds or, if not feasible, additional vehicles added to the route to maintain headways. The impact was considered to remain significant and unavoidable because the feasibility of improvements to Paul Avenue was not certain.

As discussed in Table 15, p. 62, and Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project would result in similar traffic operations as evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

Impact TR-24: Implementation of the Project would increase congestion at intersections along Evans Avenue, which would increase travel times and impact operations of the 48-Quintara-24th Street. ***[Criterion D.i]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR found that the Project would cause a significant impact related to transit service on Evans Avenue due to delays associated with Project-related traffic congestion. The 2010 FEIR identified mitigation measures MM TR-24.1 and MM TR-24.2, which called for physical improvements to improve transit speeds or, if not feasible, additional vehicles added to the route to maintain headways. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project would result in similar traffic operations as

evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

Impact TR-25: Implementation of the Project would increase congestion at intersections in the study area, and make a considerable contribution to cumulative impacts that would increase travel times and impact operations of the 54-Felton. ***[Criterion D.i]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR found that the Project would cause a significant impact related to transit service on the 54-Felton due to delays associated with Project-related traffic congestion. The 2010 FEIR identified mitigation measure MM TR-25, which called for additional vehicles added to the route to maintain headways. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2019 Modified Project would result in similar traffic operations as evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

Impact TR-26: Implementation of the Project would increase congestion at intersections along Third Street, and make a considerable contribution to cumulative impacts that would increase travel times and impact operations of the T-Third. ***[Criterion D.i]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR found that the Project would cause a significant impact related to transit service on the T-Third due to delays associated with Project-related traffic congestion. The 2010 FEIR identified mitigation measures MM TR-26.1 and MM TR-26.2, which called for physical improvements to improve transit speeds or, if not feasible, additional vehicles added to the route to maintain headways. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project would result in similar traffic operations as

evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, even with implementation of the identified mitigation measure.

Impact TR-27: Implementation of the Project could increase congestion at the intersection of Geneva Avenue and Bayshore Boulevard. This would increase travel times and impact operations of the 28L-19th Avenue/Geneva Limited. ***[Criterion D.i]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR found that the Project would cause a significant impact related to transit service on the 28L-19th Avenue/Geneva Rapid due to delays associated with Project-related traffic congestion. The 2010 FEIR identified mitigation measures MM TR-27.1 and MM TR-27.2, which called for physical improvements to improve transit speeds or, if not feasible, additional vehicles added to the route to maintain headways. However, since completion of the 2010 FEIR, SFMTA has suspended service of the 28L-19th Avenue/Geneva Limited route. Therefore, Impact TR-27 no longer applies.

Impact TR-28: Implementation of the Project would increase congestion on US-101 mainline and ramps, which would increase travel times and impact operations of the 9X, 9AX, 9BX-Bayshore Expresses, and 14X-Mission Express. The Project would also contribute to cumulative impacts on these transit routes on US-101. ***[Criterion D.i]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable	Significant and Unavoidable

The 2010 FEIR found that the Project would cause a significant impact related to transit service on the 9X, 9AX, 9BX-Bayshore Express and 14X Mission Express routes for the portions of those routes on US-101 due to delays associated with Project-related traffic congestion. (The 9X San Bruno Express has been renamed the 9R San Bruno Rapid, and the 9AX and 9BX have been renamed the 8AX Bayshore A Express and the 8BX Bayshore B Express, respectively, with slight changes to routing and service since publication of the 2010 FEIR). For purposes of Addendum 7, the impacts previously identified for the 9 Bayshore Routes would apply to the 8 Bayshore routes.

The 2010 FEIR determined that no feasible mitigation existed to improve operations on these routes. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project would result in similar traffic operations as

evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, and there would continue to be no feasible mitigation measures to reduce the level of this impact.

Impact TR-29: Implementation of the Project would not contribute to cumulative impacts on the 14X-Mission Express transit route when on I-280. ***[Criterion D.i]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

The 2010 FEIR found that the Project would cause a less-than-significant impact related to transit service on the 14X Mission Express routes on I-280 due to delays associated with Project-related traffic congestion. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project would result in similar traffic operations as evaluated in the 2010 FEIR. There would continue to be a less-than-significant impact, and no mitigation measures are required.

Impact TR-30: Implementation of the Project would increase congestion and contribute to cumulative congestion on US-101 and on Bayshore Boulevard, which would increase travel times and adversely affect operations of SamTrans bus lines on these facilities. No feasible mitigation has been identified. ***[Criterion D.i]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable	Significant and Unavoidable

The 2010 FEIR found that the Project would cause a significant impact related to regional transit service on Bayshore Boulevard and US-101. The 2010 FEIR determined that no feasible mitigation existed to improve operations on these routes. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes during the AM peak hour and decrease volumes during the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project would result in similar traffic operations as evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, and there would continue to be uncertainty concerning the feasibility of mitigation measures to reduce the level of this impact.

Impact TR-31: During implementation of the Project, bicycle facilities would be expanded to serve additional users. This would be a beneficial impact of the Project. ***[Criterion D.k]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

The 2010 FEIR found that the Project would cause a less-than-significant impact related to bicycle facilities and bicycle access as the environment for bicycling would improve within and in the vicinity of the Project site. The 2024 Modified Project Variant does not propose any new refinements to the proposed bicycle network compared to the 2019 Modified Project Variant. Additionally, the proposed Candlestick Center parking facilities would be designed to meet City standards and accommodate the proposed bicycle network, such that the proposed improvements would not change impacts to cyclists.

Therefore, this impact is not discussed further, and no new significant impacts would result, or mitigation measures are required. The impact of the 2024 Modified Project Variant associated with the expansion of the bicycle network would remain beneficial.

Impact TR-32: Implementation of the Project's proposed transit preferential treatments and significant increases in traffic volumes on Palou Avenue could result in impacts on bicycle travel on Bicycle Routes #70 and #170 between Griffith Street and Third Street. ***[Criterion D.k]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR found that the Project would cause a significant impact related to bicycle circulation due to traffic volume increases on Palou Avenue. The 2010 FEIR identified mitigation measure MM TR-32, which called for relocating the bicycle facility on Palou Avenue to another, less-congested, parallel street. Because the feasibility of relocating the facility was uncertain, the impact was considered significant and unavoidable. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease traffic volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project would result in similar traffic operations as evaluated in the 2010 FEIR. The impact would remain significant and unavoidable, and there would continue to be no feasible mitigation measures to reduce the level of this impact.

Impact TR-33: During implementation of the Project, pedestrian facilities would be expanded to serve additional users. This would be a beneficial impact of the Project. ***[Criterion D.j]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

The 2010 FEIR noted that the Project would generally improve pedestrian conditions in the area by widening existing sidewalks and creating a pedestrian-oriented neighborhood within the Project site, thereby creating a beneficial impact. The 2024 Modified Project Variant does not propose any changes to the pedestrian facilities compared to the 2019 Modified Project Variant analyzed in Addendum 6. The 2024 Modified Project Variant would maintain the Project's goals of prioritizing the pedestrian realm through provision of generous sidewalks with streetscape amenities and safety measures, such as bulb-outs at key locations. Sidewalks would generally remain between 12 and 15 feet, within the range of sidewalks considered in the original plan. Additionally, the proposed CP Center parking facilities would be designed to meet City standards and accommodate the proposed pedestrian network, such that the proposed improvements would not change impacts to pedestrians. There would continue to be a beneficial impact, and no mitigation measures are required.

Impact TR-34: Implementation of the Project would result in traffic volumes on area roadways that would not substantially affect pedestrian circulation and safety in the Project vicinity. ***[Criterion D.j]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR concluded that although the Project would increase conflicts between pedestrians, bicycles, and autos, the overall benefits to pedestrian safety associated with the Project's proposed improved pedestrian facilities would result in a less-than-significant impact. As discussed in Appendix B, the 2024 Modified Project Variant would slightly increase traffic volumes in the AM peak hour and decrease traffic volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, despite the change in volumes, the intersection LOS and delay is expected to operate similarly or better than the 2010 R&D Variant (Variant 1) as illustrated in Table 17, p. 72, which evaluated a subset of intersections that would experience the majority of traffic volume changes as a result of the 2024 Modified Project Variant. Therefore, it can be reasonably concluded that the 2024 Modified Project Variant would result in similar traffic operations as evaluated in the 2010 FEIR. The impact would remain less than significant, and no mitigation is required.

Impact TR-35: Implementation of the Project would not result in significant impacts associated with a lack of an adequate supply of parking that could not be accommodated within alternative modes. ***[Criteria D.e and D.h]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR determined that although the Project would result in a shortfall of parking spaces compared to its projected demand, the Project's impacts to parking conditions would be less than significant. The 2024 Modified Project Variant would potentially result in slightly fewer parking spaces on-street than the maximum envelope anticipated as part of 2010 R&D Variant (Variant 1). Specifically, Table 84 of Appendix D, *Transportation Study*, to the 2010 FEIR identified that 2010 R&D Variant (Variant 1) would include approximately 3,000 on-street parking spaces (roughly evenly split between CP and HPS) and between zero and approximately 20,000 off-street spaces. Therefore, the 2010 FEIR concluded there would be a range of between approximately 3,000 spaces and 23,000 spaces in the entire development area.

As described in the Project Description, the 2024 Modified Project Variant proposes to modify the vehicular parking ratios included in the approved Transportation Plan for R&D/office uses at CP. The 2024 Modified Project Variant includes a parking ratio of 2 parking spaces per 1,000 square feet for the initial phases of development at CP with a goal of reducing the parking ratios as development progresses. As described in the Project Description, the 2024 Modified Project Variant proposes to modify the vehicular parking ratios included in the approved Transportation Plan for R&D/office uses at CP. The 2024 Modified Project Variant includes a parking ratio of 2 parking spaces per 1,000 square feet for the first 1,700,000 square feet of R&D/office development at CP Center. The Project Sponsor seeks to conduct a parking study once the 1,700,000 square feet of development is completed to right size the remaining parking needs, subject to review and approval by SFMTA. If the parking study is either not completed or not approved, a maximum parking ratio of 1.3 parking spaces per 1,000 square feet will apply to the remaining 1,100,000 square feet of R&D/office. As illustrated in **Table 5** (**Maximum Allowed Parking Supply**), p. 18, the 2024 Modified Project Variant proposes a maximum parking supply of approximately 23,000 parking spaces, which is an approximate increase of 40 parking space compared to the 2010 R&D Variant (Variant 1).

Therefore, since the 2024 Modified Project Variant would still provide parking within the range identified in the 2010 FEIR, conclusions in the 2010 FEIR related to parking remain valid. The impact would remain less than significant, and no mitigation is required.

Impact TR-36: Implementation of the Project roadway improvements would displace on-street parking spaces, and the existing demand could be accommodated in the nearby vicinity. ***[Criteria D.e and D.h]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR determined that the Project would remove some existing on-street parking spaces because of changes to the existing roadway configuration and implementation of mitigation measures related to transit improvements. However, the 2010 FEIR determined that those impacts would be less than significant as vehicles would be able to park in other nearby streets. The 2024 Modified Project Variant would not affect the on-street parking beyond what was analyzed in the 2010 FEIR and, thus, does not create any changes to this impact discussion. The impact would remain less than significant, and no mitigation is required.

Impact TR-37: Implementation of the Project would not result in significant impacts associated with a lack of adequate supply of loading spaces. ***[Criterion D.l]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR determined that the Project would provide adequate loading supply and, therefore, concluded that impacts related to loading would be less than significant, and no mitigation measures are required. The 2024 Modified Project Variant would be designed to follow the same loading supply minimums as presented in the 2010 FEIR, Therefore, implementation of the 2024 Modified Project Variant would not result in any new significant impacts related to loading. The impact would remain less than significant, and no mitigation is required.

Impacts TR-38 through TR-50: Transportation impacts related to the Proposed NFL Stadium.

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	N/A	N/A

The 2010 FEIR included a number of impacts related to operation of the proposed new NFL stadium in the HPS site. However, the stadium is not part of the 2024 Project Modification Variant, and these impacts and associated mitigation measures no longer apply.

Impacts TR-51 through TR-55: Transportation impacts related to the proposed new arena. ***[Criteria D.a, D.b, D.e, D.f, D.g, D.h, D.i, D.j, D.k]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation (Impacts TR-51 and TR-52), Less than Significant (Impacts TR-53 to TR-55)	Significant and Unavoidable with Mitigation (Impacts TR-51 and TR-52), Less than Significant (Impacts TR-53 to TR-55)

The 2010 FEIR determined that the Project's proposed 10,000-seat performance venue/arena use would create new significant impacts associated with events at the performance venue/arena not captured in the typical day-to-day operations at the site with no performance venue/arena event. Specifically, Impact TR-51 noted that the arena component of the Project would create significant and unavoidable traffic and site access impacts and required development of an event Transportation Management Plan (TMP) by the arena operator as Mitigation Measure MM TR-51. However, even with MM TR-51, the arena's impacts to site access and traffic would be significant and unavoidable. The 2010 FEIR also identified as part of Impact TR-52, that the arena's traffic generation would have significant impacts to transit operation and identified Mitigation Measure MM TR-23.1 (operational improvements to the 29 Sunset route) as a way to reduce the effects of the arena traffic on the 29 Sunset travel times. However, even with implementation of these two mitigation measures, the 2010 FEIR concluded that the arena's impacts to traffic congestion and transit operations would remain significant and unavoidable. The 2010 FEIR also determined that the arena would have a less than significant impact on bicycle circulation (TR-53), pedestrian circulation (TR-54), and parking conditions (TR-55).

The 2024 Modified Project Variant includes changes to the arena evaluated and approved in Addendum 6, which substantially reduces the capacity of the proposed performance venue/arena from 10,000 seats to a 1,200 seat film arts center and 4,400 seat performance venue. As discussed in Appendix B, the 2024 Modified Project would slightly increase traffic volumes in the AM peak hour and decrease volumes in the PM peak hour compared to the 2010 R&D Variant (Variant 1); however, the slight change would be imperceptible compared to the daily fluctuations in traffic. Therefore, the 2024 Modified Project Variant would not create any new significant impacts or substantially increase the severity of a significant impact associated with events compared to what was described in the 2010 FEIR. Impacts would remain significant and unavoidable with respect to Impacts TR-51 and TR-52, even with implementation of the identified mitigation measures. Impacts would remain less than significant with respect to Impacts TR-53, TR-54, and TR-55, and no mitigation is required for these impacts.

Impact TR-56: Implementation of the Project would not impact air traffic. ***[Criterion D.c]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR determined that the Project would have a less-than-significant impact on air traffic. The 2024 Modified Project Variant would contain the same overall land uses and general

development form and would not change the 2010 FEIR's conclusion regarding air traffic. The 2024 Modified Project Variant would not create any new significant impacts with respect to air traffic and no additional mitigation measures are required. Impacts would remain less than significant, and no mitigation is required.

Impact TR-57: Implementation of the Project would not create hazards due to any proposed design features. ***[Criterion D.d]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR determined that the Project's transportation infrastructure would be designed in accordance with city standards and would be reviewed and approved by the City prior to construction. As a result, the Project's impacts to hazards would be less than significant. The 2024 Modified Project Variant would also be designed accordance with city standards and would be reviewed and approved by the City. Therefore, the impact to design features would remain less than significant, and no mitigation is required.

Impact TR-58: Implementation of the Project would not result in significant emergency access impacts. ***[Criterion D.m]***

	2010 CP-HPS Phase II FEIR	*2010 CP-HPS Phase II FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR determined that the Project's transportation infrastructure would adequately facilitate emergency access and be designed to city standards, which include provisions that address emergency vehicles. The 2024 Modified Project Variant would also be designed accordance with city standards and would be reviewed and approved by the City. Therefore, the impact to emergency access would remain less than significant, and no mitigation is required.

Vehicle Miles Traveled (VMT)

Subsequent to certification of the FEIR in 2010, the State of California enacted amendments to CEQA and the Office of Planning and Research (OPR) has issued new CEQA Guidelines concerning the assessment of transportation impacts that generally recommend using VMT and state that automobile delay does not constitute a significant impact under CEQA (PRC Section 21099 and CEQA Guidelines Section 15064.3). Pursuant to CEQA Section 21099(b)(2), once these Guidelines are adopted, such projects may not use automobile delay described solely by level of service (LOS) as a criterion for determining significant impacts on the environment. Thus, OCII, as lead agency, has determined that it may not use automobile delay described solely by LOS as a criterion for determining significant impacts on the environment. The Guidelines also state that projects may be presumed to have a less than significant VMT impact if they are in a Transit Priority Area (TPA).

The majority of the CP site is within a TPA as identified by the Metropolitan Transportation Commission.[41] While the majority of the Project site is located within a TPA and could be presumed to result in a less than significant impact, a VMT analysis was performed. In addition to the foregoing LOS-based analysis (provided for continuity with the previous analysis performed in the 2010 FEIR and subsequent addenda), the lead agency is providing an assessment of transportation impacts of the 2024 Modified Project Variant using a VMT threshold and methodology, which the Commission of Community Investment and Infrastructure adopted in 2019. OCII's VMT threshold and methodology is consistent with the Governor's Office of Planning and Research publication *Technical Advisory on Evaluating Transportation Impacts under CEQA* (December 2018) as appropriately modified by discussion of VMT-based significance criteria and methodology for vehicle trips included in the San Francisco Planning Department publication *Transportation Impact Analysis Guidelines* (October 2019), as further set out below.

VMT Significance Criteria

The Commission of Community Investment and Infrastructure has adopted the following thresholds of significance:

- The Project would have a significant effect on the environment if it would cause substantial additional VMT.
- The Project would have a significant effect on the environment if it would substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow lanes) or by adding new roadways to the network.[42]

When utilizing these thresholds, the VMT assessment should analyze transportation conditions and identify the transportation impacts of a proposed project in San Francisco based on the following:[43]

- A residential project would generate substantial additional VMT if it exceeds the regional household VMT per capita minus 15 percent
- An office project would generate substantial additional VMT if it exceeds the regional VMT per employee minus 15 percent
- Retail projects should use a VMT efficiency metric approach: a project would generate substantial additional VMT if it exceeds the regional VMT per retail employee minus 15 percent
- Mixed-use projects, each proposed land use is evaluated independently, per the criteria described above

[41] https://opendata.mtc.ca.gov/datasets/MTC::transit-priority-areas-2021-1/explore?location=37.734460%2C-122.315058%2C12.94
[42] The Project's roadway capacity improvements are not considered a significant impact because the Project is not adding capacity to address existing congestion such that it would induce demand. Additionally, the roadway capacity improvements are local serving and associated with the demand from the Project; therefore, this criterion does not apply.
[43] These numeric thresholds are consistent with those recommended by the Governor's Office of Planning and Research. See Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018, p. 15. Available at http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf (accessed April 2024).

VMT Assessment

Table 21 (Existing and Future Year VMT per Capita Rates) presents the existing (Year 2020) and future year (Year 2050) VMT per capita rates for the Bay Area region and for the TAZs at CP that include the 2024 Modified Project Variant for both existing conditions and future year 2050 conditions. The VMT per capita rates are based on the SF-CHAMP model, which was recently updated to reflect the City of San Francisco Housing Element Update (2022) and 2019 Modified Project Variant in CP and HPS. Since the 2024 Modified Project Variant proposes similar land uses as the 2019 Modified Project Variant, it is reasonable to utilize the San Francisco Transportation Information Map, for VMT rates.[44] For residential development, the existing regional average daily VMT per capita is 18.6. For office and retail development, the existing regional average daily work-related VMT per employee is 25.7 and 14.9, respectively.

The CP portion of the 2024 Modified Project Variant includes residential, R&D/office, retail, hotel, and community uses, performance venue, and film arts center. Similar to the 2019 Modified Project Variant, this analysis considers VMT associated with R&D/office uses to be similar to office and hotel uses are considered to be similar to residential. The film arts center and performance venue have components that function similarly to retail and office as they attract similar users (employees and guests) that would likely travel similar distances. The community uses, which can include a variety of uses, such as fire or police services, childcare, and/or other community serving uses, are still somewhat undefined, but will likely function similar to local serving retail uses, as it will likely attract users that travel a similar distance as retail users. Therefore, the evaluation of the three primary land use categories for which data is available from the city adequately covers VMT patterns associated with all land uses at CP.

The SF-CHAMP model represents the CP site with three TAZs: TAZ 882, TAZ 881, TAZ 891. TAZ 882, which represents CP North, and TAZ 891, which represents Alice Griffith, are primarily comprised of residential units. TAZ 881 represents CP South/CP Center which is primarily comprised of residential, R&D/office, retail, hotel, and community uses, performance venue, and film arts center.

[44] San Francisco Transportation Information Map: https://sfplanninggis.org/TIM/

TABLE 21 EXISTING AND FUTURE YEAR VMT PER CAPITA RATES

	Bay Area			*Candlestick Point*					
				TAZ 882 (CP North)		*TAZ 881 (CP South/Retail)*		*TAZ 891 (Alice Griffith)*	
Land Use	*Existing Regional Average*	*Existing Regional Average minus 15%*	*Year 2050 Regional Average minus 15%*	*Existing*	*Future Year 2050 (With Buildout of Proposed Project)*	*Existing*	*Future Year 2050 (With Buildout of Proposed Project)*	*Existing*	*Future Year 2050 (With Buildout of Proposed Project)*
Households (Residential)	18.6	15.8	14.5	13.0	11.1	13.2	11.7	10.3	10.5
Employment (Office)	25.7	21.9	20.2	**23.3**	14.9	**25.7**	19.1	21.5	18.6
Visitors (Retail)	14.9	12.7	13.3	11.1	**18.8**	10.2	5.0	12.7	**17.6**

SOURCES: Fehr & Peers, 2024; https://sfplanninggis.org/TIM/ (accessed April 2024).

NOTE:

- VMT rates exceeding the respective threshold are shown in **bold**.

The VMT per capita for office uses at CP would currently exceed the threshold of 21.9 for a portion of CP; however, by year 2050, the office land use would generate a VMT per capita below the year 2050 regional threshold of 20.2. Retail uses, which are located in CP South/CP Center (TAZ 881), have an existing and future year VMT per capita that meet the analysis threshold of 15 percent below the regional average of 12.7 and 13.3 under existing and year 2050, respectively. Retail uses in CP North (TAZ 882) and Alice Griffith (TAZ 891) have an existing VMT per capita of 11.1 and 12.7, respectively, meeting the existing threshold. Under year 2050 conditions, CP North and Alice Griffith result in a VMT per capita of 18.8 and 17.6, respectively, exceeding the threshold under year 2050 conditions. However, the 2024 Modified Project primarily proposes residential uses in CP North and Alice Griffith, and the community uses identified in CP North are local serving and would cater to those nearby the site; therefore, it is reasonable to conclude that the retail land use findings in CP North and Alice Griffith do not apply to the 2024 Modified Project Variant. By year 2050, residential uses in CP North, CP South/CP Center, and Alice Griffith would generate VMT per capita below the regional average and meet the threshold of significance. Similarly, retail and office uses in CP South/CP Center would generate VMT per capita below the regional average and meet the threshold of significance. Similar to the 2019 Modified Project Variant, the increased density associated with the 2024 Modified Project Variant reduces the need for people to travel outside of the area for goods and services, and also because the substantial investment in transit service to the site reduces the need for people to travel to and from the site by automobile. Therefore, buildout of the 2024 Modified Project Variant itself would reduce the VMT per capita at the site such that it would not exceed the VMT significance thresholds.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to transportation and circulation impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to transportation and circulation, on either a Project-related or cumulative basis.

II.B.4 Aesthetics

Criterion		Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
1.	**Aesthetics.** Would the project:					
E.a	Have a substantial adverse effect on a scenic vista?	2010 FEIR p. III.E-50 (Impact AE-1) p. III.E-53 (Impact AE-4) p. III.E-60 (Impact AE-6a) Addendum 6 p. 114 (Impact AE-1) p. 116 (Impact AE-4) p. 122 (Impact AE-6a)	No	No	No	None
E.b	Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and other features of the built or natural environment that contribute to a scenic public setting?	2010 FEIR p. III.E-50 (Impact AE-1) p. III.E-57 (Impact AE-5a) Addendum 6 p. 114 (Impact AE-1) p. 121 (Impact AE-5a)	No	No	No	None
E.c	Substantially degrade the existing visual character or quality of the site and its surroundings?	2010 FEIR p. III.E-51 (Impact AE-2) p. III.E-60 (Impact AE-6a) Addendum 6 p. 114 (Impact AE-2) p. 122 (Impact AE-6a)	No	No	No	MM AE-2
E.d	Create a new source of substantial light or glare that would adversely affect day or night views in the area or that would substantially impact other people or properties?	2010 FEIR p. III.E-53 (Impact AE-3) p. III.E-71 (Impact AE-7a) Addendum 6 p. 115 (Impact AE-3) p. 131 (Impact AE-7a)	No	No	No	MM AE-7a.1, MM AE-7a.2, MM AE-7a.3, MM AE-7a.4

Changes to Project Related to Aesthetics

The following elements of the 2024 Modified Project Variant are addressed in this Aesthetics analysis:

- Increase the maximum allowable building height at Candlestick Center (also referred to as CP-02 in prior plans and Addenda) to 180 feet, excluding rooftop mechanical equipment and screening.

Subsequent to approval of the 2010 Project and certification of the 2010 FEIR, Senate Bill (SB) 743 was passed (on September 17, 2013), which amended the CEQA statute with respect to parking and aesthetics. Public Resources Code section 21099(d), effective January 1, 2014, provides that "aesthetics and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment."

With respect to aesthetics, impacts would no longer be considered in determining if a project has the potential to result in significant environmental effects provided a project meets all of the following three criteria:

- The project is in a transit priority area;
- The project is on an infill site; and
- The project is residential, mixed-use residential, or an employment center.

The CP-HPS2 is located in a transit priority area, according to the City's Transportation Impact Map (https://sfplanninggis.org/TIM/, accessed March 20, 2024). The Project is also located on an infill site, which is defined in the City's SB 743 guidance as "a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban uses." The CP-HPS2 Project site was previously developed with the Candlestick Park Stadium and associated parking, a recreational vehicle park, the Candlestick Park State Recreation Area (CPSRA), and structures associated with ship repair, piers, dry-docks, ancillary storage, administrative, and other former Navy uses. Lastly, the Project proposes both residential and mixed-use residential uses, and, using the City's definition in its SB 743 guidance related to employment centers, the Project site is located on a property zoned for commercial uses with a floor area ratio of no less than 0.75 and is located within a transit priority area.

Under SB 743, environmental analysis related to aesthetics would no longer be required. However, consistent with the other analyses provided in Addendum 7, the methodologies provided in the 2010 FEIR continue to be used in order to provide an accurate comparison of the impacts associated with the 2024 Modified Project Variant as compared to the 2010 Project. Therefore, the analysis of aesthetics impacts continues to be provided in Addendum 7.

Previous Approvals and Construction Activities

The 2010 Project identified proposed maximum building heights and tower placements for the Project in Figure II-5 (Proposed Maximum Building Heights), Draft EIR p. II-12. The 2010 approvals also included the 2010 Candlestick Point Tower Variant 3D (2010 Tower Variant 3D), which analyzed the effects of 12 towers, instead of 11, with some location and height adjustments.

Subsequent to the 2010 Approvals, and as analyzed in Addendum 4 to the 2010 FEIR and approved in the 2016 CP Design for Development, the 2010 Tower Variant 3D was modified to slightly change the location of three towers (Towers G, J, and K), as illustrated by Appendix C, Exhibit C, of Addendum 4. Additionally, the 2016 CP Design for Development included certain height increases at CP-02, CP-03, and CP-04. These changes were assumed in the 2018 Modified Project Variant. Since 2010, the stadium at CP and portions of the Alice Griffith Public Housing site have been demolished, and portions of the Alice Griffith Public Housing site have been reconstructed. The 2019 Modified Project Variant removed the previously approved Tower G at Candlestick Center (for a total of 11

towers, all outside of Candlestick Center) and increased the maximum allowable height at CP-02 from 65 feet to 85 feet within the interior portions of the sub-phase area; from 80 feet to 85 feet along Harney Way, Ingerson Avenue, and a small portion of Arelious Walker Drive; and from 65 feet or 85 feet to 120 feet along the majority of Arelious Walker Drive. In addition, the 2019 Modified Project Variant visual simulations conservatively showed mechanical equipment and architectural screening covering the entire roof area.

Visual Simulations and Approach to Visual Analysis

The visual simulations provided in this section illustrate the 2010 existing conditions, the 2010 Tower Variant 3D, the 2019 Modified Project Variant, and the 2024 Modified Project Variant. This analysis generally compares the impacts of the 2024 Modified Project Variant to the 2010 FEIR impact analysis and conclusions for the 2010 Project with 2010 Tower Variant 3D. Further, the visual analysis focuses only on the changes proposed under the 2024 Modified Project Variant.

Where appropriate, and for informational purposes, the analysis also compares the 2024 Modified Project to the approved 2019 Modified Project Variant because it includes the currently approved heights and tower locations. Therefore, the visual simulations provided in this section also show the 2019 Modified Project Variant.

Candlestick Center Visual Simulation Assumptions

Under the 2024 Modified Project Variant, the maximum allowable building height at Candlestick Center is proposed to increase to 180 feet. The maximum height of 180 feet is specific to buildings designed for the R&D/office uses only and would not apply across the entirety of Candlestick Center. As such, the visual simulations represent a range of building heights and massing that could be developed at Candlestick Center. The visual simulations for the 2024 Modified Project Variant present a "test fit" for one potential development scheme at Candlestick Center. There are no specific locations yet identified for taller versus shorter structures within Candlestick Center. However, the test fit evaluated is considered a reasonable approximation of how development at Candlestick Center could unfold. The test fit includes 12 individual buildings, ranging in height from about 120 feet to 180 feet, plus 18 feet for rooftop mechanical equipment and screening, with most sited atop podium structures. For buildings atop podia, the taller portion of the structure would generally be set back from the podium facades.

Comparative Impact Discussions

Impact AE-1: Construction activities associated with the Project would not have a substantial adverse effect on a scenic vista or scenic resources. ***[Criteria E.a and E.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR indicated that demolition of existing structures would occur, and the site would be prepared, excavated, and graded to accommodate the new building foundations. The proposed development would then be constructed, including buildings, parking structures, surface parking, and Project-related infrastructure. New landscaping would also be planted around the new facilities, and the development would be readied for use, including the application of architectural coatings and paving. As reported in the 2010 FEIR, construction-related impacts on scenic vistas or scenic resources resulting from the 2010 Tower Variant 3D were found to be similar to those of the 2010 Project, which were determined to be less than significant.

Construction-related visual impacts as a result of the 2024 Modified Project Variant, which would be similar to the 2010 Project and 2010 Tower Variant 3D, include exposed staging areas, on-site construction equipment, the inclusion of temporary structures throughout the duration of construction phases, exposed trenches, exposed soil, and debris/material piles. As with the 2010 Project and 2010 Tower Variant 3D, construction activities on the Project site would be visible to the surrounding area. However, the change in visual conditions would be temporary and typical of construction activities in already developed areas. Scenic vistas, including the Bay, the East Bay hills, and the San Francisco downtown skyline, would not be impacted by construction activities. Consequently, as with the 2010 Project and 2010 Tower Variant 3D, the 2024 Modified Project Variant would not result in a substantial adverse effect on a scenic vista or scenic resources as a result of construction activities. The impact would remain less than significant, and no mitigation is required.

Impact AE-2: Construction activities associated with the Project would not result in temporary degradation of the visual character or quality of the site. ***[Criterion E.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As mentioned in Impact AE-1, construction activities associated with the 2010 Project and the 2010 Tower Variant 3D would include demolition, site preparation, grading, vertical construction, and landscaping. To avoid or reduce the temporary degradation of the visual character or quality of the site as a result of construction activities, mitigation measure MM AE-2 was identified in the 2010 FEIR to ensure that all construction equipment would be staged on the Project site; that staging areas would be screened from view at street level with solid wood fencing or green fence; all construction equipment leaving the site would be kept free of mud; and Project area streets would be swept to reduce the deposit of mud and debris caused by construction vehicles. As reported in

the 2010 FEIR, construction-related impacts associated with the temporary degradation of the visual character or quality of the site from 2010 Tower Variant 3D were found to be similar to those of the 2010 Project and would be less than significant with mitigation.

As with the 2010 Project and 2010 Tower Variant 3D, construction-related visual impacts of the 2024 Modified Project Variant include exposed staging areas, on-site construction equipment, the inclusion of temporary structures throughout the duration of construction phases, exposed trenches, exposed soil, and debris/material piles. To address these impacts, the adopted MM AE-2 requires that construction staging areas would be screened from view at street level with solid wood fencing or green fence; on-street parking of construction worker vehicles would not be allowed; vehicles would be kept clean and free of mud and dust before leaving the Project site; and Project contractors would be required to sweep surrounding streets used for construction access daily to maintain them free of dirt and debris. Implementation of MM AE-2 would ensure that impacts related to construction activities would not result in temporary degradation of the visual character or quality of the site. Consequently, as with the 2010 Project and 2010 Tower Variant 3D, the impact to the visual character or quality of the site from construction activities under the 2024 Modified Project Variant would remain less than significant with implementation of the identified mitigation measure.

Impact AE-3: Construction activities associated with the Project would not create a new source of substantial light or glare that would adversely affect day or night views in the area or that would substantially impact other people or properties. ***[Criterion E.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR concluded that a minimal amount of glare could result from reflection of sunlight off windows of trucks, but this would be negligible and would not affect daytime views in the area. Security lighting would be provided after hours on all construction sites, but this lighting would be minimal, restricted to the Project site, and would not exceed the level of existing night lighting levels in urban areas. As reported in the 2010 FEIR, construction-related impacts related to light and glare from the 2010 Project and 2010 Tower Variant 3D were found to be similar and would be less than significant.

As with the 2010 Project and 2010 Tower Variant 3D, the 2024 Modified Project Variant construction activities would occur during daylight hours, generally between 7:00 a.m. and 8:00 p.m. or as otherwise allowed by the City (San Francisco Police Code Article 29, Section 2908). A negligible amount of glare could occur from reflection off windows of trucks but would not affect daytime views in the area. Security lighting comparable to the level of existing night lighting levels in urban areas would be provided after hours on all construction sites. Night lighting would be minimal and restricted to the Project site. Consequently, as with the 2010 Project and 2010 Tower Variant 3D, impacts from construction activities related to substantial light and glare adversely affecting day or

night views in the area associated with the 2024 Modified Project Variant would remain less than significant, and no mitigation is required.

Impact AE-4: Implementation of the Project would not have a substantial adverse effect on a scenic vista. ***[Criterion E.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR concluded that the Project would not substantially obstruct any scenic vistas, and impacts would be less than significant. The Project would be consistent with General Plan policies that promote enhanced access to the San Francisco Bay shoreline, protect major views of open space and water, and promote increased connectivity to the shoreline.

The 2024 Modified Project Variant would increase the maximum allowable height at Candlestick Center to 180 feet for buildings designed for the R&D/office uses only.

Figure 5 (Proposed 2024 CP Maximum Building Heights), p. 17, shows the location of the building heights that would be permitted under the 2024 Modified Project Variant in the context of the various heights, including tower heights, that are allowed at CP outside Candlestick Center.

The 2010 FEIR evaluated impacts to scenic vistas, which were defined in the 2010 FEIR as panoramic views of a large geographic area, for which the field of view can be wide, extend into the distance, and which are associated with vantage points that provide an orientation not commonly available, including views of the Bay, the East Bay hills, San Bruno Mountain, and the San Francisco downtown skyline, as well as views of the Re-gunning crane, Bayview Hill, the Yosemite Slough, and the CPSRA. These were considered long-range views. The 2010 FEIR also evaluated impacts to mid-range and short-range views. Mid-range views would be views of about 0.5 mile, and short-range views would be less than 0.5 mile to adjacent streets or viewpoints.

The focus of this discussion is on Impacts to scenic vistas/views across the Project site. Mid-range and short-range views are related to the visual character of the site, rather than scenic vistas, and are discussed in Impacts AE-6a, below.

Figure 10 (Viewpoint Locations) illustrates the viewpoint locations evaluated in the 2010 FEIR, as well as the four viewpoint locations that are analyzed in this addendum for the 2019 Modified Project Variant. These viewpoint locations were selected because they provide views of the towers at CP, where heights would not change, and views of Candlestick Center, where heights would be increased.

SOURCE: Clement Designs, 2009; ESA, 2024

FIGURE 10 Addendum 7 to the CP-HPS2 2010 FEIR

VIEWPOINT LOCATIONS

The four viewpoint locations include View 6, which provides long-range views of CP and is evaluated in this impact analysis, and Views 9, 11, and 16, which provide mid-range to short-range views of CP and are evaluated in Impact AE-6a, below.

The views of CP from each of the viewpoint locations illustrate four conditions: (1) 2010 existing conditions, (2) 2010 Tower Variant 3D, (3) 2019 Modified Project Variant, and (4) the 2024 Modified Project Variant. These figures provide a means of visual comparison to understand the potential impacts of the 2024 Modified Project Variant.

View 6

Figure 11 (Existing and Proposed Views from View 6: Northeast from NB-101 Harney Way Off-Ramp) depicts the view of CP from View 6. As Figure 11 illustrates, the 2024 Modified Project Variant towers and the midrise R&D/office buildings located in Candlestick Center are the most prominent features on the CP portion of the site, with lower-scale, off-site development to the west. The midrise R&D/office buildings in Candlestick Center are visible in the forefront of the leftmost two towers (the midrise buildings show the range of possible heights and are shown in blue).

Figure 11 shows the Candlestick Center building height increases as compared to the 2010 Tower Variant 3D and the 2019 Modified Project Variant. The increased heights of the Candlestick Center buildings would raise the profile of the buildings against the backdrop of the skyline. However, they would be located near comparably sized off-site buildings at Executive Park and would not impede visibility of Bayview Hill.

The 2010 FEIR concluded that 2010 Tower Variant 3D would not have a significant effect on a scenic vista. The changes associated with the 2024 Modified Project Variant would have a similar impact on scenic vistas as the 2010 Tower Variant 3D. The proposed height changes under the 2024 Modified Project Variant would not substantially obstruct existing publicly accessible views of the Bay, Bayview Hill, or other scenic vistas. Consequently, the 2024 Modified Project Variant would not have a substantial adverse effect on a scenic vista. The impact would remain less than significant, and no mitigation is required.

CP-HPS Phase II
Candlestick Center (2019)
Candlestick Center (Add 7 2024)
Other Projects
• Executive Park

SOURCE: PreVision Design, 2024

FIGURE 11 Addendum 7 to the CP-HPS2 2010 FEIR

EXISTING AND PROPOSED VIEWS FROM VIEW 6: NORTHEAST FROM NB-101 HARNEY WAY OFF-RAMP

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Impact AE-5a: Implementation of the Project at Candlestick Point would not substantially damage scenic resources, including but not limited to trees, rock outcroppings, and other features of the built or natural environment that contribute to a scenic public setting. ***[Criterion E.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR concluded that Project development at CP would not have significant adverse impacts on scenic resources or other features that contribute to a scenic public setting, and the impact would be less than significant. No mitigation is required. As with the 2010 Tower Variant 3D, implementation of the 2024 Modified Project Variant would redevelop CP by replacing degraded urban areas and outdated residential development with a new, well-designed, mixed-use urban development, including open space and parks, a reconfiguration of the CPSRA, and shoreline improvements. The new and renovated open space would improve the scenic quality of the area by providing natural and landscaped parkland, active urban recreational areas, and other public gathering places. Further, shoreline improvements would remove debris, reduce erosion, revegetate areas with marsh plantings, and would enhance the visual quality of the shoreline. Overall, as concluded in the 2010 FEIR, the 2024 Modified Project Variant would not substantially damage scenic resources, including but not limited to trees, rock outcroppings, and other features of the built or natural environment that contribute to a scenic public setting. The impact would remain less than significant, and no mitigation is required.

Impact AE-6a: Implementation of the Project at Candlestick Point would not substantially degrade the existing visual character or quality of the site or its surroundings. ***[Criterion E.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR concluded that the Project would not substantially degrade the existing visual character or quality of the site or its surroundings because it would replace a degraded and largely vacant urban area with a well-designed, mixed-use urban development, including new and improved parkland and open space, landscaping, and pedestrian walkways and amenities. This discussion focuses on impacts related to the visual character of the site as seen in the mid-range, short-range, and long-range views of CP provided by Views 9, 11, and 16. Impact AE-6a also discusses whether the proposed height changes at Candlestick Center would affect the overall visual character or quality of the development.

View 9

Figure 12 (Existing and Proposed Views from View 9: Northeast from CPSRA South of Harney) depicts the view of CP from View 9. Under the 2024 Modified Project Variant, and consistent with the 2019 Modified Project Variant, the midrise development would be prominently seen in the short- and mid-range viewshed, beyond existing CRSRA planting. Although the midrise buildings have

not yet been designed, the visual simulation shows articulated façades and the potential range of building heights that would fit within the proposed height limits of Candlestick Center. The proposed 2024 CP design guidelines would provide building design guidelines related to articulation, setbacks, stepbacks, relationship to the street, use of building materials, location of entrances, and other similar design considerations that would ensure the final building design is compatible with its surroundings, achieves an attractive urban form, and is visually interesting. Under the 2024 Modified Project Variant, two towers (Towers J and K) would be visible beyond the mid-rise building (refer to Figure 12).

The changes associated with the 2024 Modified Project Variant would not introduce new or unplanned land uses or building types to CP when compared to the 2010 Tower Variant 3D. Although building heights would increase under the 2024 Modified Project Variant, consistent with the 2010 Project, building heights would be consistent with similarly scaled urban development within San Francisco, and building designs would enhance the existing visual character and quality of the site and its surroundings.

As with 2010 Tower Variant 3D, the 2024 Modified Project Variant would alter the short- and mid-range viewshed from Viewpoint 9, but would not substantially degrade the existing visual character or quality of the site or its surroundings.

View 11

Figure 13 (Existing and Proposed Views from View 11: Northwest from CPSRA) depicts the view of CP from View 11. As shown in Figure 13, under the 2010 Tower Variant 3D, the foreground would include the Bay and the CPSRA shoreline. The mid- and long-range viewshed would primarily consist of views of towers and associated development related to CP. Portions of Bayview Hill would be obstructed due to the placement of the towers.

Similar to the 2010 Tower Variant 3D and the 2019 Modified Project Variant, under the 2024 Modified Project Variant, the towers would be the most prominent development seen from View 11. Compared to the 2019 Modified Project Variant, the buildings in Candlestick Center would appear taller than the CP-02 buildings in 2010 Tower Variant 3D; they would only obstruct views of the lower and middle portion of Bayview Hill.

The changes associated with the 2024 Modified Project Variant would not introduce new or unplanned land uses or building types to CP when compared to the 2010 Tower Variant 3D. Although building heights would increase under the 2024 Modified Project Variant, these height changes would be consistent with similarly scaled urban development within San Francisco. Views of the Bay and the CPSRA shoreline and partial views of Bayview Hill would remain intact. Similar to the 2010 Tower Variant 3D, the 2024 Modified Project Variant would alter the viewshed from Viewpoint 11, but the difference in views would be slight and likely not noticeable to most viewers because the overall visual impression of a development with high-rise and mid-rise buildings would be maintained.

SOURCE: PreVision Design, 2024

FIGURE 12 Addendum 7 to the CP-HPS2 2010 FEIR

EXISTING AND PROPOSED VIEWS FROM VIEW 9: NORTHEAST FROM CPSRA SOUTH OF HARNEY

2010 Existing Conditions

2010 FEIR Tower Variant 3D (Approved)

- CP-HPS Phase II
- Candlestick Center (2019)
- Candlestick Center (Add 7 2024)
- Other Projects
  - Executive Park

2019 Modified Project Variant (Approved)

2024 Modified Project Variant (Illustrative)

SOURCE: PreVision Design, 2024

FIGURE 13 Addendum 7 to the CP-HPS2 2010 FEIR

EXISTING AND PROPOSED VIEWS FROM VIEW 11: NORTHWEST FROM CPSRA

As with 2010 Tower Variant 3D, the 2024 Modified Project Variant would not substantially degrade the existing visual character or quality of the site or its surroundings, as seen from Viewpoint 11.

View 16

Figure 14 (Existing and Proposed Views from View 16: Southwest from Mariner Village) depicts the view of CP from View 16. The short-range viewshed would include limited views of HPS2. Across the South Basin of San Francisco Bay, in the mid- and long-range viewshed, the shoreline of CPSRA would be visible. The mid-range viewshed would primarily consist of views of development at CP, including high-rise towers. The long-range viewshed would include views of the Bay shoreline and San Bruno Mountain.

Similar to the 2010 Tower Variant 3D and the 2019 Modified Project Variant, under the 2024 Modified Project Variant, the towers at CP would be the most prominent development seen from View 16. As with the other viewpoints, while the proposed increases in building heights at Candlestick Center appear slightly taller in the simulation for the 2024 Modified Project Variant provided in Figure 14, the increases in building heights would not further obscure visibility of the Bay shoreline or the San Bruno Mountain. Under the 2024 Modified Project Variant, views of Bayview Hill would remain the same as under the 2010 Tower Variant 3D.

As with 2010 Tower Variant 3D, the 2024 Modified Project Variant would not substantially degrade the existing visual character or quality of the site or its surroundings, as seen from Viewpoint 16.

Summary

Like the 2010 Project, the 2024 Modified Project Variant would result in a substantially different built environment compared to the existing character of the site and vicinity. However, the general scale, arrangement, and intensity of development would be similar to the 2010 Project. The mixed-use pattern with the Project at CP would transition from lower-density residential uses near existing neighborhoods to higher-density residential and commercial uses in the interior of the site. With the transition in scale and uses, the extension of the existing street grid, and with the connectivity of new open space with existing shoreline open space, the Project would be compatible with surrounding development.

Development at CP would be similar in character to the proposed mixed-use commercial and high-density residential development at Executive Park and development along Jamestown Avenue. The 2024 Modified Project Variant, as with the 2010 Tower Variant 3D, would transition from existing adjoining neighborhoods primarily through the use of building scale and compatibility of uses, providing the lowest building height at existing neighborhood edges, stepping up in height as one travels into the development. Building façades would feature articulated massing that would feature vertical and horizontal setbacks to break up the mass of the building and minimize view obstruction from comparably smaller buildings.

Similar to the 2010 Tower Variant 3D, the 2024 Modified Project Variant would replace degraded urban areas, vacant parcels, expanses of asphalt and dirt, and outdated residential development with new, well-designed urban development. The 2024 Modified Project Variant would improve the existing quality of the site by providing new areas of open space, enhanced connectivity to the shoreline, and pedestrian amenities such as outdoor plazas, walking paths, outdoor eating areas, sidewalks, street-side landscapes, and improved lighting. Urban design policies would ensure that there would be an appropriate transition from the existing neighborhoods to the Project's new neighborhoods. Therefore, the 2024 Modified Project Variant would not substantially degrade the visual character or quality of CP or its surroundings, consistent with the conclusion in the 2010 FEIR for the 2010 Tower Variant 3D. The impact on visual character at CP from the 2024 Modified Project Variant would be less than significant, consistent with the conclusion for 2010 Tower Variant 3D. No mitigation is required.

Impact AE-7a: Implementation of the Project at Candlestick Point would not create a new source of substantial light or glare that would adversely affect day or night views in the area or that would substantially impact other people or properties. ***[Criterion E.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As with the Project analyzed in the 2010 FEIR Tower Variant 3D, implementation of the 2024 Modified Project Variant would include lighting for public areas that would increase ambient lighting. Street lighting and lighting for public areas would increase ambient light, as would security lighting and lighting for parking areas. These new sources of light would be typical of urban development seen in San Francisco and would not generate obtrusive lighting that would adversely affect day or night views or negatively affect other neighborhoods.

As with 2010 Tower Variant 3D, implementation of the Project would create new sources of daytime glare if new building surfaces include the use of reflective materials. Numerous sources of daytime glare currently exist in the Project area from building surfaces and windows. Some additional glare could be produced by the increased amount of surface area of the proposed structures, which could reflect or concentrate sunlight and result in a potentially significant impact. City Resolution 9212 prohibits the use of highly reflective or mirrored glass in new construction, and mitigation measure MM AE-7a.4, which requires the Project Sponsor to use textured or other nonreflective exterior surfaces and nonreflective glass, would reduce any potential significant glare impacts to a less-than-significant level, consistent with the conclusion for the 2010 Tower Variant 3D.

Implementation of the identified mitigation measures and compliance with Resolution 9212 would reduce impacts from light and glare to a less-than-significant level by shielding lighting fixtures, minimizing spill light from Project lighting, screening vehicle headlights to the maximum extent feasible, and eliminating or minimizing increased glare through the use of nonreflective glass and nonreflective textured surfaces in the proposed development.

- CP-HPS Phase II
- Candlestick Center (2019)
- Candlestick Center (Add 7 2024)
- Other Projects
  - Executive Park

SOURCE: PreVision Design, 2024

FIGURE 14 Addendum 7 to the CP-HPS2 2010 FEIR

EXISTING AND PROPOSED VIEWS FROM VIEW 16: SOUTHWEST FROM MARINER VILLAGE

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Under the 2024 Modified Project Variant for both light and glare, impacts would be similar to the impacts analyzed under 2010 Tower Variant 3D. The impact would subsequently be less than significant, and no mitigation is required.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to aesthetics impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to aesthetics, on either a Project-related or cumulative basis.

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II.B.5 Shadows

	Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2019 Modified Project Variant
16.	**Shadows.** [The City and Agency have not formally adopted significance standards for impacts related to shadows.] Would the project:					
F.a	Create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas?	2010 FEIR p. III.F-9 (Impact SH-1a) Addendum 6 p. 134 (Impact SH-1a)	No	No	No	None

Changes to Project Related to Shadows

The following element of the 2024 Modified Project Variant is addressed in this Shadows analysis:

- Amend the CP Design for Development (D4D) to allow increases to the maximum allowable building height at Candlestick Center from a maximum of 120 feet to a maximum of 180 feet, excluding rooftop mechanical equipment and screening.[45]

Previous Approvals

The 2010 Project identified proposed maximum building heights and tower placements for the Project in Figure II-5 (Proposed Maximum Building Heights), Draft EIR p. II-12. The 2010 approvals also included the 2010 Tower Variant 3D, which analyzed the effects of 12 towers, instead of 11, with some location and height adjustments.

Subsequent to the 2010 Approvals, the 2010 Tower Variant 3D became the Project Sponsor's preferred project. Furthermore, as analyzed in Addendum 4 to the 2010 FEIR and approved in the 2016 CP D4D, the 2010 Tower Variant 3D was modified to slightly change the location of three towers (Towers G, J, and K), as illustrated by Appendix C, Exhibit C, of Addendum 4. Additionally, the 2016 CP D4D included certain height increases at CP-02, CP-03, and CP-04. These changes were assumed in the 2019 Modified Project Variant. Most recently, the Project Sponsor obtained approval of the 2019 Modified Project Variant, which removed the approved tower from Candlestick Center but raised the height limit in Candlestick Center to 120 feet along most of Arelious Walker Drive and at the corner of Ingerson Avenue and West Harney Way and to 85 feet elsewhere in Candlestick Center. The 2019 Modified Project Variant also included adjustments to permitted land uses and to infrastructure and transportation plans and modified the development schedule.

[45] Candlestick Center is also referred to as "CP-02" in prior plans and Addenda.

Shadow Figures and Approach to Shadow Analysis

This analysis compares the impacts of the 2024 Modified Project Variant to the 2010 FEIR impact analysis and conclusions for the 2010 Project and 2010 Tower Variant 3D. For informational purposes, the analysis and figures in the section also compare the 2024 Modified Project Variant to the approved 2019 Modified Project Variant because the 2019 Modified Project Variant includes previously approved heights.

Shadow Assumptions

Although the Project Sponsor does not anticipate that all buildings within Candlestick Center would be built to the maximum permitted height limit of 180 feet, the shadow analysis for the 2024 Modified Project Variant assumes buildout at a uniform 180-foot building height across the Candlestick Center site (using full-block extrusions) so as not to underestimate potential shadow effects of the 2024 Modified Project Variant. The shadow analysis further included an additional 20-feet for rooftop mechanical equipment and screening. Shadows cast under the 2024 Modified Project Variant using these assumptions would capture the theoretical maximum levels of shadows no matter where any future buildings would be placed and, it further represents a development scenario that is not proposed, but allows for future flexibility in building placement, while disclosing potential environmental impacts. Therefore, this analysis is conservative.

Other than the height limit increase at Candlestick Center, no changes are proposed in the heights or locations of towers or other development areas of Candlestick Point.

With respect to HPS2, the 2024 Modified Project Variant would result in development of approximately 2,050,000 sf less R&D/office space than was approved under the 2019 Modified Project Variant. This would constitute a decrease of approximately 43 percent in non-residential floor area, compared to that approved under the 2010 Project and 2010 Tower Variant 3D, and a decrease of approximately 39 percent in non-residential floor area, compared to that approved under the 2019 Modified Project Variant. Accordingly, the previous analysis of potential shadows at HPS2 remains valid, if conservative.

The shadow analysis was undertaken consistent with the approach used under San Francisco Planning Code Section 295, which evaluates shadows year-round, between one hour after sunrise and one hour before sunset. The first and last hours of sunlight are excluded because shadows during those times are very long and fast-moving and because many parks are fully shaded, or nearly so, during those hours.

Comparative Impact Discussions

Impact SH-1a: Implementation of the Project at Candlestick Point would not result in new structures with the potential to cast shadows on existing or proposed parks and open space in a manner that would have an adverse effect on the use of the open space. ***[Criterion F.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

Operation

The 2010 FEIR concluded that the location and height of towers under the 2010 Tower Variant 3D would result in a significant and unavoidable impact on Gilman Playground. Impacts associated with the Candlestick Point State Recreational Area (CPSRA), other existing parks and open spaces, and proposed open spaces would be less than significant.

The shadow modeling analysis was conducted to compare year-round shadow that would be cast by the 2024 Modified Project Variant to shadow that would be cast by 2010 Tower Variant 3D. Shadow from the 2024 Modified Project Variant was also compared to the approved 2019 Modified Project Variant. In addition, shadow was evaluated at specific times of the day and year that were evaluated in the 2010 FEIR: 10:00 a.m., noon, and 3:00 p.m. on March 22/September 20 (the spring equinox and fall equinox, respectively), June 21 (the summer solstice), and December 20 (the winter solstice). These times present shadows as mid-morning, midday, and mid-afternoon. Finally, shadow patterns were evaluated hourly on the solstices and equinoxes. The March and September equinoxes are considered equivalent for the purposes of shadows as the path of the sun is mirrored on either side of the solstices, and the shadow effects would be the same.

San Francisco Recreation and Park Department (SFRPD) property that is subject to *Planning Code* Section 295 potentially affected by the 2019 Modified Project Variant includes Gilman Playground and Bayview Park. Gilman Playground is a 5.2-acre facility owned by SFRPD immediately northwest of Candlestick Center. It includes a basketball court, children's play area with plastic and metal play equipment, clubhouse with restrooms, picnic area, and playfields. Bayview Park primarily consists of steep topography and informal trails. There are no active uses (such as playgrounds and recreational fields), and access is only provided via a gated road off of Key Avenue, north of Bayview Hill.

Other parks and open space not under the jurisdiction of SFRPD that could be affected by the shadows cast by the 2024 Modified Project Variant include the CPSRA and the CP Project parks and open space (Alice Griffith Neighborhood Park, Willie Mays Plaza 1 & 2A (formerly Wedge Plaza), Willie Mays Plaza 2B & 3, Candlestick Point Neighborhood Park, Mini Wedge Park, Jamestown/Walker Slope, and Bayview Hillside Open Space).

The California Department of Parks and Recreation 2013 General Plan for CPSRA sets forth various planned improvements, including (from north to south around the Candlestick Point) restoration

and introduction of low-impact recreation at Yosemite Slough; low-impact recreation and nature-based education and interpretation at the South Basin Shoreline; low-impact recreation and active play, family and community events and gatherings, and educational opportunities at Candlestick Meadows; improved Bay access and water-oriented recreation at Heart of the Park, The Point, and The Neck (the area surrounding Candlestick Point itself); and enhanced picnicking and trail and beach use at Last Port.[46]

Annual Shadow

In general, the changes in annual shadow that would be cast by the 2024 Modified Project Variant, compared to 2010 Tower Variant 3D, would be relatively minor. Figure 15 (2010 Tower Variant 3D Annual Shadow), Figure 16 (2019 Modified Project Variant), and Figure 17 (2024 Modified Project Variant) depict annual shadow from 2010 Tower Variant 3D, the approved 2019 Modified Project Variant, and the proposed 2024 Modified Project Variant, respectively. As can be seen in a comparison of Figure 15 and Figure 17, the changes would be most pronounced along Arelious Walker Drive at the southwest flank of Candlestick Center. There, the 2010 Project and 2010 Tower Variant 3D each proposed large areas of surface parking, meaning that few buildings would be developed along the Arelious Walker Drive frontage. As a result, areas of Arelious Walker Drive would be largely unshaded by 2010 Tower Variant 3D even in the early morning when the sun is farthest east in the sky. Figure 15 shows that most of Arelious Walker Drive and immediately adjacent areas would be shaded for, on average, less than one hour per day over the course of a full year. However, 2010 Tower Variant 3D included a 24-story tower within Candlestick Center, and that tower would cast shadow well across Arelious Walker Drive and, at times, into the Project's proposed Bayview Hillside Open Space, although for less than 30 minutes per day, on average. In contrast, the 2024 Modified Project Variant proposes potential development throughout Candlestick Center at a height of 180 feet, including along Arelious Walker Drive, but would include no towers within Candlestick Center. This would result in shadow being cast by the 2024 Modified Project Variant on most of Arelious Walker Way and adjacent areas for, on average, 2 to 4 hours per day over the course of the year. Shadow would reach the Bayview Hillside Open Space for as much as 2 hours per day, on average (see Figure 17). On the other hand, the 180-foot height limit of the Candlestick Center buildings under the 2024 Modified Project Variant would avoid the longest instantaneous shadows that would be cast by 2010 Tower Variant 3D to the southwest (see Exhibits 1.1, 2.1, 2.2, and 3.2 in Appendix C, Additional Shadow Figures). This would be because the 2024 Modified Project Variant would include no towers in Candlestick Center and because the 180-foot buildings would intercept shadow cast by towers to the northeast, outside of Candlestick Center. Shadow on Arelious Walker Drive and adjacent areas from the approved 2019 Modified Project Variant would be similar to, but somewhat less substantial, than that cast by the proposed 2024 Modified Project Variant (see Figure 16).

[46] California State Parks, *Candlestick Point State Recreation Area Final General Plan and Program Environmental Impact Report* (State Clearinghouse No. 2010012059), January 2013, accessed March 18, 2024, https://www.parks.ca.gov/pages/21299/files/CPSRA_GP_EIR201301.pdf.

SOURCE: PreVision, 2024

FIGURE 15 Addendum 7 to the CP-HPS2 2010 FEIR

2010 TOWER VARIANT 3D ANNUAL SHADOW

SOURCE: PreVision, 2024

FIGURE 16 Addendum 7 to the CP-HPS2 2010 FEIR

2019 MODIFIED PROJECT VARIANT

2024 PROPOSAL NET NEW SHADOW LOCATION & DURATIONS

Annual Locations and Durations of All Net New Shadow

SOURCE: PreVision, 2024

FIGURE 17 Addendum 7 to the CP-HPS2 2010 FEIR

2024 MODIFIED PROJECT VARIANT

With respect to SFRDP properties, shadow cast by the proposed 2024 Modified Project Variant would be relatively similar to that cast by 2010 Tower Variant 3D and the approved 2019 Modified Project Variant, including on Gilman Playground (less than 15 minutes per day, on average, over most of the park and up to 2 to 4 hours per day, on average, along the southeastern most edge of the park (compare Figure 15, Figure 16, and Figure 17). The greatest increase in shadow cast by the 2024 Modified Project Variant, compared to 2010 Tower Variant 3D, would occur around the winter solstice in December (see Exhibits 3.2 and 3.3 in Appendix C). Like both 2010 Tower Variant 3D and the approved 2019 Modified Project Variant, the proposed 2024 Modified Project Variant would cast virtually no shadow on Bayview Park.

Northeast of Candlestick Center, the 2024 Modified Project Variant would cast incrementally more annual shadow than 2010 Tower Variant 3D, including on the Project's Proposed Wedge Park. This change would be most apparent in the late afternoon around the spring and fall equinoxes (March/September; see Exhibit 2.11 in Appendix C). However, the differences in shadow would not be substantial. Shadow cast by the 2024 Modified Project Variant would be similar to that cast by the approved 2019 Modified Project Variant.

Time-Specific Shadow Patterns

Each of the hourly shadow figures presented in Appendix C compares shadows cast by 2010 Tower Variant 3D, the approved 2019 Modified Project Variant, and the proposed 2024 Modified Project Variant. As can be seen in Appendix C, shadow cast by the 2024 Modified Project Variant would be similar to that cast by 2010 Tower Variant 3D and the approved 2019 Modified Project Variant at the specific times and dates analyzed in the 2010 FEIR (refer to Exhibits 1.5, 1.7, 1.10 [summer solstice]; Exhibits 2.4, 2.6, and 2.9 [spring/fall equinoxes]; and Exhibits 3.3, 3.5, and 3.8 [winter solstice]). The only notable exception would be the area along and adjacent to Arelious Walker Drive, as discussed in detail above.

Gilman Playground and Bayview Park (Section 295 Parks)

Gilman Playground would experience net new shadow under the 2024 Modified Project Variant (although cast by development elsewhere at Candlestick Point, not from Candlestick Center development) before about 9:00 a.m. on the summer solstice; before about 11:00 a.m. on the fall/spring equinoxes (again, not from Candlestick Center development); and before about 12:00 noon on the winter solstice. Candlestick Center development under the 2024 Modified Project Variant would add net new shadow to the playground between about 8:30 a.m. and 10:45 a.m.; this would be the only additional Project shadow on Gilman Playground, compared to that cast by 2010 Tower Variant 3B and the 2019 Modified Project Variant. Shadow impacts would not occur at other times of the day. Given the limited net new shadow that would be cast on Gilman Playground by the 2024 Modified Project Variant compared to that disclosed in the 2010 FEIR, the impact would not be considered substantially more severe. Therefore, the impact would remain significant and unavoidable, which is consistent with the 2010 FEIR conclusions for the 2010 Tower Variant 3D.

As described above, the 2024 Modified Project Variant would cast virtually no shadow on Bayview Park, similar to both 2010 Tower Variant 3D and the approved 2019 Modified Project Variant. In all three cases, the only shadow cast on the park would be at the very southeastern tip of the park, near where the base of Bayview Hill meets the multi-family development known as The Candlestick Point. This shadow would reach Bayview Park for less than 15 minutes per day, on average, and would only fall on the park between late February and early April and again between early September and late October. There are no trails or other means of authorized access to the park at this location. Accordingly, no new impact would ensue beyond that disclosed in the 2010 FEIR, and the impact would remain less than significant.

CPSRA

CPSRA would experience very minor changes in annual net new shadow under the 2024 Modified Project Variant as compared to the 2010 Tower Variant 3D. Increased shadow cast by the 2024 Modified Project Variant as compared to the 2010 Tower Variant 3D would be most apparent late in the afternoon, year-round. However, the only change in net new shadow compared to the 2019 Modified Project Variant would be in the early evening around the summer solstice, when the 2024 Modified Project Variant would cast a small amount of additional shadow after about 7:00 p.m. (see Exhibit 1.15 in Appendix C). In general, the increased shadow cast by the 2024 Modified Project Variant as compared to the 2010 Tower Variant 3D would cover relatively small areas. In addition, as with the 2019 Modified Project Variant, some areas of the CPSRA that were subject to shade under the 2010 Tower Variant 3D would no longer be shaded under the 2024 Modified Project Variant. Similar to the conclusions with respect to the 2019 Modified Project Variant, impacts of the 2024 Modified Project Variant would remain less than significant, as concluded in the 2010 FEIR for the 2010 Tower Variant 3D.

2019 Modified Project Variant Parks and Open Space

In terms of new parks, the 2010 FEIR determined that the 2010 Tower Variant 3D heights, layouts, and orientations of the Project buildings would result in variable levels of shading throughout the day on new parks and/or open spaces; however, impacts would be less than significant. Further, the 2010 FEIR determined that proposed parks and open space would be beneficial to Project residents, visitors, and employees. Shading of sidewalks along street corridors in the Project area could increase in certain areas during various times of the day, as discussed in detail above, but not in excess of what would be expected in a highly urban area. Impacts of the 2024 Modified Project Variant would be similar to the 2010 Tower Variant 3D and would remain less than significant.

Construction

The 2010 FEIR for the 2010 Tower Variant 3D determined that Project construction activities would not create adverse shadow effects on parks and/or open space. Construction activities would be temporary, and construction equipment would move around the site according to the Project phasing schedule, resulting in temporary shadow impacts in different areas of the site. Construction

equipment that would exceed 40 feet in height, and could create potential shadow impacts, would be limited to cranes that would be used for multiple purposes (e.g., deep dynamic compaction, delivering materials to higher stories); however, because a crane is a slender structure, containing both vertical and horizontal components, rather than a massed structure (such as a building/tower), such construction equipment would cause very minor localized shadow effects that would only occur during the period of construction and they would only be required in certain areas of the CP site.

The 2010 FEIR determined that construction activities would not cast substantial shadows on existing open spaces under the jurisdiction of the SFRPD that are near CP. As with the 2010 Tower Variant 3D, construction activities associated with the 2024 Modified Project Variant would also not result in construction-related shadow effects on public or private open space since construction activities would be the same or similar to what was assumed for the 2010 Tower Variant 3D.

As with the 2010 FEIR, impacts on existing and proposed open space from shadow effects as a result of construction activities under the 2024 Modified Project Variant would remain less than significant, and no mitigation is required.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to shadows impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to shadows, on either a Project-related or cumulative basis.

II.B.6 Wind

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2019 Modified Project Variant
19. Wind. [The City and Agency have not formally adopted significance standards for impacts related to wind.] Would the project:					
G.a Alter wind in a manner that substantially affects public areas?	2010 FEIR p. III.G-6 (Impact WI-1a) Addendum 6 p. 149 (Impact WI-1a)	No	No	No	MM W-1a

Changes to Project Related to Wind

The following elements of the 2024 Modified Project Variant are addressed in this Wind analysis:

- Amend the CP D4D to allow increases to the maximum allowable building height at Candlestick Center from a maximum of 120 feet to a maximum of 180 feet, excluding rooftop mechanical equipment and screening.[47]

Comparative Impact Discussions

Impact W-1a: Implementation of the Project at Candlestick Point would not include tall structures that would result in ground-level-equivalent wind speed exceeding 26 mph for a single hour of the year in pedestrian corridors and public spaces. ***[Criterion G.a]***

	2010 CP-HPS2 FEIR	2010 CP-HPS2 FEIR Addendum 6
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR acknowledged buildings near or greater than 100 feet in height have the potential to affect pedestrian-level conditions such that the wind hazard criteria of 26-mph-equivalent wind speed for a single hour of the year could be exceeded for the 2010 Tower Variant 3D. In the 2010 FEIR, the proposed building heights at CP under the 2010 Project would range from 40 feet to 140 feet; the 2010 Project also included 11 towers with heights ranging from 170 feet to 420 feet. The 2010 Tower Variant 3D included 12 towers with heights also ranging from 170 feet to 420 feet.

As discussed in the 2010 FEIR, Candlestick Point is known to be a windy location. Bayview Hill, which is directly upwind of the Project site for prevailing westerly winds, tend to accelerate the wind and change its direction from west towards west-northwest. Accelerated wind flows around Bayview Hill are most pronounced at the crest and near the slope. The average wind speed east of Bayview Hill would be expected to be somewhat reduced, with increased turbulence because of the variable wind speed. Candlestick Point, and particularly Candlestick Center, is in the wake (a downwind area of weak wind caused by a "split" of wind around a substantial obstacle) of Bayview

[47] Candlestick Center is also referred to as "CP-02" in prior plans and Addenda.

Hill. During most afternoons and evenings from spring to fall, wake areas tend to feature lower mean wind speeds but higher turbulence or gustiness. The wake effect typically diminishes with distance from the hill.

The 2010 FEIR noted the orientation of the street grid in CP would not align directly with predominant west and west-northwest wind directions and, thus, would not result in channeling of winds along street corridors. The 2010 FEIR also acknowledged that structures between 100 feet and 420 feet would extend well above surrounding buildings and would intercept a large volume of wind resulting in the potential to accelerate winds in nearby pedestrian sidewalk areas or public open spaces, including the proposed Project parks and the existing Candlestick Point State Recreational Area (CSPRA). The 2010 FEIR noted that the degree of changes in pedestrian-level wind conditions would be influenced by building design, such as building height, shape, massing, setbacks, and location of pedestrian area and proximity to Bayview Hill. The 2010 FEIR identified mitigation measure MM W-1a, which requires a wind study for structures over 100 feet in height to assess whether a building would exceed the wind hazard threshold and, if so, requires design changes to mitigate the adverse wind impact. The 2010 FEIR concluded, with the implementation of mitigation measure MM W-1a, the potential adverse wind impacts at CP would be reduced to a less-than-significant level.

The 2024 Modified Project Variant would increase the maximum allowable height limit at Candlestick Center from between 85 feet and 120 feet under the 2019 Modified Project Variant to between 85 and 180 feet. These height increases fall within the range of heights expected at CP overall under the 2010 Project. Although the Project sponsor does not anticipate building to a uniform height of 180 feet across all of Candlestick Center (and, indeed, the floor area that such a scheme would develop would far exceed what is permitted for the CP-HPS2 Project as a whole), there are no specific locations yet identified for taller versus shorter structures within Candlestick Center.

The 2024 Modified Project Variant proposes no changes to height limits or the number of towers within CP outside of Candlestick Center. Moreover, the street grid orientation would remain the same as in the 2010 Project and the approved 2019 Modified Project Variant: as a result, the street grid would not directly align with predominant west and west-northwest wind directions such that winds would be channeled along street corridors. This would particularly be true in the case of Candlestick Center. Additionally, mitigation measure MM W-1a, which has been adopted in the CP-HPS2 Mitigation Monitoring and Reporting Program, would require wind studies for buildings over 100 feet and implementation of design changes to ensure the wind hazard threshold would not be exceeded. Under both the 2010 Project and the 2024 Modified Project Variant, as under the approved 2019 Modified Project Variant, there would be buildings over 100 feet, including some buildings located in Candlestick Center, as well as the previously approved 11 towers located throughout CP with building heights ranging from 187 feet to 462 feet (including mechanical equipment and architectural screening). A qualified wind consulting firm reviewed the changes

proposed in the 2024 Modified Project Variant (see Appendix D, Wind Memorandum), and a summary of that review is presented here.[48] The wind review considered a "test fit" for one potential development scheme at Candlestick Center. As noted above, there are no specific locations yet identified for taller versus shorter structures within Candlestick Center. However, the test fit evaluated is considered a reasonable approximation of how development at Candlestick Center could unfold. The test fit includes 12 individual buildings, ranging in height from about 120 feet to 180 feet, plus 18 feet for rooftop mechanical equipment and screening, with most sited atop podium structures. For buildings atop podia, the taller portion of the structure would generally be set back from the podium facades.

The wind review concurred with the conclusions of the 2010 FEIR that the adjacency to Bayview Hill means that Candlestick Center is expected to have relatively low average wind speeds but high turbulence and gusts. However, the review also noted that the test fit evaluated "has several positive design features that would further reduce the wind speeds on site." These features include:

- Buildings at Candlestick Center, even at a maximum of 180 feet in height, would be substantially lower than the height of Bayview Hill;
- Although not of uniform height, the proposed buildings would of comparable height, such that upwind buildings—those closer to Bayview Hill—would tend to shelter downwind buildings from stronger wind speeds;
- The buildings would be staggered on site, not to form a straight passage for potential wind accelerations;
- The streets within Candlestick Center would largely be perpendicular to the prevailing westerly winds, thereby avoiding potential wind acceleration that could occur with streets parallel to the prevailing winds; and
- A proposed public promenade at the center of Candlestick Center would have a relatively narrow opening at the west end and it would expand and turn towards the southeast, thereby avoiding potential wind acceleration that could occur with a wide and straight east-west opening between buildings.

Mitigation measure MM W-1a would continue to apply to the 2024 Modified Project Variant and would require a wind study for all buildings exceeding 100 feet in height. Although the test fit evaluated one potential development scenario, this mitigation measure would apply to all buildings exceeding 100 feet in height under any potential development scheme for Candlestick Center.[49] The wind review concluded by stating that the wind hazard criterion of 26 mph for one hour of the year at any given location would likely not be exceeded at most locations around Candlestick Center. Nevertheless, the potential would remain, as stated in the 2010 FEIR, that wind speeds at certain locations could exceed the wind hazard criterion. However, as concluded in the 2010 FEIR,

[48] Rowan Williams Davies & Irwin Inc., "Candlestick Center – San Francisco, CA: Pedestrian Wind Study – Qualitative Assessment," February 23, 2024.
[49] In general, buildings less than about 100 feet in height tend to result in lesser wind effects than taller structures.

"implementation of mitigation measure MM W-1a would ensure that no exceedances would occur, and the potential wind impact would remain at a less-than-significant level with mitigation." Accordingly, with implementation of mitigation measure MM W-1a, there would be no new impacts or a substantial increase in the severity of previously identified impacts related to wind. As such, the impact would remain less than significant with implementation of the identified mitigation measure.

With respect to HPS2, the 2024 Modified Project Variant would result in development of approximately 2,050,000 sf less R&D/office space than was approved under the 2019 Modified Project Variant. This would constitute a decrease of approximately 43 percent in non-residential floor area, compared to that approved under the 2010 Project and 2010 Tower Variant 3D, and a decrease of approximately 39 percent in non-residential floor area, compared to that approved under the 2019 Modified Project Variant. Accordingly, the previous analysis of potential wind impacts at HPS2 remains valid, if conservative.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's impact findings with respect to wind impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to wind, on either a Project-related or cumulative basis.

II.B.7 Air Quality

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2019 Modified Project Variant
3. Air Quality. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
H.a Conflict with or obstruct implementation of the applicable air quality plan?	2010 FEIR p. III.H-33 (Impact AQ-4) p. III.H-38 (Impact AQ-9) Addendum 6 p. 158 (Impact AQ-4) p. 165 (Impact AQ-9)	No	No	No	None
H.b Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	2010 FEIR p. III.H-25 (Impact AQ-1) p. III.H-35 (Impact AQ-5) Addendum 6 p. 154 (Impact AQ-1) p. 160 (Impact AQ-5)	No	No	No	MM HZ-15
H.c Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal, state, or regional ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	2010 FEIR p. III.H-33 (Impact AQ-4) Addendum 6 p. 158 (Impact AQ-4)	No	No	No	None
H.d Expose sensitive receptors to substantial pollutant concentrations?	2010 FEIR p. III.H-25 (Impact AQ-1) p. III.H-27 (Impact AQ-2a) p. III.H-31 (Impact AQ-3a) p. III.H-36 (Impact AQ-6) p. III.H-37 (Impact AQ-7) Addendum 6 p. 154 (Impact AQ-1) p. 155 (Impact AQ-2a) p. 156 (Impact AQ-2c) p. 156 (Impact AQ-2) p. 157 (Impact AQ-3) p. 162 (Impact AQ-7)	No	No	No	MM AQ-2.1, MM AQ-6.1, MM AQ-6.2, MM HZ-15
H.e Create objectionable odors affecting a substantial number of people?	2010 FEIR p. III.H-38 (Impact AQ-8) Addendum 6 p. 165 (Impact AQ-8)	No	No	No	None

Changes to Project Related to Air Quality

The following elements of the 2024 Modified Project Variant are addressed in this Air Quality analysis:

- Modifications to the land use program;
- Changes in traffic volumes and traffic distribution;
- Changes in assumed construction phasing at CP; and
- Changes in construction activities at CP.

Comparative Impact Discussions

Impact AQ-1: Construction activities associated with the Project would not result in short-term increases in emission of criteria air pollutants and precursors that exceed BAAQMD CEQA significance criteria. ***[Criteria H.b and H.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR identified that heavy construction activity on dry soil exposed during construction would cause the emissions of dust (particulate matter of 10 microns in diameter or less [PM_{10}]). Heavy-duty equipment, material transport, and employee commutes would result in emissions of criteria air pollutants (e.g., carbon monoxide [CO]) and precursors (e.g., reactive organic gases [ROG] and nitrogen oxides [NO_X]). As discussed in the 2010 FEIR, emissions from these sources are included in the regional emissions inventory, which serves as the basis for air quality plans, and the Bay Area Air Quality Management District (BAAQMD) had not adopted mass emissions thresholds for construction-related emissions at the time of the 2010 FEIR. Thus, the 2010 FEIR conclusions were based on consideration of the fugitive PM_{10} dust control measures to be implemented. The 2010 FEIR determined that implementation of mitigation measure MM HZ-15 would reduce the impacts caused by construction dust to a less-than-significant level.

The assumed construction phasing has changed for the 2024 Modified Project Variant and the intensity of construction activity may increase at certain points during the construction period. However, the overall construction duration for CP has lengthened, which could reduce the average daily construction equipment activity. The 2024 Modified Project Variant would not change the type of construction activities at the Project site and would still comply with the dust control strategies identified in MM HZ-15. As stated in the 2010 FEIR, these dust control strategies are implemented "to the extent deemed necessary by the San Francisco Department of Public Health to achieve no visible dust at the property boundary." Therefore, the impact would remain less than significant with implementation of the identified mitigation measure.

Impact AQ-2a: Construction at Candlestick Point would not result in impacts to off-site populations from Project-generated emissions of DPM. ***[Criterion H.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

At off-site receptors, the 2010 FEIR disclosed that construction impacts from CP development would not exceed BAAQMD CEQA thresholds for cancer risk or chronic noncancer health indices (HI) after implementation of mitigation measures MM AQ-2.1 and MM AQ-2.2. Diesel Particulate Matter (DPM) emissions were modeled for operation of off-road construction equipment and on-road hauling trucks. Risk was assessed at off-site sensitive receptors (Impact AQ-2a for CP, Impact AQ-2b for HPS2). The maximum exposed individual (MEI) cancer risk in the 2010 FEIR would be 3.3 in 1 million, while the maximum chronic noncancer HI would be 0.007, well below the BAAQMD significance thresholds of 10 in 1 million and 1.0, respectively.

Revised construction modeling and health risk assessments were performed for the 2024 Modified Project Variant at existing off-site sensitive receptor and worker locations. The methods used to assess the 2024 Modified Project Variant in this analysis are the same as the methods outlined in Section III.H Air Quality of the 2010 FEIR, with the exception that the newest versions of the same air dispersion models, AERMOD v23132 and AERMAP v18081, and the 2015 Office of Environmental Health Hazards Assessment (OEHHA) health risk guidance were used for this analysis.[50] The use of the updated OEHHA guidance tends to result in more conservative (i.e., higher) estimates of health impacts than the same emissions levels would have shown in 2010. All sensitive receptors have been conservatively analyzed with residential exposure parameters, as detailed in Appendix E1 (Air Quality Construction Methods Memorandum). The analysis incorporates conservative (i.e., health protective) methodologies for the estimation of emissions, calculation of airborne concentrations of DPM during construction activities at receptor locations, and the estimation of excess lifetime cancer risks and non-cancer health effects. Detailed assumptions and results are described in Appendix E1.

In the 2010 FEIR, mitigation measure MM AQ-2.1 (Implement Emission Control Device Installation on Construction) required a "phase in" of the emission control device requirement for construction equipment used on non-Alice Griffith parcels, which are USEPA Tier 2 standards outfitted with California ARB Level 3 VDECS (Verified Diesel Emission Control Strategies) for particulate matter control (or equivalent). The "phase in" relates to the percent of equipment that must meet the control standard. Future construction of CP will begin after the "phase in" requires 100 percent of equipment to meet the emission control device requirement in mitigation measure MM AQ-2.1.

Mitigation measure MM AQ-2.2 (Implement Accelerated Emission Control Device Installation on Construction Equipment Used for Alice Griffith Parcels) requires all equipment used during

[50] Office of Environmental Health Hazard Assessment (OEHHA). *Guidance Manual for Preparation of Health Risk Assessments*, February 2015. Available online at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

construction of Alice Griffith to meet the USEPA Tier 4 engine standards for particulate matter control (or equivalent). Construction has already been completed at the eastern end of the Alice Griffith parcels, between Giants Drive and Arelious Walker Drive.

For the 2024 Modified Project Variant, mitigation measures MM AQ-2.1 and MM AQ-2.2 were combined and updated to reflect current standards and availability of equipment with lower emissions. The analysis of past construction activity assumes compliance with the versions of MM AQ-2.1 and MM AQ-2.2 from the 2010 FEIR. For all future construction, compliance with the updated MM AQ-2.1, proposed below, were applied in the analysis, which requires equipment at CP would meet United States Environmental Protection Agency (USEPA) Tier 4 standards (or equivalent) for all future construction.

The MEI cancer risk for the 2024 Modified Project Variant is 8.5 in 1 million at an on-site residential location. The MEI chronic HI for the 2024 Modified Project Variant is 0.005 at an off-site worker location, which is lower than the chronic HI of 0.007 at the MEI for the 2010 Project.

The impact would remain less than significant with implementation of the identified mitigation measures (MM AQ-2.1 and MM AQ-2.2).

Mitigation Measure with Proposed 2024 Modifications

MM AQ-2.1 and MM AQ-2.2 will be combined and updated as follows:

> **Mitigation Measure MM AQ-2.1:** ~~Implement Emission Control Device Installation on Construction. To reduce DPM 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 USEPA 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, 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.~~ **Clean Off-Road Construction Equipment.** The Project Applicant shall comply with the following:
>
> 1. *Engine Requirements.* All off-road equipment greater than 25 horsepower and operating for more than 20 total hours over the duration of construction shall meet the following requirements:
>
>   a. All portable engines, such as generators, shall be electric. If grid electricity is not available, propane or natural gas generators shall be used if feasible.
>
>   b. Electric engines shall be used for all equipment that is readily available as plug-in or battery-electric equipment, to the maximum extent feasible during each construction phase and activity. Portable equipment shall be powered by grid electricity if available. Electric equipment may include, but is not limited to, concrete/industrial saws, sweepers/scrubbers, aerial lifts, welders, air

compressors, fixed cranes, forklifts, and cement and mortar mixers, pressure washers, and pumps.

c. Engines that cannot be electrically powered must meet or exceed either U.S. Environmental Protection Agency or California Air Resources Board (air board) Tier 4 Final off-road emission standards, except as provided for below. Exceptions to the requirement for engines that meet Tier 4 Final emission standards shall include only selected pieces of specialty equipment specified below, for which such engines may not be available at the start of a construction phase requiring that equipment. Exceptions may be granted for certain pieces of equipment; examples include bore/drill rigs required for grading/shoring/excavation and for cranes required for building construction. To qualify for an exception, the Project Applicant shall provide the Environmental Review Officer (ERO) with evidence supporting its conclusion that equipment meeting Tier 4 standards is not commercially available and shall use the next cleanest piece of off-road equipment.

d. Engines shall be fueled with alternative fuels, including natural gas, propane, hydrogen fuel cell, and electricity, as commercially available and to the maximum extent feasible during each construction phase and activity.

e. Any other best technology available in the future may be included in the construction emissions minimization plan as substitutions for the above items a–d, provided that the Project Applicant submits documentation to the planning department demonstrating that (1) the technology would result in comparable emissions reductions and (2) it would not increase other pollutant emissions or exacerbate other impacts, such as noise. This may include new alternative fuels or engine technology for off-road equipment (such as electric or hydrogen fuel cell equipment) that is not available as of 2024.

f. The Project Applicant shall require the idling time for off-road equipment be limited to no more than 2 minutes, except as provided in exceptions to the applicable state regulations regarding idling for off-road equipment. Documentation shall be provided to equipment operators in multiple languages (e.g., English, Spanish, Chinese) to remind operators of the 2-minute idling limit. If the majority of the Project Applicant's construction staff speak a language other than these, then the documentation shall be provided in that language as well.

g. The Project Applicant shall require that construction operators properly maintain and tune equipment in accordance with manufacturer specifications.

2. *Waivers.*

a. The ERO may waive the electric engine requirement of above items 1.a and 1.b if electric power is limited or infeasible at the project site. If the ERO grants the waiver, the contractor must submit documentation that the equipment used for onsite power generation meets the requirements of items 1.c and 1.d.

b. The ERO may waive the equipment requirements of item 1.c if: (1) the contractor does not have the required type of equipment within its current available inventory and has ordered such equipment at least 60 days in advance and has made a good faith effort to lease or rent such equipment but it is not available; (2) a particular piece of Tier 4 final off-road equipment is technically or financially infeasible; (3) the equipment would not produce desired emissions reduction due to expected operating modes; or (4) there is a compelling emergency need to use off-road equipment that is not Tier 4 Final compliant. If the ERO grants the waiver, the contractor must use the next cleanest piece of off-road equipment that is commercially available, or another alternative that results in comparable reductions of ROG and DPM emissions.

c. The ERO may waive the alternative fuel requirements of item 1.d if alternative fuels are not commercially available or the use of alternative fuels would negatively affect construction performance, void equipment warranties, or result in additional DPM emissions compared to traditional fuels. For purposes of this mitigation measure, "not commercially available" is defined as either: (1) not being used for other large-scale construction projects in the Bay Area occurring at the same time; (2) not obtainable without significant delays to critical-path timing of construction; or (3) not available within the larger Bay Area region.

The Project Applicant must provide sufficient documentation to the ERO when seeking any waiver described above.

3. *Construction Emissions Minimization Plan.* Before starting onsite construction activities, the Project Applicant shall submit a Construction Emissions Minimization Plan (Plan) to the ERO for review and approval. The Plan shall state, in reasonable detail, how the contractor will meet the requirements of item 1.

   a. The Plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include but is not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, expected fuel type (e.g., diesel, gasoline, electric, propane, natural gas), and hours of operation.

   b. The Project Applicant shall make the Plan available to the public for review onsite during working hours. The contractor shall post a notice summarizing the Plan. The notice shall also state that the public may ask to inspect the Plan for the project at any time during working hours and shall explain how to request to inspect the Plan. The Project Applicant shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way.

4. *Reporting.* After start of construction activities, the Project Applicant shall submit reports every year to the ERO documenting compliance with the Plan. After completion of construction activities, the Project Applicant shall submit to the ERO a final report summarizing construction activities, including the start and end dates

and duration of each construction phase, and the specific information required in the Plan.

The annual reports shall also include documentation supporting the use of waivers if the engine requirements of items 1.a, 1.b, 1.c, and/or 1.d cannot be met.

Within six months of the completion of construction activities, the Project Applicant shall submit to the ERO a final report summarizing construction activities. The final report shall indicate the start and end dates and duration of each construction phase. For each phase, the report shall include detailed information required in item 3.a.

5. *Certification Statement and Onsite Requirements.* Prior to commencing construction activities, the Project Applicant shall certify that all applicable requirements of the Plan have been incorporated into contract specifications.

~~**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 though CP06) utilize equipment which meets the USEPA 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.~~

Impact AQ-2c: Construction activities associated with the Project would not result in impacts to the existing Alice Griffith Public Housing from Project-generated emissions of DPM. ***[Criterion H.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As disclosed in the 2010 FEIR, the construction-related cancer risk on-site, at the MEI at Alice Griffith, would be 4.5 in 1 million, below the threshold of 10 in 1 million. Consistent with mitigation measure MM AQ-2.2, 100 percent of equipment was assumed to meet USEPA Tier 4 standards.

The MEI cancer risk at currently occupied Alice Griffith Public Housing for the 2024 Modified Project Variant is 8.5 in 1 million, which is the higher than the risks at the MEI for the 2010 Project, but below the threshold of 10 in 1 million. This increase is due to the use of updated health risk guidance (2015 OEHHA), which tends to result in more conservative (i.e., higher) estimates of health impacts for the same emissions levels, as well as a slightly higher level of construction activity at Candlestick Point for the 2024 Modified Project compared to the 2010 Project. Appendix E1 provides detailed assumptions and modeling results. The methodology to evaluate health impacts of the construction of Alice Griffith was the same as discussed in Impact AQ-2a.

The on-site resident MEI chronic HI for the 2024 Modified Project Variant is 0.005, which is lower than the chronic HI of 0.02 at the on-site resident MEI for the 2010 Project.

The impact would remain less than significant with implementation of the identified mitigation measure (MM AQ-2.1 and MM AQ-2.2).

Impact AQ-2: Construction activities associated with the Project would not result in impacts to on-site and off-site populations from Project-generated emissions of DPM. ***[Criterion H.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As discussed in the 2010 FEIR, the maximum cancer risk across all on-site (Alice Griffith residents) and off-site receptors from both CP and HPS2 would be 4.5 in 1 million.

Impacts at the MEI for CP for the 2024 Modified Project Variant would increase compared to the 2010 FEIR due to the increased construction and update in risk assessment guidance. However, the impacts would remain below thresholds for construction from CP. The MEI for CP is far from construction at HPS2, so would be impacted minimally from construction at HPS2. Furthermore, construction would be reduced at HPS2 compared to the 2010 FEIR. Therefore, in combination with construction at HPS2, project-generated emissions of DPM from CP would not exceed thresholds.

At locations closer to HPS2, the impacts for CP for the 2024 Modified Project Variant would be comparable to the 2010 Project and the impacts for HPS2 for the 2024 Modified Project Variant would be less than the 2010 Project. Therefore, the conclusions associated with the combined impacts from CP and HPS2 would not change with the 2024 Modified Project Variant. Impacts would remain less than significant with implementation of the identified mitigation measure (MM AQ-2.1 and MM AQ-2.2).

Impact AQ-3a: Construction at Candlestick Point would not result in impacts to off-site and Alice Griffith populations from emissions of toxic air contaminants (TACs) bound to soil-PM_{10}. ***[Criterion H.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As discussed in the 2010 FEIR, historical operations within the CP site, such as the stadium use, have increased the concentrations of certain metals and/or organic compounds in the on-site soils, and construction activities could release these chemicals into the air. The 2010 FEIR included an evaluation of the health impact of the release of these chemicals in fugitive dust as a result of construction activities. This evaluation was based on all organic chemicals detected within two separate environmental investigations of the soil. The analysis in the 2010 FEIR assumed that the entirety of the CP site would be subject to soil disturbance from grading and demolition activities. The inhalation cancer risk at the MEI as a result of construction activities at the CP site was evaluated as 0.04 in one million (compared to a threshold of 10 in 1 million) and the maximum non-cancer HI was evaluated as 0.01 (compared to a threshold of 1) in the 2010 FEIR. The impact was

determined to be less than significant with implementation of the identified mitigation measure (MM HZ-15).

Substantial ground disturbance in some areas of CP has already occurred. This includes the eastern end of Alice Griffith in between Giants Drive and Arelious Walker Drive (where construction has already been completed) and the demolition of the stadium. Therefore, impacts in these areas have already occurred.

Although the 2024 Modified Project Variant covers the same footprint as analyzed in the 2010 FEIR, the impact was re-evaluated using the same methodology in the 2010 FEIR, but with updated OEHHA health risk guidance, air dispersion modeling using the latest version of AERMOD (v23132), and the use of more recent soil sampling studies at the CP site compared to those used in the 2010 FEIR analysis. The methodology was also updated to conservatively include soil disturbance caused by deep-dynamic compaction, which was not assessed in the 2010 FEIR. The MEI cancer risk for inhalation for the 2024 Modified Project Variant is 0.0072 in one million and the non-cancer HI is 0.11. Both results are below the respective thresholds of a cancer risk of 10 in 1 million and a non-cancer index of 1. Detailed assumptions and results are described in Appendix E1 (Air Quality Construction Methods Memorandum). When accounting for multipathway health impacts[51] using the screening method developed for the 2010 DEIR, health impacts would remain below thresholds. The results are conservative because the analysis of the 2024 Modified Project Variant assumes soil disturbance across all phases would occur simultaneously and thus would have additive impacts. The construction schedule, however, assumes that earthwork across each phase would be staggered and not completely overlap with other phases, which makes this analysis conservative.

Although the intensity of construction activity may increase at certain points during the construction period, these dust control strategies are implemented "to the extent deemed necessary by the San Francisco Department of Public Health to achieve no visible dust at the property boundary." Thus, the impact would remain less than significant with implementation of the identified mitigation measure (MM HZ-15).

[51] Exposure through noninhalation exposure pathways is typically referred to as multipathway health impacts. Depending on the specific chemical and receptor, such pathways could include incidental ingestion of and dermal contact with soil and ingestion of mother's milk, homegrown produce, and/or water.

Impact AQ-4: Operation of the Project would violate BAAQMD CEQA significance thresholds for mass criteria pollutant emissions from mobile and area sources and contribute substantially to an existing or projected air quality violation at full build-out. ***[Criteria H.a and H.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable	Significant and Unavoidable

As discussed in the 2010 FEIR, Project operational emissions for HPS2 and CP would exceed the BAAQMD CEQA significance threshold for ROG, NO_X, PM_{10}, and $PM_{2.5}$. The 2010 FEIR reports daily emissions of ROG and NO_X under summer conditions because ozone concentration is highest during this season, and it reports daily emissions of PM_{10} and $PM_{2.5}$ under winter conditions when ambient concentrations of particulate matter are highest. The 2010 FEIR estimated daily ROG emissions were 921 lb/day for HPS2 and CP together and 666 lb/day for CP only, above the BAAQMD significance threshold of 80 lb/day. Primary sources of ROG include mobile emissions and area sources, such as consumer product use in residences, architectural coatings, and landscape equipment. The daily NO_X emissions estimated in the 2010 FEIR for the Project were 384 lb/day for HPS2 and CP together and 265 lb/day for CP only, exceeding the contemporaneous BAAQMD threshold of 80 lb/day. Daily PM_{10} emissions from the 2010 FEIR were 1,453 lb/day for HPS2 and CP together and 1,029 lb/day for CP only, exceeding the contemporaneous BAAQMD threshold of 80 lb/day. Daily $PM_{2.5}$ emissions were 278 lb/day for HPS2 and CP together, and 197 lb/day for CP only, and BAAQMD did not have a threshold for $PM_{2.5}$ emissions at the time of the 2010 FEIR. Mobile sources (i.e., vehicles) contribute a large fraction of PM_{10}, $PM_{2.5}$, and NO_X for the Project. The 2010 FEIR concluded that no mitigation measures were available and feasible, beyond mitigation measures for transportation, to reduce the Project's operational emissions below the BAAQMD thresholds. The 2010 FEIR concluded that this impact would be significant and unavoidable.

Emissions of the operation of the 2024 Modified Project Variant were estimated as described in Appendix E2 (Air Quality Operational Emissions Data). Operational emissions from only CP, and not HPS2, were re-evaluated for the 2024 Modified Project Variant. The California Emission Estimator Model version 2022.1 (CalEEMod 2022) was used to estimate operational emissions because the model used for the 2010 FEIR analysis, URBEMIS2007, is no longer available and does not incorporate more recent data. Compared to the 2010 FEIR, the analysis for the 2024 Modified Project Variant incorporates more recent assumptions such as the 2019 Title 24 building energy standards,[52] Renewable Portfolio Standards, vehicle emissions standards, lower ROG content requirements in architectural coatings and consumer products, wood burning hearth restrictions, and updated Project water consumption and trip generation rates.

Consistent with the 2010 Project, daily ROG and NO_X emissions for the 2024 Modified Project Variant are reported under summer conditions, and daily PM_{10} and $PM_{2.5}$ emissions are reported

[52] CalEEMod incorporates energy use assumptions that take into account the 2019 Title 24 building energy standards. However, buildings associated with the 2024 Modified Project Variant would be subject to future building energy standards that would likely require incorporation of more energy efficiency measures. Therefore, this analysis in a conservative estimate of emissions from energy use.

under winter conditions. All emissions are lower under the 2024 Modified Project Variant compared to the 2010 Project. Daily ROG emissions for the 2024 Modified Project Variant are 395 lb/day, which is substantially lower than the ROG emissions in the 2010 FEIR for CP (666 lb/day) but remains above the BAAQMD threshold. Daily NO_X emissions for the 2024 Modified Project Variant are 112 lb/day, which is also substantially lower than the NO_X emissions in the 2010 FEIR for CP (265 lb/day), but also remains above the BAAQMD threshold. Daily PM_{10} and $PM_{2.5}$ emissions are 315 lb/day and 87 lb/day, respectively, which are well below the emissions reported for the 2010 Project, which were 1,029 lb/day and 197 lb/day for CP, respectively. Each is above the BAAQMD threshold.

Emissions have decreased from those disclosed for the 2010 Project largely due to the delay in implementation of the Project, land use and vehicle trip generation changes, and updated calculation methodology for mobile emissions that incorporates the latest version of the California Air Resources Board's mobile emission factor model, EMFAC2021. EMFAC2021 is incorporated within CalEEMod2022 to calculate emission factors in Addendum 7, while the URBEMIS model used in the 2010 FEIR incorporated EMFAC2007. EMFAC2021 incorporates regulations adopted since 2007, when EMFAC2007 was released, such as California Air Resources Board (CARB) Advanced Clean Truck[53] and CARB Innovative Clean Transit[54] as well as CARB's Advanced Clean Cars (ACC)[55] program. However, EMFAC2021 does not incorporate the newest regulations, such as CARB's ACC II[56], which was adopted in 2022. For most pollutants emitted by the 2024 Modified Project Variant, the majority of emissions are from vehicular travel. Newer vehicles tend to emit less pollutants than older vehicles, so the vehicle fleet would emit less when the 2024 Modified Project Variant is built out later compared to the initial build-out assumed for the 2010 Project.[57]

While emissions from the 2024 Modified Project Variant continue to exceed the BAAQMD significance threshold for all criteria air pollutants, they are below emission levels estimated for the 2010 Project for CP for all pollutants. Results comparing the 2010 Project and the 2024 Modified Project Variant are shown in Table 22 (Emissions Comparison). The impact would remain significant and unavoidable, and there are no feasible mitigation measures to reduce the level of this impact.

[53] California Air Resources Board (CARB), Advanced Clean Trucks regulation, August 2021. Available at https://ww2.arb.ca.gov/resources/fact-sheets/advanced-clean-trucks-fact-sheet
[54] CARB, *Innovative Clean Transit*, December 2018. Available at https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit
[55] CARB, *Advanced Clean Cars Program*, 2012. Available at https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program
[56] CARB, *Final Regulation Order Adoption of new Section 1961.4, Title 13, California Code of Regulations,* 2022. Available at https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/2acciifro1961.4.pdf.
[57] The 2024 Modified Project Variant construction schedule ends in 2058. However, operational emissions are calculated for 2038 as a conservative assumption to evaluate maximum impacts of the 2024 Modified Project Variant.

TABLE 22 EMISSIONS COMPARISON FOR CP

	ROG (lb/day)	*NOx (lb/day)*	*PM10 (lb/day)*	*PM2.5 (lb/day)*
2010 Project (Operational Emissions for 2030 Build-Out)[a]	666	265	1,029	197
2024 Modified Project Variant (Operational Emissions for 2038 Build-Out)[b]	395	112	315	87
BAAQMD Significance Threshold	***54***	***54***	***82***	***54***

SOURCES: Appendix E2 (Air Quality Operational Emissions Data)

NOTES:

Emissions were calculated for the entire Project for operational year 2038.

Daily ROG and NO_X emissions are calculated under summer conditions and daily PM_{10} and $PM_{2.5}$ emissions are calculated under winter conditions.

ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter less than 2.5 micrometers in diameter.

a. Emissions from *Candlestick Point–Hunters Point Shipyard Phase II Development Plan EIR*, Section III.H (Air Quality), Table III.H-5 (2009).

b. Operational emissions calculated with CalEEMod2022.1. Operational Emissions for HPS2 were not re-evaluated for the 2024 Modified Project Variant.

Impact AQ-5: Operation of the Project would not cause local concentrations of CO to exceed State and federal ambient air quality standards due to motor vehicles trips. ***[Criterion H.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR used the dispersion model CALINE4 to analyze localized CO emissions at four intersections. These intersections were selected because they represented the locations where Project traffic would produce the greatest change in traffic level of service associated with the Project (and, therefore, the greatest increase in congestion, which would produce the greatest increase in CO emissions) and/or the highest total traffic volumes of all intersections in the Project vicinity. Modeling of the localized CO concentration was completed for the existing (2009), future baseline (2030), and future Project (2030) scenarios and then added to the background CO concentrations for San Francisco.

The maximum 1-hour CO concentration (including the background concentration) of the four modeled intersections was 3.1, 3.0, and 3.2 ppm for the existing, 2030 future baseline, and 2030 future Project scenarios, respectively. The maximum 8-hour CO concentration (including the background concentration) of the four modeled intersections was 2.0, 2.0, and 2.1 ppm for the existing, 2030 future baseline, and 2030 future Project scenarios, respectively. These are all below the State and federal ambient air quality standards due to motor vehicle trips of 20 ppm and 35 ppm, respectively, for 1-hour concentrations, and 9 ppm for 8-hour concentrations (for both State and federal ambient air quality standards).

The existing and 2030 future baseline (without the 2024 Modified Project Variant) scenarios have not changed with the 2024 Modified Project Variant; therefore, those CO concentrations for the 2024 Modified Variant would remain the same when compared to the 2010 Project. For the 2030 future project scenario, revised concentrations for the 2024 Modified Project Variant were calculated by

scaling the previous 2010 Project concentrations by the percent change in cumulative traffic at the selected intersections.[58]

For the 2030 future 2024 Modified Project Variant scenario, traffic at two of the four intersections was analyzed: (1) the intersection of Arelious Walker Drive and Gilman Avenue and (2) the intersection of Third Street and Gilman Avenue.[59] The average peak hour cumulative traffic volume at these two selected intersections increased by 8.1 percent and 3.2 percent, respectively, compared to the 2010 Project.

Impacts associated with HPS2 were conservatively assumed to be the same as those for the 2018 Modified Project Variant analyzed in Addendum 5 (and did not change in Addendum 6. Thus, traffic at the other two intersections (Griffith Street and Palou Avenue and Evans Avenue and Jennings Street) were not reanalyzed for Addendum 7 because these intersections are in the HPS2 area and were analyzed in Addendum 5 based on a land use program with greater R&D/office square footage at HPS2 than proposed under the 2024 Modified Project Variant. Addendum 5 showed that impacts at these intersections for the 2018 Modified Project Variant would not change from those in the 2010 FEIR. Given that the 2024 Modified Project Variant would reduce the R&D/office square footage at HPS2, project traffic near HPS2 for the 2024 Modified Project Variant would be less than project traffic near HPS2 for the 2018 Modified Project Variant. Therefore, consistent with the finding for the 2018 Modified Project Variant, the impact conclusion for the 2024 Modified Project Variant would not change from the impact conclusion for 2010 Project.

The maximum 2030 future 2010 Project 1-hour and 8-hour CO concentrations (including the background concentration) of the four modeled intersections were 3.2 ppm and 2.1 ppm, respectively. These values are below the state and federal ambient air quality standards due to motor vehicle trips. Table 23 (CO Concentration Comparison—2030 Future Project) shows the comparison of the 1-hour and 8-hour CO concentrations at the intersection of Arelious Walker Drive and Gilman Avenue and the intersection of Third Street and Gilman Avenue for the 2010 Project and 2024 Modified Project Variant. The impact would remain less than significant, and no mitigation is required.

[58] While the intersections were selected based on changes in Project traffic, total CO concentrations are based on total traffic at an intersection.
[59] Although full buildout of CP is not expected until after 2030, future trips during buildout were analyzed in 2030 to be consistent with the 2010 FEIR, as discussed in Section II.B.3 (Transportation and Circulation).

TABLE 23 CO CONCENTRATION COMPARISON—2030 FUTURE PROJECT

	1-hour Average CO Concentration (ppm)				*8-hour Average CO Concentration (ppm)*		
Analysis Area[e]	*2010 Project*[a]	*2024 Modified Project Variant*[b]	*State Standard*	*Federal Standard*	*2010 FEIR*[a]	*2024 Modified Project Variant*[b]	*State and Federal Standard*
Arelious Walker Dr/Gilman Ave[c]	3.1	3.1	20	35	2.0	2.0	9
Third St/Gilman Ave[d]	3.2	3.2			2.1	2.1	

SOURCES: Appendix E2, Air Quality Operational Emissions Data

a. FEIR CO concentrations are from 2010 FEIR Table III.H-6 for the 2030 future project scenario and include background concentrations.

b. 2024 Modified Project Variant CO concentrations are scaled EIR values for the 2030 future project scenario based on the traffic study changes and include background concentrations.

c. Located on-site at CP.

d. Located off-site near CP.

e. The concentrations for the other two intersections analyzed in the 2010 Project (Griffith Street/Palou Avenue and Evans Avenue/Jennings Street) are calculated in the 2018 Modified Project Variant. These intersections are off-site near HPS2 and are not expected to be affected by the 2024 Modified Project Variant.

Impact AQ-6 Implementation of HPS Phase II would not expose nearby receptors to an increase in local concentrations of toxic air contaminants due to the operation of Research and Implementation uses. (Less than Significant with Mitigation) ***[Criterion H.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR provided a prospective analysis to evaluate health impacts at HPS2 from potential TAC sources that may be located within the Research and Development (R&D) portions of the Project in the future. The 2010 FEIR found that the maximum estimated residential cancer risk was 17 in one million and the maximum non-cancer HI was estimated was 1.6. However, the 2010 FEIR noted that this receptor location would be in an area designated as open space or stadium use, and would not be a residential location. Therefore, if the cancer risks were estimated based on exposure assumptions consistent with recreational use of open space, the cancer risks would be reduced below 10 in one million and the chronic HI would be reduced below the HI threshold of 1.0. As a result, the 2010 FEIR concluded that the estimated R&D health risks would be below BAAQMD thresholds for all residential receptor locations as a result of implementation of the Project, with implementation of mitigation measures MM AQ-6.1 and MM AQ-6.2.

In the 2024 Modified Project Variant, 2,050,000 square feet of R&D land use would be transferred from HPS2 to CP. Because R&D land uses that may release TACs are now being considered at CP, health impacts from R&D land uses were evaluated for CP using the same methodology used to evaluate the HPS2 R&D toxic air contaminants in the 2010 FEIR. The 2024 Modified Project Variant may include R&D land uses in Phase 2 and Phase 3.[60] Therefore, the analysis of health impacts of

[60] As discussed in Appendix E1 (Air Quality Construction Methods Memorandum), the phasing numbering was updated following completion of the analyses. As a result, the phase numbering described in Appendix E2 (Air Quality Operational Emissions Data) corresponds to the initial phase numbering and the phase numbering presented here shows the updated phasing.

R&D is limited to Phase 2 and 3 areas. Health impacts were modeled using one-acre plots across Phases 2 and 3, consistent with the analysis at HPS2 in the 2010 FEIR and were estimated using the latest version of AERMOD (v23132). This is conservative as R&D uses are only planned for the area bounded by Ingerson Avenue, Harney Way and Jamestown Avenue.

In addition, since the 2010 FEIR, BAAQMD updated BAAQMD Regulation 2 Rule 5 to include project risk limits for health impacts for new or modified projects applying for an air permit of 6.0 in a million for overburdened communities, as defined in BAAQMD 2-1-243.[61] According to BAAQMD's Overburdened Areas Map,[62] CP is considered an overburdened community and therefore this limit applies to sources at CP that require an air permit. Therefore, the maximally exposed boundary receptor for each R&D parcel was set to a chronic noncancer HI of 1.0 and an excess lifetime cancer risk of 6.0 in a million for this analysis, compared to a chronic noncancer HI of 1.0 and an excess lifetime cancer risk of 10.0 in a million as was used in the 2010 FEIR analysis. Consistent with the analysis of HPS2 in the 2010 FEIR, the analysis incorporated many conservative assumptions that would result in an overestimate of health impacts. These include assuming ambient temperatures for the exhaust and low exhaust velocity, which would limit plume rise and mixing of the plume. In addition, the analysis assumes that each one-acre plot would release TACs to the maximally permittable level and that each one-acre plot would contain R&D operations that release TACs, which are both unlikely considering the types of R&D operations anticipated to be located at CP and the consideration of locating both residential and office land uses over the area analyzed. As a result of this conservative analysis, the results from the R&D analysis show areas on-site that would exceed the chronic noncancer HI and cancer risk thresholds, which are illustrated in Figure 1 in Appendix E1. Detailed assumptions and results are described in Appendix E2. Figure 1 shows that with the conservative assumptions, the limit of 6 in a million would be exceeded in the Phase 2 and Phase 3 locations but would be below thresholds at all off-site locations. The 10 in a million limit is restricted to Phases 2 and 3 as well as limited portions of Phases 4, 5, and 7 adjacent to Phases 2 and 3.

Because the R&D analysis for the 2024 Modified Project Variant shows areas in CP that exceed health risk thresholds, mitigation measures MM AQ-6.3a and MM AQ-6.3b would be added to require additional analyses of future R&D uses in CP in order to remain below health risk thresholds. Mitigation measures MM AQ-6.1 and MM AQ-6.2 would be updated to clarify that the measures only apply to HPS.

With implementation of the modified mitigation measure, the impact would be less than significant.

[61] BAAQMD, *Regulation 2 Rule 5: New Source Review of Toxic Air Contaminants - 2021 Amendment (Current)*, July 2022. Available at: https://www.baaqmd.gov/rules-and-compliance/rules/reg-2-rule-5-new-source-review-of-toxic-air-contaminants?rule_version=2021%20Amendment.

[62] BAAQMD, Interactive Data Maps, July 2022. Available at: https://www.baaqmd.gov/about-air-quality/interactive-data-maps.

Mitigation Measure with Proposed 2024 Modifications

MM AQ-6.1 If a facility in HPS with sources of TAC emission wishes to locate on a plot size smaller than 1 acre, an analysis will be required to show the facility, in conjunction with all other TAC emitting facilities in the R&D areas, will not cause these thresholds of a residential cancer risk of 10 in one million and a chronic noncancer HI of 1.0 to be exceeded at the nearest residential locations.

MM AQ-6.2 Each facility in HPS with sources of TAC emissions on a plot of 1 acre or larger will limit their emissions such that residential cancer risk and chronic non-cancer hazard index evaluated at the facility boundary does not exceed 10 in one million or 1.0, respectively. If these thresholds are exceeded at the boundary, an analysis will be required to show the facility, in conjunction with all other TAC emitting facilities in the R&D areas, will not cause these thresholds to be exceeded at the nearest residential locations.

MM AQ-6.3a Each R&D facility with sources of TAC emissions (TAC-emitting R&D facility) that is proposed in the CP Innovation District, which is the area bounded by Ingerson Avenue, Harney Way and Jamestown Avenue, shall be required to show that the facility, in conjunction with all other existing or approved TAC-emitting R&D facilities in the Innovation District, will not cause the thresholds of a residential cancer risk of 10 in one million or a chronic noncancer HI of 1.0 to be exceeded at planned CP residential locations outside the CP Innovation District or any previously approved residential use within the CP Innovation District.

If the analysis based on emissions from TAC-emitting R&D facilities shows health impacts in excess of the significance threshold to residents, health impacts shall be reduced until the TAC-emitting facilities would not cause these thresholds of a residential cancer risk of 10 in one million and a chronic noncancer HI of 1.0 to be exceeded at residential locations. Activities to reduce estimated impacts from a proposed TAC-emitting R&D facility may include, but are not limited to, reducing TAC emissions by reducing solvent use or hours of operation, siting exhaust locations further away from existing or planned residences, implementing additional filtration of TAC emissions, and/or relocating the TAC-emitting facility.

MM AQ-6.3b If a residential use is proposed within the CP Innovation District after one or more TAC-emitting R&D facility has been approved, the residential proposal shall be required to show that the TAC-emitting R&D facilities will not cause the thresholds of a residential cancer risk of 10 in one million or a chronic noncancer HI of 1.0 to be exceeded at the proposed residential use.

Activities to reduce estimated impacts when a residential use is proposed may include, but are not limited to, restrictions on emissions from future TAC-emitting R&D facility operations or locations, or relocation of the proposed residential land use.

Impact AQ-7: Operation of the Project would not expose receptors to concentrations of $PM_{2.5}$ above a 0.2 μg/m³ action level for $PM_{2.5}$ and, therefore, would not substantially affect the health of nearby receptors as a result of an increase in local concentrations of vehicle emissions ($PM_{2.5}$) associated with vehicle use attributable to operation of the Project. ***[Criterion H.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As disclosed in the 2010 FEIR, operational traffic impacts would not exceed the San Francisco Department of Public Health (SFDPH) $PM_{2.5}$ localized concentration threshold for potential health effects of 0.2 μg/m³. $PM_{2.5}$ concentration levels were evaluated at nearby off-site roadways and intersections that Project-related traffic would use to access neighboring freeways and other areas of San Francisco. The maximum $PM_{2.5}$ concentration from the 2010 FEIR was determined to be 0.2 μg/m³ and did not exceed the SFDPH's threshold of 0.2 μg/m³. Figure 4-3 of 2010 FEIR Appendix H3, Attachment IV, shows the roadways and receptors modeled.

To calculate revised $PM_{2.5}$ concentrations for the 2024 Modified Project Variant, 2010 Project $PM_{2.5}$ concentrations were scaled by the respective percent change in annual average daily traffic (AADT) anticipated with the 2024 Modified Project Variant along each of the previously modeled intersections and also by the change in emission factors used in EMFAC2021 compared to EMFAC2007. The change in the AADT was determined using traffic volumes provided by Fehr & Peers and is different for each modeled road segment and intersection as shown in Appendix E2. Under the 2024 Modified Project Variant, AADT generally increased along Third Street, Ingalls Street, Arelious Walker and Gilman Avenues, but generally decreased on Harney Way. The change in emission factors (between EMFAC2021 and EMFAC2007) takes into account the reduction in exhaust emissions that have been realized from emissions control requirements since publication of the 2010 FEIR.

The resulting maximum $PM_{2.5}$ concentration for the 2024 Modified Project Variant is 0.085 μg/m³, under the threshold used in the 2010 FEIR of 0.2 μg/m³. This maximum concentration occurs near the intersection of Gilman Avenue and Arelious Walker, which has the maximum percentage increase in AADT across the intersections. All other locations would be also below the threshold. Thus, the 2024 Modified Project Variant would not expose receptors to concentrations of $PM_{2.5}$ above the 0.2 μg/m³ action level for $PM_{2.5}$ used in the 2010 FEIR.

In summary, impacts under the 2024 Modified Project Variant would remain less than significant, and no mitigation is required.

Impact AQ-8: Implementation of the Project would not generate objectionable odors affecting a substantial number of people. ***[Criterion H.e]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 Project assumed a mixed-use development at Candlestick Point containing residential, R&D/office, retail, R&D, recreational, and entertainment uses. The 2010 FEIR concluded that although there may be some potential for small-scale, localized odor issues to emerge around Project sources such as solid waste collection or food preparation, substantial odor sources and consequent effects on on-site and off-site sensitive receptors would be unlikely and/or would be resolved by appropriate and effective intervention after receipt of any complaints. In the 2010 FEIR, this impact was considered less than significant, and mitigation was not required.

The 2024 Modified Project Variant includes the same land uses as the 2010 Project, plus the alternative geothermal heating and cooling system that was analyzed in Addendum 6 as part of the 2019 Modified Project Variant. As discussed in Addendum 6, the geothermal heating and cooling system would be enclosed and would not produce significant odors. Therefore, the odor impact for the 2024 Modified Project Variant is the same as that disclosed for the 2010 Project and subsequent addenda. The impact would be less than significant, and no mitigation is required.

Impact AQ-9: The Project would conform to the current regional air quality plan. ***[Criterion H.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

In the 2010 FEIR, the Project was compared against the Bay Area 2005 Ozone Strategy and the draft 2009 Clean Air Plan (CAP). The Project was determined to conform to the 2005 Strategy and draft 2009 CAP in that it promotes the use of alternative transportation modes, such as transit, biking, and walking, and places housing in close proximity to jobs and retail establishments.

Although the 2005 Ozone Strategy and 2009 CAP are obsolete documents for the purposes of this impact, the land use program for the 2024 Modified Project Variant would conform to those plans for the same reasons as the 2010 Project.

Since the 2010 FEIR was certified, the BAAQMD developed the 2017 CAP, the most recently adopted strategy for the Bay Area to meet air quality standards. The 2017 CAP serves to protect public health and the environment by using a multipollutant air quality plan with new measures in sectors including transportation, energy, buildings, water, and natural working lands.

The 2024 Modified Project Variant supports many of the primary goals of the 2017 CAP in that it proposes to reduce impacts by implementing transportation control measures, energy and building measures, and water conservation measures. The proposed extension of public transit to the area supports the development of transit ways that would encourage use of local bus routes (MUNI bus

lines to downtown) and promotes the development of multi-use pathways encouraging pedestrian and bicycle usage. This would help reduce vehicle trips, vehicle usage, and traffic congestion. The 2024 Modified Project Variant also continues to include an alternative to a conventional utility system that would reduce carbon emissions from building operations by using geothermal heating, ventilation, and air conditioning (HVAC) systems that reduce the need for natural gas fired boilers. If this alternative is implemented, it would reduce overall energy consumption and would also be consistent with the building control measure goals delineated in the 2017 CAP. In addition, on-site renewable energy would be generated through the use of solar photovoltaics to supplement on-site power supply from San Francisco Public Utilities Commission and the use of lithium-ion batteries for storing surplus energy generated by PV systems. Consequently, overall, the 2024 Modified Project Variant would support the goals of the 2017 CAP.

The impact would remain less than significant, and no mitigation is required.

Cumulative Impacts

The 2010 FEIR included an evaluation of a list of proposed developments in the project area for construction cumulative impacts. The 2010 FEIR determined that cumulative construction impacts were less than significant due to the location and size of the other developments and the inclusion of a dust control plan for the Project.

Since the 2010 FEIR, there have been new proposed developments in the Project area. The following is a summary of the new cumulative projects in the Project Vicinity:

1. SF Logistics Center Project (1313 Armstrong Avenue; Case No. 2020-010684ENV): this project would include the demolition of four one-story buildings used for waste management and construction support, and construction of a 286,400-gross-square-foot (6.6-gross-acre) 2-story logistics facility.
2. San Francisco Fire Department Training Facility (1236 Carroll Avenue; Case No. 2021-004847ENV): this project would include the construction of a new fire-training facility on a 317,300-square-foot (7.3-acre) site.

As described in the 2010 FEIR, the winds in the vicinity of the Project are predominantly from the west, blowing directly east and as such, only construction activities on other projects directly west of the Project are likely to combine with Project-related construction activities. The SF Logistics Center Project and San Francisco Fire Department Training Facility are northwest and north of the Project, respectively, and would therefore, not be expected to combine with Project-related construction activities to affect sensitive receptors to the north and west. Land uses to the east of the projects are industrial facilities and the shoreline. 2024 Modified Project Variant construction near the two cumulative projects would not likely occur at the same time as the two cumulative projects because the two cumulative projects are located near Phase 6, which is not expected to start construction

until 2034.[63] Therefore, the combination of the 2024 Modified Project Variant and the two additional cumulative projects on the industrial facilities would not change the cumulative conditions. In addition, because new proposed developments are planned, the workers are expected to be replaced due to changes in land use during Project construction and would, therefore, be subject to less exposure than anticipated. Given the relative location, receptor types, and limited sizes of the other projects, the evaluation of cumulative construction impacts from the 2010 FEIR applies to the 2024 Modified Project Variant.

Due to the delay in HPS2 implementation, HPS2 construction would now occur when residents of CP are present. However, Hunters Point Shipyard Phase I is far from CP and would not make a cumulatively considerable contribution to any significant impact experienced at CP. The 2010 FEIR concluded that operational emissions would result in a significant and unavoidable cumulative impact since Project emissions exceed the BAAQMD project-specific significance thresholds. The 2010 FEIR concluded that CO emissions would be considered to have a less-than-significant cumulative impact because those emissions would not cause a localized CO hotspot. The cumulative human health risks from motor vehicles would be considered less than significant because the analysis took into account future growth within the cumulative context.

The same conclusions for cumulative operational impacts from the 2010 FEIR apply to the 2024 Modified Project Variant because the conclusions for the Variant specific analysis did not change from the 2010 FIER and the new projects evaluated as part of the cumulative analysis did not change compared to the 2010 FEIR.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to air quality impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects for air quality. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to air quality, on either a Project-related or cumulative basis.

[63] As discussed in Appendix E1 (Air Quality Construction Methods Memorandum), the phasing numbering was updated following completion of the analyses. As a result, the phase numbering described in Appendix E2 (Air Quality Operational Emissions Data) corresponds to the initial phase numbering and the phase numbering presented here shows the updated phasing.

II.B.8 Noise and Vibration

	Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
12.	**Noise and Vibration.** Would the project result in:					
I.a	Result in exposure of persons to or generation of noise levels in excess of standards established in the Environmental Protection Element of the *San Francisco General Plan* or San Francisco Noise Ordinance (Article 29, *San Francisco Police Code*)?	2010 FEIR p. III.I-30 (Impact NO-1b) Addendum 6 p. 169 (Impact NO-1b)	No	No	No	MM NO-1a.1, MM NO-1a.2
I.b	Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	2010 FEIR p. III.I-32 (Impact NO-2) p. III.I-40 (Impact NO-5) Addendum 6 p. 181 (Impact NO-5)	No	No	No	None
I.c	Result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	2010 FEIR p. III.I-39 (Impact NO-4) p. III.I-40 (Impact NO-6) Addendum 6 p. 178 (Impact NO-4) p. 181 (Impact NO-6)	No	No	No	None
I.d	Result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	2010 FEIR p. III.I-36 (Impact NO-2c) p. III.I-38 (Impact NO-3) p. III.I-44 (Impact NO-7) Addendum 6 p. 174 (Impact NO-2c) p. 177 (Impact NO-3)	No	No	No	MM NO-1a.1, MM NO-1a.2, MM NO-2a
I.e	For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the Project expose people residing or working in the area to excessive noise levels?[64]	2010 FEIR p. III.I-51 (Impact NO-8)	No	No	No	None

[64] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR The 2024 Modified Project Variant would have no effect on the impact because the modifications do not alter the activity that causes the impact.

	Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
I.f	For a project located in the vicinity of a private airstrip, would the Project expose people residing or working in the project area to excessive noise levels?[65]	2010 FEIR p. III.I-51 (Impact NO-8)	No	No	No	None
I.g	Be substantially affected by existing noise levels[66]	2010 FEIR p. III.I-51 (Impact NO-8)	No	No	No	None

Changes to Project Related to Noise and Vibration

The following elements of the 2024 Modified Project Variant are addressed in this Noise analysis:

- Modifications to the development scenario;
- Changes in traffic volumes and traffic distribution;
- The transfer of 2,050,000 million square feet of office space from HPS2 to CP
- Modifications to areas that would use deep dynamic compaction (DDC) at CP;

Comparative Impact Discussions

Noise and vibration impacts associated with the 2024 Modified Project Variant are evaluated in this section. The assessment of construction and operational impacts for the 2024 Modified Project Variant focuses on noise and vibration occurring at CP.

Noise and vibration generated from activities at HPS2 would not affect receivers at CP due to (a) the distance between CP and HPS2; (b) the reduction in noise-generating activities at HPS2 due to a transfer of approximately 2,050,000 square feet of R&D/office uses from HPS2 to CP; and (c) the location of CP noise-sensitive receptors in the same locations as identified in the 2010 FEIR and Addendum 5. Therefore, noise impacts from activities at HPS2 are not further addressed in this section and would either be the same or less than was identified in the 2010 FEIR and as confirmed in the analysis provided in Addendum 5.

The assessment of vibration impacts for the 2024 Modified Project Variant includes the use of drill rig trucks during the installation of geothermal boreholes at CP and DDC at CP to stabilize loose soils where they occur throughout the site. The areas where DDC would be used at CP have been reduced compared to Addendum 6.

[65] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR The 2024 Modified Project Variant would have no effect on the impact because the modifications do not alter the activity that causes the impact.

[66] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR The 2024 Modified Project Variant would have no effect on the impact because the modifications do not alter the activity that causes the impact.

Impact NO-1a: Construction at Candlestick Point would generate increased noise levels for both off-site and on-site sensitive receptors; however, the Project's construction noise impacts would be temporary, they would also not occur during recognized sleep hours, and would be consistent with the requirements for construction noise that exist in Sections 2907 and 2908 of the *Police Code*. *[Criterion I.a]*

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR concluded that both off-site and on-site noise-sensitive receptors in the Project vicinity would be exposed to Project-related construction noise, and that mitigation measures MM NO-1a.1 and MM NO-1a.2, as provided in the 2010 FEIR, would reduce construction noise to a less-than-significant level. Mitigation measures MM NO-1a.1 and MM NO-1a.2 require the use of noise attenuation techniques, equipment, and materials (e.g., muffling devices, noise barriers) for general construction and pile-driving activities, respectively. Compliance with these mitigation measures would result in a 5 to 10 A-weighted decibel (dBA) reduction in construction-related noise associated with the 2010 Project.

The following assessment provides a summary of expected noise levels from construction equipment, and the potential for construction noise impact at existing off-site and future on-site receivers.[67] Illustrations of the 2024 Modified Project Variant's noise-sensitive land uses are provided in Figure 3 (2024 Modified Project Variant Land Use Plan The analysis evaluates on-site receivers on a construction phase basis.

While the 2024 Modified Project Variant proposes a modification of the development scenario, it would not place noise-sensitive receptors closer to sources of construction noise than were evaluated in the 2010 FEIR. Construction methods proposed for the 2024 Modified Project Variant at CP include an option for drilling boreholes for the geothermal heating and cooling system (using a drill rig truck) and the use of DDC to mitigate liquefaction risks. In the 2024 Modified Project Variant, DDC would be used in fewer areas compared to the 2019 Modified Project Variant.

Table 24 (Project-Related Construction Equipment) provides a list of powered equipment that would be used during construction and includes typical noise levels at distances of 50 and 100 feet from each source. The equipment and noise levels in Table 24 are similar to those identified in the 2010 FEIR and are based on Federal Transit Administration (FTA) noise guidance.[68] The sound

[67] The potential for construction-noise-related impacts is based on comparison with the San Francisco Noise Ordinance Article 29, Sections 2907 and 2908. Construction activities would occur during daytime hours, generally between 7:00 a.m. and 8:00 p.m. or as otherwise allowed by the City. No nighttime construction work is proposed. Because construction of the 2024 Modified Project Variant would occur during daytime hours, it would be subject to a limit of 80 dBA at 100 feet for individual, non-impact construction equipment. Impact equipment, such as pavement breakers and pile drivers, are not subject to a limit of 80 dBA at 100 feet. As noted in the 2010 FEIR, the City allows for construction noise to exceed 80 dBA at 100 feet provided that the Project include construction noise attenuating features, such as those identified in mitigation measures MM NO-1a.1 and MM NO-1a.2.

[68] U.S. Federal Transit Authority, *Transit Noise and Vibration Impact Assessment Manual*, September 2018. Available at https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

levels identified in Table 24 are considered representative of the equipment that would be used during construction of the 2024 Modified Project Variant.[69]

TABLE 24 PROJECT-RELATED CONSTRUCTION EQUIPMENT

		Typical Noise Level (dBA)	
Project Equipment[a]	*FTA Equipment*[b]	*50 Feet from Source*[c]	*100 Feet from Source*[d]
Compactors	Compactor	82	76
Cement truck	Concrete mixer	85	79
Pump trucks	Concrete pump	82	76
Cranes	Crane, mobile	83	77
Dozers	Dozer	85	79
Grader	Grader	85	79
Soil stabilizer	Grader	85	79
Loaders	Loader	80	74
Excavators	Loader	80	74
Bottom-drive wick inserter[e]	Excavator	88	82
Rough terrain fork lift	Loader	80	74
Asphalt layer	Paver	85	79
Pile driver	Pile-driver (impact)	101	95
Drill rig truck	Drill rig truck[f]	79	73
Roller	Roller	85	79
Man lifts	Man Lift[f]	75	79
Bobcat	Roller	85	79
Sweeper	Roller	85	79
Off-road dump trucks	Truck	84	78
Water trucks	Truck	84	78

SOURCE: TRC, 2019.

a. Project equipment categories for 2024 Modified Project Variant construction, revised April 2024.

b. FTA equipment category with similar noise emissions to project equipment; based on *Transit Noise and Vibration Impact Assessment Manual*, FTA, September 2018.

c. Typical noise levels for Project equipment based on similar FTA equipment operating at 50 feet.

d. Typical noise level at 100 feet calculated assuming 6 dBA reduction per doubling of distance.

e. "Bottom-drive wick inserter" noise level not found in FTA manual; sound level assumed similar to operation of an excavator, onto which the wick inserter equipment typically is mounted (85 dBA) + 3 dBA.

f. "Drill Rig Truck" and "man lift" noise levels not found in FTA manual; sound level data from Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). Sound level data available at https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook09.cfm.

Construction Noise Impacts at Off-Site Receivers

Existing off-site noise-sensitive receivers nearest to the CP development include residences, the True Hope Church, and Bret Harte Elementary School, which are along Gilman Avenue and Hawes

[69] The sound levels in Table 24 were updated from the 2010 FEIR to reflect updates to the FTA *Transit Noise and Vibration Impact Assessment Manual*. The 2010 FEIR references the May 2006 version of the manual. While sound levels of some equipment differ between the May 2006 and September 2018 versions, they are generally similar, and would not result in significant changes to the results of previous construction noise analysis or to any conclusions regarding construction noise impacts.

Street near the Project's Alice Griffith 2 and Alice Griffith 3 development areas (Phases 4a and 6, respectively). Some existing residences along Gilroy Street are within approximately 190 feet of proposed residential uses along Giants Drive, southeast of Gilman Playground (Phase 2). Some existing residences along Ignacio Avenue are approximately 190 feet from the northernmost end of the Candlestick Center Innovation District (Phase 2).

During grading of Phase 4A and Phase 6, residences along Gilman Avenue and Hawes Street may experience noise levels of up to 88 dBA in the unlikely event that both a grader and excavator operate at the same time, approximately 50 feet from the nearest off-site noise-sensitive receptors.

At the geothermal borehole locations, drill rigs would be used to drill up to 8,340 auger-driven boreholes for the proposed geothermal heat exchange system. Each borehole would be approximately 6 inches in diameter and up to 600 feet in depth, and boreholes would generate a total 31,500 cubic yards of excavation. The nearest off-site receptors that would be exposed to drilling noise are located to the north and west of Phase 6, approximately 100 feet from the nearest borehole location. Based on the noise levels presented in Table 24, a single drill rig truck operating 100 feet from a noise-sensitive receptor would result in a noise level of up to 73 dBA. Should a second drill rig operate at a distance of 100 feet to the same nearby noise-sensitive receptor, received noise levels from two drill rigs would increase by 3 dBA to 76 dBA.

Bottom-drive wick inserters would operate throughout the site to accelerate soil consolidation. Noise from wick inserters include both the excavator engine noise and noise from the wick inserter attachment as it drives a wick into the soil using a vibratory inserter. Bottom-drive wick inserters were analyzed for purposes of potential noise impacts in Addendum 6 as part of the 2019 Modified Project Variant. The 2024 Modified Project Variant would not change the bottom-drive wick inserter noise impacts. Conservatively, noise emission from this equipment without mitigation has been assumed at 82 dBA at a distance of 100 feet (or 88 dBA at 50 feet). The nearest off-site receptors that would be exposed to noise from bottom-drive wick inserters are located approximately 25 feet away and located along roadways that are adjacent to the 2024 Modified Project Variant, including Hawes Street, and Gilman Avenue. Sound levels from this equipment, operated at 25 feet from noise-sensitive receptors, would be up to 94 dBA based on the conservative sound level estimate for this equipment. Note that this equipment would not operate for extended periods in any one location, moving throughout the construction area during construction.

However, all Project-related construction equipment other than pile drivers would be required to adhere to the noise limits identified in Section 2907, limiting individual, non-impact construction equipment noise to 80 dBA at 100 feet, and the noise attenuating requirements required by mitigation measures MM NO-1a.1 and MM NO-1a.2.

The equipment that would generate impact-type noise emissions identified in Table 24, and which are exempted from the noise limits provided in Section 2907 of the city's Municipal Code, include pile drivers, which are evaluated below, under "Construction Noise Impacts at On-Site Receivers."

DDC is considered an impact-type activity; however, while the impact from weight drops would result in noticeable levels of vibration, it would not result in a noticeable level of noise.[70] Steady noise from DDC is emitted at relatively low levels from mobile cranes that move and drop weights during DDC activities. Mobile cranes were evaluated in the 2010 FEIR, and although not associated with DDC, their use in the 2024 Modified Project Variant would adhere to the noise limits identified in Section 2907. Vibration emissions from DDC have been evaluated for the 2024 Modified Project Variant under Impact NO-2a.

Construction noise impacts to off-site receptors would remain less than significant with implementation of mitigation measures MM NO-1a.1 and MM NO-1a.2 (reduce noise during construction and reduce noise from pile driving activity, respectively).

Construction Noise Impacts at On-Site Receivers

The 2024 Modified Project Variant would include on-site noise-sensitive receivers, including 7,218 residential units and a 220-room hotel at CP, similar to those proposed in the 2010 FEIR for CP. These uses would be developed under a new construction schedule identified for the 2024 Modified Project Variant.

Residential units developed for the 2024 Modified Project Variant would be constructed in phases. As units are developed, they may be exposed to construction noise from development of subsequent phases. Residential units are proposed within all sub-phases of CP. Non-impact construction activities during site preparation, demolition, grading, and structural finishes would result in noise levels from individual equipment that would range from between 81 dBA and 94 dBA at the nearest on-site noise-sensitive receivers that are developed and occupied in earlier construction phases (i.e., as near as 25 feet). Of these activities, bottom-drive wick inserters are expected to result in the highest levels of non-impact construction noise, resulting in a noise level of 94 dBA at a distance of 25 feet. See Table 24 for a summary of sound levels from individual equipment operating at a distance of 50 feet. However, sound levels during most construction activities would be lower as equipment is located farther from impacted residential areas. Also, as with potential impacts to off-site receptors, noise from standard construction equipment that could potentially impact on-site receptors would be subject to the limits in Noise Ordinance Section 2907, which limits individual, non-impact construction equipment noise to 80 dBA at 100 feet. The Project would be required to meet these standards and, if necessary, do so through the implementation of mitigation measure MM NO-1a.1 (reduce noise during construction).

For some on-site residential units included under the 2024 Modified Project Variant, there is potential for noise impact during use of impact pile driving equipment operated during construction of adjacent phases that are constructed after residential buildings are developed and occupied. As summarized in Table 24, noise from impact pile driving could reach 101 dBA at a

[70] That is, weights generally land on soils that absorb the impact and the sound of the weight drop (i.e., impact noise from dropping of a weight is a low-level "thud" sound).

distance of 50 feet, or as high as 107 dBA assuming a distance of 25 feet (similar to what was presented in the 2010 FEIR). Residential areas within Phase 2, located adjacent to on-site residential and commercial buildings constructed within Phase 5, could be occupied up to 5 years before the completion of Phase 5. Because pile driving equipment is anticipated during construction of Phase 5, construction noise levels at Phase 2 could reach approximately 95 dBA (assuming CP-03 receivers are approximately up to 100 feet from pile driving activity at Phase 5). Similar impacts could occur at residences constructed within Phase 3, prior to completion of Phases 4, 5 and 7, as well as for residences within Phase 4B when exposed to pile driving noise during later development of Phases 5 and 7. Pile driving would not occur during Phase 6, which is near residences along Gilman Avenue and Hawes Street. Pile driving would occur during the other phases. Pile driving within Phase 2 would be complete prior to occupation of any adjacent phases. Noise from pile driving would be subject to the mitigation measures identified in the 2010 FEIR under mitigation measure MM NO-1a.2 (reduce noise during pile driving).

Impacts to on-site receivers from individual construction equipment would remain less than significant with implementation of mitigation measures MM NO-1a.1 and MM NO-1a.2 (reduce noise during construction and reduce noise from pile driving activity, respectively).

Impact NO-2a: Construction at CP would create excessive groundborne vibration levels in existing residential neighborhoods adjacent to the Project site and at proposed on-site residential uses should the latter be occupied before Project construction activity on adjacent parcels is complete. Although the Project's construction vibration impacts would be temporary, would not occur during recognized sleep hours, and would be consistent with the requirements for construction activities that exist in Sections 2907 & 2908 of the Municipal Code, vibration levels would be significant. ***[Criterion I.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

Construction-related vibration impacts that were disclosed in the 2010 FEIR would result primarily from pile driving activities, specifically when pile driving occurs within 50 feet of a building, and from heavy equipment, such as trucks and bulldozers, when operating very near a structure or sensitive receiving location. Additional equipment that was identified in the 2010 FEIR, but was not evaluated in terms of potential construction-related vibration impacts, includes bottom-drive wick inserters. Vibration from bottom-drive wick inserters was analyzed in Addendum 6 as part of the 2019 Modified Project Variant. The potential for vibration-related impacts evaluated in the 2010 FEIR, as well as from the bottom-drive wick inserter, would remain under the 2024 Modified Project Variant, and the mitigation measures that are referenced within Impact NO-2a would continue to apply, including MM NO-2a (reduce and monitor vibration during construction).

Under the 2024 Modified Project Variant, DDC could also have vibration impacts on structures as discussed below and presented in Table 25 (Deep Dynamic Compaction Vibration Impact Distance

Thresholds), p. 165, (i.e., up to 0.5 in/sec PPV at a distance of 125 feet). DDC was analyzed in Addendum 6 as part of the 2019 Modified Project Variant and is identified in the 2010 FEIR. Mitigation measure MM GE-5a was identified as one of several techniques to reduce impacts related to liquefaction. The 2010 FEIR concluded vibration impacts would remain significant and unavoidable to off-site sensitive receptors even with implementation of all mitigation measures. Mitigation measure MM NO-2a, as revised in 2018, includes specific measures to address potential vibration impacts through implementation of DDC. If necessary, mitigation measure MM NO-2a requires the underpinning of foundations of potentially affected structures, or that a cutoff trench is installed between the DDC activity and the structure.[71] The cutoff trench would be at least 10 feet deep and 2 feet wide, or long enough to effectively isolate the structure from DDC-related vibrations. For the 2024 Modified Project Variant, these mitigation measures would reduce the potential for vibration impacts at both off-site and on-site structures constructed in early phases of development that may be subject to DDC impacts during later phases.

Pile Driving

The 2024 Modified Project Variant would require the use of impact pile driving similar to what was disclosed and analyzed in the 2010 FEIR.

The potential for significant and unavoidable impacts relative to distance from a pile driving vibration source would be the same for the 2024 Modified Project Variant as with the 2010 Project. Specifically, vibration from impact pile drivers would range from 103 vibration decibels (VdB) at 50 feet to 85 VdB at 100 feet. The threshold established in the 2010 FEIR is 80 VdB for vibration-related impacts at residences and buildings where people normally sleep and is based on infrequent events (less than 30 vibration events per day of the same source). To mitigate the potential for structural damage from vibration related to pile driving activities associated with the 2024 Modified Project Variant, mitigation measure MM NO-2a requires that vibration monitoring be conducted when impact pile driving occurs within 50 feet of new or existing structures and that underpinning of foundations occur at potentially affected structures, as necessary. In the event of unacceptable lateral ground movement of structures in the vicinity, as determined by DBI inspectors, all pile driving work shall cease and corrective measures shall be implemented.

[71] Conditions that would warrant consideration of these mitigation measures include when structures defined as reinforced-concrete, steel, or timber are within 125 feet of DDC work; when structures defined as engineered concrete or masonry are within 150 feet of DDC work; when structures defined as non-engineered timber and masonry are within 225 feet of DDC work, or; when other structures that are extremely susceptible to vibration damage are within 275 feet of DDC work. Structure shall be determined by the Project Applicant's geotechnical engineer or structural engineer.

Deep Dynamic Compaction

The 2024 Modified Project Variant uses DDC as a means to densify soils in the project area to reduce the risk of liquefaction during an earthquake.[72] However, the total area where DDC would be used as part of the 2024 Modified Project Variant has been reduced from the 2019 Modified Project Variant and would occur only in construction Phases 4B and 5.

DDC is considered as a means to densify soils prior to construction of project buildings and, thus, was evaluated in Addendum 5 for activities at HPS2 associated with the 2018 Modified Project Variant and in Addendum 6 for activities at CP associated with the 2019 Modified Project Variant. DDC could generate high levels of vibration in the immediate vicinity of the compaction event, and there is potential for vibration impacts at existing and new structures. Distances at which vibrations from DDC may result in damage or perception are provided in Table 25 (Deep Dynamic Compaction Vibration Impact Distance Thresholds). Table 25 details vibration levels in peak particle velocity (PPV), and not VdB, as they were evaluated in the 2010 FEIR and above for pile driving. PPV is often used to evaluate the potential for temporary vibration impacts from construction-related activities.

TABLE 25 DEEP DYNAMIC COMPACTION VIBRATION IMPACT DISTANCE THRESHOLDS

Building Category	*PPV (in/sec)*	*Min. Distance from DDC (feet)*
Reinforced-concrete, steel, or timber (no plaster)	0.5	125
Engineered concrete or masonry (no plaster)	0.3	150
Non-engineered timber and masonry buildings	0.2	225
Buildings extremely susceptible to vibration damage	0.12	275
Perception in occupied building	0.04	400

SOURCE: ENGEO Incorporated, *Evaluation of Deep Dynamic Compaction for Densification of Artificial Fill*, August 10, 2017, Table 3.3.3-1 (Vibration Impacts), p. 9.

As noted in Table 25, the distance at which vibration impacts may occur from DDC depends on the materials used to construct the impacted building and the distance between the building and the locations where DDC would be used. Where DDC is proposed closer to existing or proposed structures than the distances identified in Table 25, mitigation measure MM NO-2a would require implementation of measures that would protect structures from structural damage caused by DDC-related vibration impacts.

[72] As summarized by ENGEO, DDC "utilizes impact energy from a large weight free falling from a significant height to densify the ground. The weight is repeatedly dropped in a specific grid pattern at a defined drop height; the number of drop times at each location is determined based on using the principles of transforming potential energy to kinetic energy. At impact with the ground, the energy is transmitted at depth to densify loose material. The drop height and weight are initially determined by empirical formulas based on material types and the desired depth of improvement and then modified as appropriate during the process based on observed craters that form during the DDC process. Because the impact force is at the surface, the effective depth of improvement is typically limited to the upper 20 to 30 feet." ENGEO Incorporated, *Evaluation of Deep Dynamic Compaction for Densification of Artificial Fill*, August 10, 2017, p. 4.

In areas where soil compaction is required but DDC is not proposed, alternative methods of compaction would be implemented. A list of alternative compaction methods is summarized in 2010 FEIR Section III.L (Geology and Soils) on pp. III.L-41 to III.L-42 as mitigation measure MM GE-5a. As provided in Section III.L, compaction methods, such as vibro-compaction, stone columns, soil-cement columns, and deep displacement grout columns do not require use of excessive vibration-generating equipment or activities, and no structural damage would be anticipated at nearby structures.

As part of the 2024 Modified Project Variant, DDC would be removed from all phases except for Phases 4B and 5. The DDC activity at Phases 4B and 5 would take place in 2026 and 2027, prior to construction of any buildings at Phases 2 and 3. As a result, on-site sensitive receptors would not be impacted. The nearest offsite sensitive receptor is approximately 700 feet from Phases 4B and 5. At this distance, vibration from DDC activity would be less than 0.04 in/sec PPV. Therefore, offsite sensitive receptors would not be impacted, given the distance between Phases 4B and 5 and the nearest offsite sensitive receptors.

Regarding potential cumulative impacts from DDC activities at both HPS2 and CP, the nearest receptor to a potential impact (at either CP or HP) would be located far from the other site, and the impact from the nearest site would dominate. There is no indication that the vibration impacts on either site (CP or HPS2) would extend to the other site (CP or HPS2). In addition, particularly given the delay in HPS2 construction, it is highly unlikely that weight drops associated with DDC would occur at the exact same time at both CP and HPS2 such that vibration waves would meet a sensitive receptor location at the same time.

This impact would remain significant and unavoidable, even with implementation of the identified mitigation measures.

Impact NO-3: Construction activities associated with the Project would result in a substantial temporary or periodic increase in ambient noise levels. ***[Criterion I.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation

The 2010 FEIR concluded that temporary, construction-related increases in ambient noise levels would be significant and unavoidable. Mitigation measures MM NO-1a.1, MM NO-1a.2, and MM NO-2a (reduce noise during construction, reduce noise from pile driving activity, reduce vibration from pile driving and DDC, respectively) would reduce construction-related noise, but not necessarily to a level that is less than significant. Noise generated during construction of the 2024 Modified Project Variant would result in substantial increases in the ambient noise environment at both off-site and on-site receivers when construction equipment operates nearest these noise-sensitive uses. Construction noise levels would vary by construction equipment type and proximity to nearby noise-sensitive uses. As identified in Impact NO-1a, noise from construction activities may

substantially exceed the existing ambient sound levels that are summarized in 2010 FEIR Table III.I-3 (Existing Day-Night Noise Levels [L_{dn}]). In some locations, use of multiple equipment at any one time could result in combined noise levels that would exceed those identified in Table 24. The highest level of construction noise for the 2024 Modified Project Variant would occur from pile driving activities, consistent with the 2010 FEIR conclusions.

Construction of the 2024 Modified Project Variant is anticipated to last approximately 34 years at CP. Off-site receivers exposed to multiple years of construction, even if sound levels from construction vary over time, may experience increased sensitivity and, thus, perceived noise impacts due to the length of the construction program. However, the degree of noise impact (i.e., noise levels) is not anticipated to change under extended construction schedules because construction noise impacts are based on worst-case construction scenarios during which equipment would be operating nearest a noise-sensitive receptor.

Noise mitigation measures MM NO-1a.1 (reduce noise during construction), MM NO-1a.2 (reduce noise from pile driving activity), and MM NO-2a (reduce vibration from pile driving and DDC), have been developed to reduce overall construction noise from the 2024 Modified Project Variant and to reduce the potential for noise impacts at nearby off-site and on-site noise-sensitive receivers. The 2024 Modified Project Variant's proposed modifications to the development scenario would not place noise-sensitive receptors closer to sources of construction noise and vibration than were evaluated in the 2010 FEIR; however, the potential for noise impacts would remain significant and unavoidable, even with implementation of the identified mitigation measures.

Impact NO-4: Implementation of the Project, including the use of mechanical equipment or the delivery of goods, would not expose noise-sensitive land uses on or off site to noise levels that exceed the standards established by the City. ***[Criterion I.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR concluded that noise from implementation of the Project, including from mechanical equipment associated with the Project's utility system and from trucks associated with the delivery of goods, would result in less-than-significant noise impacts.

Utility Systems

Sources of operational noise that were identified in the 2010 FEIR included mechanical heating, cooling and ventilation systems (i.e., HVAC), deliveries of retail and commercial products, and activities such as trash collection. As stated in the 2010 FEIR, noise levels from these activities and systems would be similar throughout the entire Project site on a daily basis, and the daily noise environment would be typical of an urban area with average noise levels ranging between 60 and 70 dBA. Thus, the 2010 FEIR concluded that this impact was less than significant.

Large HVAC systems associated with the residential, retail, and commercial buildings in the 2024 Modified Project Variant could result in noise levels that average between 50 and 65 dBA L_{eq} at 50 feet from the equipment. HVAC systems associated with the heat exchange system described below may generate similar or lower levels of noise. HVAC equipment would be designed and built so that noise levels outside the property plane of new residential buildings would not exceed 5 dBA over ambient levels and noise levels outside the property plane of new commercial buildings would not exceed 8 dBA over ambient levels, which are the thresholds under Noise Ordinance Section 2909(a). In addition, new residential units located near a HVAC system would be required to comply with California Building Code Title 24 requirements pertaining to noise attenuation, requiring that residential units achieve an interior noise level of 45 dBA during nighttime hours.

As mentioned in the 2019 Modified Project Variant, the alternative heating, cooling and electrical systems within CP could include up to three central energy plants (CEPs) to provide heating, cooling, and electricity distribution for the entire CP district that were not previously considered in the 2010 FEIR. All components of the CEPs would be located entirely within each building footprint where a CEP is housed. The CEPs would be designed and built so that noise levels outside each CEP property plane would not exceed 5 dBA over ambient levels. In addition, new residential units located near the CEPs would be required to comply with California Building Code Title 24 requirements pertaining to noise attenuation, requiring that residential units achieve an interior noise level of 45 dBA during nighttime hours.

As with the 2019 Modified Project Variant, electric power for the utilities network of the 2024 Modified Project Variant would be provided by solar PV systems located throughout CP to supplement SFPUC's power supply to the site. Power generated by the PV system would be stored in batteries. Operation of PV panels and batteries are not anticipated to generate noise that would be audible at any nearby noise-sensitive area. Occasional noise may be generated from cleaning of PV panels, possibly through use of pressure washers. Noise from pressure washers would include noise from gasoline-powered motors and from water striking the panels. These activities, however, would be infrequent and would be exempted from the limits in Noise Ordinance Section 2909 Appendix C (Exceptions), identified as "landscaping and property maintenance equipment."[73] Noise Ordinance Section 2909 regulates the maximum combined noise levels produced from various fixed-location noise sources, including mechanical devices, to not more than 8 dBA above the local ambient level at any point outside the property plane of a commercial property and not more than 5 dBA above the local ambient level outside the property plane of a residential property.

Battery storage within the 2024 Modified Project Variant would replace the need for emergency generators assumed as part of the 2010 FEIR analysis. The battery storage would reduce the potential for noise generated during emergency power use and during testing of generators. Batteries would be stored within CEPs enclosed within parking structures and in other buildings.

[73] City of San Francisco, San Francisco Police Code Article 29: Regulation of Noise, 2014. Available at https://www.sfdph.org/dph/files/EHSdocs/ehsNoise/GuidelinesNoiseEnforcement.pdf.

Ancillary equipment supporting battery storage would include, among others, HVAC units to maintain an adequate climate within the battery storage room.

Heating and cooling distribution to the project buildings could be provided by fluid pumped from geothermal boreholes, through the CEP, to the buildings. Water-water or water-air heat exchangers would provide hot and cold water, as well as comfort heating and cooling. Heat exchangers, which could include HVAC systems, are expected to be located on building rooftops, and would be subject to Noise Ordinance Section 2909. The 2024 Modified Project Variant includes a transfer of approximately 2,050,000 square feet of R&D/office use from HPS2 and would allow a hotel as a primary use in all CP development areas. While these changes could affect the number and proximity of rooftop HVAC systems near sensitive receptors such as the hotel and existing and future residences, the systems would be subject to Noise Ordinance Section 2909.

Servicing

As with the 2010 Project, the 2024 Modified Project Variant would include servicing of residential, hotel, commercial, and retail operations, including delivery of goods and food stuffs, as well as refuse pickup.

Delivery of goods and food stuffs would be provided by truck delivery. Noise from truck operations, including diesel engine noise and backup alarms, would be similar to what was evaluated in the 2010 FEIR, and would be temporary, typically lasting no more than 5 minutes. As with the 2010 Project, loading docks associated with the 2024 Modified Project Variant would be screened from sensitive receptors both on-site and off-site by intervening structures and design of the loading docks. In addition, as noted In the 2010 FEIR, noise generated by authorized City refuse collectors would be limited to 75 dBA per Noise Ordinance Section 2904.

In general, noise associated with servicing residential, hotel, retail, and commercial facilities would be similar to the type of noise identified in the 2010 FEIR for these uses and would be comparable to a typical urban environment.

Indoor Noise Environments: Noise-Sensitive Uses

Noise-sensitive uses associated with the 2024 Modified Project Variant include residential units and a hotel. At all locations where people may reside or sleep, such as residential units and the hotel, the Project must comply with California Building Code Title 24 noise attenuation requirements and the City's Noise Ordinance Section 2909. Title 24 requires that interior noise levels do not exceed 45 dBA L_{dn}, and Noise Ordinance Section 2909 limits noise from fixed sources, as received at interior sleeping or living spaces, to 45 dBA during nighttime hours. There are no major sources of nighttime noise expected as part of the 2024 Modified Project Variant, and future ambient noise levels are expected to be similar to a typical urban environment. Further, the 2024 Modified Project Variant would not exacerbate noise conditions for future residents as compared to the 2010 Project.

In summary, noise impacts related to the use of mechanical equipment (e.g., circulation pumps, chillers, and heat exchangers associated with the geothermal HVAC system), as well as truck operation associated with servicing, would remain less than significant. Interior noise levels at residences and hotels would adhere to the requirements of the California Building Code Title 24 and the City's Noise Ordinance, Section 2909; therefore, impacts at indoor noise environments during project operation also would be less than significant, and no mitigation is required. However, to implement current City practice regarding confirmation of Section 2909 compliance, the following Implementation Measure would be applied.

Noise Ordinance Section 2909 Implementation Measure

At schematic design, the Lead Agency shall require, as a condition of approval, that compliance with Noise Ordinance section 2909 is demonstrated for each building.

Impact NO-5: Implementation of the Project would not generate or expose persons on or off site to excessive groundborne vibration. ***[Criterion I.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR concluded that the 2010 Project would not expose on-site or off-site sensitive receptors to excessive levels of groundborne vibration or groundborne noise.

The 2024 Modified Project Variant does not introduce new operational activities or equipment that would expose persons, either on-site or off-site, to excessive groundborne vibration. As summarized under Impact NO-4, operational equipment associated with 2024 Modified Project Variant CEPs and related infrastructure would be located inside the CEP buildings and shielded from exposure to sensitive receivers. Further, pumps, blowers, and other equipment associate with the CEPs would not generate substantial levels of vibration, even within the CEP buildings.

The 2024 Modified Project Variant also would include trucks for deliveries and servicing of retail and other commercial facilities, as well as the hotel. In general, and as described in the 2010 FEIR, vibration levels from trucks are relatively low and generally consistent with existing vibration levels in the Project area. Vibration from trucks would be well below the FTA vibration impact criteria of 80 VdB for human annoyance, as described in the 2010 FEIR and Addendum 5, and well below the Caltrans perceptibility standards for transient activity. No other substantial sources of vibration are anticipated with the 2024 Modified Project Variant. This impact would remain less than significant, and no mitigation is required.

Impact NO-6: Operation of the Project would generate increased local traffic volumes that could cause a substantial permanent increase in ambient noise levels in existing residential areas along the major Project site access routes. ***[Criterion I.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Significant and Unavoidable	Significant and Unavoidable

The 2024 Modified Project Variant would not change the 2010 FEIR significant and unavoidable impact conclusion with respect to operational traffic noise in existing residential areas along the major Project site access routes. Additionally, the operational traffic noise cumulative impact conclusions would remain significant and unavoidable.

The 2010 FEIR documented a significant increase in overall traffic noise at area roadways due to Project-related traffic volume increases. The 2010 FEIR analysis was based on FTA's methodology and significance criteria to evaluate noise impacts from surface transportation modes (i.e., passenger cars, trucks, buses, and rail) in *Transit Noise Impact and Vibration Assessment* (FTA Guidelines) (May 2006). The analysis criteria are based on comparisons between future baseline (i.e., future without project) and future baseline plus Project, as well as existing and future baseline plus Project condition. The criteria are a function of the future baseline or existing sound level; that is, the higher the future baseline or existing noise level, the lower the noise level threshold that would result in an exceedance of the FTA criteria.

Similar to the traffic impact discussions in the 2010 FEIR and in Addendum 6, the 2024 Modified Project Variant would add to existing traffic volumes along roadways in the Project vicinity. Project-related traffic volumes would increase slightly compared to the 2019 Modified Project Variant analyzed in Addendum 6 due to the additional R&D/office uses but would decrease slightly when compared to the 2010 FEIR due to the conversion of regional retail uses to R&D/office uses; the allocation of retail, residential, hotel, and entertainment uses; and parking changes. As with the 2019 Modified Project Variant, the 2024 Modified Project Variant would include a film arts center and performance venue. Traffic associated with these two entertainment uses was accounted for in the future Project and cumulative traffic volumes. Traffic volume data for the 2024 Modified Project Variant were provided by Fehr & Peers for the purposes of this noise analysis and are summarized in Appendix G (Traffic Data Used in Noise Analysis), Tables G-2 and G-3, for the PM peak hours for the 2010 Project and the 2024 Modified Project Variant, respectively.

The 2010 FEIR evaluated impacts along ten roadway segments within the vicinity of the CP and HPS2 study areas. Addendum 5 to the 2010 FEIR evaluated impacts along a smaller set of five roadway segments within the vicinity of the HPS2 study area, while a smaller set of five intersections located in the vicinity of the CP were reviewed in the 2019 Modified Project Variant. Similarly, for the 2024 Modified Project Variant, a smaller set of five intersections located in the immediate vicinity of the 2024 Modified Project Variant area were reviewed. This smaller set of roadway segments represents those with the highest potential to be impacted by Project-related changes in traffic when compared to the 2010 Project. The roadway segments evaluated for the 2024

Modified Project Variant include Gilman Avenue east of Third Street, Paul Avenue west of Third Street, Arelious Walker Drive north of Gilman Avenue, Jamestown Avenue north of Harney Way, and Harney Way west of Jamestown Avenue. Two roadway segments, Paul Avenue west of Third Street and Arelious Walker Drive north of Gilman Avenue, were not evaluated previously in the 2010 FEIR, but were included in the 2019 Modified Project Variant and the 2024 Modified Project Variant assessment due to increases in Project-related traffic at these locations associated with this Variant.

The following impact analysis compares traffic noise based on existing and future traffic volumes identified in the 2010 FEIR (i.e., based on 2009 existing data and on future baseline data) with traffic noise based on traffic volumes identified in the 2024 Modified Project Variant Traffic Report. Traffic noise levels were calculated using the FHWA Traffic Noise Model (TNM) Lookup tool, version 2.5 (TNM Lookup).[74] Traffic compositions were assumed to be 100 percent light-duty vehicles, consistent with the 2010 FEIR. The 2024 Modified Project Variant was conservatively assumed to result in similar future traffic compositions along area roadways. Existing area speed limits were derived through past site observations as part of Addendum 6 and/or through review of Google Earth Street View. Setback distances from roadway centerline to the nearest affected noise-sensitive receivers were based on distance setbacks provided in the 2010 FEIR and Google Earth. A detailed summary of traffic data used for this noise assessment is provided in Appendix G, Table G-1 (Traffic Volumes and Speeds Assumed for Operational Impact Assessment).

Afternoon peak-hour L_{eq} traffic noise levels, as determined using the TNM Lookup model, were converted to 24-hour L_{dn} values using the same procedure identified in the 2010 FEIR. That is, L_{dn} values were computed through comparison of peak-hour L_{eq} noise model results and hourly sound level data from the nearest representative long-term measurement location. For this assessment, long-term sound level measurement data collected at 2010 FEIR location N1 was used to represent existing sound levels along Arelious Walker Drive north of Gilman Avenue, and N6 was used to represent Gilman Avenue east of Third Street, Jamestown Avenue north of Harney Way, and Harney Way west of Jamestown Avenue. The representative long-term measurement data at N1 and N6 are documented in the 2010 FEIR Appendix I1 (Wilson Ihrig San Francisco 49ers Stadium Operational Noise Study, October 15, 2009). Long-term sound level measurement data collected at the 2019 Modified Project Variant location N7 was used to represent existing sound levels along Paul Avenue west of Third Street for the 2024 Modified Project Variant. A graphical illustration of N1 and N6 from the 2010 FEIR and N7 from the 2019 Modified Project Variant is found in Figure 18 (Select 2010 FEIR and 2019 Modified Project Variant Long-Term Measurement Locations).

[74] The 2010 FEIR employed the full version of the FHWA TNM noise model, Version 2.5 (TNM 2.5). The 2018 Modified Project Variant employed TNM Lookup in lieu of TNM 2.5 because TNM Lookup allowed for a more streamlined assessment of traffic noise through increased flexibility and ease of use. TNM 2.5 and TNM Lookup are based on the same traffic noise calculation algorithms and are, therefore, not expected to produce differing or less accurate results.

SOURCE: FivePoint, 2019

FIGURE 18 Addendum 7 to the CP-HPS2 2010 FEIR

SELECT 2010 FEIR AND 2019 MODIFIED PROJECT VARIANT LONG-TERM MEASUREMENT LOCATIONS

As was completed for the 2010 FEIR, the 2024 Modified Project Variant analysis applied FTA noise assessment criteria to determine traffic noise impacts at nearby receivers. The FTA impact criteria are based on either existing sound levels, or future baseline sound levels for assessment of Project-only or cumulative increases. Results of this assessment, compared with the 2010 FEIR assessment of increases over future background and existing conditions, are provided in the following sections.

Project-Only Analysis

A summary of Project-only traffic noise level increases, compared with the 2010 FEIR assessment, is provided in Table 26 (Modeled Traffic Noise Levels Compared with the 2010 FEIR).

TABLE 26 MODELED TRAFFIC NOISE LEVELS COMPARED WITH THE 2010 FEIR

Roadway[a]	*Representative Sound Level Measurement Location*	*Existing Noise Level*	*Future Without Project*[b]	*Future With Project*[c]	*FTA Criteria Threshold*[d]	*2024 Modified Project Variant Increase over Future Background*	*2010 Project Increase over Future Background*
Gilman Avenue east of Third Street	N6	57.7	60.6	64.3	2	**3.7**	4.0
Paul Avenue west of Third Street[e,f]	N7	72.9	72.9	73.2	1	0.3	N/A
Arelious Walker Drive north of Gilman Avenue[e]	N1	52.1	59.9	64.8	2	**4.9**	N/A
Jamestown Avenue north of Harney Way	N6	51.4	55.5	56.8	3	1.3	5.7
Harney Way west of Jamestown Avenue[g]	N6	52.6	59.0	61.4	3	2.4	0.6

SOURCES: Fehr & Peers, 2024; Ramboll, 2024; Ramboll, 2019.

NOTES:

- All sound levels are Ldn, dBA.
- Noise levels calculated for the 2024 Modified Project Variant were computed using TNM Lookup based on traffic volumes provided within the Project traffic assessment report. Ldn computed through comparison with existing sound level measurements reported in 2010 FEIR Appendix I1 (Wilson Ihrig San Francisco 49ers Stadium Operational Noise Study, October 15, 2009). Traffic noise levels calculated for the 2010 FEIR were computed using the FHWA Traffic Noise Model, Version 2.5, which is based on the same traffic noise calculation algorithms that are used in TNM Lookup.
- Traffic composition for the 2019 and 2024 Modified Project Variants assumes 100 percent light-duty vehicles.
- Increases or decreases in 2024 Modified Project Variant Increase over Future Background levels, when compared with the 2010 FEIR, are due to refinements in the transportation analysis and area growth since 2010.

a. The 2010 FEIR evaluated impacts along ten roadway segments, including near the CP and HPS2 regions of the 2010 FEIR study area. For the 2024 Modified Project Variant, the analysis focuses on roadways in the immediate vicinity of the Project area (CP) that would be most affected by changes in Project-related traffic when compared with the 2010 FEIR.

b. Based on noise modeling in 2019 as part of Addendum 6. Traffic counts for Future Without Project did not change from 2019 to 2024, therefore the noise modeling results were not updated.

c. Based on noise modeling in 2024 which used traffic counts from Fehr & Peers, 2024.

d. FTA criteria thresholds specified in Table III.1-9 of the 2010 FEIR, based on the Transit Noise Impact and Vibration Assessment, May 2006.

e. The 2019 Modified Project Variant evaluated impacts at a new roadway segment, not previously assessed in the 2010 FEIR.

f. Based on long-term measurements taken on June 25–27, 2019, existing sound levels along Paul Avenue west of Third Street is highly influenced by noise from U.S. 101 and heavy traffic on Paul Avenue. An L_{dn} of 72.9 dBA was calculated from the existing measurement data. Modeled roadway sound levels based on Paul Avenue traffic volumes provided by Fehr & Peers (62.1 dBA – Existing, 65.9 dBA – Future Without Project, and 68.1 dBA – Future With Project) fell well below the measured existing sound level; therefore, the modeled levels do not accurately represent the ambient conditions along this roadway. By using the existing calculated L_{dn} of 72.9 dBA, and a calculated future Project-only level of 64.1 dBA, the Project-related increase over future background along this roadway would be 0.5 dBA with no significant impact.

g. The 2024 Modified Project Variant Increase over Future Background, 2.4 dBA, is higher than the 2010 increase of 0.6 because of noted increases in Project-related traffic associated with this Variant and refinements in the assessment of traffic distribution in the Project area.

As indicated earlier, the 2024 Modified Project Variant applied the same future baseline traffic volumes as the 2010 FEIR (see Appendix G, Table G-2) for three roadway segments (Gilman Avenue east of Third Street, Jamestown Avenue north of Harney Way, and Harney Way west of Jamestown Avenue). For these roadway segments, future baseline sound levels for the 2010 FEIR and the 2024 Modified Project Variant are identical, resulting in the same FTA noise impact criteria thresholds for 2010 and 2024. The remaining two roadway segments, Paul Avenue west of Third Street and Arelious Walker Drive north of Gilman Avenue, are analyzed using the same future baseline traffic volumes as the 2019 Modified Project Variant.

Of the segments added as part of the 2019 Modified Project Variant, Arelious Walker Drive north of Gilman Avenue would also exceed the FTA threshold criteria, while Paul Avenue west of Third Street would not exceed the FTA threshold criteria under the 2024 Modified Project Variant.

Impact NO-6 found that there would be a significant and unavoidable permanent noise impact "in existing residential areas along the major Project site access routes," rather than at individual locations. Therefore, the 2010 FEIR Impact NO-6 significant and unavoidable impact remains for the 2024 Modified Project Variant.

Cumulative Analysis

A summary of cumulative increases, compared with the 2010 FEIR assessment, is provided in Table 27 (Modeled Traffic Noise Levels Compared with the 2010 FEIR, Cumulative).

As indicated earlier, the 2024 Modified Project Variant applied the same existing traffic volumes as the 2010 FEIR (see Appendix G, Table G-2) for three roadway segments (Gilman Avenue east of Third Street, Jamestown Avenue north of Harney Way, and Harney Way west of Jamestown Avenue). For these roadway segments, existing sound levels for the 2010 FEIR and the 2024 Modified Project Variant are identical, resulting in the same FTA noise impact criteria thresholds between 2010 and 2024. The remaining two roadway segments, Paul Avenue west of Third Street and Arelious Walker Drive north of Gilman Avenue, were added for the 2019 Modified Project Variant.

Based on the 2019 Modified Project Variant, measured existing sound levels were 72.9 dBA, resulting in an FTA cumulative threshold impact criteria of 1 dBA. The cumulative traffic noise increase due to the project would be 0.3 dBA, below the FTA criteria threshold.

At the exterior of the residential buildings along Arelious Walker Drive, cumulative traffic noise would increase over existing conditions by up to 12.7 dBA, exceeding the 5 dBA FTA threshold criteria for this roadway segment, which is the same increase as was found for the 2019 Modified Project Variant and analyzed in Addendum 6.

TABLE 27 MODELED TRAFFIC NOISE LEVELS COMPARED WITH THE 2010 FEIR, CUMULATIVE

Roadway[a]	*Representative Sound Level Measurement Location*	*Existing Noise Level*	*Future Without Project*[b]	*Future With Project*[c]	*FTA Criteria Threshold*[d]	*2024 Modified Project Variant Cumulative + Project Increase over Existing*	*2010 Cumulative + Project Increase over Existing*
Gilman Avenue east of Third Street	N6	57.7	60.6	64.3	3	6.6	6.9
Paul Avenue west of Third Street[e,f]	N7	72.9	72.9	73.2	1	0.3	N/A
Arelious Walker Drive north of Gilman Avenue[e]	N1	52.1	59.9	64.8	5	12.7	N/A
Jamestown Avenue north of Harney Way	N6	51.4	55.5	56.8	5	5.4	9.8
Harney Way west of Jamestown Avenue	N6	52.6	59.0	61.4	5	8.8	7.0

SOURCES: Fehr & Peers, 2024; Ramboll, 2024; Ramboll, 2019.

NOTES:

- All sound levels are Ldn, dBA.
- Noise levels calculated for the 2024 Modified Project Variant were computed using TNM Lookup based on traffic volumes provided within the Project traffic assessment report. Ldn computed through comparison with existing sound level measurements reported in 2010 FEIR Appendix I1 (Wilson Ihrig San Francisco 49ers Stadium Operational Noise Study, October 15, 2009). Traffic noise levels calculated for the 2010 FEIR were computed using the FHWA Traffic Noise Model, Version 2.5, which is based on the same traffic noise calculation algorithms that are used in TNM Lookup.
- Traffic composition assumes 100 percent light-duty vehicles.
- Increases or decreases in 2024 Modified Project Variant Cumulative + Project Increases over Existing levels, when compared with the 2010 FEIR, are due to refinements in the transportation analysis and area growth since 2010.

a. The 2010 FEIR evaluated impacts along ten roadway segments, including near the CP and HPS2 regions of the 2010 FEIR study area. For the 2024 Modified Project Variant, the analysis focuses on roadways in the immediate vicinity of the Project area that would be most affected by changes in Project-related traffic when compared with the 2010 FEIR.

b. Based on noise modeling in 2019 as part of Addendum 6. Traffic counts for Future Without Project did not change from 2019 to 2024, therefore the noise modeling results were not updated.

c. Based on noise modeling in 2024 which used traffic counts from Fehr & Peers, 2024.

d. FTA criteria thresholds specified in Table III.1-9 of the 2010 FEIR, based on the Transit Noise Impact and Vibration Assessment, May 2006.

e. The 2019 Modified Project Variant evaluated impacts at a new roadway segment, not previously assessed in the 2010 FEIR.

f. Based on long-term measurements taken on June 25–27, 2019, existing sound levels along Paul Avenue west of Third Street is highly influenced by noise from US-101 and heavy traffic on Paul Avenue. An L_{dn} of 72.9 dBA was calculated from the existing measurement data. Modeled roadway sound levels based on Paul Avenue traffic volumes provided by Fehr & Peers (62.1 dBA – Existing, 65.9 dBA – Future Without Project, and 68.1 dBA – Future With Project) fell well below the measured existing sound level; therefore, the modeled levels do not accurately represent the ambient conditions along this roadway. By using the future without project level of L_{dn} of 72.9 dBA, and a calculated future Project-only level of 64.1 dBA, the Project-related cumulative increase along this roadway would be 0.5 dBA with no significant impact.

Along Harney Way west of Jamestown Avenue, the 2024 Modified Project Variant would result in an increase over existing conditions of up to 8.8 dBA, exceeding the 5 dBA FTA threshold criteria for this segment. Cumulative traffic noise impacts would occur at the exterior of new residential buildings along the north side of Harney Way that were not present in 2010. These new residential buildings would have been designed and constructed to meet Title 24 Noise Insulation Standards to ensure interior sound levels do not exceed 45 dBA L_{dn}.

At both Gilman Avenue east of Third Street and Jamestown Avenue north of Harney Way, the predicted cumulative noise increases would be lower than were predicted for the 2010 FEIR.

As noted in Table 27 and summarized above, cumulative plus Project increases in traffic noise over existing conditions range from 0.3 to 12.7 dBA (the 2010 FEIR, Table IIIA.I-18 identified a range of

cumulative increases in traffic noise of between 3.5 dBA and 9.8 dBA). The 2010 FEIR states that "Project operations would create a substantial permanent increase in traffic noise levels that would affect existing and future residential uses along all Project site access roads" (2010 FEIR, p. III.I-53). Thus, a conclusion of significant unavoidable impacts for residential uses along all Project site access roads was identified in the 2010 FEIR. Although the expected degree of impact may vary along individual roadways segments for the 2024 Modified Project Variant when compared to the 2010 FEIR, the overall conclusion continues to apply. Furthermore, the increase in noise levels is largely due to traffic not caused by the 2024 Modified Project Variant. Future noise levels with the Project compared to future noise levels without the Project would either be below the FTA criteria thresholds or would represent an improvement compared to the 2010 FEIR. This impact would remain significant and unavoidable. Additionally, as explained in the 2010 FEIR on pages III.I-41 through III.I-43, there are no feasible mitigation measures to reduce the level of this impact.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to noise impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to noise, on either a Project-related or cumulative basis.

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II.B.9 Cultural Resources and Paleontological Resources

	Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
5.	**Cultural Resources.** Would the project:					
J.a	Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5, including those resources listed in Article 10 or Article 11 of the *San Francisco Planning Code*?	2010 FEIR p. III.J-32 (Impact CP-1a) Addendum 6 p. 192 (Impact CP-1a)	No	No	No	None
J.b	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	2010 FEIR p. III.J-35 (Impact CP-2a) Addendum 6 p. 192 (Impact CP-2a)	No	No	No	MM CP-2a
J.c	Disturb any human remains, including those interred outside of formal cemeteries?[75]	2010 FEIR p. III.J-35 (Impact CP-2a) Addendum 6 p. 192 (Impact CP-2a)	No	No	No	MM CP-2a
J.d	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature as defined in CEQA Guidelines Section 15064.5 (3)?	2010 FEIR p. III.J-40 (Impact CP-3a) Addendum 6 p. 195 (Impact CP-3a)	No	No	No	MM CP-3a

Changes to Project Related to Cultural Resources and Paleontological Resources

No changes are proposed for the number of geothermal boreholes, location of utility system improvements, or the amount of excavated material and fill compared to the 2019 Modified Project Variant at CP analyzed under Addendum 6. The horizontal area of ground disturbance would also remain the same. The impacts of the 2024 Modified Project Variant would be similar to the 2019 Modified Project Variant and the following analysis summarizes the 2010 FEIR and Addendum 6 conclusions, as applicable.

[75] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR The 2024 Modified Project Variant would have no effect on the impact because the modifications do not alter the ground disturbance activity that causes the impact.

Comparative Impact Discussions

Impact CP-1a: Construction at Candlestick Point would not result in a substantial adverse change in the significance of an historical resource. ***[Criterion J.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR indicated that no potential historic resources were identified at CP. Neither of the structures then existing on the site (Candlestick Park stadium and Alice Griffith public housing sites, both of which have since been demolished) were considered eligible for listing on the National Register of Historic Places, California Register of Historical Resources, or City landmark registers.

As compared to the 2010 Tower Variant 3D and the 2019 Modified Project Variant, the horizontal area of ground disturbance would remain the same; the changes proposed under the 2024 Modified Project Variant would occur on sites previously proposed for development, and no additional demolition of structures would occur. Therefore, similar to previous conclusions, construction of the 2024 Modified Project Variant would have a less-than-significant effect on historic resources at CP, and no mitigation is required.

Impact CP-2a: Construction at Candlestick Point would not result in a substantial adverse change in the significance of archaeological resources, including prehistoric Native American, Chinese fishing camp, and maritime-related archeological remains. ***[Criterion J.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As discussed in the 2010 FEIR, records indicate that two recorded prehistoric archaeological sites (identified as CA-SFR-7 and CA-SFR-9) are located within CP. Both are reported to be shellmounds or shell midden sites. In addition, previous archaeological investigations have shown that prehistoric archaeological sites at CP tend to be located along the original shoreline. Therefore, it was determined in the 2010 FEIR that it was possible that Project-related construction activities may encounter previously unknown prehistoric archaeological resources anywhere within the development footprint.

Research cited in the 2010 FEIR indicated that although no known Chinese shrimp camps were located in the CP area, fishing camps were widespread at HPS2, which does not preclude the possibility that unidentified camps existed within CP.

The 2010 FEIR also indicated that a variety of maritime-related resources are the most likely potential historic archaeological resources within the Project site (both CP and HPS2), including boatbuilding and small craft repair facilities, buried ships, and maritime-related waterfront infrastructure. Therefore, it is possible that historic archaeological resources, including Chinese fishing camps, remains of maritime-related industries, and buried shipwrecks may occur at CP.

Mitigation measure MM CP-2a from the 2010 FEIR would reduce the potentially significant effects of construction-related activities to the potential archaeological resources at CP to a less-than-significant level by mitigating for the permanent loss of unanticipated and adversely affected archaeological resources through implementation of the *Archaeological Research Design and Treatment Plan for the Bayview Waterfront Project, San Francisco, California*. This measure would reduce the impact to a less-than-significant level by ensuring that an archaeological testing program is performed and that any discovered resources are appropriately handled and documented.

Analysis in the 2010 FEIR determined it was possible that any Project-related construction activities could encounter previously unknown archaeological resources anywhere within the development footprint. The 2010 FEIR MM CP-2a reduced the impact to archaeological resources to a less-than-significant level by requiring a comprehensive archaeological sensitivity analysis of the entire Project footprint and implementation of an archaeological testing program in archaeologically sensitive areas.

As compared to the 2010 Tower Variant 3D and the 2019 Modified Project Variant, the horizontal area of ground disturbance would remain the same; the changes proposed under the 2024 Modified Project Variant are related to maximum building heights at Candlestick Center and an alternative transportation plan that modifies roadway improvements. These changes would occur on sites previously proposed for development, and no additional ground disturbance would occur. Therefore, ground disturbance activities such as the geothermal borehole installation throughout CP, utility lines, transportation infrastructure, and foundations would be the same as the 2019 Modified Project Variant analyzed in Addendum 6. The 2024 Modified Project Variant would be located within the original CP Project footprint and, therefore, within the area analyzed by the 2010 FEIR and the 2019 Modified Project Variant.

The 2024 Modified Project Variant would be subject to mitigation measure MM CP-2a, which requires a comprehensive archaeological testing program guided by an approved archaeological testing plan that identifies the property types of the expected archaeological resource(s) that could potentially be adversely affected by the Project, the testing method to be used, and the locations recommended for testing. The archaeological testing program would determine to the extent possible the presence or absence of archaeological resources and, to identify, and to evaluate whether any archaeological resource encountered on the site constitutes an historical resource under CEQA. If the testing program identifies an archaeological resource that constitutes a historical resource under CEQA, MM CP-2a would ensure that such resource would be appropriately documented through data recovery and reporting. MM CP-2a is a comprehensive requirement to mitigate impacts to significant archaeological resources, and as a result, there would be no changes to the Project that would result in new significant impacts to archaeological resources.

Fulfilling the requirements of MM CP-2a from the 2010 FEIR is already underway for CP. Archaeological sensitivity assessment and testing plans were prepared, implemented, and final reporting completed for Major Phase 1 (Blocks CP-02, CP-03, CP-04, AG-6, AG=7, Willie Mays Park 1

and 2a, and Mini Wedge Park 1 and 2 (as such areas were identified in the Phasing Plans for the 2019 Modified Project Variant analyzed under Addendum 6). In addition, an archaeological sensitivity assessment and testing plan was prepared and approved by the San Francisco Planning Department Environmental Planning Division (EP), but has not yet been implemented for Major Phases 2 through 6. These documents provide detailed analyses of archaeological sensitivity in CP, including the area of development for the 2024 Modified Project Variant.

The archaeological testing plans that have been completed for Major Phase 1 identify a number of archaeological cores within the footprint of the geothermal boreholes. In addition, the archaeological testing plan for Major Phases 2 through 6, which has not yet been implemented, identified additional cores that will be completed in the future within the footprint of the geothermal boreholes. Mitigation Measure MM CP-2a-was revised for the 2019 Modified Project Variant in Addendum 6 to allow addenda to the approved CP archaeological testing plans (ATPs), as necessary, which shall identify the archaeological resource(s) that potentially could be adversely affected by ground-disturbing components of the 2019 Modified Project Variant, and would apply to the 2024 Modified Project Variant. Similar to previous conclusions, construction of 2024 Modified Project Variant impact would remain less than significant with implementation of the identified mitigation measure.

Impact CP-3a: Construction at Candlestick Point would not result in a substantial adverse change in the significance of a paleontological resource. ***[Criterion J.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As discussed in the 2010 FEIR, sedimentary rocks in the area surrounding CP-HPS2 (referred to as the Franciscan Complex) have been reported as nonfossiliferous. However, sedimentary rocks of the Franciscan Complex have produced significant fossils important for understanding the age, depositional environments, and tectonic history of the San Francisco area, and additional fossil remains discovered in rocks of the Franciscan Complex during Project construction could be scientifically important and significant. Although no fossils have been reported from the Project area, the presence of Franciscan sedimentary rocks (sandstone, shale, chert, and greenstone) on the flanks of CP in the Project area indicates the possibility of fossils being discovered during construction-related excavation.

Using Society for Vertebrate Paleontology (SVP) criteria, the colluvium (slope debris, minor landslides), serpentinite, and artificial fill located within the Project site is not expected to have sensitivity to impacts from Project-related construction because it is not likely that artificial fill would contain paleontological resources; however, the Bay mud underlying portions of the fill at depth is expected to have a high sensitivity because it is possible, and even likely, that those materials would contain paleontological resources. Fossil fragments from the Bay mud have been recovered near Islais Creek northwest of the Project area. The presence of the Bay mud under the fill

around CP in the Project area indicates the possibility of fossils being discovered during construction-related excavation.

Mitigation measure MM CP-3a from the 2010 FEIR would reduce the effects of construction-related activities to paleontological resources at CP to a less-than-significant level by mitigating for the permanent loss of the adversely affected resources through implementation of a Paleontological Resources Monitoring and Mitigation Program (PRMMP). The SVP considered scientific recovery, preparation, identification, determination of significance, and curation to mitigate impacts to paleontological resources adequately in most circumstances. Implementation of this measure would reduce the potentially significant adverse environmental impact of Project-related ground disturbance on paleontological resources to a less-than-significant level.

As compared to the 2010 Tower Variant 3D and the 2019 Modified Project Variant, the horizontal area of ground disturbance would remain the same; the changes proposed under the 2024 Modified Project Variant are related to maximum building heights at Candlestick Center, and an alternative transportation plan that modifies roadway improvements. These changes would occur on sites previously proposed for development, and no additional ground disturbance would occur. Therefore, ground disturbance activities such as the geothermal borehole installation throughout CP, utility lines, transportation infrastructure, and foundations would be the same as in the 2019 Modified Project Variant analyzed in Addendum 6. The 2024 Modified Project Variant would be located within the original CP Project footprint and, therefore, within the area analyzed by the 2010 FEIR and the 2019 Modified Project Variant.

Mitigation measure MM CP-3a, which requires design and implementation of a PRMMP, would be sufficient to reduce potential impacts of the 2024 Modified Project Variant to a less-than-significant level. As such, the impact to paleontological resources would remain less than significant with implementation of the identified mitigation measure.

Fulfilling the requirements of MM CP-3a from the 2010 FEIR is already underway for CP. A PRMMP was completed for the Project in 2015. Mitigation measure MM CP-3a was revised for the 2019 Modified Project Variant in Addendum 6 to address possible impacts from installation (or construction) of the geothermal boreholes and would apply to the 2024 Modified Project Variant. The impact would remain less than significant with implementation of the identified mitigation measure.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to cultural resources and paleontological resources impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any

different conclusions than those reached in the 2010 FEIR related to cultural resources and paleontological resources, on either a Project-related or cumulative basis.

II.B.10 Hazards and Hazardous Materials

	Criterion	*Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)*	*Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?*	*Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?*	*Any New Information of Substantial Importance?*	*Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant*
8.	**Hazards and Hazardous Materials.** Would the project:					
K.a	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	2010 FEIR p. III.K-108 (Impact HZ-20) p. III.K-111 (Impact HZ-22) p. III.K-113 (Impact HZ-23) Addendum 6 p. 217 (Impact HZ-20) p. 218 (Impact HZ-22) p. 219 (Impact HZ-23)	No	No	No	None
K.b	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	2010 FEIR p. III.K-53 (Impact HZ-1a) p. III.K-58 (Impact HZ-2a) p. III.K-61 (Impact HZ-3a) p. III.K-63 (Impact HZ-4a) p. III.K-65 (Impact HZ-5a) p. III.K-67 (Impact HZ-6a) p. III.K-70 (Impact HZ-7a) p. III.K-72 (Impact HZ-8) p. III.K-80 (Impact HZ-10a) p. III.K-85 (Impact HZ-11) p. III.K-86 (Impact HZ-12) p. III.K-88 (Impact HZ-13) p. III.K-90 (Impact HZ-14a) p. III.K-96 (Impact HZ-15) p. III.K-101 (Impact HZ-16a) p. III.K-103 (Impact HZ-17a) p. III.K-107 (Impact HZ-19) p. III.K-109 (Impact HZ-21a) Addendum 6 p. 202 (Impact HZ-1a) p. 203 (Impact HZ-2a) p. 207 (Impact HZ-3a) p. 208 (Impact HZ-4a) p. 209 (Impact HZ-5a) p. 210 (Impact HZ-6a) p. 211 (Impact HZ-7a) p. 213 (Impact HZ-14a) p. 213 (Impact HZ-15) p. 214 (Impact HZ-16a) p. 215 (Impact HZ-17a) p. 216 (Impact HZ-19) p. 217 (Impact HZ-21a)	No	No	No	MM HZ-1a, MM HZ-1b, MM HZ-2a.1, MM HZ-2a.2, MM HZ-5a, MM HZ-9, MM HZ-15, MM HY-1a.1, MM HY-1a.2, MM HY-1a.3
K.c	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	2010 FEIR p. III.K-104 (Impact HZ-18a) p. III.K-115 (Impact HZ-24) Addendum 6 p. 215 (Impact HZ-18a)	No	No	No	MM HZ-2a.1, MM HZ-2a.2, MM HZ-15

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
K.d Be located on a site that is included on a list of hazardous materials sites compiled pursuant to *Government Code* Section 65962.5 and, as a result, create a significant hazard to the public or the environment?[76]	2010 FEIR p. III.K-53 (Impact HZ-1a) p. III.K-58 (Impact HZ-2a) p. III.K-61 (Impact HZ-3a) p. III.K-63 (Impact HZ-4a) p. III.K-65 (Impact HZ-5a) p. III.K-67 (Impact HZ-6a) p. III.K-70 (Impact HZ-7a) p. III.K-72 (Impact HZ-8) p. III.K-80 (Impact HZ-10a) p. III.K-85 (Impact HZ-11) p. III.K-86 (Impact HZ-12) p. III.K-90 (Impact HZ-14a) p. III.K-103 (Impact HZ-17a) p. III.K-107 (Impact HZ-19) p. III.K-109 (Impact HZ-21a) Addendum 6 p. 202 (Impact HZ-1a) p. 203 (Impact HZ-2a) p. 207 (Impact HZ-3a) p. 208 (Impact HZ-4a) p. 209 (Impact HZ-5a) p. 210 (Impact HZ-6a) p. 211 (Impact HZ-7a) p. 213 (Impact HZ-14a) p. 215 (Impact HZ-17a) p. 216 (Impact HZ-19) p. 217 (Impact HZ-21a)	No	No	No	MM HZ-1a, MM HZ-1b, MM HZ-2a.1, MM HZ-2a.2, MM HZ-5a, MM HZ-9, MM HZ-15, MM HY-1a.1, MM HY-1a.2, MM HY-1a.3
K.e For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area?[77]	2010 FEIR p. III.K-116 (Impact HZ-25)	No	No	No	None

[76] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR The 2024 Modified Project Variant would have no effect on the impact because the modifications do not alter the ground disturbance activity that causes the impact.

[77] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR The 2024 Modified Project Variant would have no effect on the impact because the modifications do not alter the activity that causes the impact.

	Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
K.f	For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?[78]	2010 FEIR p. III.K-116 (Impact HZ-26) Addendum 5 p. 245 (Impact HZ-26)	No	No	No	None
K.g	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	2010 FEIR p. III.K-116 (Impact HZ-27) Addendum 5 p. 245 (Impact HZ-27)	No	No	No	None
K.h	Expose people or structures to a significant risk of loss, injury, or death involving fires?	2010 FEIR p. III.K-116 (Impact HZ-27) Addendum 5 p. 245 (Impact HZ-27)	No	No	No	None

Changes to Project Related to Hazards and Hazardous Materials

No changes are proposed for the number of geothermal boreholes, location of utility system improvements, or the amount of excavated material and fill compared to the 2019 Modified Project Variant at CP analyzed under Addendum 6. The horizontal area of ground disturbance would also remain the same. The impacts of the 2024 Modified Project Variant would be similar to the 2019 Modified Project Variant and the following analysis summarizes the 2010 FEIR and Addendum 6 conclusions, as applicable.

Comparative Impact Discussions

Impact HZ-1a: Construction at Candlestick Point bayward of the historic high-tide line would not expose construction workers, the public, or the environment to unacceptable levels of hazardous materials as a result of the disturbance of soil and/or groundwater with known contaminants from historic uses. ***[Criterion K.b]***

	2010 CP-HPS2 FEIR	2010 CP-HPS2 FEIR Addendum 7
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR did not identify any sites in CP with known contamination requiring remediation, based on the conclusions provided in the phase I environmental site assessments. However, the 2010 FEIR concluded that the portions of CP that are bayward of the 1851 high-tide line, which are the Candlestick Point North and Candlestick Point South districts, have the potential to contain

[78] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 6 to the 2010 CP-HPS2 FEIR The 2024 Modified Project Variant would have no effect on the impact because the modifications do not alter the activity that causes the impact.

previously unidentified (or unknown) contaminated sites that could be encountered during development activities. The 2010 FEIR determined that construction in those portions of CP located bayward of the 1851 high-tide line that would involve excavation of greater than 50 cy of soil would be subject to the requirements of *San Francisco Health Code* Article 22A. Compliance with Article 22A requirements (as required by mitigation measure MM HZ-1a) would ensure current conditions are assessed in the area previously investigated in 1998 (generally around the former Candlestick Stadium), and that they are assessed in light of the specific planned depths of excavation.

As required by MM HZ-1a, the Project Sponsor has completed site investigation activities at the site (including the portions of CP that are bayward of the 1851 high-tide line), assessed potential risks to human health and the environment from hazardous substances identified, developed a Site Mitigation Plan (SMP) to address the potential human health risks, and submitted an Article 22A permit application to the San Francisco Department of Public Health (SFDPH). The SFDPH reviewed the information provided in the Permit application and issued Article 22A Permit SMED 1170 for previously identified Subphases CP-02 (Candlestick Center); CP-03 (Blocks Candlestick Point North [CPN] 1a, 2a, 10a, and 11a); CP-04 (Candlestick Point South [CPS] 6a, 8a, 9a, and 11a); and SMED 1043 for CP-01 (Alice Griffith [AG]). The Project Sponsor is currently in the process of amending the SMED 1170 permit to include development blocks CPS 1, 2a, 2b, 3, 4a, 4b, 5, 9b, 10a, 10b, and 11b; AG 11, 12, 17, 18, 19, and 20; CPN 1b, 2b, 3a, 3b, 6a, 6b, 7a, 7b, 8a, 8b, 9a, 9b, 10, and 11b; CP North Park; and four stormwater outfalls.[79] SMED 1170 and SMED 1043 requires compliance with the SMP during development activities to mitigate hazards to construction workers and future occupants, tenants, visitors, and other users of the development. The SMP includes (i) information to prepare a construction worker environmental health and safety plan; (ii) protocol for site access controls; (iii) an asbestos and fugitive dust control plan (DCP); (iv) a soil management plan; (v) protocol for a stormwater pollution prevention plan (SWPPP); (vi) protocol for temporary construction dewatering; (vii) an unknown contaminant contingency plan; and (viii) a soil importation plan. In issuing the permit, the SFDPH has concluded that the SMP protocol are adequate to protect construction workers and future users of the Project site.

On March 2, 2014, SFDPH approved the SMED 1043. On July 30, 2014, the SFDPH approved the SMP, with amendments, associated with SMED 1043. The two approvals together constitute the Article 22A compliance and approval by SFDPH. SFDPH approved SMED 1170 on December 4, 2014, and approved the associated SMP on December 10, 2015. The Project Sponsor will be submitting additional information to the SFDPH and requesting amendments to SMED 1170, as described above. The two approvals together, and future amendments, constitute the Article 22A compliance and approval by SFDPH.

Implementation of MM HZ-1a and implementation of the Article 22A SMP approved by SFDPH would reduce impacts related to exposure to known contaminants from construction activities at CP located bayward of the historic high-tide line, under the 2024 Modified Project Variant, as with the

[79] Development blocks are used for the 2024 MPV rather than Subphases, which were used for the 2019 MPV.

2010 Project, impacts would continue to be less than significant with implementation of the identified mitigation measure.

Impact HZ-2a: Construction at Candlestick Point would not expose construction workers, the public, or the environment to unacceptable levels of hazardous materials as a result of the disturbance of soil and/or groundwater with previously unidentified subsurface contaminants from historic uses. ***[Criterion K.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

Previously Unidentified Subsurface Contaminants from Historic Uses

The 2010 FEIR determined that, at any development in an urban setting, particularly one to be constructed on Bay fill, there is a potential for construction activities at CP to encounter previously unidentified contamination or unidentified, old, or abandoned subsurface structures (e.g., underground storage tanks [USTs], utility lines). Encountering unexpected conditions could pose both health and safety risks, such as the exposure of workers, tank handling personnel, and the public to tank contents or vapors. Similarly, the discovery of buried debris that could be hazardous could also present an increased risk of adverse health or environmental effects.

As described above, and required by MM HZ-1a, the Project Sponsor has completed site investigation activities at the site and has completed an SFDPH approved SMP for future construction work at the site. The approved SMP includes an unknown contaminant contingency plan and information for preparing a construction worker environmental health and safety plan. Mitigation measures MM HZ-2a.1 and MM HZ-2a-2 similarly ensure minimization of adverse effects from encountering previously unidentified contamination through a requirement to prepare and implement a contingency plan for construction activities, as well as a site-specific health and safety plans approved by SFDPH. Thus, with implementation of mitigation measures MM HZ-1a, MM HZ-2a.1, and MM HZ-2a.2 as well as compliance with the Article 22A SMP, would ensure that potential adverse effects on human health and the environment from construction activities disturbing previously unidentified subsurface contaminants from historic uses would be less than significant, consistent with the conclusion of the 2010 FEIR.

Site Preparation Activities (Deep Dynamic Compaction and Static Soil Surcharging)

As with the 2010 Project, CP construction activities under the 2024 Modified Project Variant would involve site preparation that include ground improvements to support building foundations, raising the grade to accommodate SLR, deep excavations for large structures (such as residential towers), installation of foundation piles, trenching for utility lines, and other earth-disturbing activities.

The 2024 Modified Project Variant does not propose any changes to the implementation of deep dynamic compaction (DDC) and static soil surcharging as the preferred ground improvement

techniques to densify artificial fill and pre-settle compressible clay beneath proposed light to moderately loaded structures (i.e., all buildings except for the high-rise towers) and streets analyzed in Addendum 6 for the 2019 Modified Project Variant. As described above, the Project Sponsor has conducted additional site investigations to evaluate the presence and nature of hazardous substances in the soil, soil vapor, and groundwater. The reports documenting the results of the site investigations were prepared for Addendum 6 and documented that potential soil and groundwater contamination is limited to small, localized areas. No areas with potential soil vapor contamination in excess of screening levels were identified; therefore, soil vapor is not a concern for potential adverse effects related to development activities at CP.

To complete surcharging and ground improvement, to elevate the development areas of the site in compliance with new requirements for SLR planning, and to provide the San Francisco Public Utilities Commission (SFPUC) with required freeboard and cover for utility systems, the 2024 Modified Project Variant would use locally excavated clean soil material to add 2 to 12 feet over the existing ground surface of the development areas at CP, as analyzed in Addendum 6 for the 2019 Modified Project Variant. The proposal to raise the site elevation does not extend into the Candlestick Point State Recreation Area and, therefore, would not affect the shoreline area.

As with the analysis in Addendum 6 for the 2019 Modified Project Variant, the grade would be raised by importing clean soil material, placing it on the existing ground surface, and grading to a final design elevation that is required to meet city requirements for SLR elevation. In areas where static soil surcharging is being implemented, the soil pile will be removed and graded to the final design elevation. The removed soil will be relocated to another surcharge pile or used elsewhere for raising the grade. Imported soil would be managed according to the Soil Import Plan protocol in the SMP. Soil that is moved around the site for surcharge would be managed according to the soil management protocol and dust control measures in the SFDPH approved SMP.

As stated in the 2010 FEIR, a human health risk evaluation concluded that the presence of the detected chemicals in soil and groundwater did not pose an unacceptable carcinogenic or non-carcinogenic risk to future workers or visitors, nearby residents or workers, or recreational uses in the Bay. The report concluded no further action was necessary. The 2010 FEIR also concluded that the likelihood of significant adverse effects from the discovery of previously unidentified USTs is minimal because there are multiple existing requirements in place to address such effects, such as Article 22A, Regional Water Quality Control Board (RWQCB), and San Francisco Department of Public Health (DPH) UST removal and site cleanup requirements, implementation of contingency monitoring procedures and RWQCB notification (as necessary), and implementation of a site-specific health and safety plan (HASP) prepared in accordance with California Occupational Safety and Health Administration (Cal/OSHA) regulations. The presence and potential impacts to human health, considering the proposed development activities, were assessed, as described above, and an SMP was developed to mitigate the risks. Among other protocol, the SMP includes protocols for: (1) preparing a construction worker health and safety plan; (2) construction dewatering, which

would apply to groundwater that is dewatered during the construction of utility trenches and groundwater that reaches the ground surface through the wick drains; and (3) stormwater management (through compliance with the SWPPP).

All ground improvement work conducted on CP would be conducted in accordance with the Article 22A SMP and MM HZ-2a.1. Exposure to impacts from redistributed groundwater would also be controlled through mitigation measure MM HY-1a.3. To the extent that the Project site may require groundwater dewatering during construction, MM HY-1a.3 would also ensure that it is discharged as allowed by local or state discharge permits.

The ground disturbance activities required for geothermal borehole installation throughout CP, utility lines, and transportation infrastructure would be the same as the 2019 Modified Project Variant analyzed in Addendum 6. As with the 2019 Modified Project Variant, the 2024 Modified Project Variant would require up to 944,000 cy of fill for raising the grade for SLR, surcharge compaction for geotechnical purposes, and trench backfill in utility trenches (up to 31,000 cy of sand) in the developed areas and open space areas; and install approximately 8,340 geothermal boreholes to meet heating and cooling demands.

The fill soil and imported backfill sand would be screened for contaminants in accordance with soil import criteria that are outlined in the Soil Import Plan that is included in the Article 22A SMP.

The Article 22A SMP adequately addresses soil management and handling from the ground disturbing activities by providing protocols for (i) construction worker health and safety; (ii) fugitive dust control; (iii) asbestos dust control; (iv) construction dewatering; (v) soil management including waste characterization, transport, and off-site disposal; (vi) soil import testing and screening; and (vii) an unknown contaminant contingency plan. Any soil that is not allowed to be reused on-site would be disposed of off site in a manner consistent with federal, state, and local soil disposal and handling requirements and following the protocol in the Article 22A SMP.

As previously discussed, the Project Sponsor has conducted additional site investigations to evaluate the presence and nature of hazardous substances in the soil, soil vapor, and groundwater. The investigations document that potential soil and groundwater contamination is limited to small, localized areas. No areas with potential soil vapor contamination exceeding screening levels were identified; therefore, soil vapor is not a concern for development activities at CP. The SFDPH has approved both the Article 22A SMP and site characterization reports.

As with the 2010 Project, implementation of MM HZ-2a.1 and MM HZ-2a.2 and the Article 22A SMP would avoid or minimize the potential for the vertical migration of contaminants, if discovered, and would ensure the safe handling of potentially contaminated materials encountered during improvement or installation of underground utilities. Specifically, if yet unknown contaminated soil were encountered during the implementation of the geothermal boreholes, the Unknown Contaminant Contingency Plan specified in the SMP would be implemented and provide for the adequate characterization, health risk assessment, and mitigation of the contaminated condition to

protect human health and the environment. Implementation of identified MM HZ-2a.1, MM HZ-2a.2, and the Article 22A SMP (required by MM HZ-1a) would ensure that potential adverse impact on human health and the environment from unidentified subsurface hazards would remain less than significant.

Impact HZ-3a: Construction at Candlestick Point would not expose construction workers, the public, or the environment to unacceptable levels of hazardous materials as a result of off-site transport and disposal of contaminated soil and groundwater. ***[Criterion K.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR determined that, for those locations within CP where remediation or UST removal could require off-site transport of contaminated soil or groundwater, exposure to hazardous materials could result if these materials were not handled appropriately during transport or disposal. These materials could be classified as a hazardous waste under federal or state regulations depending on the specific characteristics of the materials. The generator of the hazardous wastes would be required to follow federal or state regulations for characterization of and manifesting of the wastes, using licensed hazardous waste haulers, and disposing the materials at an appropriately permitted disposal or recycling facility. Soil or groundwater containing petroleum and other chemical products that do not meet the regulatory definition of hazardous waste would still be subject to special disposal requirements under RWQCB regulations and solid waste laws.

To reduce potential impacts of groundwater discharge to separate stormwater systems under both the 2010 Project and the 2024 Modified Project Variant, mitigation measure MM HY-1a.3 would require the Project Applicant to prepare and implement a dewatering plan and comply with applicable standards to protect receiving water quality and anticipated SFPUC and/or RWQCB permit compliance provisions. In response to MM HY-1a.3, the Project Sponsor has developed a groundwater construction dewatering plan, which provides protocol for the proper permitting, collection, and disposal of water generated as a result of construction dewatering. The dewatering plan is included in the Article 22A SMP. The Article 22A SMP also includes protocol for soil management, including stockpile controls, waste characterization, transportation, disposal, and documentation for soil that requires off-site disposal.

As with the 2010 Project, if dewatering were required under the 2024 Modified Project Variant, the groundwater could be discharged to the city's combined storm and sanitary sewer system provided the discharged water complied with the Industrial Waste Ordinance, *Public Works Code*, Article 4.1, and Order No. 158170 of the San Francisco Department of Public Works (refer to Section III.M for a discussion of Article 4.1 and Order No. 158170 and with SFPUC discharge guidelines). The discharged water may be required to be sampled both prior to and during dewatering to demonstrate that discharge limitations in the ordinance are met. If the pumped groundwater would not meet discharge requirements, on-site pretreatment would be required before discharge to the

sewer system. If standards could not be met with on-site treatment, the SFPUC may allow the discharger to pay a premium to discharge the wastewater to the system, or the discharger may need to transport the wastewater off-site using a certified waste hauler. In addition, as with the 2010 Project, MM HY-1a.3 would require the Project Sponsor to prepare and implement a dewatering plan and comply with applicable standards to protect receiving water quality and anticipated RWQCB permit compliance provisions.

Compliance with the protocols specified in the Industrial Waste Ordinance, implementation of MM HY-1a.3 and MM HZ-1a, and implementation of the Article 22A SMP would ensure that potential adverse impact on human health and the environment from disposal of any discovered contaminated soil or dewatered groundwater would remain less than significant, consistent with the conclusions in the 2010 FEIR.

Impact HZ-4a: Construction at Candlestick Point would not expose construction workers, the public, or the environment to unacceptable levels of hazardous materials as a result of improvements to existing and installation of new underground utilities. ***[Criterion K.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR determined that construction activities in CP could involve trenching, grading and compaction, and other earth-disturbing activities for underground utility lines.

The 2010 FEIR determined that construction activities in CP could involve extensive construction to accommodate new development. Site preparation could include deep excavations for large structures such as residential towers; cut material may be used elsewhere as fill, subject to any restrictions on reuse of soil imposed by the Project engineer or DBI; installation of foundation piles; trenching for utility lines; grading and compaction; and other earth-disturbing activities.

In addition, development of a proposed CP geothermal system, which was not a component the Project analyzed in the 2010 FEIR, would require installation of approximately 8,340 geothermal boreholes and additional trenching for the utility system.

As with the 2010 Project, utility trenches and other utility infrastructure in CP, including the geothermal boreholes, under the 2024 Modified Project Variant have the potential to create a horizontal conduit for chemical contaminants contained in soil vapors or shallow groundwater to migrate along the permeable soils that would be placed as trench backfill. As required in mitigation measures MM HZ-2a.1 and MM HZ-2a.2, the Project Sponsor has prepared an Article 22A SMP, which includes a construction worker safety plan, a soil management plan, and an unknown contaminant contingency plan. In addition, the Project Sponsor has conducted additional site investigations to evaluate the presence and nature of hazardous substances in the soil, soil vapor, and groundwater. The investigations document that potential soil and groundwater contamination is limited to small, localized areas. No areas with potential soil vapor contamination were identified;

therefore, soil vapor is not a concern for development activities at CP. The SFDPH has approved both the Article 22A SMP and site characterization reports and any future investigation reports will be submitted for approval. Implementation of MM HZ-2a.1 and MM HZ-2a.2 and the Article 22A SMP would avoid or minimize the potential for horizontal migration of contaminants, if discovered, and would ensure the safe handling of potentially contaminated materials encountered during improvement or installation of underground utilities. Effects on human health and the environment as a result of improvements to existing and installation of new underground utilities, including the geothermal boreholes, would be reduced to less than significant with implementation of the Article 22A SMP and other identified mitigation measures, consistent with the conclusions in the 2010 FEIR.

Impact HZ-5a: Construction activities at Candlestick Point would not create vertical conduits for hazardous materials that could contaminate groundwater as a result of installation of foundation support piles and geothermal boreholes. ***[Criterion K.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR determined that piles installed in locations where contaminants, if present, could, under certain soil conditions, create a vertical conduit for chemicals occurring in shallow groundwater to move along the pile to deeper groundwater zones, causing degradation of the deeper groundwater.

As with the 2019 Modified Project Variant analyzed in Addendum 6, drilling and installation of the geothermal boreholes for the 2024 Modified Project Variant could, under certain conditions, create a vertical conduit for chemicals occurring in shallow groundwater to move down the borehole to deeper groundwater zones, causing degradation of the deeper groundwater. The Project Sponsor has completed additional site investigation work since 2010 and, as documented in the SMP, has determined that soil and groundwater contamination is located in limited areas of the site. The locations of soil and groundwater contamination are documented in the site investigation reports and will be further refined with future investigations yet to be completed. The SFDPH has approved the existing site characterization reports and Article 22A SMP. Future investigation reports will be submitted to the SFDPH for approval and to modify SMED 1170. The geothermal boreholes would not be located in areas where soil and shallow groundwater contamination is known to exist. If unexpected or suspected contamination were to be encountered during installation of the boreholes, the Project Sponsor would be required to implement the Unknown Contamination Contingency Plan, as specified in the Article 22A SMP. Implementation of the Unknown Contaminant Contingency Plan specified in the Article 22A SMP would provide for the adequate identification, characterization, health and environmental risk evaluation, and mitigation of the suspected contaminated condition to protect human health and the environment.

Implementation of mitigation measures MM HZ-2a.1 and MM HZ-2a.2 and the Article 22A SMP would avoid or minimize the potential for the vertical migration of contaminants, if discovered, and would ensure the safe handling of potentially contaminated materials encountered during improvement or installation of underground utilities.

As with the 2010 Project, mitigation measure MM HZ-5a would be implemented under the 2024 Modified Project Variant to require pre-drilling pilot boreholes before pile driving in non-engineered fill material to avoid potential contaminant transport.

Implementation of identified MM HZ-2a.1, MM HZ-2a.2, MM HZ-5a, and the Article 22A SMP (required by MM HZ-1a) would reduce potential groundwater quality impacts from the installation of the foundation support piles and the geothermal boreholes. The impact would remain less than significant with implementation of the identified mitigation measures, consistent with the conclusions in the 2010 FEIR.

Impact HZ-6a: Construction at Candlestick Point would not expose construction workers, the public, or the environment to unacceptable levels of hazardous materials as a result of handling, stockpiling, and transport of soil that may contain contaminants. ***[Criterion K.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR determined that movement of soil (including grading, trenching, and excavating) that contains hazardous materials could result in impacts from human exposure to chemicals in the soil from dust and impacts to water quality and the environment if hazardous constituents were to migrate to the Bay. In addition, the 2010 FEIR determined that movement of nonhazardous soils also could result in impacts to air quality and water quality from the release of particulate matter to the air or sediment in stormwater.

Development of a proposed CP geothermal system and imported fill for raising the grade for SLR was analyzed in Addendum 6 for the 2019 Modified Project Variant, which was not a component of the Project analyzed in the 2010 FEIR. There are no proposed changes to these Project components under the 2024 Modified Project Variant. As with the 2010 Project, soil handling, stockpiling, and transport activities have the potential to create erosion and potential migration of soils into the Bay during rainstorms, absent implementation of management measures. Soils could contain contaminants such as metals and organic compounds, which could degrade water quality in the Bay. As mentioned above, the Project Sponsor has an approved Article 22A SMP, which includes protocols that address these potential impacts. Specifically, the Article 22A SMP includes a worker health and safety plan, soil management protocol, stormwater pollution prevention protocol, a DCP, and an unknown contaminant contingency plan (MM HZ-2a.1).

As a result of these controls and mitigation measures, including mitigation measures MM HZ-1b, MM HZ-2a.1, MM HY-1a.1, MM HY-1a.2, and the Article 22A SMP, impacts related to handling,

stockpiling, and transport of contaminated soil, if discovered, would be reduced. The impact would remain less than significant with implementation of the identified mitigation measures, consistent with the conclusions in the 2010 FEIR.

Impact HZ-7a: Construction at Candlestick Point would not expose construction workers, the public, or the environment to unacceptable levels of hazardous materials that could be present in stormwater runoff. ***[Criterion K.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR concluded that, with the implementation of mitigation measures, construction activities at CP, such as the placement and compaction of fill, grading, and other geotechnical work, would result in a less-than-significant impact.

Development of a proposed CP geothermal system and static soil surcharge activities were analyzed in Addendum 6 for the 2019 Modified Project Variant, which was not a component of the Project analyzed in the 2010 FEIR. There are no proposed changes to these Project components under the 2024 Modified Project Variant; the impacts would remain the same and are summarized below. As with the 2019 Modified Project Variant, excavation associated with the boreholes would result in approximately 31,500 cy of soil, which could be reused on site in a manner consistent with the Project Engineer's recommendations and the city's requirements. Geothermal boreholes would be located outside of public rights-of-way to limit interference with other subsurface infrastructure and would also be excluded from certain residential areas, the community use site, and all parks and open spaces and public rights-of-way. In addition, the boreholes would not be placed in areas of known shallow soil or groundwater contamination at CP. With implementation of the 2010 Project mitigation measures (MM HY-1a.1, MM HY-1a.2, MM HZ-1b, and MM HZ-2a.1) and implementation of the Article 22A SMP, which also requires compliance with the SWPPP, excavation of the approximately 8,340 geothermal boreholes would not result in unacceptable health risks to construction workers or result in erosion or movement of soils from the Project site and into surface waters during rain storms.

As with the 2019 Modified Project Variant, static soil surcharge activities would result in large soil piles exposed to potential surface water erosion for extended periods of time, if not properly managed. Although not contaminated, erosion of soil from the surcharge piles could degrade surface water quality by increasing the suspended sediment load in the runoff water. Implementation of mitigation measures MM HY-1a.1 and MM HY-1a.2 and the Article 22A SMP would reduce the potential adverse effects on surface water quality by requiring the preparation of an SWPPP and identification of BMPs. The impact would remain less than significant with implementation of the identified mitigation measures.

As with the 2010 Project, implementation of measures to control stormwater runoff during construction at CP under the 2024 Modified Project Variant would also control discharge of potential chemicals if present in the runoff. MM HY-1a.1 and MM HY-1a.2 and the Article 22A SMP require preparation of an SWPPP to identify the specific measures and BMPs that are applicable to CP construction activities. The SWPPP would identify the specific measures that are applicable to CP construction. Implementation of MM HY-1a.1, MM HY-1a.2, MM HZ-1b, and MM HZ-2a.1 and the Article 22A SMP would ensure that potential adverse effects on human health and the environment would be reduced. The impact would remain less than significant with implementation of the identified mitigation measures, consistent with the conclusions in the 2010 FEIR.

Impact HZ-13: Construction of off-site roadway improvements would not expose construction workers, the public, or the environment to unacceptable levels of hazardous materials as a result of the disturbance of soil or groundwater that may contain contaminants. ***[Criterion K.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As described in the 2010 FEIR, the Project would improve existing roadways to serve CP and HPS2 and surrounding Bayview and Hunters Point neighborhoods. The 2024 Modified Project Variant does not propose any additional off-site roadway improvements.

As mentioned above, the Project Sponsor has an approved Article 22A SMP that includes a worker health and safety plan, soil management protocols, stormwater pollution prevention protocols, a DCP, a soil import plan, a construction groundwater dewatering management plan, and an Unknown Contaminant Contingency Plan. As with the Project analyzed in the 2010 FEIR, compliance with the Article 22A SMP would ensure that impacts from exposure to hazardous materials associated with off-site roadway improvements would remain less than significant, and no additional mitigation would be required.

Impact HZ-14a: Construction at Candlestick Point would not expose ecological receptors to unacceptable levels of hazardous materials as a result of the disturbance of soil, sediment, and/or groundwater that may contain contaminants from historic uses. ***[Criterion K.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As described in the 2010 FEIR, there are no sites with known contamination requiring remediation at CP. However, as described in Impact HZ-2a, there is a potential for previously unknown contamination to be discovered during site development. Refer to Impact HZ-2a for a description of the processes for determining whether contaminants are present in fill or soil, and, if contaminants are identified, mitigation measures MM HZ-2a.1, MM HZ-2a.2, and the Article 22A SMP prescribe

the types of actions required in the occurrence of discovery of unknown or suspect contaminants in the subsurface.

As mentioned above, the Project Sponsor has an approved Article 22A SMP that includes a worker health and safety plan, soil management protocols, stormwater pollution prevention protocols, a DCP, a soil import plan, a construction groundwater dewatering management plan, and an Unknown Contaminant Contingency Plan. As with the 2010 Project, with implementation of mitigation measures MM HZ-2a.1, MM HZ-2a.2, MM HZ-15, MM HY-1a.1, MM HY-1a.2, and MM HY-1a.3 and the Article 22A SMP, potential construction ecosystem impacts of the 2024 Modified Project Variant related to handling, stockpiling, and transport of contaminated soil (including shoreline sediments) and groundwater would be reduced. The impact would remain less than significant with implementation of the identified mitigation measures, consistent with the conclusions in the 2010 FEIR.

Impact HZ-15: Construction and grading activities associated with the Project would not disturb soil or rock that could be a source of naturally occurring asbestos in a manner that would present a human health hazard. ***[Criterion K.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As described in the 2010 FEIR, asbestos is a naturally occurring mineral found in serpentinite rocks. Naturally occurring asbestos is a potential health hazard. If large amounts are inhaled or swallowed over many years, it increases the risk that a person may develop cancer or other health problems. During grading in areas potentially containing naturally occurring asbestos, airborne asbestos could be released to the environment via air emissions that could present an inhalation or ingestion hazard to exposed populations.

As with the 2010 Project, the 2024 Modified Project Variant would include implementation of mitigation measure MM HZ-15, which would require the preparation of an asbestos dust mitigation plan (ADMP) approved by Bay Area Air Quality Management District (BAAQMD) and a DCP approved by DPH before commencing grading activities and any other activity that could disturb potential sources of naturally occurring asbestos (including Bay fill areas with the potential to contain previously disturbed serpentinite fragments).

As mentioned above, the Project Sponsor has an approved Article 22A SMP that includes soil management protocols, stormwater pollution prevention protocols, a DCP, an ADMP, a soil import plan, a construction groundwater dewatering management plan, and an Unknown Contaminant Contingency Plan that are designed to prevent the exposure of human receptors to naturally occurring asbestos.

As with the Project analyzed in the 2010 FEIR, the 2024 Modified Project Variant would include implementation of MM HZ-15 and the Article 22A SMP, which would reduce the impact related to

naturally occurring asbestos exposure during construction activities. The impact would remain less than significant with implementation of the identified mitigation measure, consistent with the conclusions in the 2010 FEIR.

Impact HZ-16a: Construction at Candlestick Point would not result in a health hazard to construction workers, the public, or the environment as a result of the demolition or renovation of existing structures that could include asbestos-containing materials, lead-based paint, PCBs, or fluorescent lights containing mercury. ***[Criterion K.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As described in the 2010 FEIR, existing buildings in CP would be demolished to accommodate new development. Hazardous building materials are likely to be present in older structures. Building materials could include asbestos-containing materials, lead-based paint, polychlorinated biphenyls (PCBs), and fluorescent lights containing mercury vapors. Demolition or renovation of existing structures could result in potential exposure of workers or the community to hazardous building materials during construction, without proper abatement procedures, and future building occupants could be exposed if hazardous building materials are left in place and not properly contained. Soil around a structure could also become contaminated by hazardous building materials if these materials were inadvertently released to the environment.

Since the 2010 FEIR was certified, all of the major buildings at the site have been demolished and removed from the property. Remaining buildings are temporary structures or small buildings that are owned by tenants.

As with the 2010 Project, implementation of applicable regulations and standards and the Article 22A SMP would ensure that potential health and environmental hazards associated with asbestos, lead, or PCBs in buildings and structures to be demolished under the 2024 Modified Project Variant would be minimized as required by law. As with the conclusions in the 2010 FEIR, the impact would remain less than significant, and no mitigation is required.

Impact HZ-17a: Construction at Candlestick Point would not expose construction workers to unacceptable levels of hazardous materials in soil or groundwater in a manner which would present a human health risk. ***[Criterion K.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As described in the 2010 FEIR, potential worker health and safety impacts from exposure to hazardous materials could occur at CP during excavation, dewatering, construction of improvements, or site investigations. The potential for these impacts to occur would be minimized by implementing legally required health and safety precautions. For workers at sites where they

would encounter hazardous waste, if found to be present, federal and Cal/OSHA regulations mandate an initial training course and subsequent annual training. Site-specific training may also be required for some workers.

Although existing worker safety regulations would be independent of the EIR and work would be conducted in accordance with site-specific work plans, as analyzed in the 2010 FEIR, mitigation measure MM HZ-2a.2 and the Article 22A SMP would require preparation and implementation of a HASP under the 2024 Modified Project Variant and would require a permit applicant to prepare, submit to DPH, and implement a site-specific HASP for any affected location in compliance with applicable federal and state OSHA requirements and other applicable laws to minimize impacts to public health and the environment. The plan would include identification of chemicals of concern, potential hazards, personal protective equipment and devices, and emergency response procedures. The impact would remain less than significant with implementation of the identified mitigation measure, consistent with the conclusions in the 2010 FEIR.

Impact HZ-18a: Construction at Candlestick Point would not result in a human health risk involving the disturbance of naturally occurring asbestos, demolition of buildings that could contain hazardous substances in building materials, or possible disturbance of contaminated soils or groundwater within one-quarter mile of an existing school. ***[Criterion K.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As described in the 2010 FEIR, the Bret Harte Elementary School is immediately west of Alice Griffith Public Housing site on Gilman Street and northwest of the proposed Candlestick Point North district.

The 2010 FEIR determined that, with the implementation of the 2010 FEIR mitigation measures, construction activities would not result in a human health risk involving the disturbance of naturally occurring asbestos, demolition of buildings that could contain hazardous substances in building materials, or possible disturbance of contaminated soils or groundwater within 0.25 mile of an existing school. As with the 2010 Project, the 2024 Modified Project Variant is required to implement an enhanced dust control program in accordance with the city's Dust Ordinance in accordance with mitigation measure MM HZ-15 and the Article 22A SMP. In addition, implementation of mitigation measures MM HZ-2a.1 and MM HZ-2a.2 for development in CP would also control dust emissions at the CP boundary, which would also ensure airborne asbestos emissions do not present a health risk to the off-site school.

Further, if any of the on-site schools are occupied at the time construction activities occur within 0.25 mile of those schools, the mitigation measures described above (MM HZ-1b, MM HZ-2a.1, MM HZ-2a.2, and MM HZ-15) and the Article 22A SMP would also be implemented. The impact

would remain less than significant with implementation of the identified mitigation measures, consistent with the conclusions in the 2010 FEIR.

Impact HZ-19: Simultaneous construction activities at the Project site would not pose a human health risk from the release of contaminants from historic uses or fill. ***[Criteria K.b and K.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As with the 2010 Project, construction impacts associated with the potential to encounter hazardous materials or hazardous conditions during construction under the 2024 Modified Project Variant anywhere in the Project site, would, for the most part, be site specific and not additive because development activities at one site would be localized and would not combine with activities at another site to create a greater, combined effect. In addition, development would be sequenced, so only portions of each area would be expected to be under development at the same time.

As described in the 2010 FEIR, one activity that could affect areas outside of the immediate work area is movement of soil from one location to another. As with the 2010 Project, mitigation measures MM HZ-1a, MM HZ-1b, MM HZ-9, and MM HZ-15 would ensure that before development occurs within the Project site and vicinity that appropriate soil management plans and DCPs have been developed to address both soil movement and reuse within the Project site and off-site reuse and disposal. As mentioned above, the Project Sponsor has developed an Article 22A SMP for the CP development and an Article 31 Risk Management Plan (RMP) for the transferred property within the HP development. Both documents include similar protocols to address potential impacts from historic uses or fill. Specifically, the Article 22A SMP and Article 31 RMP include soil management protocols, stormwater pollution prevention protocols, a DCP, a soil import plan, a construction groundwater dewatering management plan, and an unknown contaminant contingency plan, among others, that are designed to be applicable to similar activities and conditions on both sites.

As with the 2010 Project, compliance with the requirements of the Article 22A SMP and Article 31 RMP along with other requirements under the mitigation measures is a condition of development. With the implementation of these mitigation measures and plans, the impact from soil movements within and outside of the entire Project site under the 2024 Modified Project Variant would be reduced. The impact would remain less than significant with implementation of the identified mitigation measures, consistent with the conclusions in the 2010 FEIR.

Impact HZ-20: Construction activities associated with the Project would not result in adverse impacts to construction workers, visitors, or the environment from the routine use, storage, transportation, and disposal of hazardous materials. ***[Criterion K.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As described in the 2010 FEIR, construction activities related to the proposed Project would require the use and transportation of hazardous materials (e.g., fuels, cement products, lubricants, paints, adhesives, and solvents). In addition, construction vehicles would be used on-site that could accidentally release hazardous materials such as oils, grease or fuels. These hazardous materials and vehicles would remain on the Project site during the period of construction activities. Accidental releases of hazardous materials during demolition and construction activities could impact soil and/or groundwater quality, which could result in adverse health effects to construction workers, the public, and the environment. As with the 2010 Project, the contractor's compliance with requirements related to DPH's Hazardous Materials Unified Program Agency (HMUPA) certificate of storage for hazardous materials during construction under the 2024 Modified Project Variant would reduce these potential impacts related to inadvertent release of hazardous materials to less-than-significant levels. In addition, the Project contractors are required to comply with the requirements of *San Francisco Public Works Code* Article 4.1, which requires preparation and implementation of an SWPPP (described in the Hydrology and Water Quality section), which would further reduce potential impacts related to inadvertent release of hazardous materials during construction.

Compliance with the Article 22A SMP, SWPPP, and HMUPA requirements would ensure that the impact from potential releases from the transport and use or disposal of hazardous materials during project construction activities would be reduced. The impact would remain less than significant, and no mitigation is required, consistent with the conclusions in the 2010 FEIR.

Impact HZ-21a: Implementation of the Project at Candlestick Point would not result in adverse impacts to residents, visitors, or the environment from periodic maintenance requiring excavation of site soils to maintain or replace utilities, repair foundations, or make other subsurface repairs. ***[Criteria K.b and K.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As described in the 2010 FEIR, during occupancy, it is likely that the City or others would from time to time need to excavate site soils to maintain or replace utilities, repair foundations, or make other subsurface repairs. Again, there are no sites with known contamination requiring remediation at CP and contact with unremediated soil by construction workers, or inhalation of soils by workers or the public, is not expected. However, as described in Impacts HZ-1a and HZ-2a above, there is a potential for previously unknown contamination to be discovered during site development. Prior to

occupancy, any sites for which soil remediation would be necessary to address discovered contamination would either be remediated by excavation, in-situ treatment, capped with an impervious engineered system, or covered with a durable cover, such as hardscape or layer of clean soil that is at least 2 feet thick.

As with the 2010 Project, implementation of mitigation measures MM HZ-1a, MM HZ-2a.1, and MM HZ-2a.2 and the Article 22A SMP would require compliance with an Unknown Contaminant Contingency Plan and HASPs to ensure that impacts during occupancy from routine maintenance activities under the 2024 Modified Project Variant would be reduced to a less-than-significant level. The impact would remain less than significant with implementation of the identified mitigation measures, consistent with the conclusions in the 2010 FEIR.

Impact HZ-22: Implementation of the Project would not result in a significant impact involving the routine use, storage, transportation, and disposal of hazardous materials. ***[Criterion K.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As described in the 2010 FEIR, nearly all Project uses would involve the presence of hazardous materials (or products containing hazardous materials) at varying levels, and this would represent an increase in hazardous materials use compared to existing conditions. It would also increase the number of people who could be exposed to potential health and safety risks associated with routine use. The following summarizes the general types of hazardous materials that would be expected in the Project, based on the proposed land use designations.

As indicated in the 2010 FEIR, there is an established, comprehensive framework independent of the CEQA process, which is intended to reduce the risks associated with hazardous materials use (and generation of hazardous waste). The DPH, HMUPA has been granted authority by the State to enforce most regulations pertaining to hazardous materials in the city, including permitting for hazardous materials storage, USTs, and hazardous waste generation under the DPH Certificate of Registration Program.

As with the 2010 Project, under the 2024 Modified Project Variant, DPH HMUPA would continue to conduct periodic inspections to ensure that hazardous materials and wastes are being used and stored properly. For these reasons, hazardous material uses and waste generation for Project operations would not pose a substantial public health or safety hazard to the surrounding area. The impact from the routine transport, use or disposal of hazardous materials (including radiological, hazardous and medical wastes) from operation of the proposed Project would remain less than significant, and no mitigation is required, which is consistent with the conclusions in the 2010 FEIR.

Impact HZ-23: Implementation of the Project would not pose a human health risk and/or result in an adverse effect on the environment from reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. ***[Criterion K.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As described in the 2010 FEIR, with increased routine use of hazardous materials compared to existing conditions, exposure of future occupants, visitors, and employees to hazardous materials could occur by improper handling or use of hazardous materials or hazardous wastes during operation of the Project, particularly by untrained personnel, environmentally unsound disposal methods, or fire, explosion, or other emergencies, all of which could result in adverse health effects. Accidents involving the transportation of hazardous materials to, from, or within the Project could also occur.

As with the 2010 Project, no industrial manufacturing or processing activities using large amounts of hazardous materials or acutely hazardous materials, which typically pose a greater accident or upset risk, are proposed under the 2024 Modified Project Variant. Major hazardous materials accidents associated with retail-commercial uses, including restaurants, theaters, and stores are extremely infrequent.

As with the 2010 Project, potential impacts from upset and accident conditions involving the release of hazardous materials and wastes would also be less than significant, because the project would be required to comply with DPH requirements for hazardous materials and waste management. Further, the transportation of hazardous materials under the 2024 Modified Project Variant is required to comply with federal and state laws and regulations. Lastly, there is a comprehensive and ongoing hazardous materials emergency response program in the city. San Francisco has an emergency response plan (ERP) that was developed to ensure allocation of and coordination of resources in the event of an emergency in the City and County of San Francisco. This impact would remain less than significant as a result of compliance with existing regulations, and no mitigation is required consistent with the conclusions in the 2010 FEIR.

Impact HZ-27: Implementation of the Project would not expose people or structures to a significant risk of loss, injury, or death involving fires or conflict with emergency response or evacuation plans. ***[Criteria K.g and K.h]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR describes existing regulatory requirements associated with fires and emergency response and evacuation plans and determined that impacts would be less than significant.

As with the 2010 Project, the existing street grid provides ample access for emergency responders and egress for residents and workers, and the Project would neither directly nor indirectly alter that

situation to any substantial degree. All new development would be built to *San Francisco Fire Code* standards, which would help to minimize demand for future fire protection services. All development, including high-rise residential buildings up to forty stories, would meet standards for emergency access, sprinkler and other water systems, and other requirements specified in the *San Francisco Fire Code*. Standards pertaining to equipment access would also be met. Plan review for structures at CP for compliance with *San Francisco Fire Code* requirements, to be completed by DBI and the San Francisco Fire Department (SFFD), would minimize fire-related emergency dispatches, reducing the demand for fire protection services at the Project site. Therefore, the Project would not impair implementation of or physically interfere with an adopted ERP or emergency evacuation plan. Finally, for the reasons just set forth, the Project would not directly or indirectly result in any additional exposure of residents or workers to fire risk, as the Project site is in a fully urbanized area that lacks the "urban-wildland interface" that tends to place new development at risk in undeveloped areas of California. Therefore, the Project would not expose people or structures to a significant risk of loss, injury, or death involving fires.

Compliance with the *San Francisco Building Code* and *San Francisco Fire Code* through the City's ongoing permit review process would ensure that potential fire hazards related to redevelopment activities (including those associated with hillside development, hydrant water pressure, and emergency access) would be minimized during the permit review process and that future projects would not interfere with an existing emergency response or emergency evacuation plan. Therefore, this impact would remain less than significant, and no mitigation is required, consistent with the conclusions in the 2010 FEIR.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to hazards and hazardous materials impacts. The 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda); however, these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects in the 2010 FEIR and previous addenda. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to hazards and hazardous materials, on either a Project-related or cumulative basis.

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II.B.11 Geology and Soils

Criterion	*Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)*	*Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?*	*Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?*	*Any New Information of Substantial Importance?*	*Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant*
6. Geology and Soils. Would the project:					
L.a Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to California Geological Survey Special Publication 42) ii. Strong seismic groundshaking? iii. Seismic-related ground failure, including liquefaction? iv. Landslides?	2010 FEIR p. III.L-37 (Impact GE-4a) p. III.L-40 (Impact GE-5a) p. III.L-46 (Impact GE-6a) p. III.L-61 (Impact GE-12) Addendum 6 p. 223 (Impact GE-4a) p. 225 (Impact GE-5a) p. 226 (Impact GE-6a) p. 232 (Impact GE-12)	No	No	No	MM GE-4a.1, MM GE-5a
L.b Result in substantial soil erosion or the loss of topsoil?	2010 FEIR p. III.L-31 (Impact GE-1a) Addendum 6 p. 223 (Impact GE-1a)	No	No	No	MM HY-1a.1
L.c Be located on a geologic or soil unit that is unstable, or that would become unstable as a result of the Project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	2010 FEIR p. III.L-33 (Impact GE-2a) p. III.L-48 (Impact GE-7a) p. III.L-50 (Impact GE-8a) p. III.L-52 (Impact GE-9a) p. III.L-58 (Impact GE-11a) Addendum 6 p. 224 (Impact GE-2a) p. 227 (Impact GE-7a) p. 228 (Impact GE-8a) p. 228 (Impact GE-9a) p. 228 (Impact GE-11a)	No	No	No	MM GE-2a, MM GE-5a, MM GE-6a, MM GE-11a, MM HY-12a.1, MM HY-12a.2
L.d Be located on expansive soil, as defined in Section 1802.3.2 of the 2007 SFBC, creating substantial risks to life or property?	2010 FEIR p. III.L-55 (Impact GE-10a) Addendum 5 p. 230 (Impact GE-10a)	No	No	No	MM GE-10a

	Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
L.e	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	2010 FEIR p. III.L-62 (Impact GE-13) Addendum 6 p. 232 (Impact GE-13)	No	No	No	None
L.f	Change substantially the topography or any unique geologic or physical features of the site?	2010 FEIR p. III.L-62 (Impact GE-14) Addendum 6 p. 232 (Impact GE-14)	No	No	No	None

Changes to Project Related to Geology and Soils

No changes are proposed for the number of geothermal boreholes, location of utility system improvements, or the amount of excavated material and fill compared to the 2019 Modified Project Variant at CP analyzed under Addendum 6. The horizontal area of ground disturbance would also remain the same. The impacts of the 2024 Modified Project Variant would be similar to the 2019 Modified Project Variant and the following analysis summarizes the 2010 FEIR and Addendum 6 conclusions, as applicable.

Comparative Impact Discussions

Impact GE-1a: Construction at Candlestick Point, including the Yosemite Slough Bridge, would not result in the loss of topsoil caused by soil erosion. ***[Criterion L.b]***

	2010 CP-HPS2 FEIR	2010 CP-HPS2 FEIR Addendum 7
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR described the potential for the loss of topsoil caused by soil erosion at the CP site, which would be controlled during and after Project construction through the requirements of mitigation measure MM HY-1a.1. As a result, adverse effects on the soil, such as soil loss from wind erosion and stormwater runoff, would be avoided or reduced to less-than-significant levels. The modifications proposed under the 2024 Modified Project Variant would not change this conclusion. With implementation of MM HY-1a.1, construction of the 2024 Modified Project Variant would not result in the loss of topsoil caused by soil erosion. The impact would remain less than significant (or would be avoided) with implementation of the previously identified mitigation measure in the 2010 FEIR.

Impact GE-2a: Construction at Candlestick Point and the Yosemite Slough Bridge would not result in damage to structures from settlement caused by lowering of groundwater levels. ***[Criterion L.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR described how Project construction activities, including potential dewatering procedures during excavation, construction, and operation of foundations and buried utilities, have the potential to affect groundwater levels, and could cause settlement of adjacent soil that could damage the overlying foundations of existing buildings. San Francisco Building Code (SFBC) Section 1803.1, which requires that excavations for any purpose not remove support from adjacent or nearby structures without first protecting them against settlement or lateral movement, would be applicable. Implementation of mitigation measure MM GE-2a would ensure protection during dewatering where adjacent or nearby structures exist, and settlement hazards related to dewatering would be less than significant.

For the 2024 Modified Project Variant, construction activities and geotechnical approaches to construction and site preparations would be relatively similar to the 2010 Project and 2019 Modified Project Variant. The requirements of SFBC Section 1803.1 would continue to apply to dewatering activities. As with the analysis in Addendum 6 for the 2019 Modified Project Variant, operation of the geothermal system, including the installation of 8,340 boreholes, would not affect groundwater levels because it is a closed system that uses its own fluid and does not use or have a hydrological connection with groundwater. However, in the unlikely instance that there is a connection with groundwater during construction activities, resulting in settlement hazards, implementation of 2010 FEIR MM GE-2a would ensure that impacts related to dewatering would remain less than significant.

Impact GE-4a: Implementation of the Project at Candlestick Point, including the Yosemite Slough Bridge and Alice Griffith Housing, would not expose people or structures to substantial adverse effects caused by seismically induced groundshaking. ***[Criterion L.a(ii)]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR concluded that proposed new structures at CP could experience strong groundshaking from an earthquake. To address groundshaking, mitigation measure MM GE-4a.1 was identified to require that design-level geotechnical investigations are performed, and these investigations must include site-specific seismic analyses to evaluate the peak ground accelerations for design of Project components, as required by Chapter 16, Structural Design, and Chapter 18, Soils and Foundations, of the SFBC.

For the 2024 Modified Project Variant, as with the 2010 Project, impacts related to groundshaking would be less than significant for structures and facilities at the CP site through required design-

level geotechnical investigations that include seismic analyses to evaluate the peak ground accelerations for design of Project components, as required by Chapter 16 (Structural Design) and Chapter 18 (Soils and Foundations) of the SFBC. Accordingly, MM GE-4a.1 would be implemented for development of the proposed improvements of the 2024 Modified Project Variant, located primarily in CP. Based on the seismic analyses, structure designs would be modified or strengthened and constructed to current seismic safety standards consistent with the requirements of the SFBC, as deemed appropriate by the Project engineer and verified by the San Francisco Department of Building Inspection (DBI), if the anticipated seismic forces (calculated peak vertical and horizontal ground accelerations caused by groundshaking) were found to be greater than anticipated. Implementation of this mitigation measure would ensure that potential impacts from groundshaking would be less than significant.

The 2024 Modified Project Variant would not result in changes to the overall location of the CP development, the overall extent of construction or operational activities, or the nature of the Project land uses. For the 2024 Modified Project Variant, nothing has changed with respect to the potential exposure to seismically induced groundshaking, and with adherence to SFBC design requirements and implementation of identified mitigation measures, the potential impacts from groundshaking would remain less than significant.

Impact GE-5a: Implementation of the Project at Candlestick Point, including the Alice Griffith Housing and Yosemite Slough Bridge, would not expose people or structures to substantial adverse effects caused by seismically induced ground failure such as liquefaction, lateral spreading, and settlement. ***[Criterion L.a(iii)]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR acknowledged the potential for exposure of CP structures to seismically induced ground failure, including liquefaction hazards, due to the existing geology of the site. Design and construction of the structures and facilities at the CP site would incorporate appropriate engineering practices to ensure seismic stability, as required by Chapter 16 (Structural Design) and Chapter 18 (Soils and Foundations) of the SFBC.

The 2024 Modified Project Variant would not result in changes to the overall location of the CP development, the overall extent of construction or operational activities, or the general mixed-use urban nature of the Project land uses. As with the analysis in Addendum 6 for the 2019 Modified Project Variant, CP structures for the 2024 Modified Project Variant would be exposed to potential seismically induced ground failure, including liquefaction hazards. As with the 2010 Project, mitigation measures MM GE-4a.1 and MM GE-5a would ensure that the design and construction of the structures and facilities in the 2024 Modified Project Variant incorporates appropriate engineering standards and practices in accordance with building code requirements to ensure seismic stability.

Mitigation measure MM GE-4a.1 would require a site-specific evaluation of potential liquefaction, lateral spreading, and seismically induced settlement impacts and provide any structural and/or ground-improvement procedures necessary to minimize the effects of these hazards as identified in mitigation measure MM GE-5a. Selection of the appropriate procedures would be dependent on the land use, development type, soil profile, and estimated settlement. Together, MM GE-4a.1 and MM GE-5a would reduce impacts related to seismically induced ground failure such as liquefaction, lateral spreading, and/or seismically induced settlement, reducing the impact to a less-than-significant level.

Similar to the 2019 Modified Project Variant, the 2024 Modified Project Variant may utilize deep dynamic compaction (DDC) as a ground improvement technique for densifying the artificial fill at the site to reduce liquefaction risks. Where calculated liquefaction total and differential settlement exceeds the building code limits provided in Chapter 12, the DDC construction technique can provide sufficient treatment of subsurface materials to allow light to moderately loaded structures (i.e., all buildings except for the high-rise towers) to use a shallow foundation system (e.g., conventional spread footings or reinforced mat foundation) instead of a deep foundation system (e.g., driven or drilled piles). Regardless, all foundation systems would be subject to approval by DBI and the provisions of MM GE-5a, which require DBI review and approval of detailed design plans to reduce liquefaction hazards. A full-scale test program[80] was previously conducted at the CP site, which demonstrated DDC is an appropriate method for densifying the upper 20 to 30 feet of artificial fill across portions of the site to minimize liquefaction risks.

The primary environmental impact associated with the use of DDC would be vibration-related impacts, which are addressed in Section II.B.8 (Noise and Vibration). The primary impacts related to the use of other ground improvement techniques, such as stone columns, grout columns, or drilled displacement columns, are similar to the impacts related to the installation of geothermal boreholes, which are addressed in Addendum 5 Section II.B.9 (Cultural Resources), Section II.B.10 (Hazards and Hazardous Materials), and Section II.B.11 (Geology and Soils).

The Site-Specific Geotechnical Investigation required by MM GE-5a would ensure that the selected ground improvement technique is appropriate for the site and would effectively minimize the impact of liquefaction, lateral spreading and seismic settlement hazards at CP. The impact would remain less than significant with implementation of the identified mitigation measures.

[80] ENGEO, Inc., *Evaluation of Deep Dynamic Compaction for Densification of Artificial Fill*, August 10, 2017.

Impact GE-6a: Implementation of the Project at Candlestick Point, including the Alice Griffith Housing, would not expose people or structures to substantial adverse effects caused by seismically induced landslides. ***[Criterion L.a(iv)]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR concluded that there are potential landslide hazards within the broader CP site that were delineated in an approximate 2,500-foot-wide and 2,500-foot-long section on Bayview Hill around Bayview Park Road. The majority of this landslide hazard area is located on Bayview Hill, which is outside of the CP Center area, but there are some areas that appear to intersect the CP Center site. Similar to the 2019 Modified Project Variant, the 2024 Modified Project Variant would include construction of four subterranean parking facilities, which would require excavations that create exposed slopes. However, the site-specific geotechnical reports required by mitigation measure MM GE-6a would ensure that landslide risk analysis is included as part of identification of geotechnical hazards, including shoring hazards related to excavations for subterranean parking facilities. These report findings would inform geotechnical recommendations to address any slope stability hazards present and provide shoring recommendations so that the changes associated with the 2024 Modified Project Variant would not be subject to, nor exacerbate the potential for, seismically induced landslides or slope instability. The impact would remain less than significant with implementation of the identified mitigation measure.

Impact GE-7a: Implementation of the Project at Candlestick Point would not expose people or structures to substantial adverse effects caused by shoreline instability. ***[Criterion L.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR outlines the various repairs, improvements, and modifications that are required to stabilize the shoreline and protect structures and facilities from the adverse effects caused by shoreline instability. There would be no changes under the 2024 Modified Project Variant related to the shoreline stabilization measures for CP that were considered in the 2010 FEIR. However, as analyzed in the 2010 FEIR, to reduce the potential for a future rise in sea level that could adversely affect the Project site, the Project includes modification of the land surface through grading and placement of fill. At CP, under the 2024 Modified Project Variant, this would include 2 to 12 feet of fill to raise the surface elevation by 5 feet above the current 100-year BFE, which would ensure that finished floor elevations would be 0.5 feet above (for a total of 5.5 feet above BFE) that required by mitigation measure MM HY-12a.1. This would be consistent with what was assumed for the 2018 and 2019 Modified Project Variants, but higher than the 3.5 feet assumed in the 2010 FEIR, and would allow for surcharging and ground improvement, elevate the development areas of the site in compliance with current requirements for SLR planning, and to provide the San Francisco Public

Utilities Commission (SFPUC) with required freeboard and cover for utility systems. The proposal to raise the site elevation does not extend into the Candlestick Point State Recreation Area (CPSRA).

At the time of the preparation of Addendum 6 for the 2019 Modified Project Variant, SLR estimates published in 2012 by the National Research Council (NRC)[81] were considered by the regulatory community as the "best available science" for California and were used as the basis of projected future sea level rise in the 2016 San Francisco Sea-Level Rise Action Plan.[82] The NRC projections include forecasts (most likely estimates) and high estimates (assumed worst case) for 2030, 2050, and 2100. As such, NRC projections were incorporated into specific guidance relating to accommodating SLR on waterfront project by the agencies having jurisdiction over the Project. As discussed under Impact HY-12b in the Hydrology and Water Quality section, the City of San Francisco in 2014 adopted new guidance (with updates in 2020)[83] for incorporating SLR into the design and construction of new development, and the Bay Conservation and Development Commission (BCDC), which has jurisdiction over the coastal zone along the San Francisco Bay, updated its San Francisco Bay Plan in 2020[84] with specific recommendations regarding hazard mapping, adaptive management and other SLR adaptation strategies. Currently, the 2018 OPC SLR projections are considered the "best available science" and are being used by the City and County of San Francisco and BCDC in evaluating waterfront projects. These updated projections do not require revising the Project's overall approach of elevating the development and shoreline-adjacent areas, and preparing an adaptation strategy for addressing future sea levels along the shoreline as described in mitigation measure MM HY-12a.1.

The 2024 Modified Project Variant would continue to elevate the development areas of the site using locally excavated and potentially imported fill to reduce the potential impact of a future rise in sea level as discussed and analyzed in the 2010 FEIR. The proposal to raise the site elevation does not extend into the shoreline areas of the CPSRA.

The grading plan would raise the finished floor elevation by 5.5 feet above current BFE per MM HY-12a.1 to account for future SLR. MM HY-12a.2 includes an adaptive management strategy for the shoreline areas, which have higher adaptive capacity and resilience compared to development areas, requiring setbacks to accommodate future SLR-related improvements and assurances that that the shoreline protection system, storm drain system, public facilities, and public access improvements would be protected should SLR exceed 3.5 feet.[85] Therefore, the 2024 Modified Project Variant would not result in exposure of structures and facilities at CP to substantial adverse

[81] National Research Council (2012). *Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future. Committee on Sea Level Rise in California, Oregon, and Washington*. Board on Earth Sciences and Resources and Ocean Studies Board, Division on Earth and Life Studies. The National Academies Press, Washington, D.C., 2012.
[82] City and County of San Francisco, *Sea Level Rise Action Plan,* March 2016.
[83] San Francisco Sea Level Rise Committee. 2014. *Guidance for Incorporating Sea Level Rise into Capital Planning in San Francisco – Assessing Vulnerability and Risk to Support Adaptation*. September 2014, December 14, 2015, updated on January 3, 2020.
[84] San Francisco Bay Conservation and Development Commission, *Adapting to Rising Tides Bay Area, Regional Sea Level Rise Vulnerability and Adaptation Study*, March 2020.
[85] Sea-Level Rise Leadership Team, *State Agency Sea-Level Rise Action Plan for California,* February 2022.

effects caused by shoreline instability. The impact would remain less than significant with implementation of the identified mitigation measures.

Impact GE-8a: Implementation of the Project at Candlestick Point would not expose people or structures to substantial adverse effects caused by landslides. ***[Criterion L.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR identified the potential for exposure to adverse effects caused by landslides at the CP site, in the upland areas where serpentinite is abundant in the shear zone. Implementation of mitigation measure MM GE-6a would ensure that risks to structures or excavations for subterranean parking facilities in CP from landslides would be avoided or reduced to a less-than-significant level.

The 2024 Modified Project Variant would not result in changes to the overall location of the development, nor to the site boundaries. Thus, the potential for exposure to adverse effects caused by landslides in the CP site remains in the upland areas that were identified in the 2010 FEIR. With implementation of MM GE-6a, the risks to structures in CP from landslides would be avoided or reduced. The impact would remain less than significant with implementation of the identified mitigation measure.

Impact GE-9a: Implementation of the Project at Candlestick Point, including Alice Griffith Housing and the Yosemite Slough Bridge, would not expose people or structures to substantial adverse effects caused by damage from settlement. ***[Criterion L.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As identified in the 2010 FEIR, the potential for exposure to adverse effects caused by settlement at the CP site exists. Poorly consolidated artificial fill and soft compressible deposits are abundant at the site. Slight to severe damage to structures could occur caused by the settlement of poorly compacted fill and/or consolidation of very soft natural deposits if not addressed appropriately.

The 2010 FEIR found that implementation of mitigation measure MM GE-5a would ensure Project compliance with the requirements of the SFBC and would ensure that potential impacts from unstable subsurface soils and damage from settlement would be less than significant.

As with the 2019 Modified Project Variant analyzed in Addendum 6, in areas of the site containing loose artificial fill and/or soft natural deposits with a greater risk of settlement, a range of ground improvement techniques may be used to reduce settlement risk, including but not limited to surcharge consolidation with wick drains, DDC, drilled displacement columns, vibro-compaction, vibro-densification, deep soil mixing (DSM), stone columns, and grout columns. Mitigation Measure MM GE-5a was revised for the 2019 Modified Project Variant to clarify that a surcharging program may be used at the Project site. The Site-Specific Geotechnical Investigation required by MM GE-5a

would ensure that the selected ground improvement technique or a combination of various techniques is appropriate for the site and would effectively mitigate the settlement hazards at CP. The impact would remain less than significant with implementation of the identified mitigation measure.

Impact GE-10a: Implementation of the Project at Candlestick Point, including Alice Griffith Housing and the Yosemite Slough Bridge, would not expose people or structures to substantial adverse effects caused by expansive soils. ***[Criterion L.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR concluded that the CP site has the potential to expose Project improvements to adverse effects caused by expansive soil, which could include damage to structures, foundations, and buried utilities and could increase required maintenance. The 2010 FEIR further concluded that impacts related to expansive soils would be avoided or reduced to a less-than-significant level for structures and facilities in the CP site through the implementation of standard engineering and geotechnical practices for the identification and remediation of expansive soils, as required by Chapter 18 (Soils and Foundations) of the SFBC, as well as mitigation measure MM GE-10a, which requires a site-specific geotechnical investigation and expansive soils analyses. For the 2024 Modified Project Variant, as with the 2010 Project, impacts related to expansive soil would be avoided or reduced to a less-than-significant level for structures and facilities in the CP site through the implementation of standard engineering and geotechnical practices and standards for the identification and remediation of expansive soil, as required by Chapter 18 (Soils and Foundations) of the SFBC. Implementation of MM GE-10a would avoid or reduce the impact to structures and facilities at CP from expansive soil. The impact would remain less than significant with implementation of the identified mitigation measure.

Impact GE-11a: Implementation of the Project at Candlestick Point, including Alice Griffith Housing and the Yosemite Slough Bridge, would not expose people or structures to substantial adverse effects caused by corrosive soils. ***[Criterion L.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR concluded that structures at CP could be exposed to corrosive soil hazards; however, impacts related to corrosive soils would be less than significant for structures and facilities in the CP site through the implementation of standard engineering and geotechnical practices for the identification and protection against corrosive soils, as required by Chapter 18 (Soils and Foundations) of the SFBC, as well as mitigation measure MM GE-11a, which requires a site-specific geotechnical investigation and corrosive soils analyses.

For the 2024 Modified Project Variant, as with the 2010 Project, impacts related to corrosive soil would be less than significant for structures and facilities in the CP site through the implementation of standard engineering and geotechnical practices and standards for the identification and protection against corrosive soil, as required by Chapter 18 (Soils and Foundations) of the SFBC. Implementation of MM GE-11a would ensure compliance with the requirements of the SFBC and would avoid or reduce the impact on structures and facilities in CP. The impact would remain less than significant with implementation of the identified mitigation measure.

Impact GE-12: Implementation of the Project would not expose people or structures to substantial adverse effects caused by surface fault rupture. ***[Criterion L.a(i)]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

For the 2024 Modified Project Variant, as with the 2010 Project, fault rupture hazards in the Project site are unlikely. No known active faults cross the Project site, making hazards from fault rupture unlikely. Therefore, there would be no impact caused by surface fault rupture.

Impact GE-13: Implementation of the Project would not result in the use of soils incapable of adequately supporting septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. ***[Criterion L.e]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

For the 2024 Modified Project Variant, as with the 2010 Project, the Project would be connected to the city's existing wastewater treatment and disposal system. Development of the Project would not involve the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

Impact GE-14: Implementation of the Project would not result in a substantial change of topography or destruction of unique geologic features. ***[Criterion L.f]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

The 2010 FEIR indicated that most of the Project site is relatively flat, with elevations generally ranging from approximately 0 feet to +20 feet San Francisco City Datum. The 2010 FEIR further acknowledged that the Project would alter the surface topography of the site including adding 3 feet of fill in some areas, and, at HPS2, the shoreline would be altered with new seawalls or other shoreline protection. The 2010 FEIR concluded that these changes would not substantially change the site topography or affect unique geological features.

As with the 2019 Modified Project Variant analyzed in Addendum 6, to accommodate for future SLR and account for required cover over pipes as defined by the SFPUC and the CP-HPS2 subdivision regulations, the 2024 Modified Project Variant would add from 2 to 12 feet of fill in some areas to raise the site from current levels. Similar to the 2010 Project, the 2024 Modified Project Variant would not substantially change site topography or affect unique geologic features, and would have no impact on such features.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to geology and soils impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to geology and soils, on either a Project-related or cumulative basis.

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II.B.12 Hydrology and Water Quality

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
9. Hydrology and Water Quality. Would the Project:					
M.a Violate any water quality standards or waste discharge requirements?	2010 FEIR p. III.M-55 (Impact HY-1a) p. III.M-77 (Impact HY-6a) Addendum 6 p. 237 (Impact HY-1a) p. 241 (Impact HY-6a)	No	No	No	MM HZ-1a, MM HZ-2a.1, MM HZ-15, MM HY-1a.1, MM HY-1a.2, MM HY-1a.3, MM HY-6a.1, MM HY-6a.2
M.b Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	2010 FEIR p. III.M-74 (Impact HY-2) p. III.M-93 (Impact HY-8) Addendum 6 p. 238 (Impact HY-2) p. 243 (Impact HY-8)	No	No	No	None
M.c Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-site or off-site?	2010 FEIR p. III.M-75 (Impact HY-3) p. III.M-93 (Impact HY-9) Addendum 6 p. 239 (Impact HY-3) p. 244 (Impact HY-9)	No	No	No	MM HY-6a.1
M.d Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site?	2010 FEIR p. III.M-75 (Impact HY-4) p. III.M-94 (Impact HY-10) Addendum 6 p. 239 (Impact HY-4) p. 244 (Impact HY-10)	No	No	No	MM HY-1a.1, MM HY-1a.2, MM HY-1a.3, MM HY-6a.1

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
M.e Create or contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff?	2010 FEIR p. III.M-76 (Impact HY-5) p. III.M-96 (Impact HY-11) Addendum 6 p. 240 (Impact HY-5) p. 246 (Impact HY-11)	No	No	No	MM HY-1a.2, MM HY-6a.1
M.f Otherwise substantially degrade water quality?	2010 FEIR p. III.M-91 (Impact HY-7) Addendum 6 p. 243 (Impact HY-7)	No	No	No	MM HY-6a.1, MM HY-6a.2
M.g Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	2010 FEIR p. III.M-97 (Impact HY-12a) Addendum 6 p. 246 (Impact HY-12a)	No	No	No	MM HY-12a.1, MM HY-12a.2
M.h Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	2010 FEIR p. III.M-102 (Impact HY-13a) Addendum 6 p. 248 (Impact HY-13a)	No	No	No	MM HY-12a.2
M.i Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	2010 FEIR p. III.M-103 (Impact HY-14) Addendum 6 p. 249 (Impact HY-14)	No	No	No	MM HY-14
M.j Expose people or structures to inundation by seiche, tsunami, or mudflow?	2010 FEIR p. III.M-104 (Impact HY-15) Addendum 6 p. 249 (Impact HY-15)	No	No	No	None

Changes to Project Related to Hydrology and Water Quality

No changes are proposed for the number of geothermal boreholes, location of utility system improvements, or the amount of excavated material and fill compared to the 2019 Modified Project Variant at CP analyzed under Addendum 6. The horizontal area of ground disturbance would also remain the same. The impacts of the 2024 Modified Project Variant would be similar to the 2019 Modified Project Variant and the following analysis summarizes the 2010 FEIR and Addendum 6 conclusions, as applicable.

Comparative Impact Discussions

Impact HY-1a: Construction at Candlestick Point would not cause an exceedance of water quality standards or contribute to or cause a violation of waste discharge requirements. ***[Criterion M.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR concluded that construction activities at CP Center (also referred to as CP-02 in prior plans and Addenda) would not exceed water quality standards or contribute to or cause a violation of waste discharge requirements, with the implementation of mitigation measures MM HY-1a.1, MM HY-1a.2, MM HZ-1a, MM HZ-2a.1, MM HY-1a.3, and MM HZ-15. All of these 2010 FEIR mitigation measures would ensure that water quality standards would not be exceeded nor would construction at CP cause or contribute to a violation of the applicable waste discharge requirements (WDRs). A less-than-significant impact would result.

The 2024 Modified Project Variant would not result in any significant changes to the location of the Project or the extent of construction activities. Development would continue to occur on the same areas of the site analyzed for development in the 2010 FEIR. As discussed in the 2010 FEIR, construction activities would include the placement of large stockpiles for pre-consolidation of existing soft soils (i.e., surcharging) and associated wick drains to redistribute groundwater throughout the soil column and, thereby, accelerate the desired consolidation process in anticipation of the proposed development.

As with the 2019 Modified Project Variant analyzed in Addendum 6, the installation of the geothermal wells (or boreholes) would be completed using a mud rotary drilling method, which would not require dewatering. Once each borehole is completed, the drilling fluid would be removed and disposed of off-site at a landfill. The drilling process would fall under the SWPPP measures; however, no groundwater dewatering plan would be required as this method does not require dewatering and is commonly used in similar bayshore locations. Also, as discussed in Impact HZ-5a, Section II.B.10 Hazards and Hazardous Materials, drilling would be avoided in the limited areas of shallow soil or groundwater contamination to avoid cross contamination.

There are no changed circumstances or new information regarding the 2024 Modified Project Variant that would result in any different conclusions than those reached in the 2010 FEIR regarding the violation of water quality standards or waste discharge requirements. The 2010 FEIR mitigation measures and compliance with the regulatory requirements for water quality, runoff control, and stormwater management would continue to ensure that Project impacts are mitigated in accordance with the 2010 FEIR analysis and conclusions. Therefore, the 2024 Modified Project Variant would not result in new significant impacts or a substantial increase in the severity of previously identified impacts with respect to water quality standards or waste discharge requirements. The impact would remain less than significant with implementation of the identified mitigation measures.

Impact HY-2: Construction activities associated with the Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. ***[Criterion M.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR noted that groundwater would not be used for any construction activities such as dust control or irrigation of vegetated erosion control features; no groundwater wells would be developed as part of the Project, and no on-site groundwater wells would be used for water supplies. Short-term construction groundwater dewatering would perhaps be necessary at certain locations (e.g., for installation of building foundations or underground utilities), but dewatering would have only a minor temporary effect on the groundwater table elevation in the immediate vicinity of the activity, and would not measurably affect groundwater supplies. Further, the shallow groundwater underlying the Project site at CP Center is not used for water supply. Construction activities would generally occur within areas that are already developed, and much of the existing open space would remain undeveloped and continue to contribute to groundwater recharge. Construction of the Project would include installation and operation of groundwater remediation and monitoring wells, as required by Navy transfer documents and regulatory requirements (as discussed in 2010 FEIR Section III.K). The 2010 FEIR concluded that construction at the Project site would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge, and this impact would be less than significant.

For the 2024 Modified Project Variant, the installation of geothermal wells using the mud rotary method would not require dewatering and, thus, would not impact groundwater levels. The impact would remain less than significant, and no mitigation is required.

Impact HY-3: Construction activities associated with the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site. ***[Criterion M.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR concluded that construction at the Project site would not substantially alter the existing drainage pattern of the site or area such that on- or off-site erosion is substantially increased and this impact would be less than significant.

As with the 2010 Project, stormwater associated with the 2024 Modified Project Variant would either drain to storm drains (which include both combined and separate systems), or drain directly to the Bay via surface runoff (generally only along the shoreline). The existing drainage patterns would be generally preserved, with locally modified drainage patterns within the affected area due to the

raising of ground elevation to protect the area from a potential rise in sea level. As with the 2010 Project, most of the affected area is already drained by storm drain systems (combined and separate), and would continue to drain to a newly constructed, entirely separate storm drain system, this would not result in a substantial alteration of drainage patterns related to erosion potential. Construction at the Project site would not substantially alter the existing drainage pattern of the site or area such that on- or off-site erosion would substantially increase. The impact would remain less than significant, and no mitigation is required.

Impact HY-4: Construction activities associated with the Project would not substantially alter the existing drainage pattern of the site, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site. ***[Criterion M.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR notes that no streams or rivers exist within the Project site; thus, no streams or rivers would be altered by construction activity. The Project site would generally be graded flat (0.1 to 0.5 percent grade). There would be no increase in stormwater runoff during construction. As discussed in the 2010 FEIR under Impact HY-3, construction activities at the Project site would not substantially alter existing drainage patterns causing or contributing to increased stormwater runoff. Construction would include clearance, grading, and excavation, and the subsequent construction of new buildings and infrastructure. With implementation of mitigation measures MM HY-1a.1 and MM HY1a.2 (preparation of an SWPPP with best management practices [BMPs] to collect, retain as appropriate, and discharge stormwater runoff) and MM HY-1a.3, construction of the Project would not substantially alter the existing drainage pattern of the site or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site, and this impact would remain less than significant.

With the 2024 Modified Project Variant, nothing has changed with respect to construction that would alter the existing drainage pattern of the site or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site, and with implementation of the identified mitigation measures, this impact would remain less than significant.

Impact HY-5: Construction activities associated with the Project would not create or contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff. ***[Criterion M.e]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

For the 2024 Modified Project Variant, as with the 2010 Project, management of runoff within portions of the Project site affected by construction activity discharging directly to the Bay or to a

separate storm drain system would be governed by the conditions of a SWPPP developed per Construction General Permit requirements, as required by mitigation measure MM HY1a.2, which would include measures to collect, retain, and discharge runoff in ways that do not overwhelm the capacity of existing downstream drainage facilities. Management of runoff from areas draining to the combined sewer system would be governed by conditions of a SWPPP with an Erosion and Sediment Control Plan (ESCP), developed per San Francisco Public Utilities Commission (SFPUC) requirements.

As described in the 2010 FEIR for Impact HY-1, dewatering to the combined sewer system would require a Batch Wastewater Discharge Permit from the SFPUC. This remains true for the 2024 Modified Project Variant. Permit conditions are specified by the SFPUC to prevent violation of the SFPUC's Wastewater Discharge Permit, including conveyance capacity constraints and effluent limits. Dewatering discharges to the separate sewer system would be governed by conditions of the Construction General Permits, other general permits, or an individual National Pollutant Discharge Elimination System (NPDES) Permit/WDR, as specified by the San Francisco Regional Water Quality Control Board (SFRWQCB). This remains true for the 2024 Modified Project Variant.

As discussed in the 2010 FEIR for Impacts HY-3 and HY-4, construction of the Project would not be expected to greatly alter Project site drainage such that stormwater runoff is increased. This remains true for the 2024 Modified Project Variant. During construction, existing stormwater drainage facilities would be replaced by new, entirely separate sewer systems that would collect and treat site stormwater flows. This new storm drain system would be designed and sized in accordance with the Subdivision Regulations for the CP/Hunters Point Shipyard and would also be sized to accommodate 5-year storm event flows from upstream contributing areas. In accordance with city design criteria, the newly piped storm drain system would be sized to convey the 5-year storm event when flowing full or surcharged (overloaded/flooded) and runoff from the 5-year storm event up to the 100-year storm event would be contained within the streets and drainage channels rights-of-way.

Impacts associated with additional sources of polluted runoff are addressed by the 2010 FEIR in Impact HY-1. As discussed under Impact HY-1, implementation of mitigation measures would reduce potential for construction activities to generate additional sources of polluted runoff to a less-than-significant level. The impact would remain less than significant with implementation of the identified mitigation measure.

Impact HY-6a: Implementation of the Project at Candlestick Point would not contribute to violations of water quality standards or waste discharge requirements. ***[Criterion M.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR concluded that development at CP would not exceed water quality standards or contribute to or cause a violation of waste discharge requirements with the implementation of

mitigation measures MM HY-6a.1 (reflects new regulations), MM HY-6a.2, and MM HZ-2a.1. These mitigation measures would ensure that water quality standards would not be violated nor would development at CP Center cause or contribute to a violation of the applicable waste discharge requirements (WDRs). A less-than-significant impact would result.

The Project analyzed by the 2010 FEIR would remove existing buildings and other improvements at CP that contain approximately 179 acres of impervious surfaces[86] and replace them with approximately 165 acres of impervious surfaces, thereby reducing the total area of impervious cover at CP by approximately 7.83 percent. As with the 2010 Project, under the 2024 Modified Project Variant, the reduction of impervious surfaces would reduce the volume of stormwater runoff and the extent of impervious area that could contribute pollutants in runoff.

In addition, as with the 2010 Project in Table III.M-3 (Estimated Change in Annual Pollutant Loads from CP without BMPs), the development program associated with the 2024 Modified Project Variant, combined with the reduction in impervious surface, would result in a net decrease in the total pollutant loads in stormwater runoff. The implementation of required stormwater treatment BMPs would further reduce pollutant loads in stormwater runoff.

Table 28 (Pervious and Impervious Acreage at CP and HPS2: 2010 Project, 2019 Modified Project Variant, and 2024 Modified Project Variant) shows that the amount of pervious and impervious surfaces under the 2024 Modified Project Variant at both CP and HPS2 is the same as under the 2019 Modified Project Variant analyzed in Addendum 6. As with the 2019 Modified Project Variant, the 2024 Modified Project Variant would reduce impervious surfaces at CP by 6.6 percent[87] rather than 7.8 percent[88] as under the 2010 Project, which would still result in a net decrease in the total pollutant loads in stormwater runoff.

The 2024 Modified Project Variant would comply with the San Francisco Stormwater Management Requirements and Design Guidelines (SMR) and the Subdivision Regulations for the CP/Hunters Point Shipyard. The impact would remain less than significant with implementation of MM HY-6a.1 and MM HY-6a.2.

[86] It is assumed that under existing conditions, the CP site contains approximately 102 of pervious surface, and under the 2010 Project, pervious surfaces would increase to 116 acres due to the provision of parks and open space.
[87] This reflects 179 acres of existing impervious surfaces minus 9.4 acres associated with the Jamestown parcel, resulting in 169.6 acres of existing impervious surfaces. The impervious surfaces associated with the 2024 Modified Project is 158.4 acres. The 6.6 percent decrease is calculated as 169.6 acres minus 158.4 acres (11.2 acres) divided by 169.6 acres.
[88] The 7.8 percent decrease is calculated as 179 acres of existing impervious surfaces minus 165 acres of impervious surfaces associated with the 2010 Project (14.5 acres) divided by 179 acres.

TABLE 28 PERVIOUS AND IMPERVIOUS ACREAGE AT CP AND HPS2: 2010 PROJECT, 2019 MODIFIED PROJECT VARIANT, AND 2024 MODIFIED PROJECT VARIANT

	2010 Project			*2019 Modified Project Variant*			*2024 Modified Project Variant*			*2010–2024 Net Change[a]*		
	CP	***HPS2***	***Combined***	***CP***	***HPS2***	***Combined***	***CP***	***HPS2***	***Combined***	***CP***	***HPS2***	***Combined***
Impervious Surface Acreage	165.4[b]	213.7[b]	***379.1***	158.4[c]	230.0	***388.4***	158.4	230.0	***388.4***	-7.1	+16.3	***+9.3***
Pervious Surfaces Acreage	115.6	207.3	***322.9***	113.3[c]	191.0	***304.3***	113.3	191.0	***304.3***	-2.4	-16.3	***-18.7***
Total Site Acreage (acres)	***281***	***421***	***702***	***271.6[c,d]***	***421.0***	***692.6***	***271.6[c,d]***	***421.0***	***692.6***	***-9.4***	***0***	***-9.4***

SOURCE: BKF Engineers, 2019.

a. Values are subject to rounding.

b. IBI Group. August 21, 2009.

c. The 2010 FEIR reflected 281 acres for CP; however, the 9.4-acre Jamestown parcel was removed from CP as part of the adoption of the BVHP Redevelopment Plan amendments in 2018 (and as described and evaluated in Addendum 5), which reduced the size of CP to 271.6 acres. Previous proposed improvements for the Jamestown Parcel were primarily impervious roadway improvements. Assume 9.4-acre parcel was composed of 75% impervious area and 25% pervious area.

d. Candlestick Point includes the approximately 120.2-acre Candlestick Point State Recreation Area.

Impact HY-7: Implementation of the Project would not otherwise degrade water quality. ***[Criterion M.f]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

For the 2024 Modified Project Variant, as with the 2010 Project, implementation of mitigation measure MM HY-6a.1, which requires compliance with SMR, would result in BMPs designed to treat stormwater runoff for nitrogen compounds. In addition, implementation of mitigation measure MM HY6a.2 would ensure compliance with the Recycled Water General Permit, resulting in application rates that do not exceed agronomic requirements. Thus, the potential for recycled water, and associated nitrates and total dissolved solids (TDS), leaching to groundwater is minimized. Compliance with these mitigation measures would reduce the potential for nitrogen and salt migration to groundwater and Project degradation of groundwater quality. The impact would remain less than significant with implementation of the identified mitigation measures.

Impact HY-8: Implementation of the Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. ***[Criterion M.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

As with the 2010 Project, the 2024 Modified Project Variant would not use groundwater as a source of water supply and would, therefore, not deplete groundwater supplies. As described under Impact HY-6a, the 2024 Modified Project Variant would reduce the total impervious area at CP by approximately 6.6 percent, which could increase infiltration. Development associated with the 2024 Modified Project Variant would not interfere with groundwater recharge or substantially deplete groundwater supplies; thus, no impact would occur.

Impact HY-9: Implementation of the Project would not alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, and would not result in substantial erosion or siltation on site or off site. ***[Criterion M.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As discussed above in construction impacts (in Impact HY-4), there are no streams or rivers within the Project site, and grading associated with the 2024 Modified Project Variant would not substantially alter the drainage pattern of the site. The Project site would discharge to a separated storm drain sewer system or the Lower Bay instead of surface water bodies susceptible to erosion and siltation. In addition, implementation of mitigation measure MM HY-6a.1 would require preparation of a Stormwater Control Plan (SCP) to control post-construction erosion that

incorporates erosion and sediment transport control BMPs. The impact would remain less than significant with implementation of the identified mitigation measure.

Impact HY-10: Implementation of the Project would not alter the existing drainage pattern of the site through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff, and would not result in flooding on site or off site. ***[Criterion M.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2024 Modified Project Variant would not change the total impervious area at CP and would therefore be the same as the 2019 Modified Project Variant analyzed in Addendum 6. As described under Impact HY-6a, the 2024 Modified Project Variant would reduce the total impervious area at CP by approximately 6.6 percent, which could increase infiltration (via natural percolation of rainfall). Due to the increase in permeable surface area, infiltration would be expected to increase, resulting in a corresponding decrease in runoff volumes. As with the 2010 Project, estimated peak flow runoff rates and runoff volumes would be reduced with the Project.

Table 29 (Estimated Stormwater Peak Flow Rates and Runoff Volumes without BMPs) lists the estimated Project site stormwater runoff flow rates for existing and 2024 Modified Project Variant conditions, calculated using the Rational Method and the same assumptions used in the 2010 FEIR.[89]

As with the 2019 Modified Project Variant and as demonstrated in Table 29, the runoff peak flow rates from the Project site for the 2024 Modified Project Variant would be reduced by 48 percent for a 5-year storm, 48 percent for a 10-year storm, and 48 percent for a 100-year storm. Table 29 also shows that runoff volumes from the 2-year, 24-hour storm (i.e., frequently occurring storms) would be reduced by implementation of the Project, which would also reduce flooding impacts.

As discussed in Impact HY-6a, p. III.M-114, the Project Sponsor has developed an LID Study,[90] which identifies concepts for how the development would integrate stormwater volume reduction and treatment control measures in accordance with the San Francisco Stormwater Management Requirements and Design Guidelines (SMR) and the Subdivision Regulations for the CP/Hunters Point Shipyard. In addition, the SFPUC would require preparation of a Storm Drainage Master Plan (SDMP) and a SCP for the Project that would ensure that this impact would remain less than significant, and no mitigation is required.

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[89] City and County of San Francisco, Bureau of Engineering, Department of Public Works, Subdivision Regulations, for the Information and Guidance of all Subdividers, Engineers and Surveyors with reference to the Subdivision of Land within the City and County of San Francisco and to Supplement the Subdivision Code, January 6, 1982.

[90] Arup North America, Ltd. and Lennar Urban, *Candlestick Point/Hunters Point Shipyard LID Stormwater Opportunities Study*, June 2009. Copies of these documents are on file for public review at the San Francisco Redevelopment Agency, One South Van Ness Avenue, Fifth Floor as part of File No. ER06.05.07, or at the Planning Department, 1650 Mission Street, Fourth Floor, San Francisco, CA, 94103 as part of File No. 2007.0946E.

TABLE 29 ESTIMATED STORMWATER PEAK FLOW RATES AND RUNOFF VOLUMES WITHOUT BMPS

Storm Event	Existing (2010) (cfs)[a]	2010 Project (cfs)	2024 Modified Project Variant (cfs)[b]	Increase (Existing over 2010 Project)[c] (cfs)	Increase (Existing over 2010 Project)[c] (%)	Increase (2024 Modified Project Variant over 2010 Project)[c] (cfs)	Increase (2024 Modified Project Variant over 2010 Project)[c] (%)
CP							
5-Year[d]	477	249	215	-228	-48%	-34	-14%
10-Year[d,e]	545	284	284	-261	-48%	0	0%
100-Year[d]	783	408	425	-375	-48%	17	4%
HPS2[f]							
5-Year	644	448	360	-196	-30%	-88	-20%
10-Year[e]	730	509	509	-221	-30%	0	0%
100-Year	1,052	733	676	-319	-30%	-57	-8%
2-Year 24-Hour (acre-feet)[e]							
CP[d]	36	20	20	-16	-44%	0	0%
HPS2[f]	64	39	39	-24	-38%	0	0%

SOURCES: PBS&J, 2009; BKF, 2019.

NOTES:

- cfs = cubic feet per second

a. Existing flows are based on 72 percent of impervious surfaces at CP and HPS2 combined (approximately 505 acres).

b. Project flows, considering both CP and HPS2, are based on 56.1 percent impervious surfaces (or 388.4 acres); refer to Table 28 (Pervious and Impervious Acreage at CP and HPS2: 2010 Project, 2019 Modified Project Variant, and 2024 Modified Project Variant), p. 226.

c. A negative number denotes a reduction in Project flow rates compared to existing conditions.

d. For the 2024 Modified Project Variant, CP's updated proposed peak flow rates are from the *Grading and Storm Drain System Master Plan for the Candlestick Point Development, November 30, 2017, Master Utility Plan Amendment*. The peak flow rate for the 10-year storm event and the runoff volume for the 2-year, 24-hour (acre-feet) storm were not updated in the above referenced 2017 Master Utility Plan Amendment.

e. This information was provided by PBS&J in 2009 as part of the 2010 FEIR.

f. Off-site flow from HPS1 is not included in these runoff calculations. Required HPS1 diversions into the HPS2 separate stormwater sewer system would be 108 cfs. The peak flow rates and runoff volumes for HPS2 are the same as reflected for the 2018 Modified Project Variant in Addendum 5.

Impact HY-11: Implementation of the Project would not create or contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff. ***[Criterion M.e]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As with the 2010 Project, a new separate storm drainage system would be constructed for the 2024 Modified Project Variant in accordance with the design standards and criteria issued by the SFPUC and criteria in the Subdivision Regulations for the CP/Hunters Point Shipyard. As discussed in Impact HY-10, above, overall Project site development would result in a reduction in peak storm flows and would also reduce runoff volumes from frequently occurring storms. Implementation of mitigation measure MM HY-6a.1 and compliance with stormwater drainage capacity design criteria would ensure that impacts related to exceeding the capacity of the storm sewer system would remain less than significant.

Impact HY-12a: Implementation of the Project at Candlestick Point would not place housing in a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. ***[Criterion M.g]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR indicated that portions of the Project would fall within a Special Flood Hazard Area (SFHA)[91] and that housing could be located in an area subject to flooding if SLR were to exceed the 36 inches that served at the time as the basis for Project grading plans and fill elevations, and no improvements were to be made along the shoreline.

For the 2010 FEIR, a project-specific SLR study was undertaken[92] to develop planning and design guidance through the various phases of the Project, based on the then most current and relevant information and guidance available regarding SLR and knowledge of coastal processes of San Francisco Bay. For building structures, a 36-inch SLR allowance plus a freeboard of 6 inches was selected as the design criterion to use for design and construction, based on a conservative rate of SLR of 36 inches over the next 50 years[93] (including an ice-cap melt estimate). The 50-year span was anticipated to extend to about 2080,[94] which was approximately 50 years beyond the 2010 EIR's assumed last phase of construction for the Project.

Subsequently, as part of Addendum 5, Mitigation measure MM HY-12a.1 was revised to require that the Project site shall be graded such that finished floor elevations would be a minimum of 5.5 feet (or 66 inches) above the Base Flood Elevation (BFE) to accommodate then available, worst-case, future sea level rise projections for the end of the century, thereby elevating all housing and structures above the existing and potential future flood hazard area. MM HY-12a.1 also required the Project Sponsor to request revision of the San Francisco Interim Floodplain Maps (FIRMs), if adopted prior to Project implementation, to reflect new fill. The 2010 FEIR concluded that implementation of MM HY-12a.1 would ensure that impacts associated with construction of housing within a 100-year flood hazard area, as designated on a flood hazard delineation map, would be less than significant.

Mitigation measure MM HY-12a.2, which was also updated as part of Addendum 5, requires that shoreline and public access areas, which have higher adaptive capacity and resilience compared to development areas, are designed to incorporate setbacks to accommodate future SLR-related improvements. For shoreline and public access areas, design elements shall include providing adequate setbacks to allow for future elevation increases in response to up to 5.5 feet (or 66 inches) of

[91] Term used by FEMA to refer to the portion of a floodplain or coastal area that is at risk from a 100-year flood
[92] Moffatt & Nichol, *Hunters Point Shoreline Structures Assessment*, October 2009.
[93] Rahmstorf, S., A. Cazenave, J.A. Church, J.E. Hansen, R.F. Keeling, D.E. Parker, and R.C.J. Somerville, Recent Climate Observations Compared to Projections, *Science* 316, 2007, p. 709.
[94] Moffatt & Nichol, *Candlestick Point/Hunters Point Development Project Initial Shoreline Assessment*, prepared for Lennar Urban, February 2009, op. cit.

sea level rise above the total water level (including wave run-up), which was projected as the worst-case estimate at the end of the century.

The 2010 FEIR found that with implementation of MM HY-12a.2, impacts pertaining to the placement of housing within a potential future mapped flood hazard area would be less than significant.

For the 2024 Modified Project Variant, portions of CP would still fall within an SFHA, as reflected in the 2021 Federal Emergency Management Agency Flood Insurance Rate Map (FEMA FIRM).[95] In addition, housing could still be located in an area subject to flooding due to SLR based on the SLR estimates for 2030, 2050, and 2100 published in 2012 by the National Research Council (NRC)[96] (and used in the 2010 FEIR) and separately by the Ocean Protection Council in 2018 (OPC).[97] In 2020, the City and County of San Francisco adopted guidance for incorporating SLR into the design and construction of new development based on the 2018 OPC Report,[98] and, in June 2024, OPC adopted updated SLR projections and guidance.

As with the 2019 Modified Project Variant analyzed in Addendum 6, the 2024 Modified Project Variant would include improvements and modifications at CP Center that protect against SLR, including raising the base elevation of the Project site. For development areas in the 2019 Modified Project Variant (and the 2018 Modified Project Variant), MM HY-12a.1 and MM HY-12a.2 are based on the "worst-case" 2012 National Resource Council (NRC) SLR estimate for 2100 (66 inches) and the prevailing requirements and guidance from the City of San Francisco and BCDC. For protecting the shoreline and open space areas, grades would be similarly elevated to provide protection for up to 66 inches of SLR.

In light of evolving sea-level rise science and guidance, permitting agencies have generally recognized planning based on the sea-level rise projections available at the time when project planning efforts begin, rather than requiring continual project updates in response to evolving sea-level rise projections. The 2024 OPC guidance recognizes that while sea-level rise projections may not match exactly as compared to the 2018 OPC SLR guidance, the 2024 OPC SLR estimates for 2050 and 2100 are lower than both the 2018 OPC SLR and the 2012 NRC estimates for the same time period. As design progresses, the analyses and design recommendations related to sea-level rise will be updated to accommodate the most current projections and guidance, as appropriate.

Mitigation measure MM HY-12a.1 requires Project finished floor elevations to be 5.5 feet (or 66 inches) above the BFE accounting for future SLR. Mitigation measure MM HY-12a.2 also requires

[95] FEMA, National Flood Insurance Program Flood Insurance Rate Map, City and County of San Francisco, California, Panel 234 of 304, March 23, 2021, accessed April 1, 2024, https://msc.fema.gov/portal/home.
[96] National Research Council, *Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future*, Washington, DC: The National Academies Press, 2012.
[97] California Ocean Protection Council, *State of California Sea-Level Rise Guidance, 2018 Update*.
[98] San Francisco Sea Level Rise Committee, *Guidance for Incorporating Sea Level Rise into Capital Planning in San Francisco – Assessing Vulnerability and Risk to Support Adaptation*, September 2014, revised December 14, 2015, updated January 3, 2020.

that shoreline and public access improvements be designed to accommodate 5.5 feet (or 66 inches) and incorporate setbacks to accommodate SLR-related improvements. With implementation of these mitigation measures, impacts pertaining to the placement of housing within a potential future mapped flood hazard area would remain less than significant.

Impact HY-13a: Implementation of the Project at Candlestick Point would not place structures within a 100-year flood hazard area that could impede or redirect flood flows. ***[Criterion M.h]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant with Mitigation

The 2010 FEIR indicated that development at CP could place structures within a SFHA (Zone A) according to the Preliminary FIRM for San Francisco, but that structures within Zone A that do not fall within a designated floodway would not be expected to impede or redirect flood flows. The 2010 FEIR also indicated that development at CP Center would be required to provide hydraulic/hydrologic analysis to show that it would not increase the BFE. However, the 2010 FEIR also noted that this analysis is not of significant concern at CP because the Interim Floodplain Map and the preliminary FIRMs do not designate any areas that would contain structures as regulatory floodways. Thus, impacts at CP would be less than significant, and no mitigation is required.

For the 2024 Modified Project Variant, structures would still fall within a SFHA (Zone AE) according to the FEMA FIRM map for San Francisco for the existing grades.[99] However, with the proposed shoreline improvements and placement of fill, existing structures to be retained would no longer be in a flood hazard area. Implementation of mitigation measure MM HY-12a.1 would ensure that all finished floor elevations associated with development under the 2024 Modified Project Variant would be above the BFE and would be able to accommodate 5.5 feet of sea level rise. Mitigation measure MM HY12a.2 requires that shoreline and public access improvements be designed to incorporate setbacks to accommodate SLR-related improvements. With implementation of these mitigation measures, the impact pertaining to the placement of housing, and retaining some of the existing structures, within a potential future mapped flood hazard area would be reduced. The impact would remain less than significant with implementation of the identified mitigation measure.

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[99] FEMA, National Flood Insurance Program Flood Insurance Rate Map, City and County of San Francisco, California, Panel 234 of 4304, March 23, 2021, accessed April 1, 2024, https://msc.fema.gov/portal/home.

Impact HY-14: Implementation of the Project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. ***[Criterion M.i]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As concluded in the 2010 FEIR, the Project site is adjacent to, but not within, the dam failure inundation zones from failure of the University Mound South Basin and/or North Basin reservoirs, based on evidence provided by California Division of Safety of Dams (DSOD)[100] (refer to 2010 FEIR Figure III.M-3).

As with the 2010 Project, the shoreline of the 2024 Modified Project Variant includes various features, such as concrete debris, unprotected embankments, pile-supported wharves, seawalls, and bulkheads that serve to protect the Project from flooding. Several of these features lack structural integrity and could fail suddenly, as the result of a large storm event or an earthquake, or gradually, through continued deterioration. Failure of these features could expose people or structures to flood hazards.

The 2024 Modified Project Variant would implement mitigation measure MM HY-14, which requires implementation of improvements recommended in Moffatt and Nichol's Shoreline Improvement Report[101] (for the 2024 Modified Project Variant, MM HY-14 references potential updates to the 2009 shoreline evaluation). In accordance with these recommendations, areas along the shoreline would be developed as open space, which would allow for implementation of additional flood control improvements, if necessary, in the case of a higher-than-planned SLR. The shoreline improvements would also reinforce the structural integrity of the existing shoreline, reducing the risk of sudden structural failure of deteriorated shoreline features. Such improvements would provide added protection against Project site flooding, and the risk of harm associated with dam failure would remain less than significant with implementation of the identified mitigation measure.

Impact HY-15: Implementation of the Project would not expose people or structures to inundation by seiche, tsunami, or mudflow. ***[Criterion M.j]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR concluded that finished floor elevations, which account for SLR and 100-year flood elevations, would be over 1 foot above the potential tsunami wave run-up elevation, and protect the

[100] DSOD, accessed June 27, 2019, https://fmds.water.ca.gov/maps/damim/.
[101] Moffatt & Nichols, *Candlestick Point/Hunters Point Redevelopment Project Proposed Shoreline Improvements*, prepared for Lennar Urban, September 2009.

Project site from a seiche. Therefore, the impacts from tsunami and seiche inundation would be less than significant.

With the 2024 Modified Project Variant, the CP Center site would be raised to complete surcharging and corresponding ground stabilization, to elevate the development areas of the site in response to anticipated SLR, and to provide the SFPUC with required freeboard and cover for utility systems. The proposal to raise the site elevation does not extend into the Candlestick Point State Recreation Area. Thus, the impacts from tsunami and seiche inundation would remain less than significant, and no mitigation is required.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to hydrology and water quality impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to hydrology and water quality, on either a Project-related or cumulative basis.

II.B.13 Biological Resources

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
4. Biological Resources. Would the project:					
N.a Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?	2010 FEIR p. III.N-54 (Impact BI-3a) p. III.N-70 (Impact BI-6a) p. III.N-75 (Impact BI-7a) p. III.N-77 (Impact BI-8a) p. III.N-79 (Impact BI-9a) p. III.N-81 (Impact BI-10a) p. III.N-83 (Impact BI-11a) p. III.N-97 (Impact BI-15a) p. III.N-98 (Impact BI-16a) p. III.N-100 (Impact BI-17a) p. III.N-101 (Impact BI-18a) p. III.N-103 (Impact BI-19a) p. III.N-109 (Impact BI-22) Addendum 6 p. 255 (Impact BI-3a) p. 256 (Impact BI-6a) p. 257 (Impact BI-7a) p. 257 (Impact BI-8a) p. 258 (Impact BI-9a) p. 258 (Impact BI-10a) p. 259 (Impact BI-11a) p. 259 (Impact BI-12a) p. 261 (Impact BI-15a) p. 262 (Impact BI-16a) p. 263 (Impact BI-17a) p. 263 (Impact BI-18a) p. 263 (Impact BI-19a) p. 265 (Impact BI-22)	No	No	No	MM BI-4a.1, MM BI-4a.2, MM BI-5b.1, MM BI-5b.2, MM BI-5b.3, MM BI-5b.4, MM BI-6a.1, MM BI-6a.2, MM BI-6b, MM BI-7b, MM BI-9b, MM BI-14a, MM BI-18b.1, MM BI-18b.2
N.b Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?	2010 FEIR p. III.N-54 (Impact BI-3a) p. III.N-67 (Impact BI-5a) p. III.N-86 (Impact BI-12a) p. III.N-97 (Impact BI-15a) p. III.N-101 (Impact BI-18a) p. III.N-103 (Impact BI-19a) p. III.N-111 (Impact BI-23) Addendum 6 p. 255 (Impact BI-3a) p. 256 (Impact BI-5a) p. 259 (Impact BI-12a) p. 261 (Impact BI-15a) p. 263 (Impact BI-18a) p. 263 (Impact BI-19a) p. 266 (Impact BI-23)	No	No	No	MM BI-4a.1, MM BI-4a.2, MM BI-12a.2, MM BI-12b.1, MM BI-12b.2

	Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
N.c	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the *Clean Water Act* (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	2010 FEIR p. III.N-55 (Impact BI-4a) p. III.N-91 (Impact BI-13a) p. III.N-112 (Impact BI-24) Addendum 6 p. 255 (Impact BI-4a) p. 260 (Impact BI-13a) p. 267 (Impact BI-24)	No	No	No	MM BI-4a.1, MM BI-4a.2
N.d	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	2010 FEIR p. III.N-49 (Impact BI-2) p. III.N-83 (Impact BI-11a) p. III.N-91 (Impact BI-13a) p. III.N-98 (Impact BI-16a) p. III.N-105 (Impact BI-20a) p. III.N-114 (Impact BI-25) Addendum 6 p. 253 (Impact BI-2) p. 259 (Impact BI-11a) p. 260 (Impact BI-13a) p. 262 (Impact BI-16a) p. 264 (Impact BI-20a) p. 265 (Impact BI-25)	No	No	No	MM BI-20a.1, MM BI-20a.2
N.e	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	2010 FEIR p. III.N-93 (Impact BI-14a) p. III.N-108 (Impact BI-21a) p. III.N-115 (Impact BI-26) Addendum 6 p. 261 (Impact BI-14a) p. 265 (Impact BI-21a) p. 267 (Impact BI-26)	No	No	No	MM BI-7b, MM BI-14a, MM BI-20a.1, MM BI-20a.2
N.f	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?[102]	2010 FEIR p. III.N-49 (Impact BI-1)	No	No	No	None

[102] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR. The 2024 Modified Project Variant would have no effect on the impact because the modifications do not alter the activity that causes the impact.

Changes to Project Related to Biological Resources

The following elements of the 2024 Modified Project Variant are addressed in this Biological Resources analysis:

- Increase the maximum allowable height at CP Center to 180 fee.

The amount of excavated material and fill, horizontal area, and geographic locations of ground disturbance would not change under the 2024 Modified Project Variant compared to the 2019 Modified Project Variant analyzed under Addendum 6.

Comparative Impact Discussions

Impact BI-2: Implementation of the Project would not have a substantial adverse effect, either directly or through habitat modifications, on any common species or habitats through substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. ***[Criterion N.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As discussed in the 2010 FEIR, the Project would impact a number of common plant and animal species through the demolition and construction of buildings, removal of trees, construction of shoreline improvements, installation of trails, roads, and other facilities, construction of the Yosemite Slough Bridge, increased foot and vehicular traffic, installation of towers, and operation of all these facilities. Some common habitats would be reduced in extent, and some common species would decline in abundance as a result of the Project. However, the species that would be affected, as well as their habitats, are abundant throughout the San Francisco Bay region, and the Project site supports an extremely small proportion of the regional abundance of these resources. Further, the abundance of many of these species on the Project site itself is relatively low due to the extent of developed/urban land uses on the site, the long history of disturbance of the site, the intensive nature of such disturbance in some areas (e.g., soil stockpiling on CP is occurring or has recently occurred), and the site's isolation from more extensive areas of natural habitat by the Bay and by urban development in surrounding areas. Those species that are present on the site in higher numbers consist primarily of species that are well adapted to urban or heavily disturbed areas. Consequently, any impacts of the Project on common species and habitats would have a negligible effect on regional populations and would, thus, be less than significant.

The Project would result in improvements to habitat conditions in many areas owing to the expansion of open space, planting of numerous trees, and improvement of habitat along the shoreline. With implementation of the Parks, Open Space, and Habitat Concept Plan, locally common wildlife species would benefit from the removal of invasive species, enhancement, restoration, and management of habitats such as grasslands and wetlands, and the planting of numerous trees and shrubs in areas that

are currently highly degraded or disturbed. Local birds and common small mammals may benefit from the habitat enhancements that would be implemented on the Project site.

The 2024 Modified Project Variant activities would result in changes in the land-use development program primarily by increasing R&D/office uses from 750,000 sf to 2,800,000 sf at Candlestick Center (CP Center). There would be a corresponding reduction of 2,050,000 sf of R&D/office use from HPS2, which would maintain the overall development intensity of the Project. The 2024 Modified Project Variant would also increase the maximum allowable height at CP Center to 180 feet. These changes in land use reflected in the 2024 Modified Project Variant have no substantive effect on the overall impact analysis of the Project on biological resources, including common plants and animals, because they do not increase the amount of developed area, include new activities that would result in substantial increases in disturbance of plants and animals, or include impacts on these species in new areas where development was not previously proposed to occur. The 2024 Modified Project Variant entails primarily a transfer of R&D/office use square footage from HPS2 to CP Center that will occur in areas of CP where development was already proposed as part of the 2010 Project and analyzed in the 2010 FEIR. The proposed changes in the types of developed land in certain areas would not result in changes in impacts on common plants and animals.

Increases in building heights could potentially result in somewhat greater impacts to migratory birds; these effects are discussed in Impact BI-20a.

The impact of implementation of the 2024 Modified Project Variant on common species and habitats would continue to be less than significant, and no mitigation is required.

Impact BI-3a: Construction at Candlestick Point would not have a substantial adverse effect, either directly or through habitat modifications, on any plant species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. ***[Criteria N.a and N.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

As discussed in the 2010 FEIR, no special-status plants have been identified at CP during prior botanical and rare plant surveys,[103] and because of the long history of development and disturbance of the site, no suitable habitat for rare plants is present on the site. No new special-status species that may occur in the Project area have been listed since 2010, and no special-status species that were not known or expected to occur in the Project area in the 2010 FEIR have been newly recorded in the Project area since that time.[104] Therefore, no impact to rare plants would result from the Project.

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[103] Jones & Stokes, *Natural Environmental Study Report for the Bayview Transportation Improvements Project*, June 2009.
[104] California Department of Fish and Wildlife, RareFind 5 Database, 2024, accessed March 27, 2024.

Impact BI-4a: Construction at Candlestick Point would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the *Clean Water Act* through direct removal, filling, hydrological interruption, or other means. ***[Criterion N.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR analyzed impacts on jurisdictional wetlands and other waters (i.e., open water) that would result from proposed Project activities. The majority of such impacts were expected to result from shoreline enhancements for coastal flood protection and habitat improvement, and from Yosemite Slough Bridge construction. The 2010 FEIR concluded that shoreline improvements at CP could affect federally and state-protected wetlands, and mitigation measures MM BI-4a.1 and MM BI-4a.2 would be implemented to reduce the impact to jurisdictional wetlands and other waters.

The 2024 Modified Project Variant would not result in any new wetland impacts compared to the 2019 Modified Project Variant analyzed in Addendum 6, as the disturbance footprint has not changed. However, the 2010 Project identified wetland impacts that would be reduced to a less-than-significant level with the implementation of the identified mitigation measures (MM BI-4a.1 and MM BI-4a.2), which would still apply. The impact would remain less than significant with implementation of the identified mitigation measures.

Impact BI-5a: Construction at Candlestick Point would not have a substantial adverse effect on eelgrass beds, a sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS. ***[Criterion N.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

The 2010 FEIR analyzed potential impacts of construction on eelgrass beds. At that time, no eelgrass had been recorded in the near-shore waters of the CP peninsula. No eelgrass has been recorded in waters close to CP since the 2010 FEIR; therefore, construction activities at CP would have no impact on this sensitive resource. No mitigation is required.

Impact BI-6a: Construction at Candlestick Point would not have a substantial adverse effect, either directly or through habitat modifications, on any bird species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. ***[Criterion N.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As analyzed in the 2010 FEIR, development at CP has some potential to result in impacts to special-status birds, if present, although the likelihood of impacts to nesting special-status birds from CP

activities is low for reasons discussed in the 2010 FEIR (primarily due to low habitat quality). Project demolition and construction activities have the potential to impact nests of non-special-status birds that are protected by the Migratory Bird Treaty Act and California Fish and Game Code; however, mitigation measure MM BI-6a.1 would avoid those impacts. The 2024 Modified Project Variant would not increase fill brought to the site or the amount of soil excavation compared to the 2019 Modified Project Variant analyzed under Addendum 6. These activities would occur in the same areas proposed to be disturbed as part of the 2010 Project. The changes in the land-use development program would not change the amount or location of developed area or include new activities that would result in substantial increases in disturbance of nesting birds beyond what was analyzed in the 2010 FEIR and subsequent addenda. Implementation of MM BI-6a and MM BI-6b would ensure that the potential impact from the 2024 Modified Project Variant activities on protected birds would remain less than significant.

Impact BI-7a: Implementation of the Project at Candlestick Point would not have a substantial adverse effect on the quantity and quality of suitable foraging habitat for raptors. ***[Criterion N.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As discussed in the 2010 FEIR, construction on CP would remove approximately 5.13 acres of non-native grasslands that serve as foraging habitat for grassland-associated raptors such as the red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*). Alteration of grassland habitat would also cause local reductions in habitat for prey of these raptors as well, in the areas being converted from grassland to developed uses. However, the majority of construction activities associated with CP would not occur within grasslands and associated suitable raptor foraging habitat.

The 2024 Modified Project Variant would not increase fill brought to the site or the amount of soil excavation compared to the 2019 Modified Project Variant analyzed under Addendum 6. These activities would occur in the same areas proposed to be disturbed in the 2010 FEIR analysis. The changes in the land-use development program would not change the amount or location of developed area relative to existing habitat areas or include new activities that would result in substantial increases in impacts to raptors, their foraging habitat, or their prey beyond those analyzed in the 2010 FEIR and subsequent addenda. Therefore, the impact would remain less than significant, and no mitigation is required.

Impact BI-8a: Construction at Candlestick Point would not have a substantial adverse effect, either directly or through habitat modifications, on the western red bat, a species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. ***[Criterion N.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR described that the western red bat (*Lasiurus blossevillii*) was the only special-status bat species with the potential to occur within the Project area, which remains the case in 2024. Potential roosting habitat for this species is present in more mature trees, where bats would roost in the foliage during migration and during the winter months (August–April). Construction activities that would remove these potential roosting sites could result in a small number of individuals being displaced, injured, or killed. However, due to the absence of mature trees from most areas, the lack of riparian habitat (its preferred habitat type), and the absence of this bat species as a breeder from the region, the number of bats that could potentially be impacted would be very small. Consequently, the loss or disturbance of western red bats and their habitats would not represent a substantial adverse effect as it would not substantially reduce the habitat of this species, cause its population to drop below self-sustaining levels, or reduce its range, and impacts would be less than significant. Rather, with implementation of mitigation measures MM BI-7b and MM BI-14a, the effect of Project activities on the western red bat would be expected to be beneficial.

The 2024 Modified Project Variant would not increase fill brought to the site or the amount of soil excavation compared to the 2019 Modified Project Variant analyzed under Addendum 6. These activities would occur in the same areas proposed to be disturbed in the 2010 FEIR analysis. The changes in the land-use development program would not change the amount or location of developed area relative to existing habitat areas or include new activities that would result in substantial increases in impacts to western red bats beyond those analyzed in the 2010 FEIR and subsequent addenda. The change to the maximum allowable building height at CP Center is similarly not expected to impact western red bats. Therefore, the impact would remain less than significant, and no mitigation is required.

Impact BI-9a: Pile driving associated with construction at Candlestick Point would not have a substantial adverse effect either directly or through habitat modifications, on marine mammals or fish identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. ***[Criterion N.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

As analyzed in the 2010 FEIR, development in CP has no in-water components that require pile driving and, therefore, would have no substantial adverse effects to sensitive fish or marine

mammals as a result of pile driving. The 2024 Modified Project Variant activities do not include any in-water components in CP. Therefore, no impact would occur, and no mitigation is required.

Impact BI-10a: Construction at Candlestick Point would require removal of hard substrates (riprap) used by native oysters, but would not have a substantial adverse effect, either directly or through habitat modifications, on this species. ***[Criterion N.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As analyzed in the 2010 FEIR, shoreline revetment improvements at CP would involve the removal of hard substrate that could potentially support native Olympia oysters (*Ostrea conchaphila*). However, installation of shoreline revetment features would replace any hard substrate that was lost. As a result, impacts to native oysters would only be temporary, and overall effects of the Project on this species would be less than significant.

The 2024 Modified Project Variant does not include any new activities that involve the removal of hard substrate that could be used by native oysters, nor any other new in-water activity, and will not result in any new native oyster impacts compared to the 2010 FEIR and subsequent addenda. The 2024 Modified Project Variant will not impact native oysters, and the overall impact would remain less than significant with no mitigation required.

Impact BI-11a: Construction at Candlestick Point would not have a substantial adverse effect on designated critical habitat for green sturgeon and Central California Coast steelhead, and would not result in impacts to individuals of these species as well as Chinook salmon and longfin smelt through disturbance and loss of aquatic and mudflat habitat as a result of construction of shoreline revetments. ***[Criteria N.a and N.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR discussed the potential for in-water activities to result in impacts to habitat for special-status fish such as the green sturgeon, Central California Coast steelhead, Chinook salmon, and longfin smelt, and potentially disturbance of individuals of these species during construction. Construction of shoreline revetments at CP would result in the loss of habitat for these special-status fish species, including the loss of designated critical habitat for the green sturgeon and Central California Coast steelhead. Because of the regional rarity of all these special-status fish, impacts to individuals or to habitat used by these fish were considered significant. However, mitigation measures MM BI-4a.1 and MM BI-4a.2 would reduce these impacts to less-than-significant levels by compensating for the loss of jurisdictional waters, and the removal of debris and other materials from Bay waters was expected to result in a net increase in fish habitat.

The 2024 Modified Project Variant does not propose any modifications that would impact fish habitat. The impact would remain less than significant with implementation of the identified mitigation measures.

Impact BI-12a: Construction at Candlestick Point would not have a substantial adverse effect on designated essential fish habitat (EFH) or result in a substantial change in total available essential fish habitat through placement of riprap and other fill or through temporary water-quality impacts during construction. EFH is a sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS. ***[Criterion N.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR described the impacts to EFH that could potentially result from the placement of fill and water-quality effects during construction of features in and near the Bay. At CP, such impacts included loss of fish habitat due to placement of rock to improve the shoreline revetments, as well as impairment of fish health if water quality were adversely affected by construction. The 2010 FEIR determined that mitigation measures to compensate for the loss of jurisdictional wetlands and other waters and avoid water-quality impacts (MM BI-4a.1, MM BI-4a.2) and avoid and minimize impacts to EFH during construction, demolition, and debris removal (MM BI-12a.2, MM BI-12b.1, MM BI-12b.2) would reduce impacts to EFH from CP activities to less-than-significant levels.

The 2024 Modified Project Variant has no new in-water components that would impact EFH and, as a result, would not result in any new EFH impacts compared to the 2010 FEIR and subsequent addenda. However, mitigation measures identified for the 2010 Project to reduce impacts to a less-than-significant level (MM BI-4a.1, MM BI-4a.2, MM BI-12a.2, MM BI-12b.1, and MM BI-12b.2) would still apply. The impact would remain less than significant with implementation of the identified mitigation measures.

Impact BI-13a: Construction at Candlestick Point would not interfere substantially with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. ***[Criterion N.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As discussed in the 2010 FEIR, no regional wildlife corridors or migratory pathways are present on the 2010 Project site. Construction at CP would affect primarily terrestrial species that are well adapted to human disturbance in the area and move locally within the Project site and between the adjacent habitat patches. Construction would not substantially interfere with this local movement as the terrestrial wildlife would be able to continue their pre-Project activities in the areas not under construction, and construction would not permanently bar their movement through those portions

of the site as the construction activities would be temporary. Therefore, Project impacts on wildlife movement were considered less than significant.

The 2010 FEIR determined that eelgrass beds provide nurseries for fish and other aquatic organisms, but that Project activities at CP had no potential to impact eelgrass, which is not known to be present around the CP peninsula.

The 2024 Modified Project Variant activities do not include any new activities that would affect wildlife movement or native wildlife nursery sites beyond what was analyzed in the 2010 FEIR and subsequent addenda. The 2024 Modified Project Variant would not increase the location or amount of developed area. Therefore, the potential impact to wildlife movement and native wildlife nursery sites at CP would remain less than significant.

Impact BI-14a: Construction at Candlestick Point would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. ***[Criterion N.e]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR discussed the potential impacts of construction of the 2010 Project on trees that are protected by the City of San Francisco's Urban Forestry Ordinance. The Project has the potential to remove a number of trees that meet the criteria for "street trees" or "significant trees," in addition to removing a number of trees that are not in or near the public right-of-way and that, therefore, do not meet the criteria for protected trees. The 2010 FEIR determined that mitigation measure MM BI-14a, requiring the preservation and replacement/planting of street trees and significant trees, would be implemented to reduce impacts to trees to less-than-significant levels. The 2010 FEIR also included mitigation measure MM BI-7b, which required the development of a Parks, Open Space, and Habitat Concept Plan that would result in a substantial increase in the number of trees on the Project site. With implementation of MM BI-7b, the number of trees would be substantially greater after Project implementation, resulting in a beneficial impact on trees.

The 2024 Modified Project Variant activities would not change the horizontal area or geographic locations of ground disturbance of the site that were analyzed in the 2010 FEIR and, therefore, would not result in impacts on trees that are greater than were analyzed in the 2010 FEIR. The 2024 Modified Project Variant activities largely result in changes in the land-use development program, rather than increases in the amount of developed area or inclusion of new activities that would result in substantial increases in impacts to trees. The 2024 Modified Project Variant would have no new impact to trees compared to the 2010 FEIR and subsequent addenda. Therefore, implementation of mitigation measure MM BI-14a from the 2010 FEIR would continue to ensure compliance with the City's Urban Forestry Ordinance, thus reducing this impact to a less-than-significant level.

Impact BI-15a: Construction within the shoreline or Bay at Candlestick Point would not result in the disturbance of contaminated soil or the re-suspension of contaminated sediments. ***[Criteria N.a and N.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

As discussed in the 2010 FEIR, there are no sites along the shoreline with known contamination in the nearshore soil or sediment requiring remediation at CP. The additional fill that would be used to raise the elevations of developed areas and parks and open space areas (excluding the CPSRA), as well as other proposed modifications related to construction methods (e.g., deep dynamic compaction) and soil excavation for deep borings, occur well away from the Bay and its shoreline (in the developed areas shown in Figure 3, 2024 Modified Project Variant Land Use Plan, p. 15). The placement of a recycled water main on the Yosemite Slough Bridge, which is proposed by the 2024 Modified Project Variant, would not result in any new or additional impacts on the slough or sediment within the slough, as this water main would be attached to the bridge structure. The only activities at CP that would impact shoreline areas are the construction of stormwater outfalls and shoreline restoration and stabilization activities, which were analyzed in the 2010 FEIR. The 2024 Modified Project Variant proposes no changes to these activities, including the area of impact, construction techniques, or other aspects of construction. Therefore, the 2024 Modified Project Variant does not involve any new activities that would result in impacts from the disturbance of contaminated soil or the re-suspension of contaminated sediments. No impact would occur, and no mitigation is required.

Impact BI-16a: Implementation of the Project at Candlestick Point would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS or interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. ***[Criteria N.a and N.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As discussed in the 2010 FEIR, operation of the development at CP does not contain an in-water operational component and would not impact birds or marine mammals within the waters of the Bay. Human activity at CP would affect wildlife, and potential adverse effects include disturbance of wildlife (including nesting birds) in terrestrial, shoreline, and aquatic habitats due to movement by humans, domestic animals, and vehicles; depredation of native species by domestic animals; injury or mortality of individuals due to vehicular traffic; and other impacts. However, as discussed in Impact BI-2, adverse effects of human disturbance and other operational factors would occur

primarily to small numbers of regionally abundant species, and operational impacts would not substantially affect populations of these species.

The 2024 Modified Project Variant activities would not result in impacts on wildlife that are greater than were analyzed in the 2010 FEIR because the 2024 Modified Project Variant activities result in changes in the land-use development program, rather than increases in the amount of developed area, changes in the locations of development relative to existing habitat areas, or inclusion of new activities that would result in substantial increases in impacts to wildlife. Therefore, impacts would remain less than significant, and no mitigation is required.

Impact BI-17a: Implementation of the Project at Candlestick Point would not have a substantial adverse effect, either directly or through habitat modifications, on nesting American peregrine falcons, identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. ***[Criterion N.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

No American peregrine falcon nests are present at CP. Thus, the 2024 Modified Project Variant would not result in impacts on nesting peregrine falcons, and no mitigation is required.

Impact BI-18a: Implementation of the Project at Candlestick Point would not have a substantial adverse effect, either directly or through habitat modifications, on aquatic species identified as a candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by the CDFW or USFWS, or have a substantial adverse effect on designated EFH, a sensitive natural community identified in local or regional plans, policies, and regulations or by the NMFS. ***[Criteria N.a and N.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

The 2024 Modified Project Variant, which is contained within the previously analyzed Project footprint, does not include any new in-water components and would not generate increases in turbidity or other impacts that could adversely affect aquatic species identified as a candidate, sensitive, or special-status species, or designated EFH. No new activities are proposed by the 2024 Modified Project Variant that would impact sensitive aquatic species. Therefore, no such impacts will occur at CP, and no mitigation is required.

Impact BI-19a: Implementation of the Project at Candlestick Point would not result in impacts to aquatic organisms through the re-suspension of contaminated sediments. ***[Criteria N.a and N.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	No Impact	No Impact

The 2024 Modified Project Variant does not include any new in-water components and would not result in impacts to aquatic organisms through the re-suspension of contaminated sediments. No new activities that would result in sediment mobilization are proposed by the 2024 Modified Project Variant. Therefore, no such impacts will occur at CP, and no mitigation is required.

Impact BI-20a: Implementation of the Project at Candlestick Point would not interfere substantially with the movement of resident or migratory bird species by increasing collision hazards and the amount of artificial lighting. ***[Criterion N.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR analyzed impacts of the construction of new buildings on resident and migratory birds by increasing collision hazards and the amount of artificial lighting.

Within CP, towers ranging from 170 to 420 feet in height were proposed under the 2010 Project and 2010 Tower Variant 3D. The 2010 FEIR discussed how migrating birds such as songbirds could be affected by such human-built structures because of the birds' propensity to migrate at night, their low flight altitudes, and their tendency to be disoriented by artificial light, making them vulnerable to collision with obstructions. Both tall structures and windows provide collision hazards to migrating birds. A majority of bird strikes occur when birds do not recognize glass on buildings as a solid feature. Thus, operation of the towers would pose collision hazards to migratory birds as the presence of the towers, as well as effects associated with the lighting of the towers, could alter the flight patterns of migratory birds and substantially increase bird strike collisions with the structures. Large-scale avian injury or mortality due to bird strikes has not been documented at buildings on the West Coast as it has in eastern and Midwestern North America, but due to the potential for bird strikes at tall buildings, this impact was considered significant. The 2010 FEIR prescribed mitigation measures MM BI-20a.1 and MM BI-20a.2 to reduce the effects of operational activities related to buildings and increased lighting on migrating birds to less-than-significant levels.

Under the 2010 Project, MM BI-20a.1 and MM BI-20a.2 applied to buildings that were more than 100 feet tall, under the assumption that impacts to migratory birds would result primarily from collisions by high-flying migrants. The current thinking is that most bird collisions occur within 60 feet of the ground, where birds engage in most of their activities. Various studies have placed this primary collision zone between 0 feet and 40 to 60 feet above the ground.[105,106] Current practice is to

[105] Sheppard, C. 2011. *Bird-Friendly Building Design*. American Bird Conservancy, The Plains, VA, 60 pages.
[106] San Francisco Planning Department. 2011. Standards for Bird-Safe Buildings.

concentrate bird-safe building design at lower elevations rather than higher elevations. MM BI-20a.1 and MM BI-20a.2 were revised in 2018 to include provisions for bird-safe design at all elevations (both high and low). Compliance with these mitigation measures at CP would reduce bird-collision impacts to less-than-significant levels.

Under the 2024 Modified Project Variant, the increases in building heights at CP Center could potentially increase collision risk for higher-flying birds. As discussed in the preceding paragraph, however, current practice in bird-safe design emphasizes the importance of reducing bird collision risk in the primary collision zone, closer to the ground, where birds engage in most of their activities. Increasing the heights of buildings above this zone as part of the 2024 Modified Project Variant is not expected to result in a substantial increase in bird collision risk compared to the 2010 FEIR and subsequent addenda.

Under the 2024 Modified Project Variant, the increase in height of buildings to accommodate rooftop mechanical equipment and architectural screening on tower buildings would not significantly increase bird collision risk because implementation of MM BI-20a.1 and MM BI-20a.2 would address bird-collision issues both close to the ground and on tall buildings.

With implementation of MM BI-20a.1 and MM BI-20a.2, impacts from the 2024 Modified Project Variant related to bird collisions would remain less than significant.

Impact BI-21a: Implementation of the Project at Candlestick Point would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. ***[Criterion N.e]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As discussed in the 2010 FEIR, operation of CP would be consistent with the biological resources protection policies of the City of San Francisco General Plan, the City adopted Urban Forestry Ordinance, and Planning Code Section 143.

Impacts from proposed CP construction activities on trees that are protected by the City of San Francisco's Urban Forestry Ordinance are discussed in Impact BI-14a. No additional impacts to trees would result from Project implementation.

Compliance with local policies related to bird-safe building design is regulated through San Francisco Planning Department per San Francisco Planning Code Section 139, *Standards for Bird-Safe Buildings*. Potential impacts to resident and migratory birds due to increased collision hazards and artificial lighting during construction are discussed in Impact BI-20a. The 2010 Project reduced bird-collision impacts to less-than-significant levels by complying with mitigation measures MM BI-20a.1 and MM BI-20a.2, which provided consistency with the requirements of San Francisco Planning

Code Section 139. No additional impacts to birds associated with collision hazards and artificial lighting would result from the 2024 Modified Project Variant.

Impact BI-22: Implementation of the Project would not have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, by the CDFW, USFWS, or NMFS. ***[Criterion N.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As discussed in the 2010 FEIR, the 2010 Project would involve removal and/or modification of areas that have the potential to contain special-status species, including seven potentially breeding avian species, one bat species, and four fish species (green sturgeon, Chinook salmon, steelhead, and longfin smelt). The Project also has the potential to affect designated critical habitat of the green sturgeon and, thus, directly impact threatened and/or endangered species through habitat conversion or unauthorized take. In addition, Project activities would occur within habitats of locally rare or sensitive species such as Pacific herring and Olympia oysters, as well as avian species protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code.

No new special-status species that may occur in the Project area have been listed since 2010, and no special-status species that were not known or expected to occur in the Project area in the 2010 FEIR have been newly recorded in the Project area since then.[107] The 2024 Modified Project Variant activities simply result in changes in the land-use development program, rather than increases in the amount of developed area, changes in the locations of new development relative to existing habitat areas, or inclusion of new activities that would result in substantial increases in impacts on special-status species. As a result, the 2024 Modified Project Variant activities would not result in new impacts to special-status species or substantially greater impacts to such species compared to the 2010 FEIR and subsequent addenda and no additional analysis of impacts from the 2024 Modified Project Variant activities on special-status species is necessary. The Project would continue to implement the mitigation measures described in 2010 FEIR (Impact BI-22, MM BI-4a.1, MM BI-4a.2, MM BI-5b.1 through MM BI-5b.4, MM BI-6a.1, MM BI-6a.2, MM BI-6b, MM BI-7b, MM BI-9b, MM BI-18b.1, and MM BI-18b.2) to ensure that impacts to special-status species remain less than significant.

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[107] California Department of Fish and Wildlife, RareFind 5 Database, 2024, accessed March 27, 2024.

Impact BI-23: Implementation of the Project would not have a substantial adverse effect on sensitive natural communities identified in local or regional plans, policies, or regulations by the CDFW, USFWS, or NMFS. ***[Criterion N.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As discussed in the 2010 FEIR, no riparian habitat occurs in the Project area, and the only sensitive habitats other than wetlands and aquatic habitats (discussed in Impact BI-24 below) are eelgrass and areas designated as EFH. The 2010 FEIR prescribed mitigation measures to reduce impacts to eelgrass and EFH to less-than-significant levels. The 2024 Modified Project Variant would not result in any new EFH impacts compared to the 2010 FEIR and subsequent addenda. However, mitigation measures identified in the 2010 FEIR to reduce impacts to a less-than-significant level (MM BI-4a.1, MM BI-4a.2, MM BI-6a, MM BI-6b, MM BI-12a.2, MM BI-12b.1, and MM BI-12b.2)[108] would still apply. This impact would remain less than significant with implementation of the identified mitigation measures.

Impact BI-24: Implementation of the Project would not have a substantial adverse effect on federally protected wetlands and other waters as defined by Section 404 of the *Clean Water Act* (including but not limited to marsh, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. ***[Criterion N.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

Impacts to jurisdictional wetlands and other waters (i.e., open water) that would result from proposed Project construction activities are discussed in Impact BI-4a. No additional impacts to these jurisdictional habitats would result from the 2024 Modified Project Variant. This impact would remain less than significant with implementation of the identified mitigation measures (MM BI-4a.1 and MM BI-4a.2).

Impact BI-25: Implementation of the Project would not interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site. ***[Criterion N.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

Impacts to established native resident or migratory wildlife corridors and native wildlife nursery sites that would result from proposed Project construction activities are discussed in Impact BI-13a. Impacts from proposed Project construction activities on eelgrass, provide nurseries for fish and

[108] Mitigation measure MM BI-4a reference to wetlands. Mitigation measure MM BI-6a reference eelgrass beds, and Mitigation Measures reference Essential Fish Habitat.

other aquatic organisms, are discussed in Impact BI-5a. No additional impacts to these resources would result from implementation of the 2024 Modified Project Variant.

Impacts to resident and migratory birds by increasing collision hazards and the amount of artificial lighting, resulting from proposed Project construction activities, are discussed in Impact BI-20a. The 2010 Project would reduce bird-collision impacts to less-than-significant levels by complying with mitigation measures MM BI-20a.1 and MM BI-20a.2. No additional impacts to birds associated with collision hazards and artificial lighting would result during implementation of the 2024 Modified Project Variant. This impact would remain less than significant with implementation of the identified mitigation measures.

Impact BI-26: Implementation of the Project would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. ***[Criterion N.e]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

Impacts from proposed Project construction activities on trees that are protected by the City of San Francisco's Urban Forestry Ordinance are discussed in Impact BI-20a. No additional impacts to trees would result from Project implementation. The 2024 Modified Project Variant activities would not result in impacts on trees that are greater than those that were analyzed in the 2010 FEIR and subsequent addenda.

Impacts to resident and migratory birds by increasing collision hazards and the amount of artificial lighting, resulting from proposed Project construction activities, are discussed in Impact BI-20a. The 2010 Project proposed to reduce bird-collision impacts to less-than-significant levels by complying with mitigation measures MM BI-20a.1 and MM BI-20a.2. No additional impacts to birds associated with collision hazards and artificial lighting would result from implementation of the 2024 Modified Project Variant. This impact would remain less than significant with implementation of the identified mitigation measures.

Conclusion

The 2024 Modified Project Variant would not change the 2010 FEIR and subsequent addenda findings with respect to biological resources impacts. Although the 2024 Modified Project Variant includes changes to the Project, these would not give rise to new significant environmental effects or substantially increase the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR and subsequent addenda related to biological resources, on either a Project-related or cumulative basis.

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II.B.14 Public Services

Criterion	*Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)*	*Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?*	*Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?*	*Any New Information of Substantial Importance?*	*Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant*
14. Public Services. Would the project:					
O.a Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, [or the] need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?	2010 FEIR p. III.O-7 (Impact PS-1) p. III.O-8 (Impact PS-2) Addendum 6 p. 271 (Impact PS-2)	No	No	No	MM TR-1, MM PS-1, Varies[109]
O.b Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, [or the] need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?[110]	2010 FEIR p. III.O-17 (Impact PS-3) p. III.O-18 (Impact PS-4) Addendum 6 p. 273 (Impact PS-4)	No	No	No	MM TR-1, Varies[109]

[109] Refer to Sections II.B.3, II.B.7, II.B.8, II.B.9, II.B.10, and II.B.12 for the specific mitigation measures for construction-related effects.

[110] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR. The 2024 Modified Project Variant would have no effect on the impact because the modifications do not alter the activity that causes the impact.

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
O.c Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, [or the] need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives of the school district?[111]	2010 FEIR p. III.O-28 (Impact PS-5) p. III.O-28 (Impact PS-6)	No	No	No	None
O.d Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, [or the] need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for library services?[112]	2010 FEIR p. III.O-35 (Impact PS-7) p. III.O-35 (Impact PS-8)	No	No	No	None
O.f Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, [or the] need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for fire protection services?	2010 FEIR p. III.O-17 (Impact PS-3) p. III.O-18 (Impact PS-4) Addendum 6 p. 273 (Impact PS-4)	No	No	No	MM TR-1, MM PS-1

[111] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR. The 2010 FEIR found the Project would have no effect on the provision of school services and the 2024 Modified Project Variant would not change this conclusion.

[112] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR. The 2010 FEIR found the Project would have no effect on the provision of library services and the 2024 Modified Project Variant would not change this conclusion.

Changes to Project Related to Public Services

The following elements of the 2024 Modified Project Variant are addressed in this Public Services analysis:

- An update in employment, which is based on the development scenario for the 2024 Modified Project Variant and may affect demand for police protection and fire protection at CP.

The 2024 Modified Project Variant would not result in a change in residential units at CP and HPS2 Project sites and, as a result, there would be no change in resident population, which would remain 24,866 residents.

Comparative Impact Discussions

Impact PS-2: Implementation of the Project would not result in a need for new or physically altered facilities beyond those included as part of this Project in order to maintain acceptable service ratios, response times, or other performance objectives for police protection. (Refer to Sections III.D [Transportation and Circulation], III.H [Air Quality], III.I [Noise], III.J [Cultural Resources and Paleontological Resources], III.K [Hazards and Hazardous Materials], and III.M [Hydrology and Water Quality]) ***[Criterion O.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Varies	Varies (same as 2010 FEIR)

As identified in the 2010 FEIR, the Project site lies within the San Francisco Police Department's (SFPD) Bayview District. Police services are provided from the Bayview Police Station, located at 201 Williams Avenue near Third Street, which is approximately 1.7 miles northeast of the CP Project site. Police operating from this station provide service to the southeastern part of the city, extending along the eastern edge of McLaren Park to the Bay and south from Channel Street to the San Mateo County line.

The 2010 FEIR determined that impacts on police protection services would be considered significant if an increase in population or development levels would result in inadequate staffing levels (as measured by the ability of the SFPD to respond to call loads) and/or increased demand for services that would require the construction or expansion of new or altered facilities that might have an adverse physical effect on the environment. To estimate personnel requirements for new projects, the SFPD considered the size of the incoming residential population and the expected or actual experience with calls for service from other potential uses of the site. Any potential increase in staffing needs at the nearby SFPD Bayview Station attributable to the Project would be expected to take place over time throughout the Project development period with the incremental addition of new housing and new nonresidential building space and their occupancy.

As discussed in the 2010 FEIR, while the city had no adopted staffing ratio, the existing "level of service" at the SFPD was estimated by comparing citywide police force staffing to total city

population (including both residents and workers).The 2010 FEIR identified a citywide ratio of 1 officer per 665 people and, using an estimate of 110 sf per officer, a potential need for 6,000 sf of interior building space to accommodate those additional officers. If the same ratios were applied to the 2024 Modified Project Variant, the result would be a potential need for 6,820 sf of building space.[113]

As discussed in the 2010 FEIR, while staffing increases in and of themselves would not create a significant environmental impact, the construction of new facilities to serve additional police officers could create significant environmental impacts. As with the Project analyzed in the 2010 FEIR, the 2024 Modified Project Variant would provide up to 100,000 gross square feet (gsf), currently divided equally between CP and HPS2, that would be designated for community-serving uses such as fire, police, healthcare, daycare, places of worship, senior centers, library, recreation center, community center, and/or performance center uses. These uses have been anticipated as part of the Project, and the impacts of their construction were evaluated in the 2010 FEIR. Within the total 50,000 sf of community uses evaluated at CP under the 2010 Project, the 2024 Modified Project Variant (and the 2010 Project) includes 1,370 sf within CP Center for use as a police "safety hub" as previously reported in Addendum 6. The safety hub would staff a limited number of police personnel and/or private security to respond more immediately to public safety concerns; it is not intended to serve as a police or fire station. As concluded in the 2010 FEIR, if determined to be necessary for the 2024 Modified Project Variant, police facilities could be added within the 50,000-square-foot total allowance at CP and the potential environmental impacts of such construction have been analyzed.

A discussion of Project-related construction impacts, including those associated with the construction of public facilities, is provided in the applicable sections of the 2010 FEIR, including Section III.D (Transportation and Circulation), Section III.H (Air Quality), Section III.I (Noise and Vibration), Section III.J (Cultural Resources and Paleontological Resources), Section III.K (Hazards and Hazardous Materials), and Section III.M (Hydrology and Water Quality). Construction impacts would be temporary. While it is likely that construction of the various public facilities would not result in significant impacts (either individually or combined), construction of the entire development program, of which the public facilities are a part, would result in significant and unavoidable impacts related to construction noise and demolition of a historic resource (at HPS only); all other construction-related impacts would be less than significant (in some cases, with implementation of identified mitigation). Refer to 2010 FEIR Section III.D (Transportation and Circulation), Section III.H (Air Quality), Section III.I (Noise and Vibration), Section III.J (Cultural Resources and Paleontological Resources), Section III.K (Hazards and Hazardous Materials), and

[113] In 2017, the Mayor signed Resolution No. 63-17 calling for "determining SFPD staffing levels using a workload methodology based on the demand for police services rather than utilizing other metrics such as population size," and in 2020 Proposition E was passed, requiring SFPD to report on and recommend staffing levels every two years. See Staffing Analysis of the San Francisco Police Department, September. 30, 2023, Executive Summary, available at https://www.sanfranciscopolice.org/sites/default/files/2024-01/SFPDStaffingAnalysis2023_20240118.pdf.

Section III.M (Hydrology and Water Quality) for the specific significance conclusions for construction-related effects.

Impact PS-4: Implementation of the Project would not result in a need for new or physically altered facilities beyond those included as part of this Project in order to maintain acceptable response times for fire protection and emergency medical services. (Refer to Sections III.D [Transportation and Circulation], III.H [Air Quality], III.I [Noise], III.J [Cultural Resources and Paleontological Resources], III.K [Hazards and Hazardous Materials], and III.M [Hydrology and Water Quality]) *[Criterion O.b]*

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Varies	Varies (same as 2010 FEIR)

The 2010 FEIR determined that the addition of 10,500 residential units (and a resulting residential population of 24,465) and an employment population of 10,730 (for a total population of 35,195) combined with an increase in the intensity of physical development on the Project site, would result in additional demand for fire protection and emergency medical services.

The 2010 FEIR concluded that construction of a new San Francisco Fire Department (SFFD) facility at HPS2 would allow the SFFD to maintain acceptable response times for fire protection and emergency medical services.

The 2010 FEIR concluded that, while the development of the Project may require new or physically altered SFFD facilities in order to maintain acceptable fire protection and emergency medical services, the potential impacts associated with the construction of a new facility had been addressed in the 2010 FEIR and would not require further environmental review.

In addition, the 2010 FEIR noted that all new buildings must meet standards for emergency access, sprinkler and other water systems, as well as all other requirements specified in the *San Francisco Fire Code*, which would help to minimize demand for future fire protection services. In addition, the 2010 FEIR noted that all development, including high-rise residential buildings would be reviewed by the Department of Building Inspection (DBI) and the SFFD to ensure that structures are designed in compliance with the *San Francisco Fire Code*. *San Francisco Fire Code* Sections 511.1 and 511.2 outline specific requirements for high-rise buildings (i.e., buildings above 200 feet) and would apply to the Project's proposed high-rise structures.

The 2024 Modified Project Variant would not result in a net increase in population in the combined CP and HPS2 Project sites as compared to the 2019 Modified Project Variant.

The 2024 Modified Project Variant would generate 16,316 jobs, consisting of 8,727 jobs at CP and 7,589 jobs at HPS2, which is approximately 319 fewer jobs than the 2010 Project and 1,123 fewer jobs than the 2010 R&D Variant (Variant 1).Consistent with the 2019 Modified Project Variant, the 2024 Modified Project Variant would accommodate a new fire station at CP at the corner of Ingerson

Avenue and Arelious Walker Drive. The provision of this site, along with the site previously proposed for HPS2, would allow the SFFD to maintain acceptable response times for fire protection and emergency medical services throughout the Project.

The environmental impacts of construction of this fire station have been addressed. A discussion of Project-related construction impacts, including those associated with the construction of public facilities, is provided in the applicable sections of the 2010 FEIR, including Section III.D (Transportation and Circulation), Section III.H (Air Quality), Section III.I (Noise and Vibration), Section III.J (Cultural Resources and Paleontological Resources), Section III.K (Hazards and Hazardous Materials), and Section III.M (Hydrology and Water Quality). Construction impacts would be temporary. While it is likely that construction of the various public facilities would not result in significant impacts (either individually or combined), construction of the entire development program, of which the public facilities are a part, would result in significant and unavoidable impacts related to construction noise and demolition of a historic resource (at HPS only); all other construction-related impacts would be less than significant (in some cases, with implementation of identified mitigation). Refer to 2010 FEIR Section III.D (Transportation and Circulation), Section III.H (Air Quality), Section III.I (Noise and Vibration), Section III.J (Cultural Resources and Paleontological Resources), Section III.K (Hazards and Hazardous Materials), and Section III.M (Hydrology and Water Quality) for the specific significance conclusions for construction-related effects.

Impacts on fire protection services are considered significant if an increase in population or development levels would result in inadequate staffing levels, response times, and/or increased demand for services that would require the construction or expansion of new or altered facilities that might have an adverse physical effect on the environment. As with the Project analyzed in the 2010 FEIR, construction of a new SFFD facility would allow the SFFD to maintain acceptable response times for fire protection and emergency medical services.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to public services impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to public services, on either a Project-related or cumulative basis.

II.B.15 Recreation

Criterion		Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
15.	**Recreation.** Would the project:					
P.a	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration or degradation of the facilities would occur or be accelerated?	2010 FEIR p. III.P-15 (Impact RE-2) Addendum 6 p. 276 (Impact RE-2)	No	No	No	MM RE-2
P.b	Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered park or recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives?	2010 FEIR p. III.P-15 (Impact RE-2) Addendum 6 p. 276 (Impact RE-2)	No	No	No	MM RE-2
P.c	Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	2010 FEIR p. III.P-12 (Impact RE-1) Addendum 6 p. 276 (Impact RE-1)	No	No	No	Varies[114]
P.d	Adversely affect existing recreational opportunities?[115]	2010 FEIR p. III.P-32 (Impact RE-3)	No	No	No	None

Changes to Project Related to Recreation

The following elements of the 2024 Modified Project Variant are addressed in this Recreation analysis:

- An update in Project employment, which is based on the development scenario for the 2024 Modified Project Variant.

The 2024 Modified Project Variant would not result in a change in residential units at the CP and HPS2 Project sites and, as a result, there would be no change in resident population, which is 24,866 residents. The total number of employees (or new jobs) under the 2024 Modified Project Variant is 16,316, consisting of 8,727 employees at CP and 7,589 employees at HPS2. Combined, the total number of residents (24,866) and employees (16,316) is 41,182, which is used in determining the parks-to-population ratio (refer to Impact RE-2).

[114] Refer to Sections II.B.3, II.B.7, II.B.8, II.B.9, II.B.10, and II.B.12 for the specific mitigation measures for construction-related effects.
[115] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR.

The 2024 Modified Project Variant does not include any changes to the acreage of Project parks and recreation areas at CP or HPS2 compared to the 2019 Modified Project Variant.

Comparative Impact Discussions

Impact RE-1: Construction of the parks, recreational uses, and open space proposed by the Project would not result in substantial adverse physical environmental impacts beyond those analyzed and disclosed in this EIR. (Refer to Sections III.D [Transportation and Circulation], III.H [Air Quality], III.I [Noise], III.J [Cultural Resources and Paleontological Resources], III.K [Hazards and Hazardous Materials], and III.M [Hydrology and Water Quality].) ***[Criterion P.c]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Varies	Varies (same as 2010 FEIR)

The 2010 FEIR found that impacts associated with construction of the proposed parks and recreational facilities would be considered part of the overall Project impacts. The construction impacts identified in 2010 FEIR Section III.D (Transportation and Circulation), Section III.H (Air Quality), Section III.I (Noise and Vibration), Section III.J (Cultural Resources and Paleontological Resources), Section III.K (Hazards and Hazardous Materials), Section III.M (Hydrology and Water Quality), and Section III.N (Biological Resources) and other relevant topics include impacts and mitigation measures associated with the construction of park and recreational facilities. The parks and recreation facilities would not be expected to have construction impacts separate from the overall Project. Additionally, because the Project would provide adequate parks and recreation facilities and open space to accommodate the increased demand from the Project, no additional park or recreation facility construction is required.

Impact RE-2: Implementation of the Project would not increase the use of existing parks and recreational facilities that would cause the substantial physical deterioration of the facilities to occur or to be accelerated, nor would it result in the need for new or physically altered park or recreational facilities. ***[Criterion P.a]***[116]

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR found the Project would provide a total of 336.4 acres of new and or improved parkland and recreational facilities with 104.8 acres at CP and 231.6 acres at HPS2. Based on the total number of new residents (24,465), the 2010 Project would provide 13.7 acres of parkland per 1,000 residents within the Project site, which exceeds the city general plan ratio of 5.5 acres per 1,000 residents. The total number of new residents and new jobs (35,195) under the 2010 Project would result in a parks-to-population ratio of 9.5 acres per 1,000 employees/residents. Thus, the 2010 FEIR concluded that the Project would not have a significant impact.

[116] The 2010 FEIR combined the discussion of Criterion P.a and Criterion P.b (2010 FEIR p. III.P-10, footnote 983).

The 2010 FEIR determined that the timing of Project development could result in a temporary increase in the use of parks and recreational facilities in a manner that would cause or accelerate the physical deterioration or degradation of those facilities if development of residential/employment-generating uses occur in advance of the development of park and recreational facilities. To address this potential impact, the 2010 FEIR included mitigation measure MM RE-2, which would ensure that the potential impact would be reduced to a less-than-significant level.

The 2024 Modified Project Variant would not modify the Project park and recreational facilities plan approved under the 2019 Modified Project Variant and analyzed in Addendum 6. The CP-HPS2 total parks and recreation acreage for the 2024 Modified Project Variant would be the same as the 2019 Modified Project Variant—337.7 acres, which is approximately 1.3 acres more than the CP-HPS2 total for the 2010 Project. Thus, the 2024 Modified Project Variant park and recreational acreage would be more than the park and recreation acreage considered in the 2010 FEIR impact analysis.

Under the 2024 Modified Project Variant, the total of 24,866 new residents, which remains the same as under the 2019 Modified Project Variant, would result in a parks-to-population ratio of 13.5 acres per 1,000 residents, which exceeds the city general plan identified ratio of 5.5 acres per 1,000 residents. Further, including the 16,316 new jobs provided under the 2024 Modified Project Variant, which results in a total projected resident and employee population of 41,182 (consisting of 16,316 employees and 24,866 residents), a total of 8.18 acres[117] per 1,000 employees/residents would be provided, which still exceeds the general plan ratio.

As noted above, based on the total number of new residents (24,465), the 2010 Project would provide 13.7 acres of parkland per 1,000 residents within the Project site, which exceeds the city General Plan ratio of 5.5 acres per 1,000 residents. The total number of new residents and new jobs (35,195) under the 2010 Project would result in a parks-to-population ratio of 9.5 acres per 1,000 employees/residents. As with the 2010 Project, the 2024 Modified Project Variant would not have a significant impact because the general plan ratio would be provided.

Mitigation Measure MM RE-2, which was adopted by the City, requires that parks and population are phased in a substantially concurrent manner, such that adequate parkland is constructed and operational when residential uses are occupied. With respect to the phasing of parkland relative to development, no parks are proposed to be developed as part of CP Major Phase 1; however, they would be constructed in Major Phases 2 through 6. In addition, over 120 acres of Candlestick Point State Recreation Area would be available for use by residents. The total resident population associated with the 7,218 units to be constructed in CP is 16,818 (using the population per household estimate of 2.33 as reported in the 2010 FEIR). In addition, it is estimated that CP would generate

[117] This ratio was calculated using the total resident population of 24,866 and the employment population of 16,316, for a total potential daytime population of 41,182. The potential daytime population of 41,182 was divided by 1,000 (equaling 41.182), which was then divided into the parks and recreation acreage of 337.7. Thus, 337.7/41,182 = 8.18 acres of parkland per 1,000 employees/residents.

8,727 new jobs, resulting in a total projected resident and employee population of 25,545. Using the city general plan ratio of 5.5 parkland acres per 1,000 residents, the total of acres of parkland needed to serve the residential population associated with CP would be approximately 92.5 acres. The total acres of parkland needed to serve both residential and employment uses would be approximately 140.5 acres. CP would provide 122.49 acres of parkland. CP would provide adequate parkland to serve the residential population but would require approximately 18 acres of additional parkland to serve the residential and employment uses. However, this deficit is due to the transfer of R&D/office uses from HPS2 for the 2024 Modified Project Variant. HPS2 would provide 215.21 acres of parkland. The total acres of parkland needed to serve the residential population and residential and employment uses at HPS2 would be 44.3 and 86 acres, respectively.[118] Overall, and as described above, CP-HPS2 would exceed the general plan ratio and adequate parkland would be provided for the Project. The Schedule of Performance, which is provided as Exhibit D-B-A of CP Major Phase Application 1, provides the "outside date" when each park must be made available for use and specifically links park development with residential development.

This impact would remain less than significant with implementation of the identified mitigation measure.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to recreation impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions from those reached in the 2010 FEIR related to recreation, on either a Project-related or cumulative basis.

[118] 3,454 units in HPS2 x 2.33 = 8,048 residents. 8,048 x 5.5 acres/1,000 = 44.2 acres. (8,048 residents + 7,589 employees) x 5.5/1,000 = 86 acres.

II.B.16 Utilities

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
18. Utilities. Would the project:					
Q.a Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	2010 FEIR p. III.Q-17 (Impact UT-2) Addendum 6 p. 289 (Impact UT-2)	No	No	No	MM UT-2
Q.b Require new or expanded water entitlements and resources, if there are not sufficient water supplies available to serve the project from existing entitlements and resources?[119]	2010 FEIR p. III.Q-15 (Impact UT-1) Addendum 6 p. 286 (Impact UT-1)	No	No	No	None
Q.c Require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	2010 FEIR p. III.Q-29 (Impact UT-3a) Addendum 6 p. 290 (Impact UT-3a)	No	No	No	None
Q.d Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?[120]	2010 FEIR p. III.Q-29 (Impact UT-3a) Addendum 6 p. 290 (Impact UT-3a)	No	No	No	MM UT-3a
Q.e Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?[121]	2010 FEIR p. III.Q-34 (Impact UT-4) Addendum 6 p. 291 (Impact UT-4)	No	No	No	None

[119] This standard has been slightly modified from the text found in CEQA Guidelines Appendix G for ease of comprehension.
[120] This threshold and/or an impact statement related to this threshold is not addressed in Addendum 7 to the 2010 CP-HPS2 FEIR. The 2024 Modified Project Variant would have no effect on the impact because the modifications do not alter the activity that causes the impact.
[121] This standard has been slightly modified from the text found in CEQA Guidelines Appendix G for ease of comprehension.

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
Q.f Be served by a landfill with insufficient permitted capacity to accommodate Project-related solid waste disposal needs?	2010 FEIR p. III.Q-42 (Impact UT-5a) p. III.Q-46 (Impact UT-6a) p. III.Q-50 (Impact UT-7a) p. III.Q-53 (Impact UT-8a) Addendum 6 p. 292 (Impact UT-5a) p. 293 (Impact UT-6a) p. 294 (Impact UT-7a) p. 294 (Impact UT-8a)	No	No	No	MM UT-5a, MM UT-7a
Q.g Fail to comply with federal, state, and local statutes and regulations related to solid waste?	2010 FEIR p. III.Q-55 (Impact UT-9) Addendum 6 p. 295 (Impact UT-9)	No	No	No	MM UT-5a, MM UT-7a
Q.h Require or result in the construction of new or expansion of existing utility infrastructure, the construction of which could cause significant environmental effects?	2010 FEIR p. III.D-31 (Section III.D) p. III.H-18 (Section III.H) p. III.I-20 (Section III.I) p. III.J-31 (Section III.J) p. III.K-46 (Section III.K) p. III.L-22 (Section III.L) p. III.M-49 (Section III.M) p. III.O-7 (Section III.O) p. III.S-33 (Section III.S) Addendum 6 p. 59 (Section II.B.3) p. 153 (Section II.B.7) p. 168 (Section II.B.8) p. 191 (Section II.B.9) p. 199 (Section II.B.10) p. 221 (Section II.B.11) p. 235 (Section II.B.12) p. 269 (Section II.B.14) p. 313 (Section II.B.18)	No	No	No	Varies[122]
Q.i Result in a determination by the utility service provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	2010 FEIR p. III.Q-59 (Impact UT-10) Addendum 6 p. 296 (Impact UT-10)	No	No	No	None
Q.j Require the disposal of hazardous wastes such as lead-based paint, asbestos, and contaminated soils that would exceed the capacity of transport, storage, and disposal facilities permitted to treat such waste?	2010 FEIR p. III.Q-46 (Impact UT-6a) p. III.Q-48 (Impact UT-6) Addendum 6 p. 293 (Impact UT-6a)	No	No	No	None

[122] Refer to Sections II.B.3, II.B.7, II.B.8, II.B.9, II.B.10, II.B.11, II.B.12, II.B.14, and II.B.18 for the specific mitigation measures for construction-related effects.

	Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
Q.k	Generate hazardous waste that would exceed the permitted capacity of transport, storage, and disposal facilities authorized to treat such waste?	2010 FEIR p. III.Q-53 (Impact UT-8a) p. III.Q-53 (Impact UT-8) Addendum 6 p. 295 (Impact UT-8a)	No	No	No	None

Changes to Project Related to Utilities

The following elements of the 2024 Modified Project Variant are addressed in this Utilities analysis:

- Transfer of 2,050,000 million square feet of R&D/office uses from HPS2 to Candlestick Center (previously referred to as CP-02 in prior plans and addenda) and increase the maximum building height at Candlestick Center to 180 feet. All of these changes are identified in Table 3 (Land Use Comparison), provided in the Addendum 7 Project Description, p. 13.

The following sections (before the Comparative Impact Discussions) present updated information related to the 2024 Modified Project Variant for water, wastewater, recycled water, and solid waste that are used in the Comparative Impact Discussions provided below. The Comparative Impact Discussions include a summary of the findings in the 2010 FEIR for each impact statement.

Water

The 2024 Modified Project Variant results in a different water demand as compared to the 2010 Project and 2010 R&D Variant (Variant 1) as a result of the modified land use program, primarily an increase in R&D/office land uses, and the recalculation of water demand for the various land uses, as further described below. Table 3 (Land Use Comparison), p. 13, compares the land uses proposed under the 2010 Project, the 2019 Modified Project Variant, and the 2024 Modified Project Variant.

The water demand assumptions prepared by ARUP in 2009, which were the basis for the Final Water Supply Assessment (WSA) for the Proposed Candlestick Point–Hunters Point Shipyard Phase II Project (2009 WSA), adopted on October 27, 2009, were initially used to determine the 2019 Modified Project Variant water demand. The ARUP estimates of water demand for the 2010 Project were derived from an estimate of a historical benchmark demand, adjusted to account for current California Building Codes and an additional adjustment to account for the requirements of the San Francisco Green Building Ordinance, including the installation of ultra-low flow fixtures, the use of high-efficiency building equipment, and efficient landscape irrigation techniques. An independent analysis performed as a part of the WSA, which analyzed similar land uses and assigned a demand factor for each use, concluded that the demand estimates provided by ARUP were consistent with SFPUC demand factors.

R&D/office water demand was recalculated for the 2019 Modified Project Variant analyzed in Addendum 6, because some of the 2010 Project's unit water demands (daily water use per floor

area) originally calculated by ARUP were highly conservative, particularly for office uses, which was approximately eight times the national average for office water demand. The 2010 Project's unit water demand significantly overestimated expected office water demand; however, the overestimation did not affect the conclusions of the analysis because the 2010 FEIR concluded that there was sufficient water supply, even considering the overestimation of office water demand.

BKF Engineers calculated water demands by updating the 2019 Modified Project Variant land use program to reflect the 2024 Modified Project Variant. There are no increases in the overall land use program for the Project under the 2024 Modified Project Variant. Therefore, the Project water demand remains effectively unchanged and was proportionally adjusted by transferring demands associated with the R&D square footage from HPS2 to Candlestick Point. The total water demand estimate for the 2024 Modified Project Variant assumes all indoor and outdoor end-uses will be supplied with potable water prior to operation of the recycled water plant and recycled water distribution system. When the recycled water distribution system is operational, it will supply reclaimed water to the Project site.

Table 30 (2024 Modified Project Variant—Water Demand) shows a total water demand of 1.97 million gallons per day (mgd) for the 2024 Modified Project Variant, which is a minuscule increase from the 1.96 mgd estimated for the 2019 Modified Project Variant, higher than the 1.67 mgd estimated for the 2010 Project, but less than the 1.99 mgd estimated for the 2010 R&D 2010 Variant (Variant 1) (refer to 2010 FEIR Table III.Q-4 [Project Water Demands Adjusted for Plumbing Codes and SF Green Building Ordinance (mgd)] and Table IV-11 [R&D Variant Water Demands Adjusted for Plumbing Codes and SF Green Building Ordinance (mgd)], respectively).

The 2010 FEIR determined that total retail water supply in San Francisco compared to total water demand in 2030 showed that during multiple-dry-year periods, supply would be slightly less than estimated total demand, which could require voluntary rationing or other water conservation strategies to accommodate estimated future water demand including the Project-related demand. The 2010 FEIR concluded that the Project would not require water supplies in excess of existing entitlements or result in the need for new or expanded entitlements.

TABLE 30 2024 MODIFIED PROJECT VARIANT—WATER DEMAND

	Demand[a,b] (mgd)					
Land Use	*Candlestick Point*	*HPS2*	*2024 Modified Project Variant Total*	*2010 Project Total (mgd)*	*2010 R&D Variant (Variant 1) Total (mgd)*	*2019 Modified Project Variant Total (mgd)*
Residential	0.74	0.35	***1.09***	0.83	0.83	1.09
Regional Retail	0.02	0.01	***0.03***	0.08	0.08	0.03
Neighborhood Retail	0.01	0.02	***0.03***	0.04	0.03	0.03
Office	0.04	0.00	***0.04***	0.06	0.06	0.04
Research and Development	0.12	0.11	***0.23***	0.36	0.71	0.22
Hotel	0.03	0.02	***0.05***	0.02	0.05	0.05
Football Stadium	0.00	0.00	***0.00***	0.02	0.00	0.00
Performance Venue/Arena[c]	0.00	0.00	***0.00***	0.01	0.01	0.00
Institution	0.00	0.04	***0.04***	Not Applicable[d]	Not Applicable[d]	0.04
Water Taxi	0.00	0.00	***0.00***	Not Applicable[d]	Not Applicable[d]	0.00
Marina	0.00	0.02	***0.02***	0.00	0.00	0.02
Community Use (including Artists' Studios)	0.00	0.03	***0.03***	0.02	0.02	0.03
Public Parking	0.00	0.00	***0.00***	0.00	0.00	0.00
Parks and Open Space	0.06	0.35	***0.41***	0.21	0.19	0.41
Total Demand[b]	***1.02***	***0.95***	***1.97***	***1.67***	***1.99***	***1.96***

SOURCES: 2010 FEIR; BKF, 2024.

a. Water demand was calculated using the land use program identified in Addendum 7 Table 3 (2024 Modified Project Variant Development Scenario), p. 10.

b. Numbers are rounded according to standard rounding practices and may not add up due to hidden decimals used in this table. These entries are correct and consistent with the CPHPS2 Total Water Demands for 2024 Variant Technical Memorandum.

c. Water demand for this category assumes the performance venue/arena under the 2010 Project and the performance venue and film arts center under the 2024 Modified Project Variant. As this table indicates, the water generated by the performance venue and film arts center under the 2024 Modified Project Variant is negligible (that is, the water demand does not even round up to 0.01).

d. This value was not provided in the 2010 FEIR because the associated land uses were not a part of the 2010 R&D Variant (Variant 1).

In December 2018, the State Water Resources Control Board adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary, which establishes water quality objectives to maintain the health of rivers and the Bay-Delta ecosystem (the Bay-Delta Plan Amendment). The state water board had stated that it intended to implement the Bay-Delta Plan Amendment by the year 2022, assuming all required approvals are obtained by that time. However, implementation of the Bay-Delta Plan Amendment was not implemented by year 2022 and timing for implementation is uncertain for the reasons identified by SFPUC in a

memorandum to the planning department.[123,124] Due to the uncertainty of the implementation of the Bay-Delta Plan Amendment, the following analysis is based on water service reliability without implementation of the Bay-Delta Plan Amendment.

Sufficient water supplies are available to serve projected future demand (including the approved 2010 Project and by extension the proposed 2024 Modified Project Variant) in normal, dry, and multiple-dry years through 2045. The SFPUC's most recent Urban Water Management Plan (2020) retail demand projects are based on housing projections and employment forecasts. The retail service area projections already account for build-out planned for or already under construction (including the Candlestick Point-Hunters Point Shipyard project).[125]

Given that the 2024 Modified Project Variant would not increase potable water demand over the amount assumed for the approved 2010 Project (2010 R&D Variant 1) already analyzed in the 2009 WSA and planned for in the SFPUC's UWMP, it would not change the conclusion of the 2010 FEIR.

Wastewater

The 2024 Modified Project Variant results in a different water demand as compared to both the 2010 Project and the 2010 R&D Variant (Variant 1) as a result of the modified land use program; therefore, the total wastewater generation as a result of the Project has also changed. Table 31 (2024 Modified Project Variant—Wastewater Generation) shows total wastewater generation of 1.29 mgd, which is the same as the 2019 Modified Project Variant, higher than the 1.18 mgd estimated for the 2010 Project, but less than the 1.35 mgd estimated for the approved 2010 R&D Variant (Variant 1) (refer to 2010 FEIR Table III.Q-5 [Project Wastewater Generation] and Table IV-12 [R&D Variant Wastewater Generation], respectively). Wastewater generation is calculated based on a percentage of water demand, as shown below in Table 31.

[123] Memorandum from Steven R. Ritchie, SFPUC to Lisa Gibson, Environmental Review Officer, San Francisco Planning Department, Environmental Planning Division, May 31, 2019.
[124] For additional information, refer to Section 7.3, *Factors Affecting Future RWS Supplies*, in the 2020 Urban Water Management Plan.
[125] SFPUC, *2020 Urban Water Management Plan for the City and County of San Francisco,* June 2021.

TABLE 31 2024 MODIFIED PROJECT VARIANT—WASTEWATER GENERATION

Land Use	*Estimated Wastewater Generation Expressed as % of Water Demand (or as otherwise specified)*	*Candlestick Point (mgd)*	*HPS2 (mgd)*	*2024 Modified Project Variant Total (mgd)*	*2010 Project Total (mgd)*	*2010 R&D Variant (Variant 1) Total (mgd)*	*2019 Modified Project Variant Total (mgd)*
Residential	95%	0.70	0.34	***1.04***	0.79	0.79	1.04
Regional Retail	57%	0.01	0.01	***0.02***	0.05	0.05	0.02
Neighborhood Retail	57%	0.01	0.01	***0.02***	0.02	0.02	0.02
Office	57%	0.02	0.00	***0.02***	0.03	0.03	0.02
Community Uses (includes Artists' Studio)	57%	0.00	0.01	***0.01***	0.02	0.02	0.01
Research and Development	57%	0.07	0.06	***0.13***	0.21	0.40	0.13
Hotel	57%	0.02	0.01	***0.03***	0.03	0.03	0.03
Football Stadium	95%	0.00	0.00	***0.00***	0.02	0.00	0.00
Performance Venue/Arena[a]	95%	0.00	0.00	***0.00***	0.01	0.01	0.00
Schools	57%	0.00	0.02	***0.02***	Not Applicable[b]	Not Applicable[b]	0.02
Total Generation[c]		***0.83***	***0.46***	***1.29***	***1.18***	***1.35***	***1.29***

SOURCES: 2010 FEIR; BKF, 2024.

a. Wastewater generation for this category assumes the performance venue/arena under the 2010 Project and the performance venue and film arts center under the 2019 Modified Project Variant. As this table indicates, the wastewater generated by the performance venue and film arts center under the 2024 Modified Project Variant is negligible (that is, the wastewater generation does not even round up to 0.01).

b. This value was not provided in the 2010 FEIR because the associated land uses were not a part of the 2010 Project or 2010 R&D Variant (Variant 1).

c. Numbers are rounded according to standard rounding practices and may not add up due to hidden decimals used in this table.

Recycled Water

The 2010 Utilities Variant (Variant 4) included eleven decentralized wastewater treatment plants, each capable of treating 100,000 gallons per day (gpd), which would accommodate the estimated Project-generated wastewater flow of approximately 1.1 mgd. Under the 2010 Utilities Variant (Variant 4), seven plants would be located within CP and four within HPS2. The 11 decentralized plants would treat 1.2 mgd of wastewater and generate 1.05 mgd of reclaimed (or recycled) water.

The 2024 Modified Project Variant assumes a single centralized wastewater treatment plant (or recycled water facility) at HPS2 that would serve both CP and HPS2. This plant would treat approximately 1.1 mgd of wastewater and generate 0.976 mgd (or 976,000 gpd) of reclaimed water. The location of this recycled water facility is shown in Figure 18 (Location of Recycled Water Facility) of Addendum 5. Consistent with the 2010 Utilities Variant (Variant 4), wastewater would be diverted to a sanitary sewer system for treatment using membrane bioreactor technology to

obtain a water quality appropriate for irrigation, toilet flushing, and other nonpotable uses. All recycled water generated by the HPS2 recycled water plant would be used within the Project site.

As discussed in the Project Description, once the recycled water plant is operational, recycled water from the recycled water facility would be delivered from HPS2 to CP via a distribution main traveling from the facility, within Crisp Road to Arelious Walker Drive, across the Yosemite Slough Bridge, and ultimately connecting to the CP recycled water system at Carroll Avenue and Arelious Walker Drive.

Solid Waste

The 2024 Modified Project Variant results in a different amount of solid waste that would be generated as compared to the 2010 Project and 2010 R&D Variant (Variant 1) as a result of the modified land use program. Accordingly, total solid waste generation as a result of the Project would also change. Table 32 (Solid Waste Generation) shows total solid waste generation of 21,316 tons per year (tpy), which is lower than the 21,827 tpy estimated for the 2010 Project and the 22,225 tpy estimated for the approved 2010 R&D Variant (Variant 1) (refer to 2010 FEIR Table III.Q-8 [Project Solid Waste Generation] and Table IV-14 [R&D Variant Solid Waste Generation], respectively).

Compared to the 2010 R&D Variant (Variant 1), the 2024 Modified Project Variant represents an overall decrease in solid waste generation of 909 tpy.

■ Comparative Impact Discussions

Impact UT-1: Implementation of the Project would not require water supplies in excess of existing entitlements or result in the need for new or expanded entitlements. ***[Criterion Q.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Amendment 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR concluded that the Project would not require water supplies in excess of existing entitlements or result in the need for new or expanded entitlements, based on a total water demand estimate of 1.99 mgd for the 2010 R&D Variant (Variant 1), and determined the impact to be less than significant.

Table 30, p. 267, shows a total water demand of 1.97 mgd for the 2024 Modified Project Variant, which is higher than the 1.67 mgd estimated for the 2010 Project, but less than the 1.99 mgd estimated for the 2010 R&D Variant (Variant 1).

TABLE 32 SOLID WASTE GENERATION

		2024 Modified Project Variant									2010 Project Total		2010 R&D Variant (Variant 1) Total (mgd)	
		Candlestick Point			HPS2			Total						
Use	Generation Factor (per day or year)	Area or Units	Tons per Day or Event	Tons per Year[a]	Area or Units	Tons per Day or Event	Tons per Year[a]	Area or Units	Tons per Day or Event	Tons per Year or per Total Number of Events[b]	Tons per Day or Event	Tons per Year or per Total Number of Events	Tons per Day or Event	Tons per Year or per Total Number of Events
Residential	5.653 lb/unit	7,218 units	20.4	7,446	3,454 units	9.8	3,577	***10,672 units***	***30.2***	***11,023***	29.7	10,840.5	29.7	10,840.5
Neighborhood Retail/ Maker Space/Regional Retail	0.02600411 lb/sf	304,500 sf	4.0	1,460	401,000 sf	5.2	1,898	***705,500 sf***	***9.2***	***3,358***	11.5	4,197.5	11.5	4,197.5
R&D/Office	0.006 lb/sf	2,800,000 sf	8.4	3,066	2,096,500	6.3	2,300	***4,896,500 sf***	***14.7***	***5,366***	8.0	2,920	15.5	5,657.5
Hotel	0.0108 lb/sf	130,000 sf	0.70	255.5	120,000	0.65	237.3	***250,000 sf***	***1.35***	***492.8***	0.8	292.0	0.8	292.0
Performance Venue/Arena[c]	—	—	—	—	—	—	—	—	—	—	*5.6*	*836.3[d]*	*5.6*	*836.3[d]*
• Performance Venue (2019)	2.23 lb/seat	4,400 seats	2.5	375[d]	0	0	0	4,400 seats	2.5	375[d]	Not Available[e]	Not Available[e]	Not Available[e]	Not Available[e]
• Film Arts Center (2019)	0.02600411 lb/sf	64,000 sf	0.83	303	0	0	0	64,000 sf	0.83	303	Not Available[e]	Not Available[e]	Not Available[e]	Not Available[e]
Total Performance Venue/Film Arts Center (2010 and 2024)[c]	—	—	***3.33***	***678***	***0***	***0***	***0***	***4,400 seats, 64,000 sf***	***3.33***	***678***	***5.6***	***836.3[d]***	***5.6***	***836.3[d]***
Stadium	2.23 lb/seat	0	0	0	0	0	0	***0***	***0***	***0***	2,339.2	2,339.2[f]	0	0
Artist Studios	0.006 lb/sf	0	0	0	255,000 sf	0.77	281.1	***255,000 sf***	***0.77***	***281.1***	0.8	292.0	0.8	292.0
Community Uses	0.006 lb/sf	50,000 sf	0.15	54.8	50,000 sf	0.15	54.8	***100,000 sf***	***0.3***	***109.6***	0.3	109.6	0.3	109.6
Schools[g]	6.2 gallons/ acre/year	0	0	0	410,000 sf (9.4 acres)	0.0007	0.24[h]	***410,000***	***0.0007***	***0.24***	Not Applicable[i]	Not Applicable[i]	Not Applicable[i]	Not Applicable[i]
Parks and Open Space[g]	5.0 gallons/ acre/year	105.7 acres	0.006	2.2[j]	232.0 acres	0.013	4.8[k]	***337.7 acres***	***0.020***	***7.0***	Not Available[e]	Not Available[e]	Not Available[e]	Not Available[e]
Total				***12,963***			***8,353[l]***			***21,316***		***21,827***		***22,225***

SOURCES: 2010 FEIR; FivePoint, 2024; Generation Factors from Arup, *Carbon Footprint Report*, March 24, 2009; City of Dublin, Long Term Trash Reduction Plan Table 1-1, February 1, 2014.

a. Tons per year is calculated by taking the tons per day or event value, which may have been rounded, and multiplying by 365.

b. Calculated by adding the horizontal columns, rather than calculating total number of units by the generation rate.

c. Totals from the performance venue/arena from 2010 are listed twice in the table for information and formatting purposes. However, the listed totals for the performance venue/arena are only counted once toward the final total and the bottom of the table.

d. Assumes 150 events per year at 50 percent attendance.

e. The value for this land use category was not separately provided in the 2010 FEIR.

f. Assumes 12 sold-out games and 20 other sold-out stadium events per year.

g. City of Dublin, *Long Term Trash Reduction Plan*, February 1, 2014, Table 1-1 (San Francisco Bay Area trash generation rates by land use [gallons/acre/year]).

h. 9.41 acres x 6.2 gallons = 58.34 gallons per year x 8.35 lb. of water weight = 487.2 pounds per year, or 0.24 ton.

TABLE 32 SOLID WASTE GENERATION

i. This value is not provided in the 2010 FEIR because the associated land uses were not a part of the 2010 Project or 2010 R&D Variant (Variant 1).
j. 105.7 acres x 5.0 gallons = 528.5 gallons per year x 8.35 lb. of water weight = 4,413 pounds per year, or 2.2 tons.
k. 232.0 acres x 5.0 gallons = 1,160 gallons per year x 8.35 lb. of water weight = 9,686 pounds per year, or 4.8 tons.
l. The recycled water facility at HPS2 is not assumed to generate measurable solid waste as only one employee would be at the site on a given day.

The 2024 Modified Project Variant would be subject to 2022 Title 24 building standards and the San Francisco Green Building Ordinance, as amended in January 2023, which together represent more stringent requirements for water efficiency than what was required by the building standards in effect at the time the 2010 FEIR was certified. This would further reduce the Project's use of water.

The Project site is within a designated recycled water use area and, therefore, must comply with Recycled Water Ordinance No. 109-15, *San Francisco Health Code* Article 12C. With its inclusion of an expanded on-site recycled water treatment and distribution system, the 2024 Modified Project Variant would be in compliance with the ordinance.

As shown in Table 30, total estimated water demand for the 2024 Modified Project Variant is 1.97 mgd. Since this is less than the 1.99 mgd estimated for the 2010 R&D Variant (Variant 1), the conclusion is the same as that reached in the 2010 FEIR, and the impact would remain less than significant. No mitigation is required.

Because the 2024 Modified Project Variant is not increasing potable water demand beyond the already approved 2010 Project, it would not substantially affect the levels of dry-year rationing that would otherwise be required throughout the city in the event the Bay-Delta Plan is implemented. Therefore, the 2024 Modified Project Variant would not make a considerable contribution to a cumulative environmental impact caused by implementation of the Bay-Delta Plan Amendment.

Impact UT-2: Implementation of the Project would not require or result in the construction of new or expanded water treatment facilities. The Project would require the expansion of an auxiliary water conveyance system to provide adequate water supply for firefighting to the Project site. ***[Criterion Q.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Amendment 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR concluded that the current and planned facility projects under the Phased Water Supply Improvement Program (WSIP) would provide for sufficient treatment capacity for the water to be supplied under the Phased WSIP, including the 2010 Project; therefore, implementation of the Project would not require or result in the construction of new or expanded water treatment facilities, and the impact would be less than significant. No mitigation is required.

In terms of providing adequate water supply for on-site firefighting purposes, the 2010 FEIR concluded that the Project would require mitigation measure MM UT-2 (construction of an Auxiliary Water Supply system [AWSS]). An AWSS would be provided at CP and would connect to the City's planned extension of the off-site system on Gilman Street from Ingalls Street to CP. An additional AWSS would be provided at HPS2 to connect to the existing system at Palou and Griffith Avenues, with service along Spear Avenue/Crisp Road. The AWSS at CP and HPS2 would ensure

the provision of adequate water for on-site firefighting purposes. The impact would remain less than significant with implementation of MM UT-2.

As with the 2010 Project, the 2024 Modified Project Variant would not require or result in the construction of new or expanded water treatment facilities, and adequate water would be provided for on-site firefighting purposes. The impact would remain less than significant with implementation of the identified mitigation measure.

Because the 2024 Modified Project Variant would not increase potable water demand beyond the already approved 2010 Project, it would not cause a need for new or expanded water treatment facilities and would not result in a considerable contribution to a cumulative environmental impact related to the potential construction of new or expanded water treatment facilities caused by implementation of the Bay-Delta Plan Amendment.

Impact UT-3a: Implementation of the Project at Candlestick Point would not require expansion of existing off-site wastewater conveyance facilities. ***[Criterion Q.d]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Amendment 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As stated in the 2010 FEIR, wastewater flows from CP under the 2024 Modified Project Variant would enter the Candlestick tunnel sewer, combining with flows from the Sunnydale Transport System, and would enter the Yosemite Transport Facilities. The flows would then proceed through the Griffith Pump Station and then through the Hunters Point sewer tunnel, eventually combining with flows from the Islais Creek Transport System and entering the Southeast Water Pollution Control Plant.

Under the 2024 Modified Project Variant, projected maximum peak flows from CP into the Sunnydale Transport System, based on 0.76 mgd and peaking factor of 3.0 would be approximately 1,583 gpm (0.76 mgd/24 hours/60 minutes x 1,000,000 times 3.0).

For the 2010 Project, Hydroconsult Engineers (HCE) determined that the existing wastewater flow for the Project site was 0.206 mgd. The 2010 FEIR reported that the total sewage generation for the Project resulted in a total net increase in wastewater of 0.974 mgd for the 2010 Project and 1.144 mgd for the 2010 R&D Variant, resulting in a total sewage generation of 1.18 mgd for the 2010 Project and 1.35 mgd for the 2010 R&D Variant. For the 2024 Modified Project Variant, the total net increase in wastewater would be 1.084 mgd for a total 1.29 mgd, as reflected in Table 31.

Dry-Weather Conditions

For dry-weather conditions, the 2010 FEIR concluded that the existing conveyance infrastructure could accommodate the additional flows from the CP development in addition to existing flows even during periods of peak flow conditions, and that no expansion of the off-site wastewater conveyance lines would be required as a result of CP. The impact would be less than significant,

based on a total wastewater generation estimate of 1.29 mgd under dry-weather conditions for the 2024 Modified Project Variant as compared to a wastewater generation of 1.35 mgd under dry-weather conditions for the 2010 R&D Variant (Variant 1).

As compared to the 2010 R&D Variant (Variant 1), this is a decrease in dry-weather flows of 0.06 mgd. The proposed diversion of wet-weather flows away from the combined system during storm events would decrease dry-weather flows relative to the 2010 R&D Variant (Variant 1). Therefore, as with the 2010 Project, this impact would remain less than significant.

Wet-Weather Conditions and Combined Sewer Overflow Conditions

As concluded in the 2010 FEIR, Project development at CP would no longer contribute stormwater to the Combined Sewer System; instead, Project wastewater discharges during wet weather would combine with off-site wet-weather flows and contribute to overall wet-weather discharge volume in the system.

The 2009 HCE study found that for both the 2010 Project and the 2010 R&D Variant (Variant 1), the separate wastewater and stormwater systems would result in a decrease in CSO volume, frequency, and duration in the Yosemite Basin (less than one event per year lasting approximately 1.2 hours, resulting in 3.1 million gallons per year CSO, compared to the baseline condition of one 2-hour event per year resulting in 5.3 million gallons per year CSO) and a decrease in overall CSO volume for the entire Bayside Drainage Area from 890 million gallons per year to 877 million gallons per year because stormwater from the Project site would no longer flow into the Combined Sewer System. The total wastewater generated under the 2010 R&D Variant (Variant 1) was 1.35 mgd, and under the 2024 Modified Project Variant, the total wastewater would be 1.29 mgd, a decrease of 0.06 mgd.[126] Though it remains possible that a temporary increase in CSO volume could occur during wet weather if structures are occupied and contribute wastewater to the Combined Sewer System prior to completion of the separate stormwater and wastewater infrastructure, mitigation measure MM UT-3a would ensure that there would be no increase in CSO flows as a result of the Project by providing temporary detention or retention of wastewater on-site during wet weather prior to completion of the separate stormwater and wastewater systems for the Project. Therefore, as with the 2010 Project, this impact would remain less than significant.

[126] The 2024 Modified Project Variant represents a decrease of 0.06 million gallons over a 2-hour period compared to the 2010 R&D Variant (Variant 1), and would not affect the conclusion when comparing the Project to the 5.3 million gallons per year CSO for existing conditions.

Impact UT-4: Implementation of the Project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. ***[Criterion Q.e]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

Based on a total wastewater generation estimate of 1.35 mgd for the 2010 R&D Variant (Variant 1), the 2010 FEIR concluded that the Project would not exceed wastewater treatment requirements of the Regional Water Quality Control Board, and the impact would be less than significant.

Because total wastewater generation for the 2024 Modified Project Variant is 1.29 mgd and is, therefore, less than the wastewater generation estimate for the 2010 R&D Variant (Variant 1), the impact would remain less than significant, and no mitigation is required.

Impact UT-5a: Construction at Candlestick Point, including demolition of existing facilities, would not generate construction-related solid waste that would exceed the capacity of landfills serving the city and county of San Francisco. ***[Criterion Q.f]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR concluded that although construction at CP would generate approximately 424,681 tons of mixed construction debris over the construction period, or 44 percent of the total Project C&D debris, the Project would result in a less-than-significant impact to existing capacity of the Altamont Landfill with implementation of mitigation measure MM UT-5a, which requires the preparation of a Waste Diversion Plan.

The estimates for construction and demolition debris from the 2024 Modified Project Variant remain unchanged from the estimates for the Project as analyzed in the 2010 FEIR. However, construction-related solid waste now goes to Recology's Hay Road Landfill, rather than the Altamont Landfill that was serving the city in 2010. The City's agreement with the Hay Road Landfill to accept up to 2,400 tpd of solid waste should extend for approximately 9 years from 2016 (through 2025), based on projected disposal volumes, with an option to renew the Agreement thereafter for an additional 6 years. The 2010 FEIR estimated that 106,170 tons of construction debris (over the entire construction period) from CP could not be recycled (based on a 75 percent diversion rate).

With respect to the Hay Road Landfill, which would now be used for construction-related solid waste generated by the 2024 Modified Project Variant, 106,170 tons of construction debris from CP represents 0.35 percent of the remaining capacity of 30.4 million cubic yards, which represents a nominal contribution to the remaining capacity of the landfill. Further, the projected closure date of the Hay Road Landfill extends to 2077, which provides a long-term solution to accommodate the construction schedule represented by the 2024 Modified Project Variant. Construction activities at CP are anticipated to extend through 2046. Accordingly, the fact that there is an identified landfill with adequate remaining capacity that is operational through 2077, combined with implementation

of MM UT-5a, which requires preparation of a Construction Waste Diversion Plan to ensure diversion of at least 75 percent of or more of the total construction and demolition debris produced as the result of the Project (such as wood, metal, concrete, asphalt, and sheetrock), would ensure that construction-related solid waste at CP would not exceed the capacity of landfills serving the City and County of San Francisco. As such, as with the 2010 Project, this impact would remain less than significant with implementation of the identified mitigation measure.

Impact UT-6a: Construction at Candlestick Point would not require the disposal of hazardous wastes such as lead-based paint, asbestos, and contaminated soils that would exceed the capacity of transport, storage, and disposal facilities permitted to treat such waste. ***[Criterion Q.f]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR concluded that treatment, storage, and disposal (TSD) facilities in California and adjoining states have sufficient capacity to treat hazardous wastes; therefore, construction of CP would not generate hazardous wastes (construction debris or contaminated soil) that would exceed the capacity of TSDs authorized to treat such waste. The 2010 FEIR concluded that this would be a less-than-significant impact.

Since the 2010 FEIR was certified, all of the major buildings at the site have been demolished and removed from the property. Remaining buildings are temporary structures or small buildings that are owned by tenants. Impacts from the demolition of all of the structures on the site were analyzed in the 2010 FEIR, and impacts were determined to be less than significant. For the 2024 Modified Project Variant, there is no change with respect to the generation of hazardous wastes or the potential of encountering unanticipated contaminated soil during excavation activities.

Excavated soil that is not considered hazardous may be used on-site to raise the ground surface elevation to account for future sea-level rise impacts, as a substantial amount of fill soil is required to raise grade. However, as with the Project analyzed in the 2010 FEIR, contaminated soils, if discovered, generated by the 2024 Modified Project Variant may require transportation off-site and treatment at authorized registered TSDs. There are two authorized TSDs in California: Chemical Waste Management at Kettleman and Clean Harbors Buttonwillow. Both Facilities are active and currently have permitted and available capacity to accommodate additional hazardous waste. Kettleman has a remaining capacity of 3,798,100 tons and Buttonwillow has 5,943,000 tons based on information obtained from May to June 2019.[127] Because the TSDs in California and adjoining states still have sufficient capacity to treat hazardous wastes, construction of the 2024 Modified Project Variant would not generate hazardous wastes (construction debris or contaminated soil) that would

[127] U.S. Environmental Protection Agency, *National Capacity Assessment Report: Capacity Planning Pursuant to CERCLA Section 104(c)(9)*, December 17, 2019.

exceed the capacity of TSDs authorized to treat such waste. This impact would remain less than significant, and no mitigation is required.

Impact UT-7a: Implementation of the Project at Candlestick Point would not generate solid waste that would exceed the capacity of landfills serving the city and county of San Francisco. ***[Criterion Q.f]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 6*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR concluded that the impact of operational solid waste generated by the HPS2 on the capacity of the Altamont Landfill would be less than significant, with implementation of MM UT-7a.

As shown in Table 32, p. 271, the solid waste generated by the 2024 Modified Project Variant is estimated at 21,316 tpy (equivalent to an average of 58.4 tpd), which is slightly lower than the 21,827 tpy estimated for the 2010 Project, and the 22,225 tpy estimated for the approved the 2010 R&D Variant (Variant 1). Compared to the 2010 R&D Variant (Variant 1), the 2024 Modified Project Variant represents an overall decrease in solid waste generation of 909 tpy, or an average of 2.49 tpd.

San Francisco's municipal solid waste is currently deposited at Recology's Hay Road Landfill. As described above, the City's agreement with the Hay Road Landfill to accept up to 2,400 tpd of solid waste should extend for approximately 9 years from 2016, based on projected disposal volumes, with an option to renew the agreement thereafter for an additional 6 years (approximately 2031). The projected closure date of the Hay Road Landfill is 2077. By contrast, the 2010 FEIR estimated that the Altamont Landfill was due to reach capacity in January 2032 based on current disposal rates, and could possibly close 3 years earlier, in 2029.

The total solid waste generated by the 2024 Modified Project Variant (21,316 tons per year as shown in Table 32, p. 271) represents approximately 0.07 percent of the remaining capacity of the Hay Road Landfill as of July 2010 (30.4 million cubic yards).[128] The 2024 Modified Project Variant's net decrease in solid waste generation of 909 tpy compared to the 2010 R&D Variant (Variant 1) analyzed by the 2010 FEIR would amount to 909 tpy, or about 0.003 percent of the landfill's remaining capacity. The 2024 Modified Project Variant's estimated generation of 58.4 tpd represents approximately 2.4 percent of the maximum daily waste that could be accepted according to the agreement with Hay Road Landfill, only slightly lower than the 60.89 tpd estimated for the 2010 R&D Variant (Variant 1) analyzed by the 2010 FEIR, which represents approximately 2.5 percent of the daily waste allowed by Hay Road Landfill.

Despite the small increase in municipal solid waste generation by the 2024 Modified Project Variant as compared to the Project analyzed by the 2010 FEIR and 2010 R&D Variant (Variant 1), Hay Road Landfill has a higher remaining capacity than Altamont Landfill, and a projected closure date well

[128] Assumes an average density of 1 ton per cubic yard.

beyond that of the Altamont Landfill. Thus, using Hay Road Landfill provides a long-term solution to accommodate the operation of the 2024 Modified Project Variant. Accordingly, the fact that there is an identified landfill with adequate remaining capacity that is operational through 2077, combined with implementation of MM UT-7a, which requires preparation of a Site Waste Management Plan, would ensure that implementation of the 2024 Modified Project Variant would not generate solid waste that would exceed the capacity of landfills serving the city and county of San Francisco. As such, this impact would remain less than significant with implementation of the identified mitigation measure.

Impact UT-8a: Implementation of the Project at Candlestick Point would not generate hazardous waste that would exceed the permitted capacity of transport, storage, and disposal facilities authorized to treat such waste. ***[Criterion Q.f]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As with the Project analyzed in the 2010 FEIR, the specific businesses or activities that could operate under the 2024 Modified Project Variant are not known at this time, but since no industrial or R&D uses are proposed at CP under the 2024 Modified Project Variant, the amount of hazardous wastes that would be generated would consist of household hazardous waste and small amounts of inorganic wastes, such as waste oil from commercial uses. New residents and businesses would be required to comply with all hazardous waste regulations, including the disposal of hazardous waste materials. Because the minimal amount of hazardous waste that would be generated by the Project could be accommodated by existing facilities, this impact would remain less than significant, and no mitigation is required.

Impact UT-9: Implementation of the Project would comply with federal, state, and local statutes and regulations related to solid waste. ***[Criterion Q.g]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

The 2010 FEIR discussed how the city's waste diversion rate of 72 percent exceeded the 50 percent diversion threshold specified in the California Integrated Waste Management Act and how the Project would meet or exceed all of the city's solid waste diversion requirements for new development. The 2010 FEIR concluded that with implementation of mitigation measures MM UT-7a.1, MM UT-7a.2, and MM UT-5a, the Project would ensure compliance with applicable regulations pertaining to solid waste and the Project would, therefore, not conflict with regulatory policies pertaining to solid waste and impacts would be less than significant.

Since approval of the 2010 FEIR, the California legislature passed AB 341, which requires all businesses and public entities that generate 4 cubic yards or more of waste per week to have a

recycling program in place. San Francisco's existing (2009) Mandatory Recycling and Composting Ordinance is arguably more stringent than AB 341, because it already has in place its Mandatory Recycling and Composting Ordinance, which requires San Francisco residents and businesses to properly separate recyclables and compostable material from non-divertible waste, which helps to keep them out of the landfill. Owners of businesses and multifamily buildings could be fined if they fail to provide tenants with adequate bin service and information on their proper use.

Since approval of the 2010 FEIR, the California legislature passed California AB 1826, which requires businesses and multi-family complexes (with 5 units or more) that generate specified amounts of organic waste (compost) to arrange for organics collection services. San Francisco's existing (2009) Mandatory Recycling and Composting Ordinance is arguably more stringent than AB 1826, because it already has in place its Mandatory Recycling and Composting Ordinance, which requires businesses and multi-family property owners to provide color-coded, labeled bins in convenient locations for tenants, employees, contractors, and customers to ensure separation of discards. Building owners could be fined if they were to fail to provide tenants with adequate bin service and information on their proper use.

Development within the Project site would meet or exceed all of the city's solid waste diversion requirements for new development. MM UT-7a requires the Project Sponsor to provide a Site Waste Management Plan demonstrating the manner in which the Project would comply with these requirements. The Project Sponsor proposes to provide recycling facilities for residents and tenants of commercial and retail space. Implementation of MM UT-7a and MM UT-5a would ensure compliance with applicable regulations pertaining to solid waste. Development of the Project would not conflict with regulatory policies pertaining to solid waste. This impact would remain less than significant with implementation of the identified mitigation measures.

Impact UT-10: Implementation of the Project would not require extension of dry utility infrastructure that would exceed the capacity of the services providing such utilities. ***[Criterion Q.i]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

The 2010 FEIR concluded that implementation of the Project utility connections would be constructed in accordance with the subdivision process (i.e., Uniform Building Code, city ordinances, and Department of Public Works standards) to ensure an adequately sized and properly constructed electrical transmission and conveyance system; thus, impacts to utility capacity would be less than significant.

As with the 2019 Modified Project Variant analyzed in Addendum 6, the 2024 Modified Project Variant would include infrastructure for solar power, recycled water, and a ground source geothermal heating and cooling system that would provide the primary source of heating and cooling for the

development. A trench network located primarily beneath roadways would accommodate the utility systems including electrical, communications, gas, recycled water, and sewerage.

Heating and cooling would be provided from centralized plants instead of individual systems in each building or facility. Similar to the district heating and cooling systems proposed in the 2010 Utilities Variant (Variant 4) and under the 2019 Modified Project Variant, the 2024 Modified Project Variant would use a central heating and cooling plant to serve CP, distributing hot water and chilled water from the district plant to individual buildings via the pipe distribution network located under the streets.

As mentioned above, the 2024 Modified Project Variant would be subject to 2022 Title 24 building standards and the SFGBO, as amended in 2016, which together represent more stringent requirements for building energy efficiency than what was required by the building standards in effect at the time the 2010 FEIR was certified. This would reduce the Project's use of electricity and natural gas.

The 2024 Modified Project Variant includes the use of on-site solar photovoltaic (PV) panels and to provide an on-site a building-scale and utility-scale battery storage system to store surplus energy generated from the solar PV systems, enabling better management of electricity loads during peak periods. This would supplement the total electric power provided to CP by SFPUC.

As with the 2019 Modified Project Variant, the 2024 Modified Project Variant would include an additional 576,000 gpd of recycled water capacity compared to the 2010 Utilities Variant (Variant 4), reducing the amount of retail potable water needed from SFPUC to satisfy HPS2 water demand.

As with the 2010 FEIR, the subdivision process would include submittal of detailed infrastructure plans to the Department of Public Works identifying how they would meet the infrastructure needs of the Project. Implementation of these plans would be a condition of subdivision approval. The subdivision process would ensure that adequate infrastructure is provided to accommodate the demands of the Project such that the capacity of the service providers to provide such utilities would not be exceeded. Moreover, the demands on locally serving utilities for natural gas, electricity, and water should be less than the demands identified in the 2010 Utilities Variant (Variant 4). Therefore, the impact would remain less than significant, and no mitigation is required.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to utilities impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to utilities, on either a Project-related or cumulative basis.

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II.B.17 Energy

Criterion	Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?	Any New Information of Substantial Importance?	Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant
11. Energy. Would the project:					
R.a Encourage activities that result in the use of large amounts of fuel or energy, or use such resources in a wasteful manner?	2010 FEIR p. III.R-16 (Impact ME-1) p. III.R-16 (Impact ME-2) p. III.R-21 (Impact ME-3) p. III.R-23 (Impact ME-4) Addendum 6 p. 305 (Impact ME-1) p. 307 (Impact ME-2) p. 309 (Impact ME-3) p. 310 (Impact ME-4)	No	No	No	MM GC-2, MM GC-3, MM GC-4, MM TR-1, MM TR-2, MM TR-4

Changes to Project Related to Energy

The following elements of the 2024 Modified Project Variant are addressed in this Energy analysis:

- Modifications to the development scenario;
- Changes in traffic volumes and traffic distribution; and
- Changes in construction activity and timing.

Plug-in Electricity Demand

The 2010 Project was estimated to require approximately 60,652 megawatt-hour (MWh) at HPS2 and CP, and 24,704 MWh at CP only, of electricity annually to supply plug-in appliances, based on plug-in electricity usage rates for each building type taken from the 2006 California Commercial End-Use Survey (CEUS), as shown by Table 33 (Electricity Demand from Plug-In Appliances).[129]

Table 33 also shows plug-in electricity estimates for the 2024 Modified Project Variant using an updated methodology based on non-Title 24 electricity use factors calculated in California Emission Estimator Model version 2022.1 (CalEEMod 2022).[130] These updated electricity use estimates are based on updated survey data, which shows a notable increase in the use of electronic devices since 2010 (e.g., televisions, cell phones, copiers, printers, computers, laptops, iPads, wireless hubs, battery chargers, electrical cars, etc.).

[129] Itron, Incorporated. 2006. California Commercial End-Use Survey Results. CEC-400-2006-005. Available at http://www.energy.ca.gov/ceus/.
[130] CAPCOA. California Emissions Estimator Model. Version 2022.1, 2022. Available at: http://www.caleemod.com/.

TABLE 33 ELECTRICITY DEMAND FROM PLUG-IN APPLIANCES FOR CANDLESTICK POINT

	2024 Modified Project Variant – CP				*2010 FEIR – CP*	
Type of Use	*2024 Energy Use Factor (MWh/sf or unit)*[a]	*2024 Modified Project Variant Land Use Size*[b]	*MWh Consumed Annually*[c]	*Percent of Total by Land Use*[e]	*2010 CP Land Use Size*[f]	*MWh Consumed Annually (using 2010 Energy Use Factors)*[h]
Artist Studio	0.0061	64,000 sf	390	***1%***	0 sf	0
Community Use	0.0061	50,000 sf	304	***1%***	50,000 sf	463
Arena	0.0061	5,000 sf	30	***0.1%***	75,000 sf	548
Hotel	0.0033	130,000 sf	435	***1%***	150,000 sf	1,035[g]
R&D/Office	0.0074	2,800,000 sf	20,772	***50%***	150,000 sf	1,388
Regional Retail	0.0025	170,000 sf	427	***1%***	635,000 sf	6,077
Residential	2.5735	7,218 DU	18,576	***45%***	7,850 DU	13,997
Neighborhood Retail/Maker Space	0.0025	134,500 sf	338	***1%***	125,000 sf	1,196
Total			***41,271***	***100%***		***24,704***

SOURCES: San Francisco Planning Department, *Candlestick Point–Hunters Point Shipyard Phase II Development Plan EIR*, 2010; FivePoint, 2024.

a. The electricity factors are based on non-Title 24 electricity and lighting factors from CalEEMod 2022. Lighting factors are adjusted by 2019 Title 24 assumptions. The factors were converted from kWh to MWh.

b. Based on build-out floor areas or number of units associated with the 2024 Modified Project Variant.

c. Calculated by multiplying energy use factor by number of units or square feet.

d. Calculated by adding the horizontal columns, rather than calculating total number of units by the generation rate.

e. Due to rounding, the totals may not add up to 100% when added individually.

f. Land use square footage from the 2010 FEIR for CP is presented to explain the differences in energy consumption due to land uses between the 2010 Project and the 2024 Modified Project Variant.

g. In the 2010 FEIR, there was a typographical error for the hotel energy use. Electricity consumption should have been 1,035 MWh per year, rather than 2 MWh reported in Table III.R-7. However, Table 3-16 of 2010 FEIR Appendix S reflected the correct energy usage rates to derive the annual hotel energy usage. This would not alter the 2010 FEIR analysis or conclusions, as the Project proponent committed to achieving 15% or better energy efficiency than required by 2008 Title 24 Standards and would still not be using electricity in a wasteful manner.

h. Energy consumption for CP was obtained from Table III.R-7 in the 2010 FEIR.

Table 33 shows that total plug-in electricity usage by the 2024 Modified Project Variant would be approximately 41,271 MWh per year (using updated energy use factors), an increase of about 67 percent over the 2010 FEIR estimate. Much of this increase is due to the transfer of 2,050,000 square feet of R&D land use from HPS2 to CP R&D/office land use area in the 2024 Modified Project Variant. As previously mentioned, this increase in energy use for plug-in appliances is also partially attributable to a general increase in use of electronic devices since 2010.

Building Electricity Demand

The total building envelope electricity use for the 2010 Project was estimated in the 2010 FEIR using figures that represented the 2008 Title 24 building energy standards. The Title 24 standards have advanced considerably since 2008, with the 2013, 2016, 2019 and 2022 Title 24 standards requiring increasingly higher building energy efficiencies. Accordingly, building electricity use estimates for the 2024 Modified Project Variant use 2019 Title 24 standards, which are much lower than the estimates for the Project analyzed in the 2010 FEIR, reflecting the energy efficiency improvements in the 2019 Title 24 standards. 2019 Title 24 standards were used as a conservative estimation because the 2022 require, and future Title 24 standards are expected to require additional efficiency improvements.

The 2010 FEIR estimated that the Project would require approximately 35,322 MWh at HPS2 and CP, and 14,649 MWh at CP only, of electricity for building electricity demand using the 2008 Title 24 standards. Table 34 (Electricity Demand from Building Envelopes (MWh)) shows that the electricity demand from the 2024 Modified Project Variant at CP using the 2019 Title 24 standards would be 64,872 MWh of electricity for building electricity demand, which would be a 343 percent increase from the 2010 Project at CP. This increase reflects the addition of electricity demand of parking structures in the scope of analysis, which was not previously included and accounts for approximately one-third of the building electricity demand in the 2024 Modified Project Variant. The increase also reflects the relocation of R&D land use from HPS2 to CP coupled with an increase in the building energy use factor for R&D/office land uses since 2010. This increase in electricity usage is further explained by the trend in recent regulations to incorporate more electric appliances instead of natural gas appliances.

The analysis for the 2024 Modified Project Variant assumes compliance with 2019 Title 24 energy standards. However, the buildings would need to comply with the Title 24 energy standards that are in effect when building permits are obtained. The 2022 energy standards already require, and future Title 24 energy standards will likely require, still more energy efficiency related to building energy use, but may require more appliances to be electrically powered. Regulations targeting vehicle emissions will also likely cause electricity usage to increase as electric vehicles become more prevalent.

TABLE 34 ELECTRICITY DEMAND FROM BUILDING ENVELOPES (MWH) FOR CANDLESTICK POINT

	2024 Modified Project Variant – CP				*2010 FEIR – CP*	
Type of Use	*Electricity Use Factor, 2019 Title 24 Standards (MWh/gsf or unit)*[a]	*2024 Modified Project Variant Land Use Size*[b]	*MWh Consumed Annually, 2019 Title 24 Standards*[c]	*Percent of Total Electricity by Land Use*[e]	*2010 CP Land Use Size*[h]	*MWh Consumed Annually, 2008 Title 24 Standards with 15 Percent Reduction*[i]
Artist Studio	0.0048	64,000 sf	309	**0.48%**	0 sf	0
Community Use	0.0048	50,000 sf	241	**0.37%**	50,000 sf	221
Arena	0.0048	5,000 sf	24	**0.04%**	75,000 sf	96
Hotel	0.0033	130,000 sf	425	**0.65%**	150,000 sf	348[f]
R&D/Office	0.0138	2,800,000 sf	38,500	**59%**	150,000 sf	663
Regional Retail	0.0060	170,000 sf	1,026	**2%**	635,000 sf	1,457
Residential	0.84	7,218 DU	6,048	**9%**	7,850 DU	11,577
Neighborhood Retail/Maker Space	0.0060	134,500 sf	811	**1%**	125,000 sf	287
Enclosed Parking Structure[g]	1.40	7,218 spaces	10,109	**16%**	N/A	N/A[g]
Unenclosed Parking Structure[g]	1.05	6,566 spaces	6,902	**11%**	N/A	N/A[g]
Parking Lot[g]	0.35	1,360 spaces	477	**1%**	N/A	N/A[g]
Total			***64,872***	***100%***		***14,649***

SOURCES: San Francisco Planning Department, *Candlestick Point–Hunters Point Shipyard Phase II Development Plan EIR*, 2010; FivePoint, 2024; 2008 and 2019 Title 24 Standards.

a. The electricity factors are based on Title 24 electricity from CalEEMod 2022. The factors were converted from kWh to MWh.

b. Based on build-out floor areas or number of units associated with the 2024 Modified Project Variants.

c. Calculated by multiplying energy use factor by number of dwelling units (DU), square feet (sf), or parking spaces.

d. Calculated by adding the horizontal columns, rather than calculating total number of units by the generation rate.

e. Due to rounding, the totals may not add up to 100% when added individually.

f. In the 2010 FEIR, there was a typographical error for the hotel energy use. Electricity consumption should have been 348 MWh per year, rather than 1 MWh reported in Table III.R-8. However, Table 3-16 of 2010 FEIR Appendix S reflected the correct energy usage rates to derive the annual hotel energy usage. This would not alter the 2010 FEIR analysis or conclusions, as the Project proponent committed to achieving 15% or better energy efficiency than required by 2008 Title 24 Standard and would still not be using electricity in a wasteful manner.

g. Energy consumption associated with the operation of parking structures was not quantified in the 2010 Project but has been quantified for the 2024 Modified Project Variant.

h. Land use square footage from the 2010 FEIR for CP is presented to explain the differences in energy consumption due to land uses between the 2010 Project and the 2024 Modified Project Variant.

i. Energy consumption for CP was obtained from Table III.R-8 in the 2010 FEIR.

Natural Gas Demand

The 2010 FEIR estimated that the Project would require approximately 389,403 Million British Thermal Units (MMBtu) at HPS2 and CP, and 253,218 MMBtu at CP only, of natural gas for building energy demand.[131]

Table 35 (Natural Gas Demand, Baseline (MMBtu)) shows that the 2024 Modified Project Variant would result in building natural gas use of 211,191 MMBtu at HPS2 and CP, and 140,907 MMBtu at CP only, per year, using the 2019 Title 24 standards, a decrease of approximately 44 percent from the 2010 Project estimate.

The natural gas demand at CP for the 2010 FEIR is equivalent to 72,214 MWh of electricity demand[132] and the natural gas demand at CP for the 2024 Modified Project Variant is equivalent to 41,298 MWh of electricity demand. The decrease in natural gas usage at CP is equivalent to a decrease of 32,916 MWh of electricity, which partially offsets the increase in building electricity demand of 50,223 MWh at CP compared to the 2010 FEIR.

Summary

The plug-in electricity use from the 2024 Modified Project Variant would be 67 percent greater than the 2010 FEIR estimate for CP. This is largely due to the relocation of the R&D/office land use from HPS2 to CP and an increase in plug-in appliance usage since the 2010 FEIR analysis. The total building electricity use for the 2024 Modified Project Variant would increase by 343 percent compared to the 2010 Project. The combined annual electricity use of the 2024 Modified Project Variant, including both building envelope consumption and plug-in electricity use would be 106,144 MWh,[133] which is 170 percent greater than the combined annual electricity use of the 2010 Project of 39,353 MWh.[134] The increase in energy consumption in the 2024 Modified Project Variant is primarily due to the relocation of R&D land usage from HPS2 to CP and the quantification of electricity demand from parking structures, which were not originally quantified in the 2010 FEIR. The natural gas usage for building energy for the 2024 Modified Project Variant would be reduced by 44 percent compared to the 2010 Project. The decrease in natural gas usage is equivalent to a decrease of 32,916 MWh of electricity demand, which partially offsets the increase in building electricity demand. The 2024 Modified Project Variant, like the 2019 Modified Project Variant,

[131] During preparation of Addendum 5, it was discovered that the natural gas usage estimate for residential units in the 2010 FEIR was underestimated by a factor of 1,000 in 2010 FEIR Table III.R-9 due to an error in transcribing the "use factor" units from Environ's 2009 Climate Change Technical Report, which is Appendix S of the 2010 FEIR. The correct energy usage is shown in Table 3-8 of Appendix S of the 2010 FEIR. If the correct units are applied, the revised natural gas usage estimate for residential units would be approximately 321,000 MBtu per year rather than the 321 MBtu reported in 2010 FEIR Table III.R-9. The revised annual total for all uses would be approximately 384,000 MBtu per year, rather than the 63,262 MBtu reported in 2010 FEIR Table III.R-9.
[132] Natural gas usages in units of MMBtu were converted to MWh using a conversion factor of 3.412 MWh/ MMBtu. This conversion is performed in order to compare the change in natural gas demand to the change in electricity demand.
[133] Plug-in energy use (41,271 MWh) + building envelope energy use (64,872 MWh) = 106,144 MWh.
[134] Plug-in energy use (24,704 MWh) + building envelope energy use (14,649 MWh) = 39,353 MWh.

TABLE 35 NATURAL GAS DEMAND, BASELINE (MMBTU) FOR CANDLESTICK POINT

	2024 Modified Project Variant - CP				*2010 FEIR - CP*	
Type of Use	*Natural Gas Use Factor, 2019 Title 24 Standards (MMBtu/sf or unit)[a]*	*2024 Modified Project Variant Land Use Size[b]*	*MMBtu Consumed Annually, 2019 Title 24 Standards[c]*	*Percent of Total by Land Use[e]*	*2010 CP Land Use Size[h]*	*MMBtu Consumed Annually, 2008 Title 24 Standards, with 15% Reduction[i]*
Artist Studio	0.0438	64,000 sf	2,803	2%	0 sf	0
Community Use	0.0438	50,000 sf	2,189	2%	50,000 sf	850
Arena	0.0438	5,000 sf	219	0.16%	75,000 sf	1,549
Hotel	0.0301	130,000 sf	3,913	3%	150,000 sf	4,554[f]
R&D/Office	0.024	2,800,000 sf	66,501	47%	150,000 sf	2,550
Regional Retail	0.0057	170,000 sf	969	1%	635,000 sf	2,591
Residential[g]	8.80	7,218 DU	63,548	45%	7,850 DU	240,000
Neighborhood Retail/Maker Space	0.0057	134,500 sf	766	1%	125,000 sf	510
Total			***140,907***	***100%***		***252,604***

SOURCES: San Francisco Planning Department, *Candlestick Point–Hunters Point Shipyard Phase II Development Plan EIR*, 2010; FivePoint, 2024; 2008 and 2019 Title 24 Standards.

a. Project natural gas demand was estimated based on land use and basic compliance with 2019 Title 24 standards. The factors were converted from kBtu to MMBtu (1 MMBtu = 1,000 kBtu).

b. Based on build-out floor areas or number of units associated with the 2024 Modified Project Variants.

c. Calculated by multiplying energy use factor by number of dwelling units (DU) or square feet (sf).

d. Calculated by adding the horizontal columns, rather than calculating total number of units by the generation rate.

e. Due to rounding, the totals may not add up to 100% when added individually.

f. In the 2010 FEIR, there was a typographical error for the hotel energy use. Natural gas consumption should have been 4,554 MMBtu per year, rather than 8 MMBtu reported in Table III.R-9. However, Table 3-17 of 2010 FEIR Appendix S reflected the correct number. In Addendum 6, the hotel natural gas consumption in Table 33 was erroneously reported as 5,168 MMBTU, which is the annual natural gas consumption without the 15% reduction and was therefore, an overestimate. This would not alter the 2010 FEIR analysis or conclusions, as the Project proponent committed to achieving 15% or better energy efficiency than required by Title 24 and would still not be using electricity in a wasteful manner.

g. In the 2010 FEIR, there was a typographical error in Table III.R-9 in terms of the natural gas usage estimate for residential units; the correct information was reported in Table 3-8 of 2010 FEIR Appendix S. The Table III.R-9 natural gas usage estimate for residential units under the 2010 Project should have been approximately 321,000 MBtu per year, rather than the 321 MBtu reported.

h. Land use square footage from the 2010 FEIR for CP is presented to explain the differences in energy consumption due to land uses between the 2010 Project and the 2024 Modified Project Variant.

i. Energy consumption for CP was obtained from Table III.R-9 in the 2010 FEIR.

proposes an alternative to a conventional utility system that would reduce carbon emissions from building operations by using geothermal heating, ventilation, and air conditioning (HVAC) systems that reduce the need for natural gas and electricity from the grid. In addition, the 2024 Modified Project Variant will include on-site solar photovoltaic systems on newly constructed buildings and parking facilities to maximize on-site renewable power output. The 2024 Modified Project Variant would comply with the applicable California Building Code (i.e., Title 24, Part 6) at the time of construction. Current code requires solar installation on rooftops and future building codes that would be applicable to the 2024 Modified Project Variant would likely require the same or increased solar installation. If a geothermal alternative is implemented, and/or if Title 24 solar installation requirements continue to increase, overall energy consumption would be further reduced.

Vehicle Fuel Use

Table 36 (Petroleum Demand) shows Project diesel and gasoline consumption associated with operation of the Project at CP as analyzed in the 2010 FEIR and 2024 Modified Project Variant. VMT for the 2024 Modified Project Variant is 40 percent lower than for the 2010 Project largely due to a reduction in estimated daily trips.[135] Vehicle trip lengths would also likely be reduced over time as development of the Project, and other nearby projects, such as Indian Basin and Pier 70, which would increase the demand for high-frequency transit options and bring a mix of land use types in closer proximity to the Project. However, to be conservative reduced vehicle trip lengths were not quantified in this analysis. In addition, fuel use per VMT for the 2024 Modified Project Variant is considerably lower than for the 2010 Project because of higher average fleet fuel efficiencies in California, due to the Pavley vehicle efficiency standards and California Air Resources Board (CARB)'s Mobile Source Strategy (2020). Actual fuel efficiencies at the time of Project build out are expected to be higher and fuel usage would be lower due to the penetration of electric vehicles.

New Regulations

The California Energy Code (Title 24, Section 6) was created as part of the California Building Standards Code (California Code of Regulations [CCR] Title 24) by the California Building Standards Commission in 1978 to establish statewide building energy efficiency standards to reduce California's energy consumption. Standards are updated on an approximately three-year cycle as technology and methods have evolved. The 2022 Standards, effective January 1, 2023, focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings, including encouraging the use of electric heat pump technology,

[135] This decrease in VMT is calculated using Table 36, which generates VMT based on the emissions analysis, the methodology used in the 2010 FEIR.

strengthening ventilation standards, establishing electric-ready requirements when natural gas is installed, and expanding solar photovoltaic system and battery storage standards.[136]

TABLE 36 PETROLEUM DEMAND

Project	*Project Annual VMT (million miles travelled)*[a]	*Project Gasoline Consumption (million gallons)*	*Project Diesel Consumption (million gallons)*	*Project Natural Gas Consumption (Millions DEG)*[e]	*Project Electricity Consumption (GWh)*[f]
2010 Project[c]	223.67	9.92	0.66	N/A	N/A
2024 Modified Project Variant[d]	135.22	4.04	0.29	0.03	7.15

SOURCES: San Francisco Planning Department, *Candlestick Point–Hunters Point Shipyard Phase II Development Plan EIR*, 2010; Ramboll, 2024.

a. Annual VMT for the 2010 Project was calculated by PBS&J based on trip generation information and average trip lengths reported in: CHS Consulting Group, Fehr and Peers, and LCW Consulting, *Candlestick Point–Hunters Point Shipyard Phase II Development Plan Transportation Study*, 2009. Annual VMT for the 2024 Modified Project Variant was determined through CalEEMod and trip length and trip purpose assumptions found in the FEIR's GHG Appendix S (Table 3-20) and trip rates provided by Fehr and Peers.

b. For the 2010 Project, this equals the projected Countywide 2030 VMT (3,495 million miles travelled) divided by the projected total transportation fuel consumed (171.27 million gallons) for San Francisco County, as reported in: California Department of Transportation (Caltrans), California Motor Vehicle Stock, Travel and Fuel Forecast, website: http://www.dot.ca.gov/hq/tsip/smb/documents/mvstaff/mvstaff08.pdf, accessed August 20, 2009. This factor does not take into account recently adopted fuel efficiency standards. For the 2024 Modified Project Variant, the average countywide vehicle fuel efficiency was obtained using EMFAC2021.

c. For the 2010 Project, on average 94 percent of the transportation fuels consumed in San Francisco were gasoline fuels, while 6 percent were diesel fuels, as reported in: California Department of Transportation (Caltrans), *California Motor Vehicle Stock, Travel and Fuel Forecast*, website: http://www.dot.ca.gov/hq/tsip/smb/documents/mvstaff/mvstaff08.pdf, accessed August 20, 2009. Fuel efficiency for the 2010 Project was determined from fuel consumption and countywide VMT from Caltrans.

d. For the 2024 Modified Project Variant, energy use was estimated using EMFAC2021 for San Francisco County in 2038. The fleet mix and percentage of each fuel type for a given fleet and the fuel efficiency (miles per gallon, diesel miles per gallon, natural gas miles per DEG) were calculated based on EMFAC2021 defaults. Plug-in hybrid vehicles are calculated into gasoline and electric fuel percentages by fleet and fuel economy by considering both fuel and energy consumption from plug-in hybrids.

e. Natural gas consumption associated with vehicles was not analyzed as part of the project scope in the 2010 FEIR.

f. Electricity consumption associated with vehicles was not analyzed as part of the project scope in the 2010 FEIR.

Comparative Impact Discussions

Impact ME-1: Construction activities associated with the Project would not result in the use of large amounts of energy, or use energy in a wasteful manner. (Less than Significant) ***[Criterion R.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant	Less than Significant

As disclosed in the 2010 FEIR, construction-related energy use associated with the Project would not result in the use of energy in a wasteful manner, and impacts were determined to be less than significant.

Construction activity at CP may result in an increase in construction activity compared to the 2010 FEIR; thus, there may be an increase in fuel consumption compared to the Project analyzed by the 2010 FEIR, which is due to the proposed change in land uses at CP and the potential geothermal heating and cooling system.

[136] California Energy Commission, 2012 Building Energy Efficiency Summary, August 2021. Available at https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf, accessed March 20, 2024.

Although construction activity may increase with the 2024 Modified Project Variant compared to the 2010 FEIR, construction-related activities for the 2024 Modified Project Variant are substantially similar to the types of construction activities associated with the Project analyzed by the 2010 FEIR. Additionally, project construction equipment would be required to comply with the latest EPA and CARB engine emissions standards, which are more stringent than standards that were in place when the 2010 FEIR was certified. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption.

The 2024 Modified Project Variant would be as large as the 2010 Project at CP, but construction would be spread over a longer time period. The demand for electricity and fuels would be spread out over this longer timeframe for the 2024 Modified Project Variant. Similar to the 2010 Project, the 2024 Modified Project Variant has been broken down into construction phases; each of these phases is comparable to similar projects in terms of: activity types, duration, land use, development area, and fuel consumption.

The 2024 Modified Project Variant would result in the same impact conclusions as the 2010 FEIR regarding construction energy use. The construction-related energy use associated with the 2024 Modified Project Variant would not be wasteful. The impact would remain less than significant, and no mitigation is required.

Impact ME-2: Buildings constructed by the Project would not use large amounts of electricity in a wasteful manner. (Less than Significant with Mitigation) ***[Criterion R.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As disclosed in the 2010 FEIR, building-related energy use associated with the Project would not result in the use of energy in a wasteful manner, and impacts were determined less than significant after mitigation. In 2021, California had the fourth-lowest statewide energy consumption in the country on a per-capita basis, behind Hawaii, New York and Rhode Island.[137] Californians consumed approximately 189 million Btu of total energy per capita in 2021. In comparison, the average annual U.S. per capita energy consumption was approximately 294 million Btu.[138]

As shown in Table 37 (Electricity Consumption in San Francisco, by Land Use, 2022), annual electricity consumption in San Francisco County was approximately 5,120 million kWh in 2022, a decrease of 1 percent from the 2007 total electricity consumption figure of 5,155 million kWh

[137] U.S. Energy Information Administration, *Total Energy Consumed per Capita*, 2021. Available at https://www.eia.gov/state/rankings/?sid=US, accessed April 4, 2024.
[138] U.S. Energy Information Administration, *Total Energy Consumption Estimates per Capita by End-Use Sector, Ranked by State*, 2021. Available at https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_sum/html/rank_use_capita.html&sid=US, accessed April 4, 2024.

provided in the 2010 FEIR,[139] despite a substantial increase in San Francisco's population during that time.

TABLE 37 ELECTRICITY CONSUMPTION IN SAN FRANCISCO, BY LAND USE, 2022

Land Use	*Total Consumption (million kWh)*	*Percent of Total Consumption*
Nonresidential	3,605.7	70.4%
Residential	1,514.9	29.6%
Total	***5,120.6***	***100%***

SOURCE: California Energy Commission, *Electricity Consumption by County: San Francisco County*. http://ecdms.energy.ca.gov/elecbycounty.aspx (accessed March 20, 2024).

According to the City of San Francisco Climate Action Plan, 71 percent of the electricity used in San Francisco comes from the San Francisco Public Utilities Commission (SFPUC) and 11 percent from Pacific Gas and Electric (PG&E). The remaining 11 percent comes from independently contracted energy service providers used by some large commercial and industrial customers such as the Bay Area Rapid Transit district. SFPUC is projected to provide 100% renewable electricity by 2025, while PG&E and other energy service providers are expected to provide 100% renewable electricity by 2040.[140]

PG&E's electricity generation profile has changed significantly over time, with an increasing percentage of renewables in its power mix. The 2010 FEIR reported that in 2007, PG&E generated 12 percent of its total electricity through renewable sources, including biomass, small hydroelectric, geothermal, and wind. The remainder of PG&E's generation portfolio in 2007 included natural gas combustion (47 percent), nuclear fission (23 percent), large-scale hydroelectric (13 percent), coal combustion (4 percent), and other sources (1 percent).[141] In 2022, PG&E generated 38 percent of its total electricity through renewable sources, while the statewide average was 36 percent.[142] The remainder of PG&E's generation portfolio in 2022 included nuclear fission (49 percent), large-scale hydroelectric (7 percent), and natural gas combustion (5 percent).

Mitigation measure MM GC-2 from the 2010 FEIR requires all new residential units to be 15 percent more energy efficient than under the 2008 Title 24 standards. The 2019 and 2022 Title 24 standards go well beyond the reduction required in MM GC-2 in terms of building energy efficiency; therefore, electricity use efficiency by the 2024 Modified Project Variant is expected to be higher than the Project analyzed in the 2010 FEIR. In 2019, MM GC-2 was updated to comply with the current energy efficiency standards. The 2024 Modified Project Variant will continue to comply with the latest energy efficiency standards.

[139] The current figure for 2007 total electricity use in San Francisco County provided on the CEC web site is 5,607 million kWh; Using that figure, annual total electricity use in San Francisco County increased approximately 8.7 percent from 2007 to 2022.
[140] San Francisco Department of the Environment, *San Francisco Climate Action* Plan, 2021 update. Available at https://www.sfenvironment.org/files/events/2021_climate_action_plan.pdf.
[141] San Francisco Planning Department, *Candlestick Point–Hunters Point Shipyard Phase II Development Plan EIR*, 2010.
[142] CEC, 2022 Power Content Label. Available at https://www.energy.ca.gov/filebrowser/download/6048, accessed April 3, 2024.

Table 34 shows that the buildings in the 2024 Modified Project Variant would use approximately 343 percent more electricity than the Project analyzed by the 2010 FEIR. This increase is primarily due to the relocation of R&D/office land use from HPS2 to CP and the quantification of energy consumption from parking structures, which were not evaluated in the 2010 Project.

Table 33 indicates that total plug-in electricity usage by the 2024 Modified Project Variant would increase by about 67 percent from the 2010 FEIR estimate.[143] The 2024 Modified Project Variant reflects an increase in total plug-in electricity use, which reflects a state (and global) trend of increased use of plug-in devices at homes and businesses with the proliferation of televisions, cell phones, copiers, printers, computers and battery chargers. The CPUC reported that nearly 50% of residential electricity consumption is from appliances, such as refrigerators, dryers, and plug in devices.[144] Plug-in electricity use depends on the devices and appliances installed by future Project residents and employees, and would be difficult for the Project Sponsor to influence. However, as required by mitigation measure MM GC-3, ENERGY STAR appliances must be installed into residential units for all builder-supplied appliances, which would result in a small decrease in plug-in electricity use from the numbers shown for the 2024 Modified Project Variant.

As noted above, the 2024 Modified Project Variant includes modifications designed to reduce the Project's reliance on grid-supplied electricity through the use of renewable energy systems. The 2024 Modified Project Variant includes a potential ground source geothermal heating and cooling system and requires extensive on-site solar photovoltaic systems. In addition, individual buildings would be required to meet or exceed the applicable energy conservation requirements in the San Francisco Green Building Ordinance, which includes energy conservation requirements that exceed those in the California Building Code (i.e., Title 25, Part 6). Electricity would not be used in a wasteful, inefficient, or unnecessary manner.

With its modified energy systems and with implementation of mitigation measures MM GC-2 as modified to comply with current Title 24 standards, MM GC-3 (installing ENERGY STAR appliances), and MM GC-4 (installation of energy-efficient lighting), the 2024 Modified Project Variant would not use large amounts of electricity in a wasteful manner. The impact would remain less than significant with implementation of the identified mitigation measures.

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[143] This 36 percent reduction compares the 2024 Modified Project Variant using 2019 Title 24 Standards to the energy use reported in the 2010 FEIR for the 2010 Project, which used the Title 24 standards of the time.

[144] California Public Utilities Commission (CPUC), *New Residential Zero Net Energy Action Plan 2015-2020,* for the California Energy Efficiency Strategic Plan. Available at: www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy/energy_programs/demand_side_management/ee_and_energy_savings_assist/zneresactionplan-final-060815.pdf

Impact ME-3: Buildings constructed by the Project would not use large amounts of natural gas in a wasteful manner. (Less than Significant with Mitigation) ***[Criterion R.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As disclosed in the 2010 FEIR, buildings constructed by the Project would not use natural gas in a wasteful manner, and impacts would be less than significant after mitigation. As was the case when the 2010 FEIR was certified, natural gas in San Francisco is supplied by PG&E. As shown in Table 38 (Natural Gas Consumption in San Francisco, by Land Use, 2022) annual natural gas consumption in San Francisco County was approximately 21,421,684 million Btu in 2022, a decrease of approximately 26.0 percent from the 2007 total natural gas consumption figure of 28,918,000 million Btu provided in the 2010 FEIR.[145]

TABLE 38 NATURAL GAS CONSUMPTION IN SAN FRANCISCO, BY LAND USE, 2022

Land Use	*Total Consumption (million British thermal units [MMBtu])*	*Percent of Total Consumption*
Nonresidential	8,619,747	40.2%
Residential	12,801,901	59.8%
Total	***21,421,648***	***100%***

SOURCE: California Energy Commission, *Natural Gas Consumption by County: San Francisco County*. http://ecdms.energy.ca.gov/gasbycounty.aspx (accessed March 20, 2024).

For the Project analyzed in the 2010 FEIR, the Project Sponsor made a commitment to making all new residential units 15 percent more energy efficient than required under the 2008 Title 24 standards as a project design feature by employing high performance lighting, materials, and other energy efficiency measures. The 2019 and 2022 Title 24 standards go well beyond this commitment in terms of building energy efficiency. As a result, energy use by the 2024 Modified Project Variant is expected to be lower than the Project analyzed in the 2010 FEIR, for both electricity and natural gas. Table 35 shows that the buildings in the 2024 Modified Project Variant would use approximately 44.4 percent less natural gas than the Project analyzed by the 2010 FEIR.

As noted above, the 2024 Modified Project Variant includes the potential use of a ground source geothermal heating and cooling system, which would further reduce the Project's reliance on imported natural gas. In addition, individual buildings would be required to meet or exceed the energy conservation requirements in the San Francisco Green Building Ordinance, which itself includes energy conservation requirements that exceed those in the California Building Code (i.e., Title 25, Part 6). Natural gas would not be used in a wasteful, inefficient, or unnecessary manner.

With its modified energy systems and with implementation of mitigation measures MM GC-2 (compliance with 2022 Title 24 standards) and MM GC-3 (installing ENERGY STAR appliances), the

[145] The current figure for 2007 total natural gas use in San Francisco County provided on the CEC web site is 25,838,072 million Btu; Using that figure, annual total natural gas use in San Francisco County decreased by approximately 17 percent from 2007 to 2022.

2024 Modified Project Variant would not use large amounts of natural gas in a wasteful manner. The impact would remain less than significant with implementation of the identified mitigation measures.

Impact ME-4: Vehicle trips associated with the Project would not use large amounts of energy in a wasteful manner. (Less than Significant with Mitigation) ***[Criterion R.a]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

With both the 2010 Project and the 2024 Modified Project Variant, vehicle trips would increase to and from the Project site, compared to 2009 existing conditions, and result in a commensurate increase in the use of petroleum fuels.

According to the EIR, approximately 158 million gallons of gasoline and 11 million gallons of diesel were consumed in San Francisco for transportation in 2007. By 2038, consumption of transportation-related gasoline is expected to decrease by about 23 percent and diesel consumption is expected to decrease by about 34 percent citywide.[146]

Table 36 shows Project diesel, gasoline, natural gas, and electricity consumption from vehicle activity associated with operation of the Project at CP as analyzed in the 2010 FEIR and the 2024 Modified Project Variant. As discussed in the Vehicle Fuel Use section vehicle trip lengths would be reduced over time as development of 2010 Project and other surrounding projects, such as India Basin and Pier 70, occurs.[147] Furthermore, under the 2024 Modified Project Variant, higher average fleet fuel efficiencies exist in California (in part due to the Pavley vehicle efficiency standards) as compared to the 2010 Project.

As with the Project analyzed in the 2010 FEIR, the 2024 Modified Project Variant would implement mitigation measures MM TR-1, MM TR-2, and MM TR-4 to minimize VMT by managing traffic flows and promoting transportation demand management (TDM). In addition, implementation of California's Advanced Clean Cars II (ACC II) Program would reduce average petroleum use by vehicles below levels assumed in the 2010 FEIR. With implementation of the ACC II Program and implementation of these mitigation measures, vehicle trips associated with the Project would not use large amounts of energy in a wasteful manner, and this impact would remain less than significant.

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[146] California Air Resource Board (CARB), *California Emissions Factor Estimator Model (EMFAC2021).* Available at https://ww2.arb.ca.gov/our-work/programs/msei/on-road-emfac, accessed April 4, 2024.

[147] This reduction in trip length is not quantitatively taken into account in the Energy, Air Quality and Greenhouse Gas Emissions sections to conservatively compare to the 2010 FEIR.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to energy impacts. As stated in the 2010 FEIR, the Project design is a dense, infill mixed-use project, with a transit-oriented design that would minimize vehicle trips. Accordingly, the Project, including the 2024 Modified Project Variant, is the type of project that by design reduces energy impacts compared to less dense and well-located development. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to energy, on either a Project-related or cumulative basis.

II.B.18 Greenhouse Gas Emissions

	Criterion	*Where Impact Was Analyzed in Prior Environmental Documents (Beginning Page)*	*Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?*	*Any New Circumstances Involving New Significant Impacts or Substantially More-Severe Impacts?*	*Any New Information of Substantial Importance?*	*Previously Approved Mitigation Measures That Would Also Address Impacts of the 2024 Modified Project Variant*
7.	**Greenhouse Gas Emissions.** Would the project:					
S.a	Conflict with the state goal of reducing GHG emissions in California to 1990 levels by 2020, as set forth by the timetable established in AB 32 (*California Global Warming Solutions Act of 2006*), such that the project's GHG emissions would result in a substantial contribution to global climate change?	2010 FEIR p. III.S-35 (Impact GC-1) Addendum 6 p. 314 (Impact GC-1)	No	No	No	MM GC-1, MM GC-2, MM GC-3, MM GC-4
S.b	Conflict with San Francisco's *Climate Action Plan* such that it would impede implementation of the local GHG reduction goals established by the 2008 Greenhouse Gas Reduction Ordinance?	2010 FEIR p. III.S-35 (Impact GC-1) Addendum 6 p. 314 (Impact GC-1)	No	No	No	MM GC-1, MM GC-2, MM GC-3, MM GC-4

Changes to Project Related to Greenhouse Gas Emissions

The 2024 Modified Project Variant includes the following updated information used in this Greenhouse Gas analysis:

- Modifications to the development scenario;
- Changes in traffic volumes and traffic distribution;
- Changes in construction phasing at CP; and
- Changes in construction activities at CP.

New Regulations

The 2010 FEIR analysis considered energy efficiency standards contained in Title 24 Part 6 of the California Code of Regulations (CCR). The analysis for the 2024 Modified Project Variant considers the 2019 energy efficiency standards, which conservatively estimate higher energy use and associated emissions than the new, more stringent, 2022 Title 24 standards or the future standards that would be applicable when buildings associated with the 2024 Modified Project Variant are built.

Comparative Impact Discussions

Impact GC-1: The Project would not result in a substantial contribution to global climate change by increasing GHG emissions in a manner that conflicts with the state goal of reducing GHG emissions in California to 1990 levels by 2020 (e.g., a substantial contribution to global climate change) or conflicts with San Francisco's Climate Action Plan by impeding implementation of the local GHG reduction goals established by the San Francisco 2008 Greenhouse Gas Reduction Ordinance. ***[Criteria S.a and S.b]***

	2010 CP-HPS2 FEIR	*2010 CP-HPS2 FEIR Addendum 7*
Significance after Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

As disclosed in the 2010 FEIR, the Project's construction and operational greenhouse gas (GHG) emissions impacts would be less than significant after mitigation. Construction emissions were quantified from off-road equipment and on-road vehicles. These emissions averaged 6,600 metric tons of carbon dioxide equivalent (MT CO_2e) per year at HPS2 and CP together, and 3,720 MT CO_2e per year at CP alone, over the construction time period of 16 years, which is 0.0014 percent and 0.0008 percent, respectively, of the total 2004 statewide GHG emissions inventory and less than 1 percent of the construction equipment emissions for the Bay Area 2007 GHG emissions projections. The 2010 Project's construction emissions over the entire construction period were calculated as 106,541 MT CO_2e, with 60,480 MT CO_2e from the construction of CP and 46,061 MT CO_2e from the construction of HPS2. Since construction contractors would be subject to ARB regulations, emissions were found to be less than significant. The 2010 FEIR identified that more vegetation would be added as a result of the Project than would be removed during construction. Thus, the 2010 Project was predicted to result in a net sequestration of carbon due to vegetation, and there would be no impact from GHG emissions associated with vegetation changes. The 2010 Project's operational emissions were calculated as 154,639 MT CO_2e per year after mitigation, with 52,842 MT CO_2e per year from HPS2 and 101,798 MT CO_2e per year from CP. The Project emissions were 52 percent lower than the California Air Resources Board (ARB) Scoping Plan No Action Taken scenario, and the Project would comply with continued GHG reduction actions by the City to further reduce emissions.

Revised emissions were calculated for CP for the 2024 Modified Project Variant. Revised emissions were not calculated for HPS2 because plans for this area are not known at this point and development is not expected to begin in the near future. Construction emissions were calculated using the same methodologies as were used in the 2010 FEIR, with the exception of estimating emissions using CalEEMod because tools used for the 2010 FEIR analysis are no longer available. CalEEMod incorporates new regulations such as CARB In-Use Off-Road Diesel Vehicle Regulation and CARB Statewide Truck and Bus Regulation, as well as CARB's ACC program from 2012.

Construction emissions for CP for the 2024 Modified Project Variant would be 42,123 MT CO_2e, which represents a decrease of 30 percent of the emissions associated with the 2010 Project at CP.[148] The 2024 Modified Project Variant may require more construction equipment use at CP to account for the increase in square footage of R&D/office square footage. This increase is offset by heightened regulation of truck and equipment emissions and refinement of construction equipment usage projections compared to the 2010 FEIR.

In the 2010 FEIR, CP construction emissions were 0.0008 percent of the total statewide GHG emissions inventory. For the 2024 Modified Project Variant, construction emissions would be 0.00026 percent of the total statewide GHG emissions inventory evaluated in the 2010 FEIR. This reduction in percentage is due to both the decrease in GHG emissions and the extended construction time period to 30 years for the 2024 Modified Project Variant. Total Project emissions continue to make up less than 1 percent of the construction equipment portion of the Bay Area GHG emissions inventory. All construction equipment operating within the Bay Area Air Basin continues to make up 1.7 percent of the total Bay Area GHG emissions inventory as reported in the 2010 FEIR.

Similar to the 2010 Project, the 2024 Modified Project Variant would be subject to ARB regulations and the City and County of San Francisco Climate Action Plan. ARB Regulations (CCR Title 13, Sections 2480 and 2485), which limit idling of diesel-fueled commercial motor vehicles, would help to limit GHG emissions associated with construction related vehicles. The City of San Francisco's Construction and Demolition Debris Recovery Ordinance and Recycling Requirements also reduce GHG emissions by creating a waste diversion plan and transport debris by a registered hauler to a registered facility to be processed for recycling. The construction of the 2024 Modified Project Variant would be subject to the same requirements as the 2010 Project and, thus, would not conflict with state goals or the City and County of San Francisco Greenhouse Gas Reduction Strategy. The 2010 FEIR did not compare construction GHG emissions against a specific numeric threshold, as the BAAQMD had not adopted a numeric threshold for construction GHG emissions. However, given that the relative magnitude of Project emissions in the context of regional and statewide emissions did not change and the Project would not conflict with state goals or the San Francisco Greenhouse Gas Reduction Strategy, conclusions from the 2010 FEIR are also expected to remain the same.

As described further in Appendix E2 (Air Quality Operational Emissions Data), calculations for operations followed the same general methodology as used in the 2010 FEIR, but with updated land use, traffic data, and an operational year of 2038 for the 2024 Modified Project Variant (rather than 2030, as assumed in the 2010 FEIR).[149] Current modeling techniques were used to incorporate updated information on building energy use and vehicular emissions to take into account the effect of the delay in implementation of the Project. The 2019 Standards for Title 24 Part 6 energy efficiency

[148] In the 2010 FEIR, GHG emissions from off-road trucks were not included in calculating the total construction GHG emissions. In the 2024 Modified Project Variant, GHG emissions from off-road trucks were conservatively included in total construction GHG emissions estimates.
[149] Although construction of CP is projected to end in 2058, operational emissions are calculated for 2038 as a conservative assumption to evaluate maximum impacts of the project.

standards were incorporated into this analysis, which will conservatively estimate higher energy use and emissions than the newer, more efficient, 2022 Title 24 standards or the future standards that would be applicable when buildings associated with the 2024 Modified Project Variant are built.[150]

Operational GHG emissions for the 2024 Modified Project Variant would result in a total of 57,249 MT CO_2e per year from CP, compared to emissions from the 2010 Project of 101,798 MT CO_2e per year from CP. The operational GHG emissions for the 2024 Modified Project Variant are 44 percent lower than those disclosed in the 2010 FEIR. This is largely caused by improvements to mobile emissions, which saw roughly 50 percent reductions between buildout in the 2010 FEIR to the buildout in the 2024 Modified Project Variant. Thus, conclusions in the 2010 FEIR still apply, and the Project would not conflict with the State's goals of reducing GHG emissions.

In the 2010 FEIR, the Project was determined to not conflict with the state's goals of reducing GHG emissions to 1990 levels by 2020, or the City's GHG reduction goals established in the Greenhouse Gas Reduction Ordinance, and would not result in a significant cumulative impact. GHG emissions from the 2024 Modified Project Variant would be less than the emissions in the 2010 FEIR and the project features discussed in the 2010 FEIR related to GHG emissions would not change or would further reduce GHG emissions. However, because 2020 has passed, the City has enacted additional regulations and ordinances since the 2010 FEIR analysis that would reduce Citywide GHG emissions associated with new projects. The City has established updated GHG reduction targets that exceed those set by the state's 2022 Scoping Plan. In the 2022 Scoping Plan, the state established a target of reducing GHG emissions to 85 percent below 1990 levels by 2045, and in its updated GHG ordinance, the City has established targets of reducing GHG emissions by 61 percent below 1990 levels by 2030 and achieving net-zero GHG emissions by 2040. To meet these targets, the City has implemented mandatory requirements and incentives that have measurably reduced GHG emissions, including but not limited to increasing the energy efficiency of new and existing buildings, installing solar panels on building roofs, implementing a green building strategy, adopting a zero-waste strategy, adopting a construction and demolition debris recovery ordinance, creating a solar energy generation subsidy, incorporating alternative fuel vehicles in the City's transportation fleet (including buses), and adopting a mandatory recycling and composting ordinance. The strategy also includes over 30 specific regulations for new development that would reduce a project's GHG emissions. These regulations include but are not limited to requirements to implement transportation demand management programs, construct efficient irrigation systems, and be subject to electric vehicle charging equipment requirements. The 2024 Modified Project Variant will be compliant with all applicable GHG regulations. The effect of many of these requirements were not incorporated into the quantitative analysis because this level of detail is not known at this time.

[150] A small fraction of residential land uses has already been developed at CP. These buildings would have been subject to an earlier version of the Title 24 Part 6 energy efficiency standards. However, these are a small fraction of the total development, so this is not expected to affect results.

As discussed in the 2010 FEIR, the Project design is a dense, infill mixed-use project, with a transit-oriented design, which would reduce operational GHG emissions by minimizing vehicle trips. The 2010 FEIR also includes mitigation measures that are consistent with the local GHG Reduction Ordinance. For example, mitigation measure MM GC-1 is consistent with street tree planting requirements in San Francisco's *2023 Greenhouse Gas Reduction Strategy Update* that encourages and requires the planting of trees in conjunction with new development as codified in San Francisco Planning Code, section 138.1, and mitigation measures MM GC-3 and MM GC-4 are consistent with energy efficiency requirements in the *2023 Greenhouse Gas Reduction Strategy Update* that encourages the use of energy conserving appliances and lighting systems as codified in the San Francisco Green Building Code.[151] Thus, the Project would not conflict with the City's GHG reduction goals established in the Greenhouse Gas Reduction Ordinance.

In 2019, mitigation measure MM GC-2 was modified to require compliance with the current Standards for Title 24 Part 6 energy-efficiency standards for homes and businesses. The new 2022 Title 24 standards further improve energy efficiency compared to the standards in 2019, and the 2024 Modified Project Variant would be subject to these standards or future versions of the Standards. standards. Therefore, the 2024 Modified Project Variant would comply with MM GC-2.

The 2024 Modified Project Variant meets these same criteria discussed above; therefore, the impact would remain less than significant with implementation of the identified mitigation measures.

Conclusion

The 2024 Modified Project Variant would not change any of the 2010 FEIR's findings with respect to greenhouse gas emissions impacts. Although the 2024 Modified Project Variant includes changes to the Project and Variants considered in the 2010 FEIR (and previous addenda), these changes would not give rise to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis does not result in any different conclusions than those reached in the 2010 FEIR related to greenhouse gas emissions, on either a Project-related or cumulative basis.

[151] Mitigation measure MM GC-1 was conservatively not incorporated into estimations of operational GHG emissions for the 2024 Modified Project Variant.

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III. CONCLUSION

Based on the foregoing, it is concluded that the analyses conducted and the conclusions reached in the 2010 FEIR certified on June 3, 2010, remain valid. The proposed revisions to the Project would not cause new significant impacts not identified in the 2010 FEIR, and no new mitigation measures would be necessary to reduce significant impacts. Other than as described in Addendum 7, no Project changes have occurred, and no changes have occurred with respect to circumstances surrounding the proposed Project that would cause significant environmental impacts to which the Project would contribute considerably, and no new information has become available that shows that the Project would cause new significant environmental impacts or a substantial increase in the severity of previously identified significant environmental impacts. Therefore, no supplemental environmental review is required beyond Addendum 7.

Date of Determination:

I do hereby certify that the above determination has been made pursuant to state and local requirements.

August 23, 2024

José Campos
OCII Environmental Review Officer

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IV. REFERENCES

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