

DATE: February 15, 2023

TO: Urban Forestry Board

FROM: Marichrisse Hoang, Associate Civil Engineer
Robert Gonzales, Principal Project Manager
Edward Arango, Assistant Public Works Director/City Engineer

SUBJECT: **Plymouth Street to Space Park Way Realignment, Project 20-40—Tree Mitigation**

RECOMMENDATION

Review the proposed Heritage tree mitigation for Plymouth Street to Space Park Way Realignment, Project 20-40, and forward a recommendation to the City Council to approve the mitigation of 86 Heritage trees at a 2:1 tree replacement ratio, with the planting of eighty-four (84) 24" box trees within the project area, and 88 plantings in Shoreline at Mountain View.

BACKGROUND

In 2014, the City Council adopted the North Bayshore Precise Plan (NBPP), which establishes standards for the development of the North Bayshore Area, including transformation of the existing street network and conceptual street diagrams within the plan area to support a reduction in single-occupancy vehicle (SOV) use and an increase in multi-modal transportation modes. The NBPP also identified a list of Priority Transportation Improvements necessary to ensure good circulation into and within the North Bayshore Area.

The NBPP also includes habitat and biological resource objectives and establishment of a new plant palette to support native vegetation, expand existing habitat, improve the quality of existing habitat, and ensure future development results in net benefits to wildlife inside and adjacent to North Bayshore. This is consistent with the biodiversity goal in Council's Fiscal Years 2021-22 and 2022-23 Strategic Priorities. The multi-modal improvements and plant palette vision of the NBPP will provide for a walkable, bikeable community with a diverse, sustainable tree canopy for the area's climate.

Project Description and Status

Plymouth Street to Space Park Way Realignment, Project 20-40 (Project), will realign Plymouth Street to connect with and create a four-way signalized intersection at Space Park Way and North

Shoreline Boulevard (see Figure 1 and Attachment 1). It includes an additional left-turn lane from northbound North Shoreline Boulevard to westbound Plymouth Street and the following NBPP complete street elements:

- Two-way cycle track on the west side of North Shoreline Boulevard;
- Protected intersection improvements;
- 6' and 7' separated sidewalks on Plymouth Street and North Shoreline Boulevard, respectively;
- Park strip area between the street and sidewalk with new landscaping and trees;
- Bike lanes on Plymouth Street from North Shoreline Boulevard to Joaquin Road;
- Reversible transit lane on North Shoreline Boulevard from Pear Avenue to the realigned Plymouth Street/Space Park Way/North Shoreline Boulevard intersection; and
- Bioretention areas.

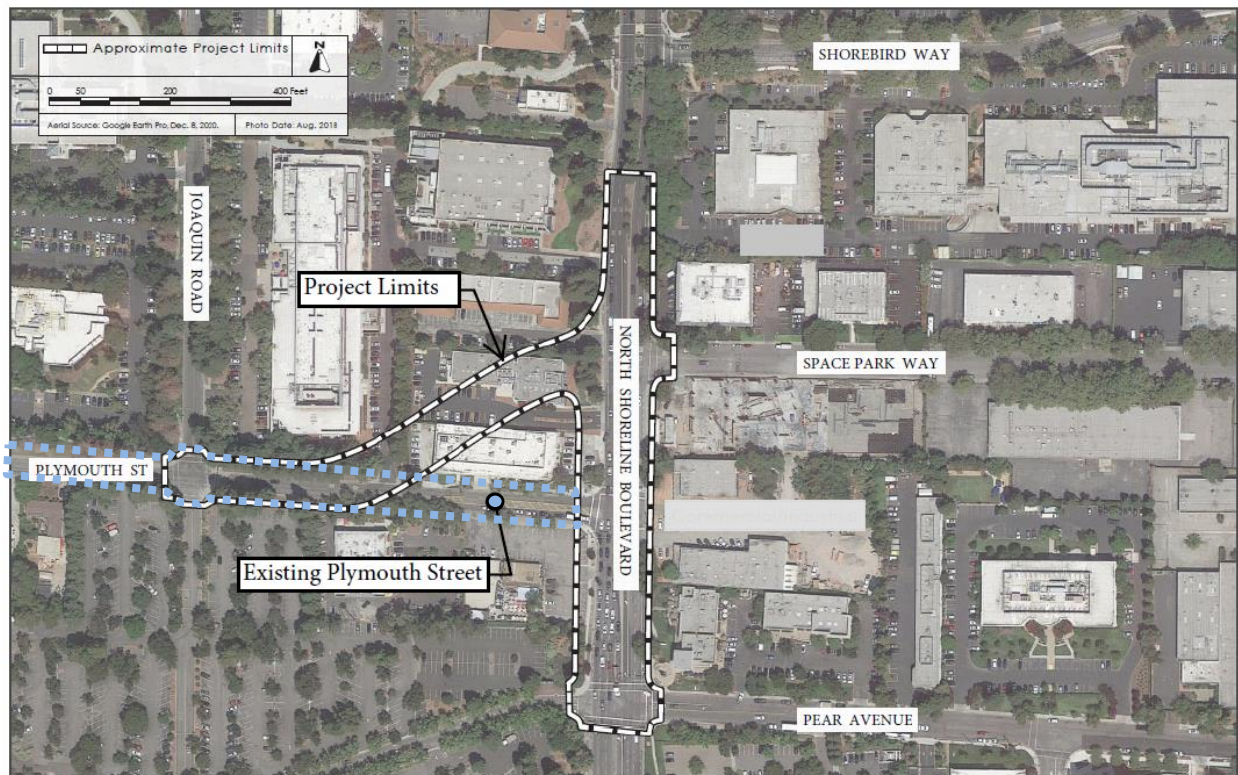


Figure 1: Project Location Map

The Project is a Priority Transportation Improvement to facilitate the NBPP's anticipated growth. Due to the Project's proximity to the U.S. 101 and North Shoreline Boulevard intersection, realigning Plymouth Street provides substantial circulation improvements for the North Shoreline Boulevard corridor. Additionally, certain development projects have been tied to the completion of this project via conditions of approval, including 2000 North Shoreline Boulevard (595,000 square foot office building) and 1860-2159 Landings Drive (799,482 square foot office building).

On June 25, 2019, Council authorized a professional services agreement with BKF Engineers (BKF) to provide engineering services for the design of the Project. Since that time, the City has acquired two properties with existing office buildings located on 1600 and 1616 North Shoreline Boulevard for \$28.5 million, conducted appraisals for additional right-of-way (ROW) needs, and developed project design documents to 95% completion.

The Project will be implemented in three phases due to the Project's timing needs and specialized nature of the contractors needed. The phases include tree removals, building demolition, and street realignment.

North Bayshore Master Plan Tree Framework

In September 2021, Google submitted the North Bayshore Master Plan (NBMP), building off of the NBPP to establish a 127-acre planning area, including 3 million square feet of office (including 1.3 million net new Nonresidential Bonus Floor Area Ratio), 7,000 residential housing units, and 31 acres of public park land (see Figure 2). The Project is located in proximity to the NBMP area.

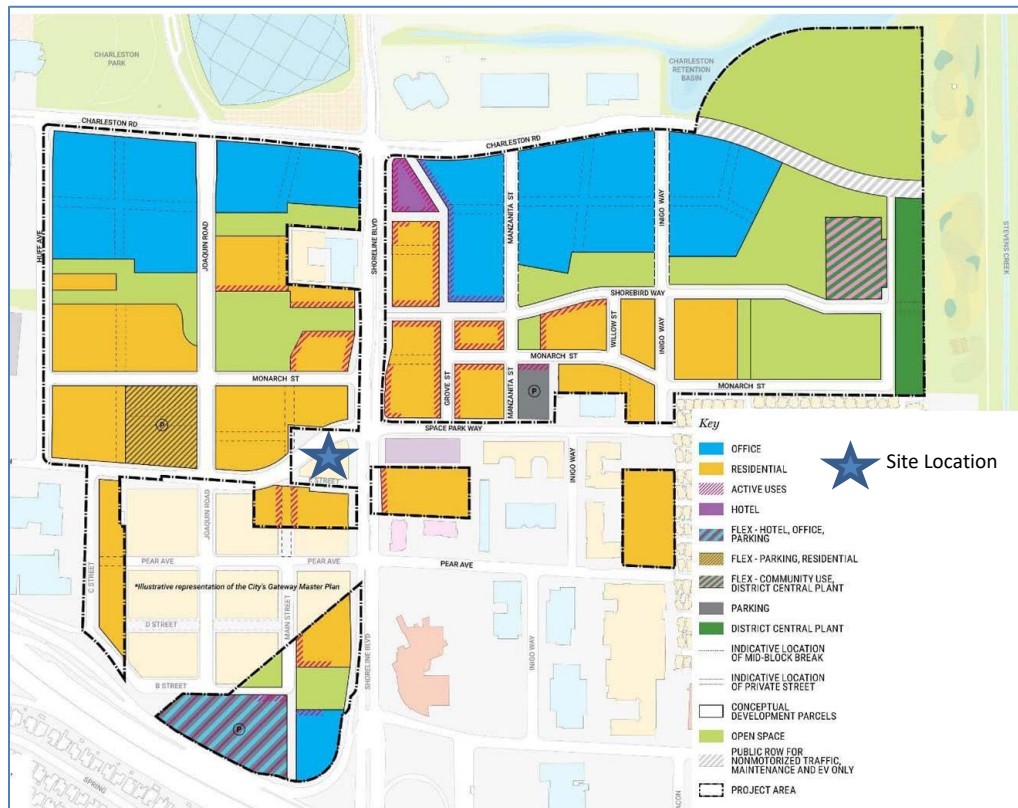


Figure 2: North Bayshore Master Plan Area and Project Location

The Google NBMP, as presented to the Environmental Planning Commission (EPC) on November 17, 2021 and Council at a [December 14, 2021 Study Session](#), provided a framework for tree removals in the plan area, including:

1. Strive to retain and integrate existing and healthy trees as follows:
 - a. In open space areas, including public and private open space, along the green loop, etc.
 - b. Within site design if the trees are healthy, have high habitat value, and contribute to the area's ecological and biodiversity goals.
2. Explore the opportunity to transplant healthy trees that are suitable for the local climate and integrate them into the site design.
3. Where trees are removed, replace with trees that contribute to tree canopy and meet the goals of biodiversity as noted above. Explore opportunity for mature replacement trees planting to increase tree canopy shade.

Council and the EPC supported the NBMP proposal, including the tree removal and replacement framework and the implementation of the complete street network.

Urban Forestry Board Recommendations

As part of the Project, existing trees are required to be removed to incorporate the new alignment and NBPP complete streets improvements. Staff requests that the Urban Forestry Board (UFB) provide a recommendation to the City Council for the number, size, and location of replacement trees, which is the focus of the UFB's purview, as defined in the following Municipal Code Section 32.33, City Capital Improvement Projects:

“City capital improvement projects which propose the removal of any heritage tree shall be submitted by the city project staff to the city's arborist for review and recommendation of appropriate mitigation measures. The arborist's recommendations shall be forwarded by city project staff to the urban forestry board for their recommendation on the number, size and location of replacement trees. The recommendation of the urban forestry board shall be forwarded by city project staff to the city council for their consideration with the approval of the project.”

ANALYSIS

Staff used the NBMP tree framework as guidance to develop recommendations for the Project's tree removal and replacement.

In October 2022, an arborist report prepared by HortScience | Bartlett Consulting Arborist evaluated the trees within the Project area and identified 137 trees as Heritage status based on their sizes and species. Fifty-one (51) Heritage trees shall be preserved on-site. As a result of the new road alignment, sidewalk, and bicycle improvements, 86 Heritage trees and 21 non-Heritage trees are recommended for removal. The 86 Heritage trees include 60 redwood trees, seven California pepper trees, seven Canary Island pine trees, and 12 trees of various species (see Attachment 2).

The City arborist evaluated the trees to be removed for potential transplant, including the 86 Heritage trees. Factors considered for tree transplant include likelihood of survival based on tree size and health, tree age, nearby infrastructure, compatibility with recycled water irrigation, availability of suitable nearby locations that are not planned for future infrastructure or development work, and consistency with the NBPP plant palette and street tree list. Few trees met the criteria. The best candidates for successful transplant are younger trees (10" or under in diameter) in good condition and with a high tolerance for root loss. Twenty-one (21) Heritage trees are marginally suitable in size for transplant, including the purple-leaf plums, crape myrtles,

and crabapples based on the criteria above. Staff recommends replacement over transplant for all trees for the following reasons:

- Many of the trees are large redwood trees and would not be suitable for transplant due to their size.
- For those marginally suitable trees for transplant, the transplanted trees would need to be boxed and stored off-site for 12 to 18 months while the three phases of the Project are constructed. The trees would then be brought back and replanted. This process would further lower the likelihood of survival.
- The majority of the trees are not consistent with the NBPP plant palette.

Due to limited space within the project area to replace the 86 Heritage trees with new trees at the typical 2:1 replacement ratio (172 trees) and the 21 non-Heritage trees at a 1:1 ratio, for a total of 193 trees, the following strategy is recommended for mitigation within and outside the project limits:

1. **Trees Within Project Limits**

There is suitable and available space to plant a total of 84 new 24” box trees within the project limits. Street tree locations will be along Plymouth Street and North Shoreline Boulevard and will be consistent with the NBPP plant palette. Nonstreet trees will also be consistent with the NBPP plant palette and be located along Plymouth Street and North Shoreline Boulevard behind planting strips, as appropriate, as well as within an available City parcel on the north side of Plymouth Street, between Joaquin Road and North Shoreline Boulevard. The locations and canopy coverage after 15 years are shown in Attachment 1.

The tree canopy coverage within the project limits is projected to reach approximately 81% of the current coverage within 15 years (see Table 1).

Table 1: Tree Canopy Coverage On-Site

Canopy	Site Coverage
Existing	51,277 square feet
Existing to Remain + New After 15 Years	44,906 square feet

Staff is looking for UFB input on the recommended species. Options consistent with the NBPP plant palette include one or a mixture of Saratoga laurel, Brisbane box, Chinese fringe tree, and/or Emerald Sunshine elm.

2. Plantings Outside the Project Limits

The balance of the mitigation plantings for the remaining 88 Heritage and 21 non-Heritage trees (109 total) will be planted in Shoreline at Mountain View (Shoreline) and will provide approximately 15,000 square feet of additional canopy. Off-site plantings will be performed as a separate project and within one year of the street realignment phase (third phase of the Project) start of construction. The Google NBMP envelope includes a substantial area and improvements within the NBPP that will undergo its own construction and tree replacement efforts. This limits available areas in the NBPP to place trees with assurance the trees would not be in conflict with a future improvement. Additionally, there is a goal to increase vegetation in Shoreline, and this strategy will further achieve this goal. For these reasons, areas within the NBPP were not considered for new plantings.

The plant types within Shoreline are restricted due to height and tree root limitations to limit burrowing owl predator perching locations and to not conflict above or near the underground landfill, respectively. Due to this, the largest plantings are limited to large shrubs/small trees. Staff reviewed and used the NBPP plant palette as a guideline and recommends the following plantings after considering the site-specific needs and limitations in Shoreline:

Table 2: Recommended Plantings in Shoreline at Mountain View

Species	Common Name
<i>Aesculus californica</i>	California buckeye
<i>Heteromeles arbutifolia</i>	Toyon
<i>Prunus ilicifolia</i>	Hollyleaf cherry
<i>Quercus berberidifolia</i>	Scrub oak
<i>Ceanothus 'Ray Hartman'</i>	Ceanothus 'Ray Hartman'
<i>Ceanothus 'Snow Flurry'</i>	Ceanothus 'Snow Flurry'
<i>Cercis occidentalis</i>	Redbud
<i>Chilopsis linearis</i>	Desert willow
<i>Sambucus Mexicana</i>	Blue elderberry

A consultant will be needed to design and prepare the planting and irrigation plans for those plantings in Shoreline, and a separate project will be initiated after the completion of the design documents for the tree removal and building demolition phases. Community Services staff will identify priority planting areas within Shoreline at that time, including suitable size, and return to the UFB with recommendations. If suitable planting locations for some of the 109 plantings cannot be accommodated within Shoreline, the Project will contribute an in-lieu fee to the Tree Mitigation Fund for the difference.

Next Steps

Following the input and recommendation of the UFB, staff will work with the consultant to complete the tree removal bid package. A separate building demolition package is being prepared for the existing buildings located on the two properties the City acquired (1600 and 1616 North Shoreline Boulevard).

Both packages are anticipated to be completed by spring 2023, and at that time, staff will seek Council approval and authorization to advertise the construction project for bids. If Council approves the recommended actions and responsive bids are received within the project budget, tree removals would begin in fall 2023, following the bird nesting season. Installation of the mitigation trees on-site will be included as part of the construction of the Project's realignment phase, anticipated to be completed by early 2025. Planting installations in Shoreline would also take place in parallel with the street realignment phase.

FISCAL IMPACT

Plymouth Street to Space Park Way Realignment, Project 20-40, is currently funded with \$31,865,925, of which \$21,400,000 is from the issuance of the 2018 Shoreline Regional Park Community Bond, \$6,380,000 is from the Shoreline Regional Park Community Fund, \$3,200,000 is from the Shoreline Community Public Benefit, and \$885,952 is from the Google Reimbursement Fund.

Tree mitigation for the on-site planting will be funded from the current project budget, including the in-lieu fees. The full scope for off-site tree mitigation has not been developed, including the irrigation system, and is not included in the project budget. Additional appropriation for the off-site tree mitigation will be requested when Council is requested to approve advertising the Project for construction.

CONCLUSION

The Project is an identified Priority Transportation Improvement and will deliver critical transportation infrastructure consistent with the NBPP. The Project will:

- Realign Plymouth Street to connect with and create a four-way signalized intersection at Space Park Way and North Shoreline Boulevard;
- Install a portion of the reversible transit lane on North Shoreline Boulevard from Pear Avenue to the realigned Plymouth Street/Space Park Way/North Shoreline Boulevard intersection;

- Provide improved circulation and multi-modal improvements; and
- Provide plantings to mitigate tree removals consistent with the NBPP plant palette and the vision for sustainable trees and plantings for this area's climate.

Staff used the NBMP tree removal framework previously supported by the EPC and Council to develop the mitigation for the tree removals. The Project, with proposed mitigation, strives to meet the diversity, sustainability of tree canopy, and biodiversity goals of the NBPP.

Staff recommends a mitigation ratio of 2:1 for 86 Heritage trees, providing 172 plantings. Additionally, 21 non-Heritage trees will be mitigated at a 1:1 ratio, resulting in a total of 193 new plantings. Due to the limited available space within the project limits for new plantings, staff recommends tree mitigation both within and outside the project limits. Eighty-four (84) trees will be planted within the project limits, and 109 plantings are anticipated to be installed within Shoreline as a separate project. In the event suitable planting locations are not found within Shoreline for all 109 plantings, the Project will contribute an in-lieu fee at the equivalent 24" box tree rate (\$750 per tree) to the Tree Mitigation Fund.

ALTERNATIVE

As an alternative, the Project could contribute an in-lieu fee to the Tree Mitigation Fund for all 109 plantings and not proceed with the 109 new plantings in Shoreline. An in-lieu fee for the 109 plantings would be at the equivalent 24" box tree rate (\$750 per tree x 109), for a total contribution of \$81,750.

PUBLIC NOTICING

In addition to the standard agenda posting, staff posted notices on the trees identifying them for removal and provided information for attending this meeting. Notices were mailed to property owners and residents within 750' of the project site.

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Attachments: 1. Project Layout and Shade Canopy
2. Tree Removal Inventory and Location Map

cc: PWD, APWD—Arango, POSM, PCE—Gonzales, ACE—Hoang, F/c