APPLICATIONS:

APPEAL APPLICATION

This application is to be used for any appeals authorized by the Los Angeles Municipal Code (LAMC) for discretionary actions administered by the Department of City Planning.

1. APPELLANT BODY/CASE INFORMATION

Appellant Body:

☐ Area Planning Commission ☐ City Planning Commission ☑ City Council ☐ Director of Planning

Regarding Case Number: BPW-2018-0598 (including CEQA Exemption Determination regarding tree removal)

Project Address: 526, 600, 606, 610, 616 and 620 W. 48th Street, Los Angeles, CA 90037

Final Date to Appeal: 08/03/2018

Type of Appeal:
☐ Appeal by Applicant/Owner
☑ Appeal by a person, other than the Applicant/Owner, claiming to be aggrieved
☐ Appeal from a determination made by the Department of Building and Safety

2. APPELLANT INFORMATION

Appellant's name (print): _____

Company: 1) United Neighborhoods for Los Angeles and 2) Eastside Nature Alliance

Mailing Address: 1) 2141 Cahuenga Blvd. Apt 17 , Los Angeles 90068, 2) 405 S. Fetterly, Los Angeles, 90022

City: _____ State: CA Zip: _____

Telephone: _____ E-mail: _____

- Is the appeal being filed on your behalf or on behalf of another party, organization or company?

  ☑ Self ☐ Other: _____

- Is the appeal being filed to support the original applicant's position? ☐ Yes ☑ No

3. REPRESENTATIVE/AGENT INFORMATION

Representative/Agent name (if applicable): _____

Company: 1) Venskus & Associates; 2) Mitchell M. Tsai, Attorney at Law

Mailing Address: 1055 Wilshire Blvd #1660 Los Angeles, 90027; 2) 155 S. El Molino Ave. 104 Pasadena 91101

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August 2, 2018

Members of the City Council
City of Los Angeles
200 North Spring Street
Los Angeles, CA 90012

RE: Appeal Regarding The Board of Public Works' Approval of a Tree Removal Permit Request Under the Sidewalk Repair Program for Removal of 6 Camphor (Cinnamomum camphora) Trees Located at 526, 600, 606, 610, 616 and 620 W. 48th Street in Los Angeles, California (BPW-2018-0598)

Dear Council Members,

I. INTRODUCTION

Appellants, United Neighborhoods for Los Angeles ("**UN4LA**") and the Eastside Nature Alliance ("**ENA**" or collectively with UN4LA as "**Appellants**"), appeal the City of Los Angeles Board of Public Works' ("**BPW**") approval of the tree removal permit request for the removal of 6 Camphor (Cinnamomum camphora) trees located at 526, 600, 606, 610, 616 and 620 W. 48th Street in Los Angeles, California ("**48th Street Trees**") pursuant to the Sidewalk Repair Program, BPW Case No: BPW-2018-0598 ("**Tree Removal**"). This appeal, filed, August 2, 2018, is timely because the BPW approved the Tree Removal on July 25, 2018. (See Tree Removal Notification, Bureau of Street Services Report and Appellants' Comment letter collectively attached hereto as Exhibit G.)

In short, BPW exceeded its powers, erred and abused its discretion when it approved the Tree Removal in violation of the California Environmental Quality Act, Cal. Pub. Res. Code ("**PRC**") §§ 21100 *et seq* ("**CEQA**"). Approval of the Tree Removal violates CEQA in the

4. JUSTIFICATION/REASON FOR APPEAL

Is the entire decision, or only parts of it being appealed? ☑ Entire ☐ Part

Are specific conditions of approval being appealed? ☐ Yes ☑ No

If Yes, list the condition number(s) here: _____

Attach a separate sheet providing your reasons for the appeal. Your reason must state:

- The reason for the appeal
- How you are aggrieved by the decision
- Specifically the points at issue
- Why you believe the decision-maker erred or abused their discretion

5. APPLICANT'S AFFIDAVIT

I certify that the statements contained in this application are complete and true:

Appellant Signature: _____ Date: 8-2-18

6. FILING REQUIREMENTS/ADDITIONAL INFORMATION

- Eight (8) sets of the following documents are required for each appeal filed (1 original and 7 duplicates):
  - Appeal Application (form CP-7769)
  - Justification/Reason for Appeal
  - Copies of Original Determination Letter
- A Filing Fee must be paid at the time of filing the appeal per LAMC Section 19.01 B.
  - Original applicants must provide a copy of the original application receipt(s) (required to calculate their 85% appeal filing fee).
- All appeals require noticing per the applicable LAMC section(s). Original Applicants must provide noticing per the LAMC, pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of the receipt.
- Appellants filing an appeal from a determination made by the Department of Building and Safety per LAMC 12.26 K are considered Original Applicants and must provide noticing per LAMC 12.26 K.7, pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of receipt.
- A Certified Neighborhood Council (CNC) or a person identified as a member of a CNC or as representing the CNC may not file an appeal on behalf of the Neighborhood Council; persons affiliated with a CNC may only file as an individual on behalf of self.
- Appeals of Density Bonus cases can only be filed by adjacent owners or tenants (must have documentation).
- Appeals to the City Council from a determination on a Tentative Tract (TT or VTT) by the Area or City Planning Commission must be filed within 10 days of the date of the written determination of said Commission.
- A CEQA document can only be appealed if a non-elected decision-making body (ZA, APC, CPC, etc.) makes a determination for a project that is not further appealable. [CA Public Resources Code ' 21151 (c)].

This Section for City Planning Staff Use Only		
Base Fee:	Reviewed & Accepted by (DSC Planner):	Date:
Receipt No:	Deemed Complete by (Project Planner):	Date:
☐ Determination authority notified	☐ Original receipt and BTC receipt (if original applicant)	

following ways: 1) it represents an illegal implementation and piecemealing of the Sidewalk Repair Program ("Program") before the program has completed its CEQA review; 2) the tree removal fails to qualify for a categorical exemption from CEQA and 3) the tree removal fails to qualify for a categorical Exemption under the City of Los Angeles' own CEQA Guidelines. Additionally the BPW and Bureau of Engineering have violated the City's Public Landscape Policy by failing to conduct the proper investigation into all possible tree removal alternatives and incorporate those findings into their decision and approving a tree replacement that will result in the diminishment of the urban tree canopy.

Accordingly, Appellants respectfully request that the City Council (**"Council"**) revoke and set-aside both the DPWs' approval of the Tree Removal Permit Request and the issuance of the Tree Removal Permit. The removal of the 48th Street Trees is imminent and there is an immediate danger that the trees will be cut down if the Council does not take immediate action on this appeal. Accordingly, while this appeal is pending, Appellants further request that all tree permitting and removal activities under the Program be immediately and temporarily stayed.

II. APPELLANTS' STANDING

Appellants are organizations both located in the City of Los Angeles (**"City"**). UN4LA is a community organization composed of residents of the City of Los Angeles frustrated by City Hall's unwillingness to listen to their concerns about poor planning, the lack of affordable housing, green space crumbling infrastructure and inconsistent enforcement of building codes. Members of UN4LA live, work and recreate in the area surrounding the Tree Removal and would be negatively impacted if the Tree Removal were to move forward.

ENA is a community organization composed of residents of the City concerned about the preservation of open space, green space and the urban tree canopy here in the City. Members of ENA live, work and recreate in the area around the Tree Removal and would be negatively impacted if the Tree Removal were to move forward.

III. PROJECT & LEGAL BACKGROUND

A. BACKGROUND ON THE SIDEWALK REPAIR PROGRAM AND ENVIRONMENTAL IMPACTS OF THE DECLINE IN URBAN TREE CANOPY.

This Tree Removal is part of a large program of removal of street trees under the guise of the City's Sidewalk Repair Program, which has exacerbated the devastating environmental impacts of City's decline in Urban Tree Canopy over the past few decades. As a recent study published by the University of South California concluded "[t]he relatively recent and rapid

decline in urban tree cover in the Los Angeles Basin [is] undermin[ing] the ability of the jurisdictions to adapt to increased urban temperatures, manage urban stormwater and maintain urban nature and quality of life." Su Jin Lee, et al (2017) Increasing home size and hardscape decreases urban forest cover in Los Angeles County's single-family residential neighborhoods 24 Urban Forestry & Urban Greening 222. 231 (attached as Exhibit C hereto) ("**Lee**").

B. BACKGROUND ON THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report except in very limited circumstances. *See, e.g.*, Cal. Pub. Res. Code § 21100. The EIR is the very heart of CEQA. *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal. App. 4th 98, 109. CEQA applies to agency projects that may have an adverse environmental impact. *Friends of Mammoth v. Board of Supervisors*, 8 Cal.3d 247, 259 (1972); *Friends of B Street v. City of Hayward*, 106 Cal.App.3d 988, 1003 (1980) (project that included removal of trees caused significant effect on environment). CEQA has two broad purposes: 1) avoiding, reducing or preventing environmental damage by requiring alternatives and mitigation measures (14 Cal. Code Regs. § 15002(a)(2)-(3) (hereinafter "**CEQA Guidelines**")); and 2) providing information to decision makers and the public concerning the environmental effects of the proposed project. CEQA Guidelines § 15002(a)(1).

To achieve its objectives of environmental protection, CEQA has a three-tiered structure. CEQA Guidelines § 15002(k); *Comm. to Save the Hollywoodland Specific Plan v. City of Los Angeles* (2008) 161 Cal.App.4th 1168, 1185 – 86. First, if a project falls into an exempt category, or it can be seen with certainty that the activity in question will not have a significant effect on the environment, no further agency evaluation is required. *Id.* Second, if there is a possibility the project will have a significant effect on the environment, the agency must perform a threshold initial study. *Id.*; CEQA Guidelines § 15063(a). If the study indicates that there is no substantial evidence that the project may cause a significant effect on the environment the agency may issue a negative declaration. *Id.*, CEQA Guidelines §§ 15063(b)(2), 15070. Finally, if the project will have a significant effect on the environment, an environmental impact report ("**EIR**") is required. *Id.* Here, since the City proposes to exempt the Project from CEQA entirely, we are at the first step of the CEQA process.

1. Categorical Exemptions from CEQA Are Narrowly Construed.

CEQA exempt activities are either expressly identified by statute (i.e., statutory exemptions, PRC § 21080.01 et seq.; CEQA Guidelines §§ 15261 – 85) or those that fall into one of more than two-dozen classes deemed categorically exempt by the Secretary of Resources (i.e., categorical exemptions). PRC §§ 21080(b)(10); CEQA Guidelines §§ 15300. Public agencies utilizing CEQA exemptions must support their determination with substantial evidence. PRC § 21168.5. Exemptions to CEQA are narrowly construed and exemption categories are not to be expanded beyond the reasonable scope of their statutory language. *Mountain Lion Foundation v. Fish & Game Com.* (1997) 16 Cal.4th 105, 125. A reviewing court must "scrupulously enforce all legislatively mandated CEQA requirements." *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564. Erroneous reliance by the City on a categorical exemption constitutes a prejudicial abuse of discretion and a violation of CEQA. *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 52 Cal.App.4th 1165, 1192.

CEQA identifies certain classes of projects which are exempt from the provisions of CEQA. These are called categorical exemptions. PRC § 21084(a); CEQA Guidelines §§ 15300, 15354. Categorical exemptions are certain classes of activities that generally do not have a significant effect on the environment. *Id.* Public agencies utilizing such exemptions must support their determination with substantial evidence. PRC § 21168.5. "[I]f the court perceives there was substantial evidence that the project might have an adverse impact, but the agency failed to secure preparation of an EIR, the agency's action must be set aside because the agency abused its discretion by failing to follow the law." *Dunn-Edwards Corp. v. Bay Area Air Quality Mgmt. Dist.* (1992) 9 Cal.App.4th 644, 656. A categorical exemption may not be invoked for any project that may cause a substantial adverse change in the significance of a historical resource. PRC § 21084(e); CEQA Guidelines § 15300.2(f); *Comm. to Save the Hollywoodland Specific Plan v. City of Los Angeles* ("*Hollywoodland*") (2008) 161 Cal. App. 4th 1168, 1186.

CEQA's unique "fair argument" standard applies when reviewing a CEQA exemption. Under the "fair argument" standard, an agency is precluded under the Guidelines from relying on a categorical exemption when there is a fair argument that a project will have a significant effect on the environment. *Berkeley Hillside Pres. v. City of Berkeley* (2012) 203 Cal. App. 4th 656, 670-671; *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego* ("*Bankers Hill*") (2006) 139 Cal. App. 4th 249, 266. In other words, "where there is any reasonable possibility that a project or activity may have a significant effect on the environment, an exemption would be improper." *Id.*; *Dunn-Edwards Corp.*, 9 Cal.App.4th at 654 – 55.

The standard of review in an action challenging a CEQA exemption is whether there has been a prejudicial abuse of discretion. See PRC § 21168.5; *Dunn-Edwards Corp.*, 9 Cal.App.4th at 656. "Abuse of discretion is established if the agency has not proceeded in a manner required by law or if the determination or decision is not supported by substantial evidence." *Id.; Western States Petroleum Assn. v. Super. Ct.* (1995) 9 Cal.4th 559, 568; See, e.g., *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 409. "[I]f the court perceives there was substantial evidence that the project might have an adverse impact, but the agency failed to secure preparation of an EIR, the agency's action must be set aside because the agency abused its discretion by failing to follow the law." *Dunn-Edwards Corp.*, 9 Cal.App.4th at 656; *Bankers Hill*, 139 Cal. App. 4th at 260. "Generally speaking, an agency's failure to comply with the procedural requirements of CEQA is prejudicial when the violation thwarts the act's goals by precluding informed decision-making and public participation." *San Lorenzo Valley Community Advocates for Responsible Education v. San Lorenzo Valley Unified School Dist.* ("*San Lorenzo*") (2006) 139 Cal.App.4th 1356, 1375.

CEQA categorical exemptions "are construed narrowly" and will not be unreasonably expanded beyond their terms. *County of Amador v. El Dorado County Water Agency* (1999) 91 Cal.Rptr.2d 66, 89. Exemptions are strictly construed to allow for the fullest possible environmental protections within the reasonable scope of statutory language. CEQA Guidelines § 15003(f); *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 52 Cal. App. 4th 1165, 1192 – 93 ("Azusa"); *East Peninsula Ed. Council, Inc. v. Palos Verdes Peninsula Unified School Dist.* (1989) 210 Cal. App. 3d 155, 171; *Laurel Heights Improvement Assn.* v. *Regents of University of California* (1988) 47 Cal.3d 376, 390 (rejecting "an attempt to use limited exemptions contained in CEQA as a means to subvert rules regulating the protection of the environment").

Strict construction of CEQA exemptions conforms with the statutory directive under Section 21084 of the California Public Resources Code providing that unlike statutory exemptions, categorical exemptions such as the Class 1 Existing Facilities exemption the City is seeking to relying upon for the Project may only be provided for types of projects which have been determined by the California Department of Natural Resources to not have a significant environmental effect. PRC § 21084(a); *Azusa,* 52 Cal.App.4th at 1192.

IV. APPROVAL OF THE TREE REMOVAL WOULD VIOLATE CEQA.

A. The Tree Removal Is Improperly Piecemealed and Exempted from CEQA Even Though It Is Part of The Larger City of Los Angeles Sidewalk Repair Program Which Is Currently Undergoing Environmental Review.

The Tree Removal is improperly being analyzed and exempted from CEQA even though it

is part of the City's larger Sidewalk Repair Program, which is a "project" currently undergoing an environmental review process pursuant to CEQA. CEQA requires that, prior to approving and implementing a project subject to CEQA, an agency analyze the potential environmental impacts of its proposed actions in an EIR (except in certain limited circumstances). (See, e.g., PRC § 21100, et seq.) It is well established that CEQA forbids piecemeal review of the significant environmental impacts of a project. *Bozung v. Local Agency Formation Com.* ("*Bozung*") (1975) 13 Cal.3d 263, 283–284; *Arviv Enterprises, Inc. v. South Valley Area Planning Com.*(2002) 101 Cal. App. 4th 1333, 1340. Rather, CEQA mandates "that environmental considerations do not become submerged by chopping a large project into many little ones—each with a minimal potential impact on the environment—which cumulatively may have disastrous consequences." *Bozung*, 13 Cal.3d at 283–284. Thus, the term "project" as used for CEQA purposes is defined broadly as "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment...." CEQA Guidelines § 15378(a).

CEQA requires that "[a]ll phases of a project must be considered when evaluating its impact on the environment." CEQA Guidelines §. An EIR must analyze the environmental effects of other phases or future expansions of a project if (1) the other activities are reasonably foreseeable consequences of the initial project (*Bozung*, 13 Cal.3d at 283–284; (2) the other activities are a future expansion of the first activity that will change the scope of the first activity's impacts (*Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 396; or (3) the related activities are all integral parts of the same project. *Sierra Club v. West Side Irrigation Dist.* (2005) 128 Cal. App. 4th 690, 698, citing *No Oil, Inc. v. City of Los Angeles* (1987) 196 Cal. App. 3d 223.

By having issued a Notice of Preparation (NOP) and Initial Study that concluded that a full environmental impact report is necessary for the Sidewalk Repair Program (see attached at Exhibit A-B), the City has acknowledged that CEQA requires environmental review of the Sidewalk Repair Program project prior to its approval and implementation. Yet the City impermissibly and illegally has been approving components of the Sidewalk Repair Program project (such as this one) without any environmental review, claiming that such tree removals are exempt from CEQA. As the Initial Study for the Sidewalk Repair Program itself notes:

> Minor repairs to existing sidewalks typically fit the definition of a Class 1 existing facility identified under Section 15301 (c). As the proposed Project consists of a long-term sidewalk repair program, with an expected consistent level of funding and activities, additional review under CEQA is required to analyze the impact of these activities collectively, over time. The proposed

> Project will potentially result in the removal of large quantities of mature street trees, as well as temporary street and sidewalk closures during construction activities. (Initial Study at 2-4, attached as Exhibit B hereto]

By failing to analyze this Tree Removal as part of the Sidewalk Repair Program that the Tree Removal is being performed pursuant to, the City is improperly piecemealing CEQA environmental review. The City is also illegally implementing the Program before the Program has completed CEQA review.

B. The Project Fails to Qualify for Categorical Exemptions from CEQA.

This Tree Removal fails to facially qualify for the Category 1 categorical exemptions from CEQA as the Tree Removal is part of the City's larger Sidewalk Repair Program which the City itself is currently reviewing under CEQA.

Class 1 categorical exemptions apply to the "operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing . . . topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination." 14 CCR 15301.

However, the Class 1 categorical exemption fails to apply since this Tree Removal involves an expansion of use.(See Exhibit B, Initial Study, p. 2-4.) Presently, the City is already well aware of the fact that it is conducting environmental review of the very program, the Sidewalk Repair Program, that this Tree Removal is being conducted pursuant to.

The City itself admitted in beginning of the CEQA environmental review process for the Sidewalk Repair Program, this Tree Removal does not fit under the guise of the Class 1 Existing Facilities exemption since the Tree Removal is part of a "long-term sidewalk repair program [] with an expected consistent level of funding and activities." (Exhibit B, *Initial Study* at p. 2-4).

C. The Project Fails to Qualify for A Categorical Exemption Under the City's Own CEQA Guidelines.

For similar, aforementioned reasons, the Tree Removal also fails to qualify for an exemption under the City's own regulations for Class 1 Categorical Exemptions. In fact, Article III, Section 1, Class 1, Category 3 expressly disqualifies tree removals from CEQA categorical exemptions, exempting "minor alteration of . . . sidewalks . . . **except where the activity will involve removal of a scenic resource**

including but not limited to a stand of trees, ..." The Tree Removal is exactly the kind of scenic resources that the City's own regulations bar from being exempted.

This is especially true given the location of this particular Tree Removal – this area of the City has very few trees and is nearby the 101 Freeway, which experiences heavy air quality pollution from air and ground traffic. Removing the eighteen (18) trees is not just an environmental issue, but an ***environmental justice*** issue, given the well-documented systemic lack of tree cover in economically disadvantaged areas. (*Lee* at 231).

D. Appellants Request That The Council Stay The 48th Street Tree Removal As Well As Any And All Tree Removals Under The Sidewalk Repair Program Pending The Completion of Environmental Review On The Sidewalk Repair Program

The City is still presently approving tree removals under the Sidewalk Repair Program even as the program proceeds to undergoes environmental review. As these tree removals are being conducted in violation of CEQA, the Council should order an immediate stay of all tree removal activities under the Sidewalk Repair Program.

V. AT A MINIMUM, APPELLANTS REQUEST THAT THE COUNCIL STAY THIS TREE REMOVAL PENDING THE COMPLETION OF ALL ADMINISTRATIVE APPEALS AGAINST THE TREE REMOVAL

CEQA requires that an appeal of any CEQA determination, including categorical exemptions be appealable to an elected decision-making body. CEQA requires public agencies to allow the public to appeal a CEQA determination to a public "agency's elected decision-making body." Pub. Res. § 21151(c). A CEQA determination and project approval is not "final" until the "final adjudicatory administrative decision." *Hensler v. City of Glendale* (1994) 8 Cal. 4th 1, 22. CEQA defines "project" broadly to mean "the whole of an action, which has a potential for resulting in a physical change in the environment, directly or ultimately ... [¶] [t]he term . . . refers to the activity which is being approved . . . ." Guidelines[1], § 15378, subds. (a) and (c). The scheme proposed by the City, that CEQA only requires a perfunctory appeal regarding the sufficiency of an EIR to an elected decision-making body, defeats the entire point of an EIR, which requires an agency, and if available an agency's elected decision-makers, to "have a real confrontation with the EIR," to "face "the political heat of certifying an EIR," leaving them with "no alternative to taking arms against the troubles identified in the EIR," and to have a "real confrontation . . . with the economic and social values in the project." *Vedanta Soc'y of So. Cal. v. Cal. Quartet* (2000) 84 Cal. App. 4th 517, 527 – 529.

[1] Known as the CEQA Guidelines, codified in Title 14 of the Cal. Code of Regulations.

It is a well-established principle that "CEQA is violated when the authority to approve or disapprove the project is separated from the responsibility to complete the environmental review." *POET, LLC v. State Air Resources Bd.* (2013) 218 Cal. App. 4th 681, 734, and that an elected decision-making body "act[] as the final, independent decision-making body for both the Project and the environmental review documents." *Citizens for the Restoration of L Street v. City of Fresno* (2014) 229 Cal.App.4th 340, 359 (emphasis added); *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal. App. 4th 1184, 1202 ("It is the City's bifurcated process, which resulted in segregation of environmental review from project approval, that supports an imputation of bad faith"). The City's practice does exactly what *POET* and *L Street* disapprove of -- separating project approval from responsibility to complete the environmental review and allowing elected decision-making bodies to ignore the merits of the project ultimately being analyzed and considered for approval.

As *POET* noted, an EIR cannot be certified after a project had already been approved, as the City has done previously done in declaring the Tree Removals final prior the completion of the administrative appeals of the permit approvals. (*POET, supra,* 218 Cal. App. 4th at 730 ["The Executive Officer's adoption of the final regulation was improper because it violated the timing requirement of CEQA that "approval" occur after consideration of the environmental review documents."].)

Similarly, *L Street* independently found that an appeal that included only the sufficiency of an EIR failed to satisfy CEQA's mandates under PRC § 21177. (*L Street, supra,* 229 Cal. App. 4th at 362 ["the administrative appeal, standing as a separate and independent procedure, did not comply with the CEQA requirement for findings by the decision-making body."].) As such, the City's CEQA procedure in declaring Tree Removal Permits final before the administrative appeal to the elected decision-making body, (the Council) has been completed, is a violation of CEQA because it separates components of the project from the environmental review. See *POET, supra,* 218 Cal. App. 4th at 734.

On February 14, 2018, Appellants filed an appeal to City Council regarding Case No. BPW-2018-0111 which involved the removal of 12 Indian Laurel Fig trees at 750 South Spaulding Avenue ("**Spaulding Avenue Trees**"), arguing that the approved tree removal violated CEQA and failed to qualify for a Categorical Exemption under CEQA. Appellants subsequently learned that the Spaulding Avenue Trees had been removed while its administrative appeal was pending. (*See* Declaration of Casey Maddren (Exhibit D).) Thus, the City has violated CEQA by failing to hear an appeal to the City Council.

If the Council again refuses to hear Appellants appeal, it is on notice that not only will it represent a violation of CEQA, but also a violation of Appellants' due process rights. When a person aggrieved by the Board exercises his or her right to appeal the determination to the

City Council, that person comes before the City Council with a right of due process of law as an administrative appellant. (See generally; Ursino v. Superior Court (1974) 39 Cal.App.3d 611, 621, quoting Grey v. Whitmore (1971) 17 Cal.App. 3d 1, at 20-21; see also Horn v. County of Ventura (1979) 24 Cal.3d 605, 614, 618, 621; PRC § 21151(c).)

Accordingly, petitioners were denied due process and a fair hearing before the City Council regarding Appellants' appeal of the Spaulding Avenue Trees and they are entitled to due process on the current appeal.

The Council should issue a stay against this Tree Removal pending completion of its administrative process and immediately take action on this appeal for the requested herein to ensure the protection of Appellant's due process rights and prevent further waste of tax-payer funds as it is required to do under California Code of Civil Procedure Section 526a.

VI. APPROVAL OF THE TREE REMOVAL WOULD VIOLATE THE CITY'S PUBLIC LAND LANDSCAPE POLICY

The Tree Preservation section of the City of Los Angeles Public Land Landscape Policy ("**Tree Policy**") specifically requires that, "The cutting down or removal of structurally sound trees by City forces, or by private parties under contract with the City, shall be prohibited. (Exhibit F, Tree Policy § 5.) Existing trees located on publicly controlled property shall not be removed unless necessitated by urgent reasons of safety, imminent death of the tree, unique requirements of individual trees, or to permit the installation of a greatly needed public facility. Before removal of existing trees is approved, a detailed investigation of all possible alternatives so as to retain the trees shall be made. Such alternates shall include, but are not limited to, the following:

a. Developing alternate alignments, especially for streets, sidewalks, and other hardscape, power and communications lines, storm drains, and sewers.
b. Moving roadway alignments from one side of the right of way to the other, to avoid existing mature trees.
c. Relocating tree to an appropriate nearby, neighborhood location, where appropriate, and in consultation with the local Neighborhood Council.
d. Relocating sidewalks immediately adjacent to the roadway when location adjacent to the property line causes interference with trees.
e. Relocating proposed buildings or other structures, including their structural elements, to avoid interference with existing trees."

Furthermore, the Tree Policy requires that, "Whenever the removal of five or more trees, or any outstanding or protected tree specimen, especially a large, historical or significantly handsome tree, is proposed, the following procedure shall be followed:

The local Neighborhood Council, the Councilmember of the respective district, the Department of Public Works, the Forestry Division and the General Manager of the Department of Recreation and Parks, and the Community Forest Advisory Committee (CFAC) shall be consulted regarding possible alternatives."

A. Appellants Urge the Council to Investigate All Possible Tree Removal Alternatives So As To Protect Structurally Sound And Mature Trees

The City's Public Landscape Policy requires a detailed investigation into ALL possible alternatives in order to prevent the removal of structurally sound or mature trees. Commenters urge City Council to require the City to investigate the following tree removal alternatives prior to approval of the tree removal permit request:

- Sidewalk width reduction;
- Alternative sidewalk materials including asphalt, pavers, pervious concrete, and/or rubber;
- Sidewalk beveling,
- Reinforced or thicker concrete slabs,
- Expansion Joints,
- Shims,
- Concrete leveling,
- Tree pit sizing,
- Bridging,
- Easements,
- Foam Underlay,
- Root paths,
- Steel Plates,
- Subsurface aeration & irrigation,
- Root pruning,
- Meandering

Yet, in the section of the report titled "Alternative Methods and Options Explored" the City only indicates that "the Size, species and location of the trees negate the possibility of tree preservation or relocation." Few, if any of the options listed above are expressly addressed in the report. Moreover, there is no indication that CFAC, or any other of the agencies identified in Tree Policy were consulted. Since this tree removal involved the removal of 5 or more trees, consultation with those agencies was required. Thus, approval of this tree removal prior to a complete investigation would violate both CEQA and the City's Public

Landscaping Policy. Appendix B of a Tree and Sidewalks Operations Plan prepared by the Department of Transportation for the city of Seattle describes several of the tree removal alternatives mentioned above and provides recommendations for scenarios where the alternatives should be considered.

B. The Proposed Tree Replacements (Pink Trumpets) will Result in a Decrease of the Urban Tree Canopy

The Bureaus of Street Services and Engineers are replacing 6 Camphor (Cinnamomum camphora) trees with 12 Pink Trumpet trees. Camphor trees can grow up to 50-60 feet and 50-60 feet wide and are dense in leaf. (See Urban Forest Ecosystems Institute report attached as Exhibit H.) This results in massive shade-producing and temperature-reducing benefits.

Meanwhile, studies indicate that Pink Trumpet trees do not provide nearly as much canopy as the the Cinnamomum camphora trees. According to the Urban Forest Ecosystems Institute, the Pink Trumpets have a shading capacity rating of low to moderately low. Additionally, the flowers native to the Pink Trumpets bloom either in the Winter or Spring, leaving potential for little to no canopy for several months out of the year. The City proposed planting 24-inch-tall trees. The Pink Trumpet grows at an average rate of 12-24 inches per year. It would take at least 5 years for these trees to become mature enough to provide any type of canopy necessary for maintaining lower temperatures. Even then, the Pink Trumpet only grows to 25 feet tall or less than half the height of the tallest Camphor trees. (Exhibit H.)

This will result in a significant decrease in the urban tree canopy. Appellants urge City Council to deny the Tree Removal permit. Even with a required 2:1 replacement ratio, the growth rate and characteristics of the recommended replacement trees are not an adequate solution to the issue of repairing the sidewalks. Further, we urge Council to require the City to investigate and implement an immediate alternative to repair the sidewalks pending appeal and pending CEQA review.

VII. CONCLUSION

For the aforementioned reasons, Appellants urge the Council to deny the Tree Removal permit and to place on the Council's next agenda a motion that directs the City to cease and desist issuing any permits to remove, or removing, any trees from the public right of way pending the completion of the environmental review process for the Sidewalk Repair Program.

Venskus & Associates, A.P.C.

By:
Jason Sanders

Attached:

Exhibit A: Notice of Preparation regarding Sidewalk Repair Program

Exhibit B: Initial Study regarding Sidewalk Repair Program

Exhibit C: Su Jin Lee, et al (2017) Increasing home size and hardscape decreases urban forest cover in Los Angeles County's single-family residential neighborhoods 24 Urban Forestry & Urban Greening 222. 231Study Report from University of Southern California regarding urban tree cover

Exhibit D: Declaration of Casey Maddren in support of Comment Letter regarding BPW-2018-0494

Exhibit E: City of Seattle Department of Transportation Tree and Sidewalks Operations Plan prepared in February 2015

Exhibit F: City of Los Angeles (2007) City of Los Angeles Public Land Landscape Policy – Request Board Approval of the Proposed Revision to the Policies for the Installation and Preservation of Landscaping and Trees on Public Property

Exhibit G: Tree Removal Notification, Bureau of Street Services Report and Appellants' Comment letter to the BPW dated July 24, 2018 (without exhibits to avoid duplication) regarding removal of the 48th Street Trees; and

Exhibit H: Urban Forest Ecosystems Institute report

EXHIBIT A

CITY OF LOS ANGELES

CALIFORNIA

DEPARTMENT OF
PUBLIC WORKS

BUREAU OF
ENGINEERING

GARY LEE MOORE, PE, ENV SP
CITY ENGINEER

1149 S. BROADWAY, SUITE 700
LOS ANGELES, CA 90015-2213

http://eng.lacity.org

NOTICE OF PREPARATION

To: Responsible Agencies, Trustee Agencies, Stakeholders, and Interested Parties

From: City of Los Angeles
Department of Public Works, Bureau of Engineering
Environmental Management Group
1149 S. Broadway, 6th Floor
Los Angeles, CA 90015-2213

Subject: Notice of Preparation for the proposed Sidewalk Repair Program

Summary: The City of Los Angeles Bureau of Engineering (BOE) is beginning the environmental review process for the proposed Sidewalk Repair Program (proposed Project), which would be located throughout the City of Los Angeles. BOE welcomes comments and/or concerns on the content of the environmental information presented and invites you to attend a public meeting in your neighborhood to learn more about the proposed Project and participate in the environmental review process.

On behalf of the City of Los Angeles, as the California Environmental Quality Act (CEQA) Lead Agency, BOE has prepared a Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for the proposed Sidewalk Repair Program. As part of the NOP, an Initial Study/Environmental Checklist in accordance with current City of Los Angeles Guidelines for Implementation of CEQA of 1970, Article I and Section 15082 of CEQA Guidelines is available for review. BOE is requesting input from responsible agencies, trustee agencies, stakeholders, and other interested parties on the scope and content of the environmental information relevant to the statutory responsibilities of agencies and to the concerns of other interested stakeholders. Using the information obtained through the scoping period and the Initial Study, BOE will prepare an EIR to analyze the potential environmental impacts of the proposed Project and alternatives. The review period for the NOP/Initial Study is from July 27, 2017 to September 15, 2017.

Project Location

The proposed Project would repair and upgrade sidewalks and curb ramps throughout the City. The purpose of the proposed Project is to continue and expand implementation of Safe Sidewalks LA, in order to make City pedestrian facilities compliant with applicable accessibility requirements. Existing sidewalks and walkways, and gaps of missing sidewalks, will be repaired or replaced under the proposed Project. Street tree removals and replacements, along with utility relocations, may be needed. The City may adopt policies and/or ordinances to assist in the efficient administration of the proposed Project and its objectives.

To organize work under the proposed Project, the citywide project area has been organized into seven regional project zones that overlap with the boundaries of existing Area Planning Commissions (APC) within the City; see attached Figure 1, Project Location Map (Attachment 1), which identifies the project zones.

Potential Environmental Effects

Potential environmental effects associated with the proposed Project include the following, which are included in the scope of the Initial Study and will be discussed in detail in the Draft EIR: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology/Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Public Services, Transportation and Traffic, Tribal Cultural Resources, and Utilities and Service Systems.

Initial Study

An Initial Study is a preliminary analysis conducted to determine whether there is substantial evidence that a proposed project may have a significant effect on the environment. A copy of the Initial Study is available at 35 libraries throughout the City of Los Angeles. Their locations are shown in Attachment 1. The Initial Study and a copy of the NOP in Spanish is available online at:

http://sidewalks.lacity.org/environmental-review-process

Scoping Meetings

Public scoping meetings will be held to obtain input on the scope and contents of the EIR:

- Wednesday, August 9th, 2017
  Ronald F. Deaton Civic Auditorium
  100 W 1st Street, Los Angeles, CA 90012
  Event time: 6:00 p.m. – 8:00 p.m.
- Monday, August 14th, 2017
  Mid-Valley Senior Citizen Center
  8825 Kester Avenue, Panorama City, CA 91402
  Event time: 6:00 p.m. – 8:00 p.m.
- Thursday, August 24, 2017
  Westchester Senior Citizen Center
  8740 Lincoln Boulevard, Los Angeles, CA 90045
  Event time: 6:00 p.m. – 8:00 p.m.

Comments

Please submit your comments, concerns and any other information that will be helpful in preparing an informative EIR by September 15, 2017. **Comments may be submitted by email to:**

Shilpa.Gupta@lacity.org (please include "SRP" in the subject line).

Please include the name, telephone number, mailing address, and e-mail address of a person to contact if we have any questions regarding your comment.

Comments may also be submitted by mail to:

Shilpa Gupta, Environmental Supervisor I
City of Los Angeles Public Works, Bureau of Engineering
Environmental Management Group
1149 S. Broadway, Suite 600, Mail Stop 939
Los Angeles, CA 90015-2213
(213) 485-4560.

Attachment 1: Figure 1, Project Location Map and NOP/IS Availability Map.

Attachment 1. Project Location Map

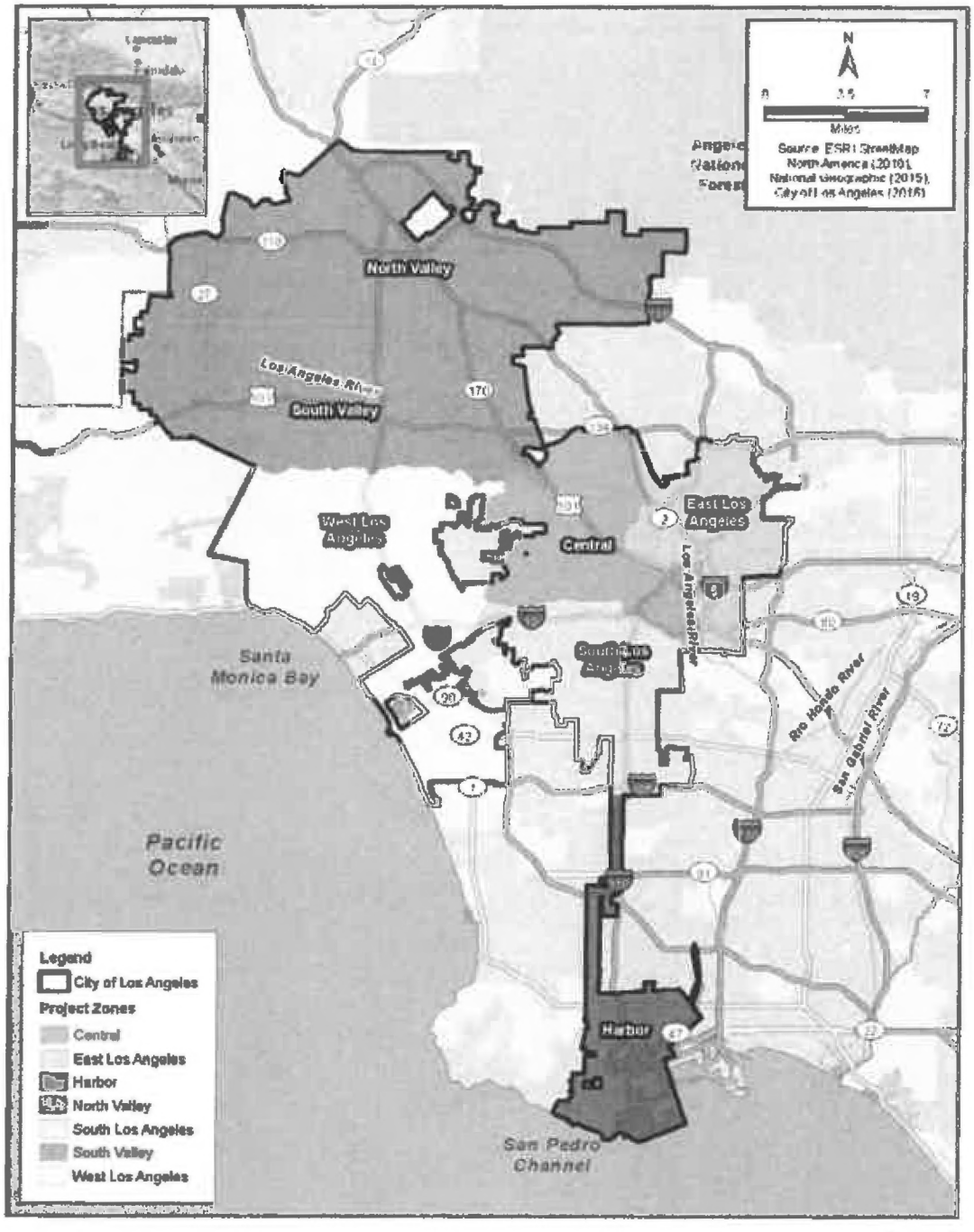

Figure 1
Project Location
Sidewalk Repair Program

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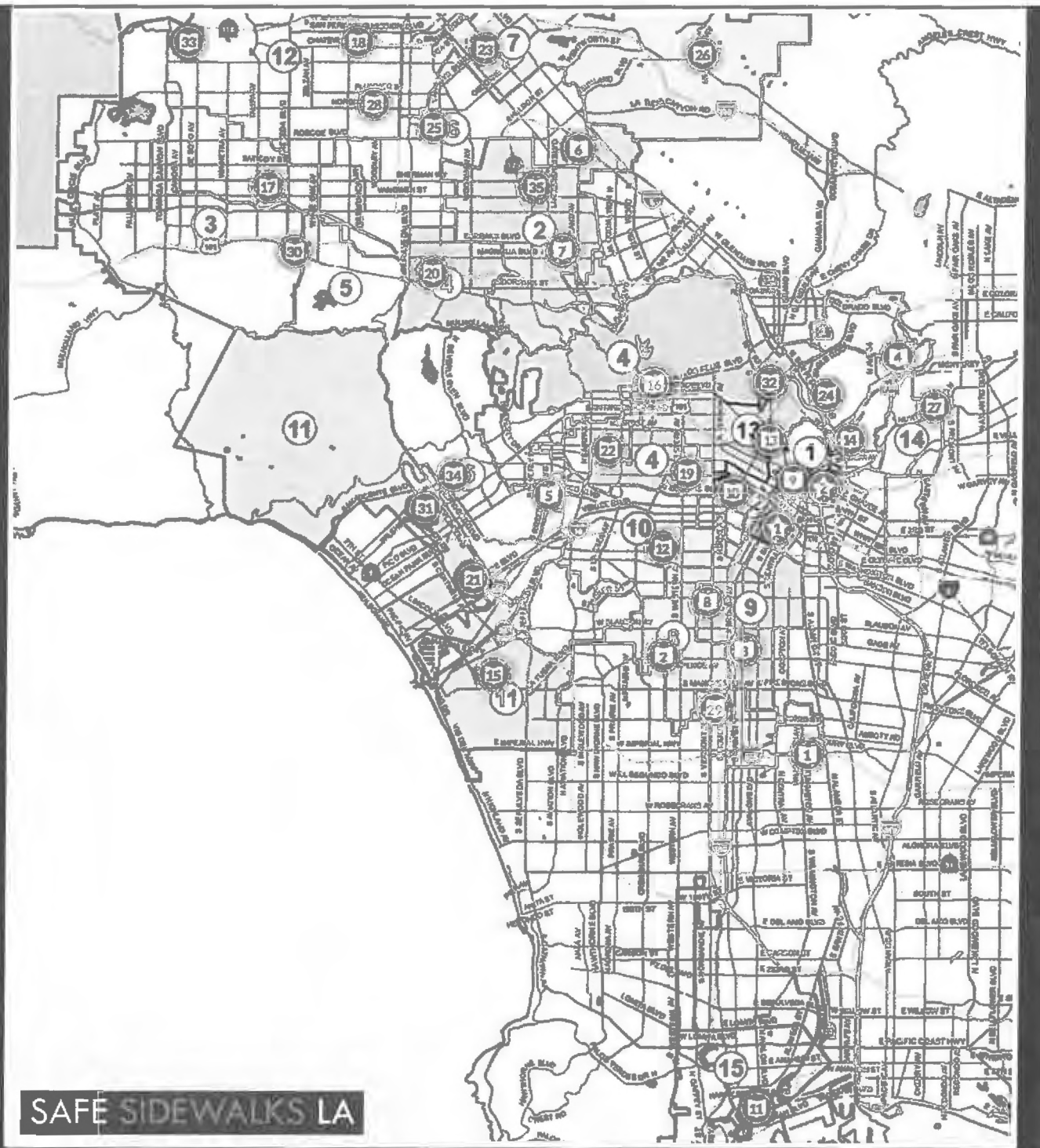

SRP PRIORITY COMMUNITIES

BRANCH LIBRARIES

1. Willowbrook Library
2. Hyde Park Branch Library
3. Ascot Branch Library
4. Arroyo Seco Library
5. Robertson Library
6. Sun Valley Library
7. North Hollywood Amelia Earhart Regional Library
8. Vermont Square Branch Library
9. The Los Angeles Central Library
10. Pico Union Branch Library
11. San Pedro Regional Library
12. Jefferson Library
13. Edendale Branch Library
14. Lincoln Heights Branch Library
15. Westchester Loyola Village Library
16. Frances Howard Goldwyn-Hollywood Regional Branch Library
17. West Valley Regional Branch Library
18. Granada Hills Library
19. Pio Pico Library
20. Sherman Oaks Library
21. Mar Vista Branch Library
22. Fairfax Branch Public Library
23. Pacoima Branch Library
24. Cypress Park Branch Library
25. Panorama City Branch Library
26. Sunland-Tujunga Branch Library
27. El Sereno Branch Library
28. Mid-Valley Regional Library
29. Mark Twain Library
30. Encino-Tarzana Branch Library
31. West Los Angeles Regional Library
32. Silver Lake Branch Library
33. Chatsworth Branch Library
34. Westwood Branch Library
35. Valley Plaza Library

OTHER LOCATIONS

1. City of Los Angeles Bureau of Engineering
2. City of Los Angeles City Clerk

COUNCIL DISTRICT

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EXHIBIT B

INITIAL STUDY/ENVIRONMENTAL CHECKLIST

FOR THE

SIDEWALK REPAIR PROGRAM

City of Los Angeles, Department of Public Works
Bureau of Engineering, Environmental Management Group
1149 S. Broadway, Suite 600
Los Angeles, CA 90015
Contact: Shilpa Gupta, Environmental Supervisor I
213-485-4560
Shilpa.Gupta@lacity.org

ENGINEERING
CITY OF LOS ANGELES

JULY 2017

Contents

Tables

Figures

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Chapter 1
Introduction

The City of Los Angeles Bureau of Engineering (BOE) has prepared this Initial Study (IS) and Environmental Checklist to evaluate the potential environmental impacts associated with the Sidewalk Repair Program (proposed Project).

One of the main objectives of the California Environmental Quality Act (CEQA) is to disclose the potential environmental effects of proposed activities on the public and decision-makers. Under CEQA, BOE as the lead agency has prepared this IS and Environmental Checklist and determined that an environmental impact report (EIR) is needed. CEQA requires that the potential environmental effects of a project be evaluated prior to implementation. This IS includes a discussion of the proposed Project's effects on the existing environment and identifies potential avoidance, minimization, and mitigation measures.

Authority

CEQA was enacted in 1970 and is codified in the California Public Resources Code (Sections 21000 et.al.). The CEQA statute contains detailed rules governing the content of environmental documents and the environmental review process by state and local agencies. The environmental review process provides decision-makers and the public with information regarding environmental effects of a proposed project, identifies means of avoiding environmental damage, and discloses to the public the reasons behind a project's approval even if it leads to environmental impacts. BOE has determined the proposed Project is subject to CEQA, and no exemptions apply.

This IS has been prepared in accordance with CEQA (Public Resources Code §21000 et seq.) and the State CEQA Guidelines (Title 14, California Code of Regulations, §15000 et seq.).

Lead, Responsible, and Trustee Agencies

The City of Los Angeles is the lead agency for the proposed Project, pursuant to Section 15367 of the State CEQA Guidelines, because it has the greatest degree of discretion to approve or deny the proposed Project. Approvals of permits include, but are not limited to, those required during final design of public facilities and construction contracts.

In addition to the lead agency, several other agencies have special roles with respect to the proposed Project as responsible or trustee agencies. These agencies will use the EIR once prepared as the basis for their decisions to issue any approvals and/or permits that may be required. Permits and approvals noted in Table 3 are anticipated to be required to implement the proposed Project.

Scope of the Initial Study

This IS evaluates the proposed Project's effects on the following resource areas:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Mandatory Findings of Significance

Impact Terminology

The following terminology is used to describe each impact's level of significance:

Potentially Significant Impact. This category is only applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less-than-significant level.

Less than Significant After Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less-than-Significant Impact." The lead agency must describe the mitigation measure(s), and briefly explain how it would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

Less-than-Significant Impact. This category is identified when a proposed project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a proposed project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific project (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., a proposed project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

BOE and other public agencies have identified applicable "thresholds of significance" for certain types of environmental impacts, such as traffic, noise, and air quality impacts. Thresholds of significance for the proposed Project are based on the *City of Los Angeles CEQA Thresholds Guide* (2006), and are identified in this IS where applicable.

Document Format

This IS contains six chapters:

Chapter 1. Introduction. This chapter provides an overview of the proposed Project and the CEQA environmental documentation process.

Chapter 2. Project Description. This chapter provides a detailed description of the proposed Project objectives and components.

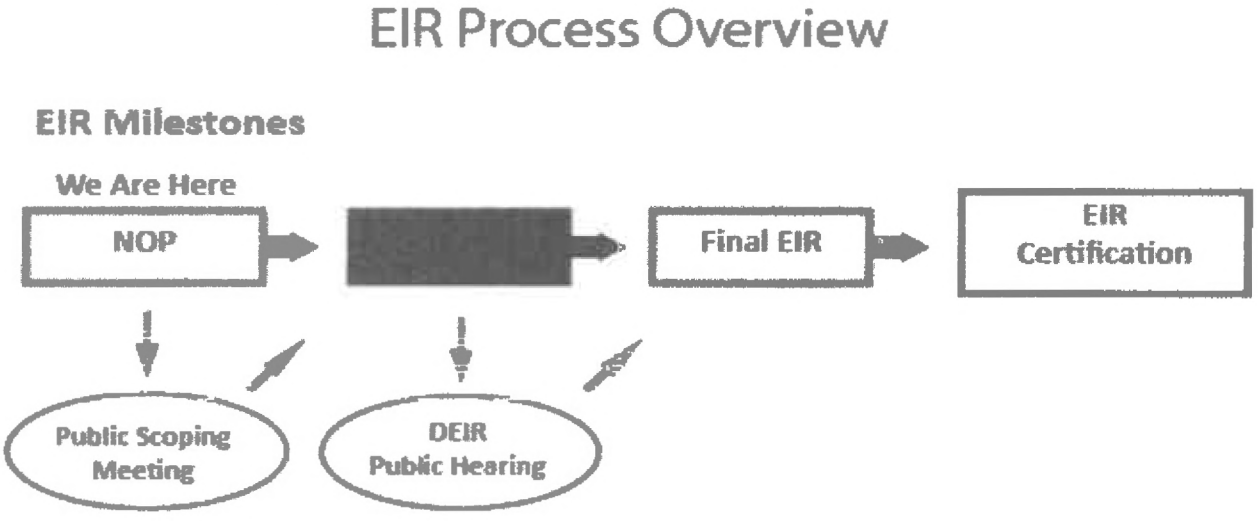
Chapter 3. Initial Study Environmental Checklist. This chapter presents the CEQA checklist for all impact areas and mandatory findings of significance.

Chapter 4. References. This chapter provides a list of reference materials used during the preparation of the IS.

Chapter 5. Preparers and Contributors. This chapter provides a list of key personnel involved in the preparation of the IS.

Chapter 6. Acronyms and Abbreviations. This chapter provides a list of acronyms and abbreviations used throughout the IS.

CEQA Process and Availability of the Initial Study



The CEQA process is initiated when the lead agency identifies a proposed project. The lead agency then normally prepares an IS to identify the preliminary environmental impacts of the proposed project. This IS determined that the proposed Project could have significant environmental impacts that would require further study and the need to implement mitigation measures. Therefore, the lead agency has decided to prepare an EIR. A Notice of Preparation (NOP) is prepared to notify public agencies and the general public that the lead agency is starting the preparation of an EIR for the proposed Project. The NOP and IS are typically circulated for a 30-day review and comment period. During this review period, the lead agency requests comments from agencies, interested parties, stakeholders, and the general public on the scope and content of the environmental information to be included in the Draft EIR.

After the close of the comment period for the IS, the lead agency will continue the preparation of the Draft EIR and associated technical studies (if any). Once the Draft EIR is complete, a Notice of Availability (NOA) is prepared to inform agencies and the general public of the availability of the document and where the document can be reviewed. The Draft EIR and NOA are typically circulated for a 45-day review period to provide agencies and the general public an opportunity to comment on the adequacy of the analysis and the findings regarding potential environmental impacts of the proposed Project.

After the close of the comment period, responses to all comments received on the Draft EIR are prepared. The lead agency prepares a Final EIR, which incorporates the Draft EIR or revisions to the Draft EIR, Draft EIR comments and list of commenters, and a response to comments discussion. In addition, the lead agency must prepare findings of fact for each significant effect identified, a statement of overriding considerations if there are significant impacts that cannot be mitigated, and a mitigation monitoring and reporting program (MMRP) to ensure that all proposed mitigation measures are implemented.

The Board of Public Works will consider the Final EIR and make a recommendation to the Los Angeles City Council (Council), as the governing body of the City of Los Angeles (City), regarding certification of the Final EIR and proposed Project approval. The Council may certify and approve the Final EIR or may choose to not approve the proposed Project.

During the environmental review and project approval process, people and/or agencies may address the Board of Public Works and Council regarding the proposed Project. Public notification of agenda items for the Board of Public Works are available at:

http://bpw.lacity.org/Agendas.html

Council agenda items are posted 72 hours prior to the public meeting. Agendas can be accessed via the internet at the following location:

http://lacity.org/city-government/elected-official-offices/city-council/council-calendar.

Alternatively, agendas can be obtained by visiting City Hall:

City Hall
200 North Spring Street
John Ferraro Council Chamber, Room 340
Los Angeles, CA 90012

Within five days of project approval, the BOE will file a Notice of Determination (NOD) with the County Clerk. The NOD will be posted by the County Clerk within 24 hours of receipt. This begins a 30-day statute of limitations on legal challenges to the CEQA approval by the lead agency. The ability to challenge the approval in court may be limited to those persons who objected to the approval of the proposed Project and to issues that were presented to the lead agency by any person in writing during the public review and comment periods regarding the EIR.

Availability of the Initial Study

In accordance with the CEQA statutes and Guidelines, the NOP/IS is being circulated for a minimum of 30 days for public review and comment. The public review period for this NOP/IS is scheduled to begin on July 27, 2017, and will conclude on September 15, 2017. The NOP/IS has been distributed to interested or involved public agencies, organizations, and private individuals for review. The NOP/IS is available online at:

http://sidewalks.lacity.org/environmental-review-process

Copies are available for review at 35 library locations, as listed in Appendix A. For example, these locations include:

- San Pedro Regional Library, 931 S. Gaffey Street, San Pedro, CA 90731
- Westwood Branch Library, 1246 Glendon Avenue, Los Angeles, CA 90024
- Los Angeles Central Library, 630 W. 5th Street, Los Angeles, CA 90071
- Encino-Tarzana Branch Library, 18231 Ventura Boulevard, Tarzana, CA 91356

Approximately 630 notices were sent to community residents, stakeholders, and local agencies about the availability of the NOP/IS and the opportunity to attend a public meeting to learn more about the proposed Project and provide comments on the NOP/IS.

Scoping Meetings

Three public scoping meetings will be held to obtain input on the NOP/IS and the scope and contents of the EIR:

- August 9, 2017, 6 p.m.–8 p.m., Ronald F. Deaton Civic Auditorium, 100 W 1st St (Main), Los Angeles, CA 90012
- August 14, 2017, 6 p.m.–8 p.m., Mid-Valley Senior Citizen Center, 8825 Kester Ave, Panorama City, CA 91402
- August 24, 2017, 6 p.m.-8 p.m., Westchester Senior Citizen Center, 8740 Lincoln Boulevard, Los Angeles, CA 90045

During the scoping period, the public has the opportunity to provide written comments on the information contained within this NOP/IS or provide comments at a public meeting. Comments on the NOP/IS and responses to comments will be included in the record and considered by BOE during preparation of the Draft EIR.

In reviewing the NOP/IS, responsible and trustee agencies and interested members of the public should focus on the sufficiency of the document in identifying and analyzing potential proposed Project impacts on the environment, and ways in which the potential significant effects of the proposed Project could be avoided or mitigated. Comments on the NOP/IS should be submitted in writing by **September 15, 2017**. Please submit written comments to:

Shilpa Gupta, Environmental Supervisor I
Los Angeles Bureau of Engineering, Environmental Management Group
1149 S. Broadway, Suite 600, Mail Stop 939
Los Angeles, CA 90015

Written comments may also be sent via email to Shilpa.Gupta@lacity.org. Comments sent via email should include "SRP" in the subject line and a valid mailing address in the email.

If you have any questions regarding the environmental review process for the proposed Project, you can go to:

http://sidewalks.lacity.org/environmental-review-process

or contact:

Shilpa Gupta, Environmental Supervisor I
Los Angeles Bureau of Engineering
213.485.4560
Shilpa.Gupta@lacity.org

Chapter 2
Project Description

Introduction and Overview

The proposed Project would repair and upgrade sidewalks and curb ramps throughout the City. Figure 1 shows the proposed Project location. In August 2010, a class action lawsuit between the Willits et al. plaintiff group and the City of Los Angeles addressed the need to repair damaged sidewalks in the City to ensure compliance with the Americans with Disabilities Act (ADA) and the Rehabilitation Act of 1973. In May 2015, the Council approved the *Willits v. City of Los Angeles* Settlement Term Sheet (Settlement), which includes various City actions that provide improved access to persons with mobility disabilities in accordance with local, state, and federal accessibility requirements.

The proposed Project would implement improvements to pedestrian facilities over approximately 30 years. The Settlement defines pedestrian facilities as "any sidewalk, intersection, crosswalk, street, curb, curb ramp, walkway, pedestrian right-of-way (ROW), pedestrian undercrossing, pedestrian overcrossing, or other pedestrian pathway or walkway of any kind that is, in whole or in part, owned, controlled or maintained by or otherwise within the responsibility of the City of Los Angeles." The broad purpose of the proposed Project is to make City pedestrian facilities compliant with applicable accessibility requirements. Street tree removals and replacements, along with utility relocations may be needed. The City may adopt policies and/or ordinances to assist in the administration of the proposed Project and its objectives.

Project Background

The City maintains approximately 11,000 miles of sidewalks. Conditions of these existing sidewalks vary greatly, as depicted on Figure 2. This figure also documents deteriorating infrastructure and the necessity to comply with applicable accessibility requirements. The City's Bureau of Street Services (BSS) has historically been responsible for routine sidewalk repairs and maintenance throughout the City. However, the 2010 *Willits v. City of Los Angeles* class action lawsuit prompted the City to accelerate and improve sidewalk repair efforts by developing the Safe Sidewalks LA Program.

In February 2015, the Council instructed BOE to work with various other City departments and utilize the existing City contracts for sidewalk repairs adjacent to City facilities as matter of "urgent necessity" and established BOE as the program manager.

In May 2015, the Council approved the Settlement, and the City Administrative Officer (CAO) released a report that recommended sidewalk repair policies for a City program that (1) is permanent and ongoing, (2) is consistent with the Settlement, (3) shares responsibility for maintenance and repair with adjacent property owners, and (4) ensures accessibility in areas with the most significant safety hazards. The CAO report was prepared in consultation with the various City departments and agencies. According to the CAO report, the City should prioritize sidewalk-related access improvements addressing access barriers and the most significant safety hazards. The City launched Safe Sidewalks LA in 2016 to begin to meet these requirements.

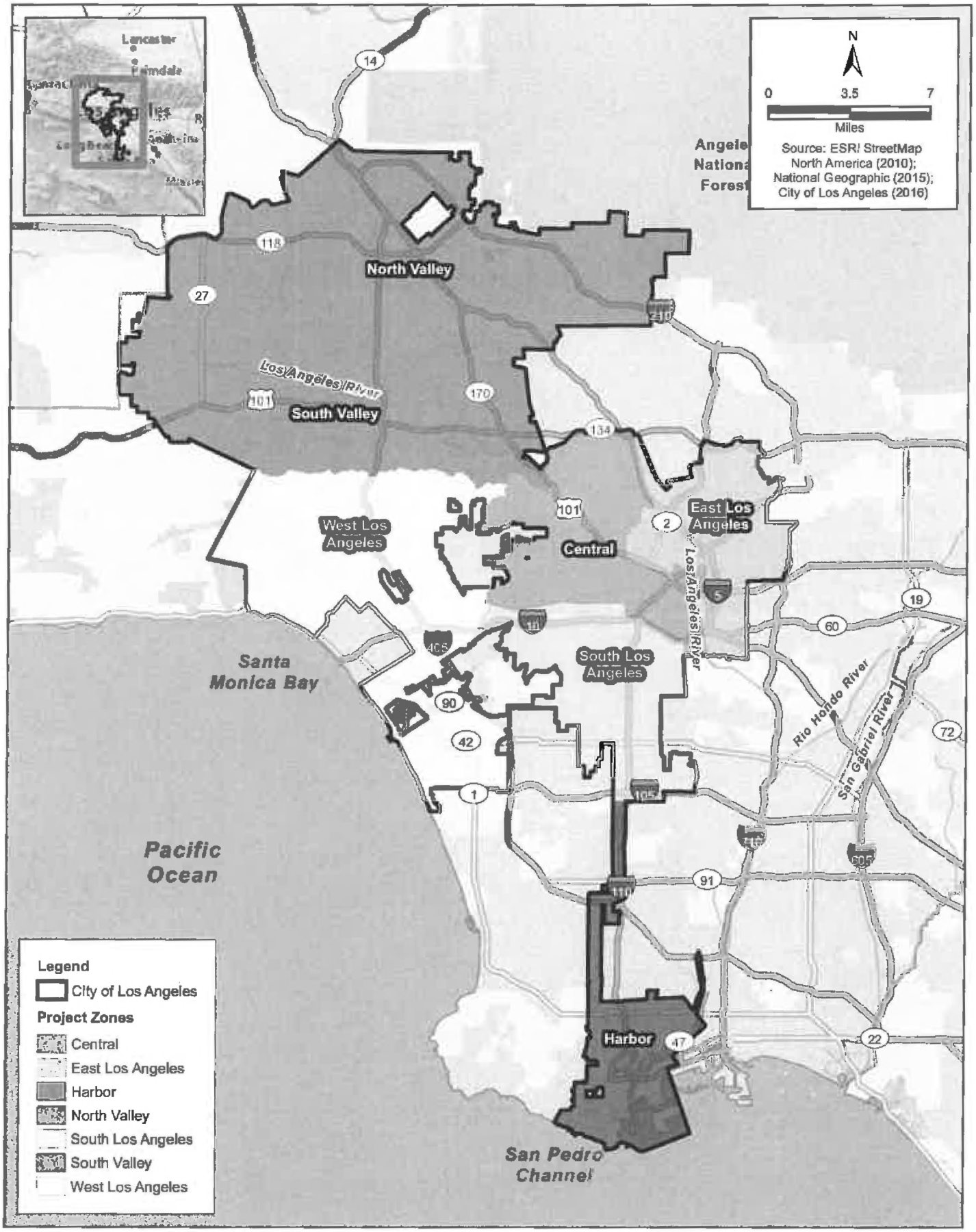


Figure 1
Project Location
Sidewalk Repair Program

Curb Ramp Needed

Uplift

Cracking

Figure 2
Examples of Sidewalk Damage and Access Barriers
Sidewalk Repair Program

However, additional Council approvals, including certification of an EIR in compliance with CEQA, are required to expand current activities and implement Safe Sidewalks LA over the next approximately 30 years. Sections 15300 to 15322 of the State CEQA Guidelines identify classes of projects that are categorically exempt from provisions of CEQA because they do not ordinarily result in a significant effect on the environment. Minor repairs to existing sidewalks typically fit the definition of a Class 1 existing facility identified under Section 15301 (c). As the proposed Project consists of a long-term sidewalk repair program, with an expected consistent level of funding and activities, additional review under CEQA is required to analyze the impact of these activities collectively, over time. The proposed Project will potentially result in the removal of large quantities of mature street trees, as well as temporary street and sidewalk closures during construction activities. The street trees are expected to be replaced at a 2:1 ratio consistent with current City policy (Board of Public Works street tree removal permit process and policy). The Draft EIR will identify the environmental impacts associated with the implementation of Safe Sidewalks LA and recommend appropriate mitigation measures, as necessary.

Safe Sidewalks LA Program

Under California law, property owners are responsible for the repair and maintenance of all sidewalks, driveway approaches, curb returns, and curbs on their property. In 1973, the City voluntarily took over the responsibility to repair and maintain these improvements if the damage was caused by root growth from public street trees. In November 2016, the City adopted an ordinance amending Section 62.104 of the Los Angeles Municipal Code and established a fix and release program. Through the ordinance and fix and release program, responsibility for the repair and maintenance of sidewalks, driveway approaches, curb ramps, and curbs is transferred back to the property owner. The transfer of responsibility occurs after the City inspects the sidewalk for ADA compliance. If the inspection reveals that the sidewalk is non-compliant with the ADA, then the City repairs the sidewalk, to achieve compliance, up to $20,000 per lot.

Once a sidewalk is repaired and complies with applicable accessibility requirements, BOE issues a Certificate of Sidewalk Compliance. When issued, a 20-year Sidewalk Repair Warranty for residential property and a 5-year warranty for commercial property begins. During the warranty period, the City guarantees a one-time repair of the sidewalk as deemed necessary. However, the Sidewalk Repair Warranty would be waived if the property owner elects to retain a street tree that has been recommended for removal. Repairs to these sidewalks would be the sole responsibility of the property owner.

In general, Safe Sidewalks LA offers three programs for constituents to repair sidewalks: Access Request, Rebate, and Report a Sidewalk Problem. These programs are currently being implemented in an effort to comply with the Settlement and address access barriers.

Ongoing repairs conducted under Safe Sidewalks LA are currently performed adjacent to City facilities and through the Access Request and Rebate programs. These requests are made by constituents and received through the MyLA 311 service request system.

Access Request

Under the Access Request program, individuals with a mobility disability may submit a request to the City for sidewalk repairs due to physical access barriers such as broken sidewalks, missing or broken curb ramps, or other access barriers in the public right-of-way.

Rebate

Under the Rebate program, any residential or commercial property owner may voluntarily undertake sidewalk repair work that meets accessibility requirements, and then receive a rebate in a specified amount. The Rebate Program is intended to accelerate sidewalk repairs in residential and commercial areas and leverage available City funds.

Report a Sidewalk Problem

Under Report a Sidewalk Problem, the general public may report a sidewalk in need of repair.

Prioritization Matrix and Scoring System

As required under the terms of the Settlement in conjunction with criteria set forth by the Council, BOE has developed a sidewalk repair Prioritization Matrix and Scoring System (Prioritization System) to guide implementation of Safe Sidewalks LA. Due to the significant number of requests received for sidewalk repair, the Prioritization System will help to provide clear and objective guidance for prioritizing work. The Prioritization System will not be applicable to the Rebate Program, and it will be presented to Council for consideration.

Project Objectives

The proposed Project is intended to meet the following objectives:

1. Comply with the requirements of the Settlement Agreement, and amend the existing program, as needed, for sidewalk and curb ramp repairs within the City in accordance with applicable accessibility requirements. Street tree removal and replacement, and utility relocation may occur, as necessary, for implementation.
2. Identify criteria for street tree preservation, and removal and replacement requirements where street trees are the cause of sidewalk damage and recommend policies and/or an ordinance related to these criteria to implement the proposed Project.
3. Consider the City's sustainability goals when implementing the Sidewalk Repair Program.

Proposed Project

Proposed Project Activities

The proposed Project would continue, amend, and expand implementation of Safe Sidewalks LA over the next 30 years to meet the provisions of the approved Settlement Agreement. Existing sidewalks and walkways, and gaps of missing sidewalks, would be repaired or replaced under the proposed Project.

Work under the proposed Project may include the following types of improvements to meet applicable accessibility requirements:

- Installation of missing curb ramps.
- Repair of street tree damage to sidewalk or walkway surfaces.

- Upgrades to existing curb ramps.
- Repair of broken and/or uneven pavement in the pedestrian rights of way.
- Repair of vertical or horizontal displacement or upheaval of the sidewalk or crosswalk surfaces.
- Correction of non-compliant cross-slopes in sidewalks or sections of sidewalks.
- Removal of protruding and overhanging objects and/or obstructions.
- Widening of restricted pedestrian rights-of-way when required.
- Providing clearance to the entrances of public bus shelters.
- Repair of excessive gutter slopes at the bottom of curb ramps leading into crosswalks.
- Elimination of curb ramp lips on curb ramps.
- Installation of utility covers.
- Repair of driveways, curb and gutter.
- Street tree preservation, removal, and/or replacement.
- Street tree root pruning and canopy pruning as appropriate.
- Installation of tree wells and other compliant remediation.
- Addressing other non-compliant accessibility conditions, as required.

Proposed Sidewalk Repair Program Ordinance and/or Policy Related to Street Trees

As part of the proposed Project, an ordinance and/or policy could be developed to establish criteria for street tree preservation, and removal and replacement where street trees are the cause of sidewalk damage. A proposed ordinance or policy could guide proposed Project implementation and establish a more efficient approval procedure. The ordinance could set forth ministerial permit requirements for street tree removal and replacement for work conducted under the proposed Project. The City's current practice is to obtain permits for street tree removals when conducting sidewalk repairs. The current Board of Public Works Street Tree Removal Permit Process and Policy (Policy) sets the requirements for replacement, such as ratio, size, and location, and generally requires a 2:1 ratio of street tree replacement within the City. While this replacement ratio is expected to continue for the proposed Project, additional policies related to street tree preservation and replacement may be developed. As the City develops criteria for street tree preservation, and removal and replacement requirements for the proposed Project, the criteria could be reflected in the proposed ordinance and/or modified Policy. Proposed language for a draft Sidewalk Repair Program ordinance or policy related to street trees would be included in the Draft EIR for public and agency review and comment. Table 1 identifies the various environmental resource sections in this Initial Study that discuss street tree preservation, removal, and replacement activities.

Table 1. Initial Study Environmental Resource Areas that Discuss Street Tree Preservation, Removal, and Replacement Activities

Initial Study Environmental Resource Areas	Page Number
I. Aesthetics	3-4
IV. Biological Resources	3-13
V. Cultural Resources	3-18
VII. Greenhouse Gas Emissions	3-24
VIII. Hazards and Hazardous Materials	3-26
IX. Hydrology and Water Resources	3-31
X. Land Use and Planning	3-38
XII. Noise	3-41
XVIII. Utilities and Service Systems	3-54
XIX. Mandatory Findings of Significance	3-58

Typical Construction Scenarios

To quantify the potential environmental impacts associated with the proposed Project, construction scenarios have been created to best describe the type of work that would likely occur at each proposed Project site. It should be noted that the actual construction process and schedule would be determined by the contractor at the time of construction; therefore, the information presented below should be regarded as illustrative of similar typical construction processes. Repairs requiring new ROW or access easements may, be needed to meander around a tree to complete repairs. Additionally, repairs occurring within culturally sensitive areas will be discussed in the Cultural Resource section of the EIR.

The following two prototypical construction scenarios were developed for the purposes of the environmental impact analysis. It is assumed for the purposes of this analysis that each construction scenario would be analyzed by parcel (i.e., each individual property owner) and by block (i.e., several repairs occurring at the same time within a city block). Impacts would be addressed at the local level (parcel/block), as well as aggregated into an annual average expected level of activity. These scenarios are representative of various configurations depending on the conditions of each site. All construction activities may not occur at each proposed Project location. These scenarios represent the range and general durations of the construction activities that may occur. For example, not all sidewalk repairs would involve street tree removals.

Scenario 1: Sidewalk Repair with Curb Ramp Repairs, Street Tree Removals and Replacements, and Minor Utility Work

This scenario represents combinations of the following construction activities:

- Sidewalk repair work, including fixing broken concrete, cracks, uplifts, driveways, curb and gutter, and making required accessibility improvements such as cross slope work.
- Curb ramp repairs or installation.

- Street tree removal and replacement.
- Minor utility work such as utility box adjustments.

Sidewalk Repair

Typical sidewalk repair for sidewalks, driveways, curb and gutter, and curb ramps in any one location typically takes 3–4 days for construction: for example, 1 day for demolition of existing sidewalk; 1 day for grading and formwork; 1 day for construction; and 1 day for cleanup and restoring the parkway. Repairs for an entire block face can take around 2 weeks for a standard 9-person crew. In some instances, soil compaction may be required. The depth of excavation for sidewalks usually would not be greater than 8 inches: 3–4 inches for concrete removal and 4 inches for untreated base material. The depth of excavation at driveways would typically be 12 inches: 6 inches for concrete removal and 6 inches for untreated base material. Construction equipment for sidewalk repair may include standard tools: jackhammer for removing the sidewalk, a concrete truck for delivery, tamper rammer for soil/gravel compaction, and a skid steer and dump truck for existing concrete removal.

Curb Ramp Repairs

Curb ramp repairs may require a similar level of effort and equipment as sidewalk repair. A curb ramp typically takes 3–4 days for construction: 1 day for demolition; 1 day for grading and formwork; 1 day for construction; and 1 day for cleanup and restoring the parkway. Curb ramps could potentially have an impact on pedestrian traffic and may require temporary ramps. Temporary ramps would not damage existing pavement, curbs, or gutters near the proposed work.

Street Tree Removal and Replacement

For street tree removals, required equipment typically includes rigging equipment, rope, chainsaw and gear, saw wenches, wedges and clearing and cleaning tools. Street tree removal vehicles and grinders may be on site for 1–2 days, depending on the number of street trees being removed. The street would not be closed to vehicular traffic, but traffic flagpersons and/or devices would need to be placed during street tree removal in order to protect all vehicles from unforeseen falling debris. Bicycle lanes will likely be merged into traffic lanes if adequate lane width is available. If traffic lane width is not adequate then bicyclists would likely be routed to an adjacent street. Pedestrians would be rerouted to the other side of the street for the entire block in most cases.

For some street tree replacements, Underground Service Alert may be contacted prior to excavation to identify any existing utilities in the planting area. Depending on the location of the existing utilities and the number of plantings to be performed, equipment could include a back hoe, mini excavator, or shovel. A root barrier is recommended to be installed that is 18 inches deep and 10 feet long between the street tree and the sidewalk. The street tree is planted and stakes are typically installed and secured to the street tree. Decomposed granite is often placed in street tree wells and dirt is placed in parkways. New street trees are watered during a 3-year establishment period typically with a water truck.

Minor Utility Work

Minor utility relocations usually are restricted to the relocation of utility laterals that interfere with the construction of city sidewalks, like gas and water service laterals to businesses and homes. The utility relocation typically requires a trench up to 36 inches deep and require mini-excavators,

staging areas for excavated soils, and a tamper rammer for compacting soils. The utility relocation could take 3–4 days. When the concrete is being poured, cement trucks will generally occupy one lane in the ROW. The street will not be closed in most cases, but flagpersons and or devices may need to be placed on both sides of the cement truck in order to control traffic. Bicycle lanes will merge into traffic lanes if adequate lane width is available. If traffic lane width is not adequate then bicyclists will be routed to an adjacent street. Pedestrians could be rerouted to the other side of the street for the entire block. The utility relocation could require an approval from the utility owner that could take 3–6 months for a relocated lateral. As relocation could take several days, plates could be placed over the excavated areas. In addition, coordination would typically be required with the utility company for disconnecting, reconnecting, and recommissioning the new line. If an existing utility lid or cover is damaged or missing, it would be replaced. Coordination of the utility work may be required between the utility owner and construction work personnel.

Staging

Generally, construction staging would likely be placed on the parcel adjacent to the sidewalk improvements (when possible). This may impact adjacent sidewalk areas, and the street in front of the sidewalk improvement area. Traffic control would likely be needed to re-route pedestrians around the sidewalk construction area. A localized, mid-block crossing is not recommended because of the impact on traffic and pedestrian safety. Bicyclists and motor vehicles would either need to be routed away from the curb or to an adjacent block where a sidewalk exists. Private driveways may be closed for up to 1 day, and construction staging areas could occupy 3–4 parking spaces. All lane closures and construction activities adjacent to the ROW may require coordination with the Los Angeles Department of Transportation (LADOT), the Los Angeles Fire Department (LAFD), and the Los Angeles Police Department (LAPD).

Scenario 2: Sidewalk Repair with Curb Ramp Repairs, Crosswalk Repaving, Street Tree Removals and Replacements, and Major Utility Work

This scenario represents combinations of the following construction activities:

- Sidewalk repair work including fixing broken concrete, cracks, uplifts, driveways, curb and gutter, and making required accessibility improvements such as cross slope work.
- Curb ramp repairs or installations.
- Crosswalk Repaving.
- Street tree removals and replacements.
- Major underground and/or overhead utility relocation work.

Sidewalk Repair

Same as Scenario 1 with the potential addition of required coordination between subcontractors due to major utility work in this scenario.

Curb Ramp Repairs

Same as Scenario 1 with the potential addition of required coordination between subcontractors due to major utility work in this scenario.

Crosswalk Repaving

Crosswalk construction may include grinding, paving, and striping to alleviate existing shoving, cracks, or uplifts from curb ramp to curb ramp. Crosswalk construction generally is performed outside of peak travel times, which are typically the morning and afternoon commute period. Curb ramps leading to the crosswalk must be barricaded in a manner that walkways remain accessible. Equipment may include grinders, asphalt pavers, and striping machines.

Street Tree Removal and Replacement

Same as Scenario 1 with the potential addition of required coordination between subcontractors due to major utility work in this scenario.

Major Utility Work

Major utility relocation for overhead lines could be a possibility for a block, from intersection to intersection. This is relevant when overhead poles are placed on a sidewalk that restricts the path of travel to less than 4 feet in width. Depending on the amount of overhead lines on a utility, utility relocation of an overhead line for one parcel could take 1–2 weeks, while removal and replacement of several lines could take approximately 4–5 weeks. Utility relocations may require improvement plans from the utility owner for construction. These utility plans generally take 6–12 months of design work prior to acceptance and issuance from a dry utility company. Construction of the utility relocation may require a minimum of two trucks with bucket loaders for each pole installation, an auger for removal of soils for a new base, and a concrete truck for delivery of structural base concrete. This may require closing one lane of traffic, which could have the same traffic constraints as sidewalk construction. Coordination would be required with the utility company for disconnection and reconnection and recommissioning.

Depending on the type of utility being rerouted, additional trucks and equipment could possibly be required that will take up more space for construction staging and parking areas. Traffic signals may be affected, and coordination will be required with the authorizing agencies, including LADOT. Depending on the time of day and type of utility being relocated, temporary power may be required. For below ground utility relocation, 36- to 76-inch-deep trenching and shoring could be required in the relocation areas. The construction equipment may likely include mini-excavators, four-wheel drive backhoes, shoring equipment, and compactors, as well as a staging area to hold excavated soils. These utilities may require the same traffic control measures as overhead power lines. Plates would have to be placed over the trenching areas during non-working hours.

Catch Basin and Storm Drain Reconstruction

Catch basin and storm drain reconstruction may be necessary for ADA compliant sidewalk repairs. The reconstruction of these structures would require excavation and trenching to a minimum depth of 4–15 feet, depending on the elevation of the outflow pipes and whether full replacement of the structure is required. Additional trucks and equipment, such as excavators, backhoes, shoring equipment, compactors, and additional concrete trucks may be necessary, along with additional staging and parking areas. This work could require an additional 3 to 7 days for cast in place structures.

Staging

Same as Scenario 1 with the potential addition of required coordination between subcontractors due to major utility work in this scenario. As discussed, construction durations may be longer with the additional and more complex work related to this project construction scenario.

Location and Existing Conditions

Location

The City of Los Angeles, located within Los Angeles County, contains 467 square miles or 302,596 acres. Approximately 76 percent (230,337 acres) is developed and 24 percent (72,219 acres) is undeveloped. Land use within the City is primarily residential, as it constitutes 60 percent of all acreage within the City. Public land is the second most common land use, representing 20 percent of acreage within the City, while commercial and industrial land uses each represent 7 percent of acreage within the City.[1] Within these land uses, approximately 15 percent of all land in the City consists of streets.

The City is bordered by the cities of Calabasas, Hidden Hills, and Santa Monica and the Pacific Ocean to the west; the cities of Burbank, Glendale, Pasadena, and the Angeles National Forest to the north; the cities of South Pasadena, Alhambra, Commerce, Vernon, and South Gate to the east; and Compton, Carson, Gardena, Inglewood, Culver City, and El Segundo to the south. In addition, West Hollywood, Beverly Hills, and San Fernando are islands within the City of Los Angeles, and pockets of unincorporated Los Angeles County land lie within and adjacent to the City of Los Angeles.

Existing Conditions

To organize the environmental impact analysis within the proposed Project area, the City has been organized into seven regional project zones that overlap with the boundaries of existing Area Planning Commissions (APCs) within the City: North Valley, South Valley, West Los Angeles, Central Los Angeles, East Los Angeles, South Los Angeles, and Harbor. APCs are used by the City Planning Department to help determine significant planning and land use issues for proposed plans and projects. Details regarding the geographic project zones that correlate with the seven APCs within the City are summarized in Table 2. All data pertaining to each project zone APCs were obtained from the City's Department of City Planning website.[2]

The project zones range from approximately 33.9 to 126.8 square miles. The City is also divided into 15 Council Districts. In most cases, the project zones contain more than one Council District, and Council Districts are located in more than one project zone, as shown on Figure 3.

[1] Data from the City of Los Angeles website: http://cityplanning.lacity.org/DRU/StdRpts/StdRptsCw/

[2] http://cityplanning.lacity.org/DRU/Locl/LocRpt.cfm?geo=AP&sgo=CP#. Accessed: 12/27/2016.

Table 2. Project Zone Summary

Project Zone	Total Area (square miles)	Council Districts	Population	Housing Units
North Valley	126.8	2,3,6,7,12	707,390	203,971
South Valley	97.6	2,3,4,5,6, 12	758,815	288,505
West Los Angeles	90.0	4,5,11	431,348	194,409
Central Los Angeles	48.8	1, 4, 5, 9, 10, 13,14	733,525	291,297
East Los Angeles	37.6	1,4, 13,14	432,611	130,516
South Los Angeles	43.8	1, 8, 9, 10, 15	734,593	218,287
Harbor	33.9	15	205,218	67,000

Source: TAHA 2016

Project Zones

North Valley

The North Valley project zone is located in the northernmost portion of the City and covers approximately 127 square miles. It includes the following communities: Chatsworth-Porter Ranch, Northridge, Granada Hills-Knollwood, Mission Hills-Panorama City-North Hills, Sylmar, Arleta-Pacoima, Sun Valley-La Tuna Canyon, and Sunland-Tujunga-Shadow Hills-Lakeview Terrace-East La Tuna Canyon.

South Valley

The South Valley project zone is located south of the North Valley project zone and covers approximately 98 square miles. It includes the following communities: Canoga Park-West Hills-Winnetka-Woodland Hills, Reseda-West Van Nuys, Encino-Tarzana, Van Nuys-North Sherman Oaks, Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass, and North Hollywood-Valley Village.

West Los Angeles

The West Los Angeles project zone is located in the western portion of the City, below the South Valley project zone, covers approximately 90 square miles, and falls within the California Coastal Zone. This project zone includes the following communities: Brentwood-Pacific Palisades, Bel Air-Beverly Crest, Westwood, West Los Angeles, Palms-Mar Vista, Venice, Del Rey, Westchester, Playa Del Rey, and the Los Angeles International Airport (LAX). Street tree removals and replacements in the California Coastal Zone would require approval from the California Coastal Commission and the City.

Central Los Angeles

The Central Los Angeles project zone is located in the central portion of the City and covers approximately 49 square miles. It includes the following communities: Hollywood, Wilshire, Westlake, Central City, and Central North.

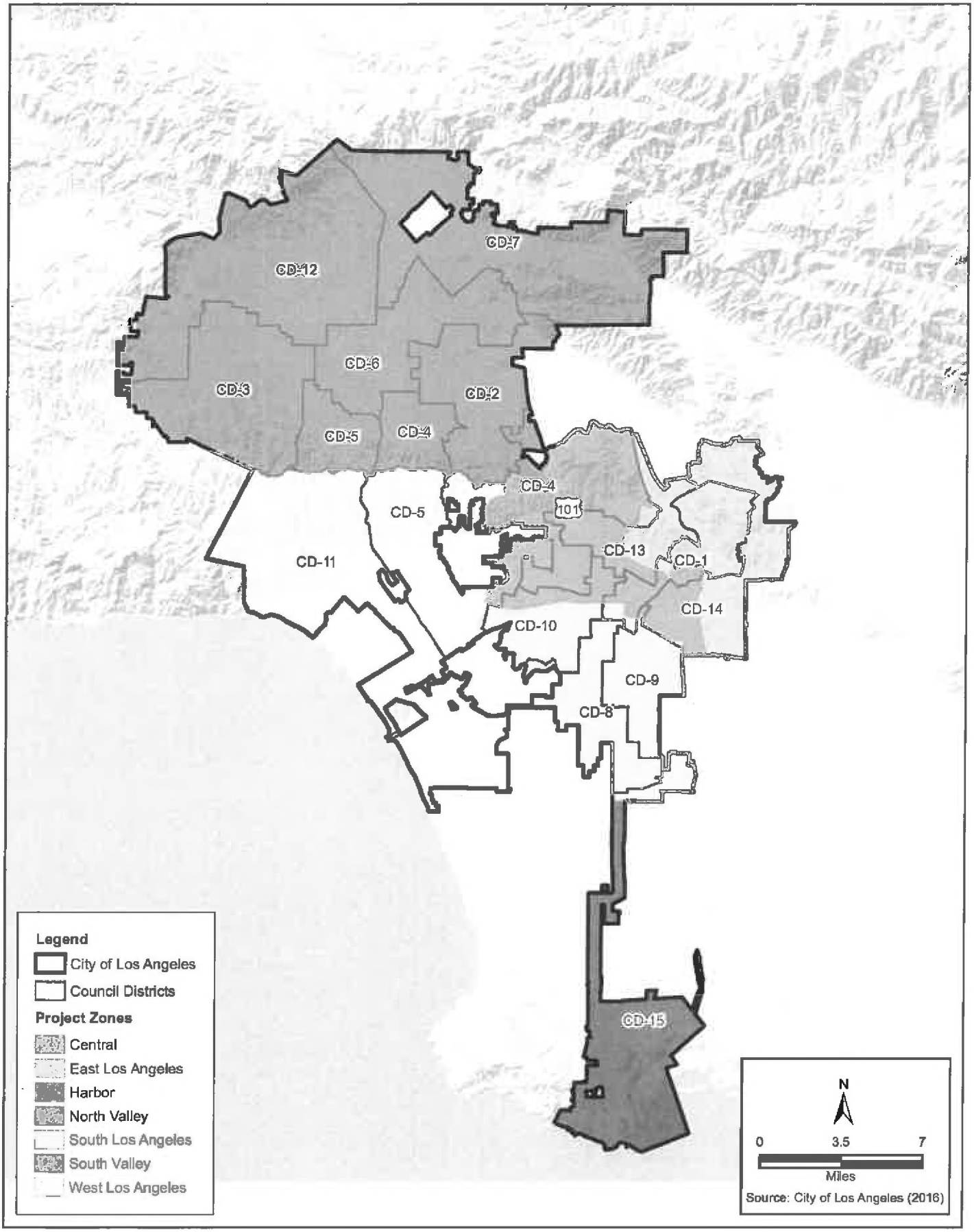


Figure 3
City of Los Angeles Council Districts
Sidewalk Repair Program

East Los Angeles

The East Los Angeles project zone is located east of the Central Los Angeles project zone and covers approximately 38 square miles. It includes the following communities: Silver Lake-Echo Park, Northeast Los Angeles, and Boyle Heights.

South Los Angeles

The South Los Angeles project zone is located south of the Central and East Los Angeles project zones. It covers approximately 44 square miles and includes the following communities: West Adams-Baldwin Hills-Leimert, South Los Angeles, and Southeast Los Angeles.

Harbor

The Harbor project zone is located in the southernmost portion of the City and covers approximately 34 square miles and also falls within the California Coastal Zone. It includes the following communities: Harbor-Gateway, Wilmington-Harbor City, San Pedro, and the Port of Los Angeles. Street tree removals and replacements in the California Coastal Zone would require approval from the California Coastal Commission and the City.

Built Historic Resources

Geographic Information System (GIS) databases of built historic resources are currently available from City sources (Cultural Affairs Department and Department of City Planning). The City has numerous Historic Preservation Overlay Zones (HPOZs), which are governed by certified Historic Resource Surveys and Historic Preservation Plans. HPOZs, commonly known as historic districts, require review of all proposed exterior alterations and additions to historic properties within designated districts. The South Valley project zone does not currently contain any HPOZs. Construction of the proposed Project in historic districts will be discussed further in the Draft EIR.

Permits and Approvals

Table 3 lists the permits and approvals that most likely will be required for the proposed Project. The need for these permits will be verified through agency correspondence during the CEQA process.

Table 3. Anticipated Permits and Approvals for the Sidewalk Repair Program

Agency	Permit/Approval	Issue
Local		
City of Los Angeles, City Council	CEQA document	Certification of the EIR. The EIR will analyze proposed Project activities and expected impacts over the next 30 years.
City of Los Angeles, City Council	Proposed ordinance and/or policy implementing Sidewalk Repair Program street tree criteria	If approved, the proposed ordinance and/or policy could establish criteria for street tree preservation, removal, and replacement where street trees are the cause of sidewalk damage.

Agency	Permit/Approval	Issue
City of Los Angeles, Department of Public Works Bureau of Engineering	Class A Permit	Allows for minor construction work in the public ROW.
City of Los Angeles, Department of Public Works Bureau of Engineering	Class B Permit	Allows for extensive improvements in the public ROW, including street widening and relocation of traffic signals.
City of Los Angeles, Department of Public Works Bureau of Street Services	Street Tree Removal Permit	Permits are needed for street tree removal and replacement and root pruning. This may change for the proposed Project if an ordinance or policy for Sidewalk Repair Program implementation related to street trees is approved.
City of Los Angeles, Department of Public Works Bureau of Engineering	Revocable Permit	Permit is needed for non-standard items (planters, pavers, sculptures, etc.) to remain in the public ROW.
Regional		
Los Angeles Regional Water Quality Control Board (RWQCB)	National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Pollution Prevention Plan permit	Water quality and placement of discharges associated with dewatering activities; no permit required for discharges to sewer (general permit saves time with RWQCB).
State		
California Coastal Commission	Local, and potentially state, coastal development permits	For projects in the coastal zone, access, habitat disturbance, street tree removals, street tree plantings, utility relocations, parking, and traffic during construction could be issues.

Coordinating Plans

There are many existing City policies and plans that will guide implementation of the proposed Project. These include Mobility Plan 2035 (2016), an update to the General Plan's Transportation Element, which incorporates "Complete Streets" principles and lays the policy foundation for the safety and accessibility of pedestrians, cyclists, transit riders, and motorists when interacting with the City's streets. Another important city initiative is Vision Zero, established by Mayor Garcetti's Executive Directive No. 10 (2015), which seeks to reduce traffic fatalities and declares safety to be the number one priority in designing and building streets and sidewalks. The proposed Project would also address the goals of the City sustainability report (The pLAn), for infrastructure. These and other coordinating policies and plans will be discussed further in the EIR.

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Chapter 3
Initial Study Environmental Checklist

1.	**Project Title:**	Sidewalk Repair Program
2.	**Lead Agency Name and Address:**	City of Los Angeles, Department of Public Works, Bureau of Engineering Environmental Management Group 1149 S. Broadway, Suite 600 Los Angeles, CA 90015
3.	**Contact Person and Phone Number:**	Shilpa Gupta, Environmental Supervisor I Los Angeles Bureau of Engineering 213-485-4560 shilpa.gupta@lacity.org
4.	**Project Location:**	City of Los Angeles
5.	**Project Sponsor's Name and Address:**	City of Los Angeles, Department of Public Works, Bureau of Engineering
6.	**General Plan Designation:**	Various
7.	**Zoning:**	Various

8. **Description of Project:**

   The proposed Project would include the repair of sidewalks and curbs and associated improvements, which could include street tree removal and replacement, curb ramp improvements, and utility relocations.

9. **Surrounding Land Uses and Setting:**

   Various

10. **Other Public Agencies Whose Approval is Required:**

    See Table 3.

Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by this proposed Project (i.e., the proposed Project would involve at least one impact that is a "Potentially Significant Impact"), as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agricultural and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Geology/Soils
☒ Greenhouse Gas Emissions	☒ Hazards and Hazardous Materials	☒ Hydrology/Water Quality
☒ Land Use/Planning	☐ Mineral Resources	☒ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☒ Transportation/Traffic	☒ Tribal Cultural Resources	☐ Utilities/Service Systems
☒ Mandatory Findings of Significance		

Determination

On the basis of this initial evaluation:

- ☐ I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☒ I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed Project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Signature — Date: 7/18/2017

Jan Green Rebstock — Printed Name

CA BOE — For

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level; indirect as well as direct; and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is

substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.

4. "Negative Declaration: Less than Significant with Mitigation Incorporated" applies when the incorporation of mitigation measures has reduced an effect from a "Potentially Significant Impact" to a "Less-than-Significant Impact". The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level.
5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D)]. In this case, a brief discussion should identify the following:
   a. Earlier Analysis Used. Identify and state where earlier analyses are available for review.
   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Incorporated," describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
   a. the significance criteria or threshold, if any, used to evaluate each question; and
   b. the mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

I. Aesthetics	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☒	☐	☐	☐
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐

Would the project:

a) Have a substantial adverse effect on a scenic vista?

Reference: L.A. CEQA Thresholds Guide (Sections A.1 and A.2); City of Los Angeles General Plan & Community Plans.

Comment: A scenic vista generally provides focal views of objects, settings, or features of visual interest; or panoramic views of large geographic areas of scenic quality, primarily from a given vantage point. A significant impact may occur if the proposed Project either introduced incompatible visual elements within a public field of view containing a scenic vista or substantially altered a view of a scenic vista.

Potentially Significant Impact. The study area (City of Los Angeles) is mostly urbanized and contains a mixture of residential, public facilities, commercial, and industrial land uses (amongst others). The quality of and impacts on views and scenic vistas (unofficial and officially designated) throughout the City are highly dependent on the position, angle, and speed of the viewer (as well as their visual preferences), and their proximity to visual resources and/or other visual elements, such as street trees/vegetation, that enrich their viewshed or create visual interest. Therefore, and because the proposed Project could include street tree removal and replacement (street trees are often considered visual resources) and work in coastal zones and culturally sensitive areas, the potential visual impacts of the prototypical project types/construction scenarios within each project zone will be further analyzed in the EIR using a selection of key viewpoints. In addition, the proposed Project would include changing the permit process for street tree removal, which could include an ordinance and/or policy setting criteria for street tree replacement ratios or specifying species, size, or location of replacement street trees. This issue will be further analyzed in the EIR.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Reference: L.A. CEQA Thresholds Guide (Sections A.1 and A.2); City of Los Angeles General Plan & Community Plans; Venice Local Coastal Program; and California Department of Transportation (Caltrans), California Scenic Highway Mapping System website (http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm). Mobility Plan 2035 Appendix A Inventory of Designated Scenic Highways and Guidelines.

Comment: A significant impact may occur where scenic resources within a state scenic highway would be damaged or removed as a result of the proposed Project.

Potentially Significant Impact. No officially designated state scenic highways traverse the limits of the City. However, within the City, portions of the following roads are considered eligible state scenic highways (not officially designated) and/or historic parkways: US-101, CA-27, US/CA-110, I-210 and State Route (SR-) 1 (Pacific Coast Highway) (Caltrans 2011). In addition, Mobility Plan 2035 identifies designated scenic highways as well as guidelines for development. Because the proposed Project could include street tree removal and replacement (street trees are often considered visual resources) and work in culturally sensitive areas that may contain historic resources that have visual merit, the potential visual impacts of the various prototypical project types/construction scenarios within each project zone will be further analyzed in the EIR.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Reference: L.A. CEQA Thresholds Guide (Sections A.1 and A.2).

Comment: A significant impact may occur if the proposed Project introduced incompatible visual elements to the proposed Project sites or visual elements that would be incompatible with the character of the area surrounding the proposed Project sites.

Potentially Significant Impact. As previously discussed, land uses and topographical forms vary throughout the City. As a result, the visual character of the City varies greatly depending on the proximity to visual resources and/or other visual elements, such as street trees/vegetation, that enrich their viewshed or create visual interest. Therefore, and because the proposed Project could include street tree removal and replacement (street trees are often considered visual resources) and work in coastal zones and culturally sensitive areas that may have unique character or offer high-quality views, the potential visual impacts of the various prototypical project types/construction scenarios within each project zone will be further analyzed in the EIR using a selection of key viewpoints. In addition, the proposed Project would include changing the permit process for street tree removal, which could include an ordinance and/or policy setting criteria for street tree replacement ratios or specifying species, size, or location of replacement street trees. This issue will be further analyzed in the EIR.

d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Reference: L.A. CEQA Thresholds Guide (Section A.4).

Comment: A significant impact would occur if the proposed Project caused a substantial increase in ambient illumination levels beyond the property line or caused new lighting to spill-over onto light-sensitive land uses such as residential, some commercial and institutional uses that require minimum illumination for proper function, and natural areas.

Less-than-Significant Impact. While nighttime construction is not anticipated, there may be rare instances where some possibility of nighttime lighting at the construction sites would occur. In these cases, lighting would be directed downward, and spill light would be minimized to the greatest extent possible in accordance with Los Angeles Municipal Code requirements. Therefore, significant changes in ambient illumination levels as a result of the proposed Project sources during construction are not expected, and construction lighting would not be expected to be a nuisance to nearby residents and businesses. Furthermore, due to the limited duration of the construction period(s), any impacts of this nature would be considered temporary. Other than the occasional and temporary reflection potentially produced by construction vehicle windshields, no glare-producing surfaces would be present on the construction sites. Signage and screening around the construction sites may be made of low-gloss materials and would produce little to no glare.

Operational lighting would include limited security lighting/lamp posts associated with sidewalk repair, as necessary. However, any street light signals and/or poles associated with operation of the proposed Project would relocate or replace existing light sources. Therefore, the proposed Project would not introduce any substantial increases in light above and beyond ambient illumination levels that would result in spill-over effects onto light-sensitive land uses. Similarly, no substantial glare-producing materials would be used in the sidewalk repairs compared to existing conditions. Impacts under construction and operation of the proposed project would be less than significant and this issue will be further analyzed in the EIR.

II. Agricultural and Forestry Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts on forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project, and forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Reference: California State Department of Conservation Farmland Mapping and Monitoring Program website (http://www.conservation.ca.gov/dlrp/FMMP/Pages/Index.aspx); City of Los Angeles General Plan Conservation Element; Zone Information & Map Access System (ZIMAS).

Comment: A significant impact may occur if the proposed Project were to result in the conversion of state-designated agricultural land from agricultural use to a non-agricultural use.

No Impact. According to the *Los Angeles County Important Farmland 2014* map prepared by the California Department of Conservation, the City does not contain any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, the proposed Project would not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and no impact would occur. This issue will not be further discussed in the EIR.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Reference: California State Department of Conservation Farmland Mapping and Monitoring Program website (http://www.conservation.ca.gov/dlrp/FMMP/Pages/Index.aspx) and California State Department of Conservation Land Conservation Act (ftp://ftp.consrv.ca.gov/pub/dlrp/wa/LA_12_13_WA.pdf); City of Los Angeles General Plan Conservation Element, ZIMAS.

Comment: A significant impact may occur if the proposed Project were to result in the conversion of land zoned for agricultural use, or indicated under a Williamson Act contract, from agricultural use to a non-agricultural use.

No Impact. According to the LA City Zone Information and Map Access System (ZIMAS), the City contains A1, A2, RA, and PF zones, all of which allow for agricultural uses. The proposed Project would repair curbs and sidewalks, to applicable accessibility requirements, and could remove and replace street trees and utilities in the public ROW. As such, proposed Project activities would take place on built sidewalks, curbs, and public ROWs to restore or improve these areas when compared to their original surface conditions. If Project activities occur adjacent to properties that are zoned A1, A2, RA, or PF, they would not conflict with the zoning, as they would not preclude agricultural uses on these properties. Any temporary construction-period impacts that would occur adjacent to zoned areas that allow agricultural use would not change the underlying zoning such that long-term use of the properties would be affected. Construction and operational activities would not result in the conversion of land zoned for agricultural use. No impact would occur, as the proposed Project would not conflict with zoning for agricultural use.

According to the *Los Angeles County Williamson Act FY 2015/2016* map prepared by the California Department of Conservation, the City does not contain land protected under Williamson Act contract, and no impact related to Williamson Act contracts would occur as a result of implementation of the proposed Project. This issue will not be further discussed in the EIR.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code Section 4526)?

References: City of Los Angeles General Plan Conservation Element

Comment: A significant impact may occur if the proposed Project were to conflict with an existing zoning classification of forest land or timberland, or cause rezoning of an area classified as forest land or timberland.

No Impact. According to the *City of Los Angeles General Plan Conservation Element* the City does not contain zoning for forest land or timber land. Angeles National Forest on the north and Santa Susana Mountains to the northwest are located outside the City's boundaries. Therefore, the proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland. No impact would occur. This issue will not be further discussed in the EIR.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

References: City of Los Angeles General Plan Conservation Element

Comment: There are no designated forest land uses in the City of Los Angeles.

No Impact. There are no designated forest land uses in the City of Los Angeles; therefore, no loss of forest land to non-forest use would occur and there would be no impact. This issue will not be further discussed in the EIR.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?

Reference: City of Los Angeles General Plan Conservation Element

Comment: The proposed project would take place within existing urban areas within the public ROW.

No Impact. The proposed Project activities would take place on built sidewalks, curbs, and public ROWs, and would not involve the conversion of farmland to non-agricultural use. As discussed in II.b., if Project activities occur adjacent to properties that have farmland, Project activities would not conflict with the use, as they would not preclude agricultural uses or change the underlying zoning on these properties. There are no existing forest lands or forests as discussed in II.c. As such, no forest land would be converted to non-forest use as a result of Project implementation. No impacts related to the conversion of farmland to non-agricultural use or conversion of forest land to non-forest use would occur as a result of Project implementation. This issue will not be further discussed in the EIR.

III. Air Quality	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
When 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:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Reference: L.A. CEQA Thresholds Guide (Sections B.1 and B.2); South Coast Air Quality Management District, Final 2012 Air Quality Management Plan, February 2013; City of Los Angeles General Plan.

Comment: A significant impact may occur if the proposed Project would conflict with or obstruct implementation of the applicable air quality plan.

Potentially Significant Impact. The proposed Project is located in the South Coast Air Basin (Basin), which is regulated by the South Coast Air Quality Management District (SCAQMD) under the Clean Air Act. During the construction period, criteria pollutant and toxic air contaminant (TAC) emissions would result from the use of construction equipment and the transport of workers and materials to and from the project sites. Once construction activities are complete, operation of the proposed Project would provide improved sidewalks that would not involve pollutant emissions. No permanent change to vehicle circulation is anticipated following the completion of construction activities, and, therefore, there would be no change in operational emissions from vehicles as a result of the proposed Project. Based on the emissions that would result from construction activities, the proposed Project could have a potentially significant impact related to conflicting with or obstructing implementation of an applicable air quality plan. This issue will be further analyzed in the EIR.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Reference: L.A. CEQA Thresholds Guide (Sections B.1 and B.2); South Coast Air Quality Management District, Final 2012 Air Quality Management Plan, February 2013, CEQA Air Quality Handbook, 1993.

Comment: A significant impact may occur if the proposed Project would violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Potentially Significant Impact. As stated above for III.a, the proposed Project would result in the emissions of criteria and TAC pollutants during the construction period. These emissions may exceed the regional or localized significance thresholds for criteria pollutants established in the SCAQMD *CEQA Air Quality Handbook*. Therefore, the proposed Project could violate air quality standards or contribute substantially to an existing or projected air quality violation, and impacts are considered potentially significant. This issue will be further analyzed in the EIR.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

Reference: L.A. CEQA Thresholds Guide (Sections B.1 and B.2); 2015 State Area Designation Maps (http://www.arb.ca.gov/desig/adm/adm.htm).

Comment: A significant impact would occur if the proposed Project's incremental air quality effects are considerable when viewed in connection with the effects of past, present, and reasonably foreseeable future projects.

Potentially Significant Impact. As discussed above in III.a and III.b, proposed Project-related construction activities would emit criteria pollutants (and precursor emissions) for which the Basin is not in attainment under the Clean Air Act. Therefore, the proposed Project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including emissions that exceed quantitative thresholds for ozone precursors), and, therefore, impacts may be potentially significant. This issue will be further analyzed in the EIR.

d) Expose sensitive receptors to substantial pollutant concentrations?

Reference: L.A. CEQA Thresholds Guide (Sections B.1, B.2, and B.3).

Comment: A significant impact may occur if construction or operation of the proposed Project generated pollutant concentrations to a degree that would significantly affect sensitive receptors. Sensitive receptor locations include residences, board and care facilities, schools, playgrounds, hospitals, parks, childcare centers, and outdoor athletic facilities.

Potentially Significant Impact. Sensitive receptor locations close to the proposed Project sites include residential uses, schools, playgrounds, hospitals, parks, childcare centers, and outdoor athletic facilities that would be adjacent to sidewalk repair sites. Criteria pollutant and TAC emissions would occur during project construction, potentially exposing sensitive receptors to substantial pollutant concentrations. Therefore, the potential for the proposed Project to expose sensitive receptors to substantial pollutant concentrations and result in a potentially significant impact will be further analyzed in the EIR.

e) Create objectionable odors affecting a substantial number of people?

Reference: L.A. CEQA Thresholds Guide (Sections B.1 and B.2).

Comment: A significant impact would occur if the project created objectionable odors during construction or operation that would affect a substantial number of people.

Less-than-Significant Impact. According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment facilities, food processing plants, chemical plants, composting areas, refineries, landfills, dairies, and fiberglass molding facilities. The sidewalks that would be repaired under the proposed Project would be within the public ROW, and would not include any of the land uses associated with odor complaints. During the construction period, some limited odor may result from asphalt paving activities, which may be detectable by people immediately adjacent to work sites. However, asphalt paving would occur for a limited time period at each site, and the locations of paving activities would be distributed throughout the City such that impacts at any particular location would not be substantial. Furthermore, SCAQMD Rule 402 prohibits the discharge of air contaminants that cause nuisance or annoyance to the public, including odors. SCAQMD maintains both a toll-free phone line (1-800-CUT-SMOG) and a web-based platform (http://www.aqmd.gov/contact/complaints) for reporting complaints related to air quality, including odors. Given the limited duration and location of asphalt paving, mandatory compliance with SCAQMD Rule 402, and ability for the public to report complaints to SCAQMD, proposed Project-related construction activities would not create a significant level of objectionable odors affecting a substantial number of people. This issue will be further analyzed in the EIR.

IV. Biological Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
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 California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
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, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
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?	☒	☐	☐	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
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?	☒	☐	☐	☐

Would the project:

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 California Department of Fish and Game or U.S. Fish and Wildlife Service?

Reference: L.A. CEQA Thresholds Guide (Section C); City of Los Angeles General Plan.

Comment: A significant impact may occur if the proposed Project would remove or modify habitat for any species identified or designated as a candidate, sensitive, or special status species in local or regional plans, policies, or regulation, or by the state or federal regulatory agencies cited.

Potentially Significant Impact. The proposed Project sites are located in a highly urbanized area. A query of the California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) databases conducted for the proposed Project sites and surrounding topographic quadrangles indicates that there are 14 plants and 20 listed animals that are either considered threatened and/or endangered under the Federal Endangered Species Act and/or California Endangered Species Act, and an additional 58 animal species considered California Species of Special Concern, that have been recorded and/or are known to occur within the areas queried.

The City contains over 80 communities and distinct neighborhoods. Many of these communities have local community plans and policies. The proposed Project may adversely affect specific species or habitats protected in these plans and policies.

While construction of the proposed Project would occur on paved, previously disturbed surfaces, the work would require the use of construction workers, materials, and machinery. These activities could result in adverse noise effects on sensitive species known to occur adjacent to the work areas. In addition, the proposed Project could remove or prune a large number of street trees with the potential to support nesting birds protected by the Migratory Bird Treaty Act (MBTA) and protected tree-roosting bat species.

Based upon the analysis above, the proposed Project could have a substantial adverse effect, either directly on nesting birds or roosting bats, or through noise impacts on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS), and, therefore, could result in a significant impact. In addition, the proposed Project would include changing the permit process for street tree removal, which could include an ordinance and/or policy setting criteria for street tree replacement ratios or specifying species, size, or location of replacement street trees. These issues will be further analyzed in the EIR.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Reference: See IV.a above.

Comment: See IV.a above.

Potentially Significant Impact. The proposed Project sites are located in a highly urbanized area. Although the proposed Project sites do not contain sensitive plant communities, habitats, or species, there are adjacent areas designated as Environmentally Sensitive Habitat Areas (ESHA) by the County of Los Angeles, and some repairs may occur adjacent to riparian areas. Direct impacts on sensitive or riparian habitats could occur through sedimentation, erosion, or hazardous materials spills associated with repair work and which may enter adjacent riparian or sensitive habitat area. Implementation of standard construction best management practices (BMPs) may mitigate these effects. Street tree removal may also be inconsistent with ESHA regulations.

The City contains over 80 communities and distinct neighborhoods. Many of these communities have local community plans and policies. The proposed Project may adversely affect specific species or habitats protected in these plans and policies.

The proposed Project sites could be adjacent to, and may adversely affect, riparian habitat or sensitive natural communities identified in these local plans or policies.

Based upon the analysis above, the proposed Project could have a substantial adverse effect on a riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS and result in a significant impact. This issue will be further analyzed in the EIR.

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?

Reference: L.A. CEQA Thresholds Guide (Section C); City of Los Angeles General Plan

Comment: A significant impact may occur if federally protected wetlands, as defined by Section 404 of the Clean Water Act, would be modified or removed.

Less-than-Significant Impact. The proposed Project sites would be located in a highly urbanized area. Sidewalk repair may also occur adjacent to wetlands and waters of the United States and California, under the jurisdiction of the U.S. Army Corps of Engineers (USACE) and CDFW, respectively. However, the work activities would not involve direct removal, filling, or hydrological interruption to federally protected wetlands. Direct impacts on wetlands could occur through sedimentation, erosion, or hazardous materials spills associated with repair work and which may enter adjacent wetlands. However, implementation of standard construction BMPs would ensure that impacts would remain less than significant. This issue will be further analyzed in the EIR.

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?

Reference: L.A. CEQA Thresholds Guide (Section C).

Comment: A significant impact may occur if the proposed Project interfered with or removed access to a migratory wildlife corridor or impeded the use of native wildlife nursery sites.

Potentially Significant Impact. A query of the CNDDB and CNPS databases conducted for the proposed Project sites and surrounding topographic quadrangles indicates that there are several native bat species that may use street trees as day roosts and breeding sites (maternity colonies) and that have been recorded and/or are known to occur within the areas queried. The proposed Project could remove or prune a large number of street trees with the potential to support maternity colonies for native bat species. Street tree pruning or removal also has the potential to directly affect nesting native bird species. Repair activities in the vicinity of bat maternity colonies or nesting birds may also disrupt reproductive activities through noise and disturbance. Sidewalk repair activities would be restricted to paved surfaces and are unlikely to 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 for other species beyond tree roosting/breeding bats and tree-nesting birds, as described above.

Based upon the analysis above, the proposed Project could 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. Thus, there could be a significant impact. This issue will be further analyzed in the EIR.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Reference: L.A. CEQA Thresholds Guide (Section C); City of Los Angeles General Plan; Venice Community Plan; Venice Local Coastal Program.

Comment: A significant impact may occur if the proposed Project would result in a conflict with local regulations pertaining to biological resources.

Potentially Significant Impact. The proposed Project would include repair work in the California Coastal Zone, which includes the communities of Venice, Playa Del Rey, Pacific Palisades, and San Pedro. These areas are subject to coastal development permit conditions when tree removals are required. Currently, any street tree removals and replacements require approval from the California Coastal Commission, which meets once a month in various locations throughout the state. This process can be time consuming on a tree-by-tree basis. The City may develop a blanket permit within the California coastal zone whereby all street tree removals and replacements performed under the proposed Project and with specific types of sidewalk repairs would obtain approval. This option's feasibility is yet to be determined.

The City's Urban Forestry Division maintains a list of Significant Street Trees. The street trees may be of importance due to their size, species, appearance, growth habits, flowers, or a combination of these characteristics. The proposed Project could conflict with protections afforded to Significant Street Trees.

The City's Protected Tree Ordinance provides protections to specific Southern California native tree species measuring 4 inches or more in cumulative diameter, 4.5 feet above ground level at the base of the tree. The ordinance also affords protections to street trees officially designated as an historical monument or as part of a HPOZ. The proposed Project would be evaluated for consistency with the Protected Tree Ordinance.

Based upon the analysis above, the proposed Project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance and result in a potentially significant impact. In addition, the proposed Project would include changing the permit process for street tree removal, which could include an ordinance and/or policy setting criteria for street tree replacement ratios or specifying species, size, or location of replacement street trees. These issues will be further analyzed in the EIR.

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?

Reference: City of Los Angeles General Plan; L.A. CEQA Thresholds Guide (Section C); CDFW: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=68626&inline.

Comment: A significant impact may occur if the proposed Project would be inconsistent with the provisions of the adopted local, regional, or state Habitat Conservation Plans (HCPs).

Potentially Significant Impact. As noted above in IV.a, some proposed Project sites may be adjacent to resources identified as ESHAs.

The Rancho Palos Verdes NCCP boundary is located within the southern portion of the proposed Project area, specifically within the San Pedro Community Plan Area. Due to the relatively noninvasive nature of the proposed Project activities, it is unlikely that the proposed Project would

conflict with the Rancho Palos Verdes NCCP. However, certain project prototypes/construction scenarios would require tree removal, utility relocation, new rights-of-way, or easements, and may or may not take place in biologically sensitive areas as identified in the Rancho Palos Verdes NCCP. No other NCCP/HCPs are identified within the proposed Project area.

Based upon the analysis above, the proposed Project could conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP and result in a significant impact. This issue will be further analyzed in the EIR.

V. Cultural Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☒	☐	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☒	☐	☐	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
d. Disturb any human remains, including those interred outside of dedicated cemeteries?	☒	☐	☐	☐

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in California Code of Regulations Section 15064.5?

Reference: L.A. CEQA Thresholds Guide (Section D.3), California Register of Historical Resources.

Comment: A significant impact may result if the proposed Project caused a substantial adverse change to the significance of a historical resource.

Potentially Significant Impact. Sidewalks and California Register of Historical Resources–related landscape components have the potential to be associated features of a historic resource or a collection of historic resources in the City as determined under State CEQA Guidelines, Article 5, Section 15064.5(a). Because the proposed Project would consist of a comprehensive project that would be implemented on a case-by-case basis, there is the potential for sidewalk repair work to impact individual historical resources and contributing elements of HPOZs within the City. The City's Urban Forestry Division maintains a list of Significant Street Trees, which may be of importance due to their size, species, appearance, growth habits, flowers, or a combination of these characteristics. Impacts are potentially significant; therefore, this issue will be further analyzed in the EIR.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations Section 15064.5?

Reference: L.A. CEQA Thresholds Guide (Section D.3) and General Plan Framework (EIR Cultural Resources Chapter Figure CR-1)

Comment: Although there are no known archaeological resources in or directly adjacent to the proposed Project area, proposed construction and operation of the proposed Project could result in the exposure or destruction of as yet undiscovered archaeological resources.

Potentially Significant Impact. If any archaeological resources are encountered during construction, the damage to or destruction of the resource would be a potentially significant impact. This issue will be further analyzed in the EIR.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Reference: L.A. CEQA Thresholds Guide (Section D.1); Venice Community Plan; Standard Specification for Public Works Construction ("Greenbook").

Comment: A significant impact may occur if grading or excavation activities associated with the proposed Project would disturb unique paleontological resources or unique geologic features.

Potentially Significant Impact. Sidewalk repairs in themselves are unlikely to impact paleontological resources; however, related ground-disturbing activities such as utility relocation, street tree removal and replacement, or building of retaining walls have the potential to expose and disturb unique paleontological resources or unique geologic features. For example, major utility relocation excavations can reach depths of 76 inches—more than 6 feet, which can result in excavation into older Pleistocene alluvium; or in hillslope areas, cutting for a retaining wall could take place within exposed fossil-bearing sedimentary bedrock. Because the proposed Project is a comprehensive project that would be implemented throughout the City on a case-by-case basis, there is the potential for sidewalk repair work to impact fossil-bearing sediments or to disturb previously disturbed resources. Although these scenarios are unlikely in most cases, the potential to impact paleontological resources would be considered. This issue will be further analyzed in the EIR.

d) Disturb any human remains, including those interred outside of dedicated cemeteries?

Reference: L.A. CEQA Thresholds Guide (Section D.2); Standard Specification for Public Works Construction ("Greenbook").

Comment: A significant impact may occur if grading or excavation activities associated with the proposed Project would disturb interred human remains. No known human remains are present on the proposed Project sites or within the immediate vicinity. However, ground disturbance related to development projects have, in the past, resulted in the inadvertent discovery of previously unrecorded human remains.

Potentially Significant Impact. Although not anticipated, human remains could be identified during site preparation and grading activities, which could result in a significant impact. This issue will be further analyzed in the EIR.

VI. Geology and Soils	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
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 Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismically related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an on-or or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Would the project:

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?

Reference: L.A. CEQA Thresholds Guide (Section E.1) General Plan Framework EIR Table GS-1.

Comment: A significant impact is not expected even though proposed Project elements are located within a state-designated Alquist-Priolo Zone or other designated fault zone.

Less-than-Significant Impact. The proposed Project would repair curbs and sidewalks at various locations throughout the City. Los Angeles City contains ten faults with mapped surface tracks and four blind or buried thrust faults that could result in seismic activity in Los Angeles. Any exposure of construction personnel to earthquakes would be for a short duration. Standard construction safety protocols would be followed, clear access to ingress emergency purposes would be identified, and use of proper safety gear would be implemented. Furthermore, the proposed Project features would not include the construction of habitable structures, and all the improvements would be conducted under the purview of LADOT, the Los Angeles Department of Public Works (LADPW), the Los Angeles Department of Building and Safety (LADBS), and the Los Angeles Bureau of Street Lighting. The proposed Project would comply with all applicable Occupational Safety and Health Administration (OSHA) safety requirements for worker safety. Thus, impacts would be less than significant. This issue will be further analyzed in the EIR.

ii. Strong seismic ground shaking?

Reference: L.A. CEQA Thresholds Guide (Section E.1) General Plan Framework and EIR Table GS-1.

Comment: A significant impact is expected if proposed Project elements are located within an active seismic area.

Less-than-Significant Impact. Southern California is a seismically active region. The City is located in Seismic Zone 4, which is a designation used in the Uniform Building Code to denote the areas of the highest risk to earthquake ground motion (California Seismic Safety Commission 2005). Due to the nature of the proposed Project construction activities, the proposed Project would require construction personnel on site. However, exposure of construction personnel to strong seismic ground shaking is unlikely and, in the case of an earthquake, would be for a short duration. Furthermore, the proposed Project features would not include the construction of habitable structures, and all the improvements would adhere to LADOT, LADPW, LADBS, and Los Angeles Bureau of Street Lighting requirement standards. The proposed Project would comply with all applicable OSHA safety requirements for worker safety. Thus, impacts would be less than significant. This issue will be further analyzed in the EIR.

iii. Seismically related ground failure, including liquefaction?

Reference: L.A. CEQA Thresholds Guide (Section E.1); NavigateLA (http://navigatela.lacity.org/navigatela);General Plan Framework EIR Table GS-1.

Comment: A significant impact is not expected even if proposed elements are located within an area prone to liquefaction.

Less-than-Significant Impact. The possibility of liquefaction occurring is dependent upon the occurrence of a significant earthquake in the vicinity, sufficient groundwater to cause high pore pressures, grain size, plasticity, relative density, and confining pressures of the soils present at the site. Liquefaction usually occurs when the underlying groundwater table is less than 50 feet below ground surface. Proposed improvements would occur throughout the City, and, as such, it is possible that they could occur within an area prone to liquefaction.

Construction activities would require construction personnel to be on site on a limited basis. Any exposure of construction personnel to ground failure, including liquefaction, would be for a short duration. Furthermore, proposed Project features would not include the construction of habitable structures, and all improvements would be conducted under the purview of LADOT, LADPW, LADBS,

and Los Angeles Bureau of Street Lighting. The proposed Project would comply with all applicable OSHA safety requirements for worker safety. Thus, impacts would be less than significant. This issue will be further analyzed in the EIR.

iv. Landslides?

Reference: L.A. CEQA Thresholds Guide (Section E.1). General Plan Framework EIR Geology Section Map, GS-4.

Comment: A significant impact is not expected if proposed Project elements would be located within an area prone to landslides.

Less-than-Significant Impact. As a whole, the City has wide-ranging topography. Proposed improvements are set to occur throughout the City, and, as such, it is possible that they may occur in areas designated as prone to landslides. Landslides can occur wherever there is a sloped undeveloped area. This issue will be further analyzed in the EIR.

Construction activities would require construction personnel to be on site on a limited basis. Any exposure of construction personnel to landslides would be for a short duration. Furthermore, proposed Project features would not include the construction of habitable structures and all improvements would be conducted under the purview of LADOT, LADPW, LADBS, and the Los Angeles Bureau of Street Lighting. The proposed Project would comply with all applicable OSHA safety requirements for worker safety. Thus, impacts would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

Reference: L.A. CEQA Thresholds Guide (Section E.1). General Plan Framework EIR Geology Section Map, GS-4.

Comment: A significant impact may occur if the proposed Project were to expose large areas of soil to the erosion effects of wind or water.

Less-than-Significant Impact. Construction activities would include street tree root pruning, street tree removal, street tree planting, sidewalk repaving, enlarging street tree wells, relocation of street signs and street lights, and construction of walls, as well as utility relocation. Thus, it is possible that construction activities—such as sidewalk, crosswalk, or curb excavation; street tree removal and replacement; and utility relocation, all of which would all involve excavation and exposure of soils—would expose soils to potential erosion. However, compliance with National Pollutant Discharge Elimination System (NPDES) requirements for soil stabilization and construction BMPs would ensure that any soil erosion would be minimal or nonexistent. Thus, impacts would be less than significant. This issue will be further analyzed in the EIR.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Reference: L.A. CEQA Thresholds Guide (Section E.1).

Comment: A significant impact is not expected if proposed Project elements are located atop an unstable geologic unit or soil.

Less-than-Significant Impact. Proposed improvements would occur throughout the City, and, as such, it is possible that they could occur in unstable geologic or soil areas.

Construction activities would require construction personnel to be on site on a limited basis. Any exposure of construction personnel to unstable soils would be for a short duration. Furthermore, proposed Project features would not include the construction of habitable structures, and all improvements would be conducted under the purview of LADOT, LADPW, LADBS, and the Los Angeles Bureau of Street Lighting. The proposed Project would comply with all applicable OSHA safety requirements for worker safety. Thus, impacts would be less than significant. This issue will be further analyzed in the EIR.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Reference: CEQA Guidelines Appendix G (Section VI).

Comment: A significant impact is not expected if proposed Project elements would be located in areas of expansive soils.

No Impact. Expansive soils generally have a substantial amount of clay, which has a high shrink/swell potential with varying water content, and can compromise the integrity building foundations and other structures in certain circumstances. Because proposed Project improvements would occur throughout the City, it is possible that Project activities could occur in areas containing expansive soils. The proposed Project would not change the underlying presence of expansive soil and would not place new structures on expansive soils, and therefore the potential for impacts related to expansive soils would not change as a result of implementation of the proposed Project. All construction activities would be consistent with City standards, including the City's *Permit & Procedure Manual for Work in the Public Right-Of-Way*, which states that a specified base material may be required where expansive soil is present (Standard Specifications Appendix:1). No creation of substantial risks to life or property would occur as a result of Project implementation, and no impact would occur. This issue will not be further discussed in the EIR.

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?

Reference: CEQA Guidelines Appendix G (Section VI); General Plan Framework EIR Geology Section Map, GS-5; NPDES Construction Stormwater Pollution Prevention Plan permit.

Comment: The proposed Project would not feature the use of septic tanks or alternative wastewater disposal systems.

No Impact. The proposed Project would repair existing sidewalks and curbs and remove and replace street trees and utilities. The work would be on disturbed land and built land with sewers readily available. No septic tanks or alternative wastewater disposal systems would be used or required under the proposed Project. Compliance with NPDES requirements of Los Angeles Regional Water Quality Control Board may require onsite treatment for proper disposal of wastewater. Portable restrooms would be available for construction personnel, thus eliminating the need for septic tanks or other alternative wastewater disposal systems. Therefore, there would be no impact. This issue will not be further discussed in the EIR.

VII. Greenhouse Gas Emissions	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Reference: SCAQMD (http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds); and CEQA Greenhouse Gas (GHG) Significance Threshold, October 2008.

Comment: There are currently no established quantitative thresholds of significance for GHG emissions on a local, state, or national basis that are applicable to the proposed Project. However, as the City is located within the South Coast Air Basin, the proposed Project is under the local jurisdiction of the SCAQMD. Currently, the SCAQMD has developed a recommended interim threshold for assessing the significance of potential GHG emissions that uses a tiered approach to determining significance. At this time, the interim GHG significance threshold applies only to stationary source/industrial projects for which the SCAQMD may be the lead agency or projects that require air quality permits from the SCAQMD. The preferred significance threshold for GHG emissions from industrial projects is <10,000 metric tons of carbon dioxide equivalent (CO_2e) per year, which includes construction emissions amortized over 30 years and then added to operational GHG emissions. The screening level for significance for residential/commercial projects is 3,000 metric tons of CO_2e per year, which also includes construction emissions amortized over 30 years and then added to operational GHG emissions to determine total project GHG emissions. SCAQMD staff is in the process of determining a final significance threshold for residential and commercial projects. In the absence of an adopted threshold by SCAQMD that is applicable to the proposed Project it is reasonable for the Lead Agency to consider other available thresholds that may be more appropriate to assess potential GHG impacts resulting from the proposed Project. Given that the proposed Project is not a land use development, does not have an operational component, and will only generate temporary construction-related emissions, the use of a screening threshold may be appropriate to determine whether the proposed Project would require further analysis and mitigation with regard to climate change. One of the available screening-level thresholds that can be considered for the proposed Project is the California Air Pollution Control Officers Association's (CAPCOA) recommended screening criteria of 900 metric tons (MT) per year of CO_2e, which is a conservative threshold that has also been referred to in SCAQMD's *Interim GHG Significance Threshold* document. This particular threshold as well as other available screening-level thresholds will be considered in consultation with the Lead Agency for the purpose of evaluating the Project's potential GHG impacts.

Potentially Significant Impact. The sidewalk improvements and street tree/vegetation replacements occurring under the proposed Project will generate GHG emissions from onsite construction equipment use, commute trips by construction workers, and travel to and from the proposed Project sites by haul/delivery trucks. In addition, although the proposed Project does not have an operational component that will generate direct GHG emissions, the tree and/or vegetation removal or trimming associated with the proposed Project would result in the release of GHG emissions. This is because trees and other vegetation act as both carbon sinks (defined as a natural environment that absorbs more CO_2 than it releases) and carbon sources. As a prominent GHG, CO_2 is absorbed from the atmosphere by vegetation, which then releases oxygen (photosynthesis) and retains the carbon. In this capacity vegetation acts as a carbon sink. Trees/vegetation also act as a carbon source when they die and decompose as the carbon that was stored in their biomass is re-released and reacts with the oxygen in the air to form CO_2. Thus, the removal and disposal of the existing street trees/vegetation in the City will emit CO_2 as the plant tissues decay over time. However, replacement of the removed street trees/vegetation with new ones under the proposed Project will provide continued uptake (sequestering) of CO_2 from the atmosphere. It should be noted that the sequestration capacity of vegetation is determined by the area available for vegetation and the types of vegetation installed. Additionally, different types of trees also sequester different amounts of CO_2. Consequently, the amount of carbon sequestration that will occur under the proposed Project may be different than that currently occurring under existing conditions. As part of the analysis for the proposed Project, the total sequestration capacity of the new street trees/vegetation and that of the existing street trees/vegetation will be calculated and compared against each other to determine the net change that would occur from Project implementation. Overall, because construction activities and alterations to street trees and vegetation would occur, the proposed Project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. The removal and replacement of street trees could also result in an overall reduced canopy within the City, which in turn can contribute to urban heath island effects within the Project study area. Thus, urban heat island issues will also be considered as these are related to the sidewalk surface material as well as the street tree canopy. Furthermore, the proposed Project will include changing the permit process for street tree removal, which could include an ordinance and/or policy setting criteria for street tree replacement ratios or specifying species, size, or location of replacement street trees. These issues will be further analyzed in the EIR.

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Reference: California Air Resources Board, The California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32), 2006; City of Los Angeles, Green LA – An Action Plan to Lead the Nation in Fighting Global Warming, 2007; City of Los Angeles, Climate LA – Municipal Program Implementing the Green LA Climate Action Plan, 2008.

Comment: A significant impact may occur if the proposed Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

Potentially Significant Impact. As discussed in VII.a, above, GHG emissions would occur as a result of proposed Project construction activities and street tree/vegetation removal. Implementation of the proposed Project could, therefore, result in potentially significant impacts by conflicting with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG. This issue will be further analyzed in the EIR.

VIII. Hazards and Hazardous Materials	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. ?ate a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
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?	☒	☐	☐	☐
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☒	☐	☐	☐
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, would it create a significant hazard to the public or the environment?	☒	☐	☐	☐
e. For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
f. For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Reference: L.A. CEQA Thresholds Guide (Sections F.1 and F.2)

Comment: A significant impact related to the routine transport, use, or disposal of hazardous materials under the proposed Project is not expected.

Less-than-Significant Impact. The proposed Project would provide repair and upgrades to sidewalks, pavement, curbs, and non-compliant slopes throughout the City. Construction activities associated with the proposed Project would include street tree root pruning, street tree canopy pruning, street tree removal, street tree planting, sidewalk repaving, enlarging street tree wells, relocation of street signs and street lights, construction of walls (under 3 feet), and replacement of utility covers. These activities would occur over the life of the proposed Project (approximately 30 years), during which time routine transport, use, and disposal of hazardous materials to complete these activities such as fuel, solvents, paints, and oils would occur. Such transport, use, and disposal must be compliant with applicable regulations such as the Resource Conservation and Recovery Act (RCRA), Department of Transportation (DOT) Hazardous Materials Regulations, Los Angeles County General Plan goals and policies, and other regulations. Although hazardous materials such as fuel, solvents, paints, and oils would be transported, used, and disposed of during each sidewalk improvement event, these materials are typically used in construction projects and would not represent the transport, use, and disposal of acutely hazardous materials. Furthermore, hazardous waste handled as a result of the proposed Project construction activities is expected to be handled, stored, and disposed of according to applicable regulations. Proposed Project implementation involves sidewalk improvements as described above, and, as such, operation of the proposed Project would not involve transport, use, storage, or disposal of hazardous materials.

Adherence to aforementioned requirements would ensure proper handling and usage of hazardous materials in order to safeguard life and property and would ensure that the transport, use, and disposal of hazardous materials would not create a significant hazard to the public or environment. Therefore, impacts would be less than significant. This issue will be further analyzed in the EIR.

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?

Reference: L.A. CEQA Thresholds Guide (Sections F.1 and F.2)

Comment: A significant impact may occur if proposed Project elements are located on sites with a history of hazardous material releases and, as a result, would potentially create a significant hazard to the public or the environment.

Potentially Significant Impact. Sidewalk improvements conducted under the proposed Project would occur throughout the City and on previously disturbed sites. As such, construction activities could occur on or near sites with a history of hazardous materials releases. Sites with a history of releases have the potential of exposing construction personnel and the surrounding environment to contaminated media and/or soils. This issue will be analyzed further in the EIR.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Reference: L.A. CEQA Thresholds Guide (Section F.2)

Comment: A significant impact may occur if proposed Project elements are located within 0.25 mile of an existing or proposed school site and handled acutely hazardous materials and/or released toxic emissions, thus posing a hazard.

Potentially Significant Impact. As detailed in Chapter 2, *Project Description*, sidewalk improvements conducted under the proposed Project would occur in numerous locations throughout the City. As such, it is very likely that construction activities could occur adjacent to schools. However, as described in VIII.a, hazardous materials used during construction activities would be used, stored, and disposed of in accordance with applicable federal, state, and local regulations. Furthermore, the small amounts of hazardous materials used during construction activities would be materials typically used in construction equipment and construction sites, and would not include materials classified as acutely hazardous.

Conversely, and as mentioned under VIII.b, it is likely that construction activities could occur near sites with a history of hazardous materials releases. Sites with a history of releases have the potential of exposing the surrounding environment to contaminated media and/or soils, including schools located within 0.25 mile of the proposed Project elements. This issue will be analyzed further in the EIR.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Reference: L.A. CEQA Thresholds Guide (Section F.2)

Comment: A significant impact may occur if proposed Project elements were 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, would potentially create a significant hazard to the public or the environment.

Potentially Significant Impact. Sidewalk improvements conducted under the proposed Project would occur throughout the City. As such, it is very likely that construction activities could occur on or near sites listed in a hazardous materials database, including sites listed pursuant to Government Code Section 65962.5. Sites with a history of releases have the potential of exposing construction personnel and the surrounding environment to contaminated media and/or soils. This issue will be analyzed further in the EIR.

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, would the project result in a safety hazard for people residing or working in the project area?

Reference: L.A. CEQA Thresholds Guide (Section F.1); City of Los Angeles General Plan.

Comment: A significant impact is not expected in terms of the proposed Project elements being located within a public airport land use plan area, or within 2 miles of a public airport.

Less-than-Significant Impact. Sidewalk improvements conducted under the proposed Project would occur throughout the City. As such, it is very likely that construction activities could occur in areas within an airport land use plan or within 2 miles of a public airport such as LAX. However, the

proposed Project involves improvement activities such as repair and upgrades to pre-existing sidewalks, pavement, and curbs and does not include structures or skyward features that would interfere with airport activities. Thus, improvements would result in circumstances similar to the existing conditions. Additionally, construction activities associated with sidewalk improvements would be temporary and occur outside airport footprints and, therefore, would not interfere with day-to-day airport operations. Based upon the analysis above, the proposed Project would not result in a safety hazard for people residing or working in locations within an airport land use plan or within 2 miles of a public airport. Therefore, impacts would be less than significant. This issue will be further analyzed in the EIR.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Reference: L.A. CEQA Thresholds Guide (Section F.1)

Comment: A significant impact is not expected in terms of proposed Project elements being located in the vicinity of a private airstrip.

Less-than-Significant Impact. The analysis under VIII.e also applies to private airstrips. Impacts would be less than significant. This issue will be further analyzed in the EIR.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Reference: L.A. CEQA Thresholds Guide (Section F.1)

Comment: Proposed Project elements are not expected to substantially interfere with roadway operations used in conjunction with an emergency response plan or evacuation plan, nor would they generate sufficient traffic to create traffic congestion that would interfere with the execution of such plans.

Less-than-Significant Impact. During construction, traffic may need to be routed around the construction area, and street parking may be temporarily limited in the area. However, traffic control measures, including traffic signs and traffic cones, would be required. Construction activities would occur in smaller areas and would not result in substantial traffic queuing along any major arterial. Moreover, the proposed Project would not include any characteristics (e.g., permanent road closures, long-term blocking of road access) that would physically impair or otherwise interfere with emergency response or evacuation in the vicinity. The proposed Project would also be required to comply with the City's Fire and Police Departments' emergency access requirements during construction. Based upon the analysis above, the proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and, therefore, impacts would be less than significant. This issue will be further analyzed in the EIR.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Reference: L.A. CEQA Thresholds Guide (Section F.1).

Comment: A significant impact is not expected in terms of proposed Project elements being located in wildland areas or adjacent to wildland areas.

Less-than-Significant Impact. Sidewalk improvements conducted under the proposed Project would occur throughout the City. As such, it is possible that construction activities could occur in areas near wildlands. However, the proposed Project would involve improvement activities such as repair and upgrades to pre-existing sidewalks, pavement, and curbs, which would result in circumstances similar to the existing conditions and would not include structures meant for human occupancy. Additionally, construction personnel would be at any given location only for a brief amount of time resulting in a minimal exposure to potential wildfire risks. Based upon the analysis above, the proposed Project would not result in a significant risk of loss, injury or death involving wildland fires. Therefore, impacts would be less than significant. This issue will be further analyzed in the EIR.

IX. Hydrology and Water Quality	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in 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)?	☐	☐	☐	☒
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 that would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
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- or off-site?	☒	☐	☐	☐
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f. Otherwise substantially degrade water quality?	☐	☐	☒	
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?	☐	☐	☐	☒
h. Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	☐	☐	☒	☐
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?	☐	☐	☐	☒
j. Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Would the project:

a) Violate any water quality standards or waste discharge requirements?

Reference: L.A. CEQA Thresholds Guide (Section G.2)

Comment: A significant impact may occur if the proposed Project discharged water that did not meet the quality standards of agencies that regulate surface water quality and water discharge into stormwater drainage systems, such as the Los Angeles Regional Water Quality Control Board (RWQCB). These regulations include compliance with the NPDES requirements for Municipal Separate Storm Sewer System (MS4) and Construction General Permits (CGP) requirements to reduce potential water quality impacts.

Less-than-Significant with Mitigation Incorporated. The proposed Project would provide repair and upgrades to sidewalks, pavement, curbs, and non-compliant slopes throughout the City. Construction activities associated with the proposed Project would include street tree root pruning, street tree canopy pruning, street tree removal, street tree planting, sidewalk repaving, enlarging street tree wells, relocation of street signs and street lights, construction of walls (under 3 feet), and replacement of utility covers. During construction activities associated with existing sidewalk removal and excavation, activities could expose soil and temporarily increase the amount of suspended solids (sediment) in sheet flow or runoff into the existing storm drain system. In addition to potential pollutant contributions from exposed soil areas, the delivery, handling, and storage of construction materials and wastes, as well as the use of construction equipment, could introduce a risk for stormwater contamination that could affect water quality. Spills or leaks from heavy equipment and machinery can result in oil and grease contamination. Larger pollutants, such as trash, debris, and organic matter, are also associated with construction activities. Furthermore, concrete used for sidewalk repairs could be a potential source of water quality pollution if any of the material was spilled or deposited on unprotected surfaces. Thus, surface water quality could potentially be temporarily affected by construction activities. The proposed Project is anticipated to replace existing impervious surfaces with new impervious surfaces. However, the amount of impervious surfaces is not anticipated to increase over existing conditions.

The proposed Project collectively would repair over 1 acre of sidewalk throughout the City. However, each individual sidewalk repair section is likely to be less than one acre. In addition, it is anticipated that sidewalk repair would occur in smaller sections throughout the City. As such, the majority of the proposed Project would implement erosion and sediment control BMPs in accordance with the City's MS4 Permit (Order No. R4-2012-0175) for areas under 1 acre. The MS4 Permit includes construction requirements for implementation of minimum construction site BMPs for erosion, sediment, non-stormwater management, and waste management on all construction sites under 1 acre. For any portion of the proposed Project replacing over 1 acre of sidewalk, the proposed Project would be required to comply with the CGP through the State Water Resources Control Board. The CGP and associated NPDES requirements include development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) with associated monitoring and reporting. Stormwater BMPs are required to control erosion, minimize sedimentation, and control stormwater runoff water quality during construction activities. Additional source control BMPs would also be required to prevent contamination of runoff by potentially hazardous materials and eliminate non-stormwater discharges.

Compliance with the minimum construction site BMP requirements in the MS4 Permit or CGP SWPPP that require construction phase BMPs would ensure that construction activities would not degrade the surface water quality of receiving waters to levels below standards considered acceptable by the Los Angeles RWQCB or other regulatory agencies or impair the beneficial uses of the receiving waters. Construction would not result in a violation of any water quality standards or waste discharge requirements, would not provide substantial additional sources of polluted runoff, and would not substantially degrade water quality.

Because the proposed Project would be constructed adjacent to storm drains, the potential exists for construction-phase impacts related to disruption of sediments and sediment-bound pollutants. Although the proposed Project could violate water quality standards or waste discharge requirements, standard regulatory compliance measures and, if necessary, mitigation measures could be implemented to reduce impacts. Therefore, impacts associated with construction would be less than significant with mitigation incorporated. This issue will be further analyzed in the EIR.

Because the proposed Project is considered a maintenance project that is replacing existing sidewalk with new sidewalk (original purpose of facility), MS4 Permit redevelopment requirements do not apply. As a result, no post-construction BMPs or hydromodification requirements are anticipated.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in 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)?

Reference: L.A. CEQA Thresholds Guide (Sections G.2 and G.3)

Comment: A project would normally have a significant impact on groundwater supplies if it were to result in a demonstrable and sustained reduction of groundwater recharge capacity or change the potable water levels sufficiently that it would reduce the ability of a water utility to use the groundwater basin for public water supplies or storage of imported water, reduce the yields of adjacent wells or well fields, or adversely change the rate or direction of groundwater flow.

No Impact. The existing locations of the proposed Project (sidewalks) are not areas that are used for recharge purposes. Aside from the minor amounts of water used for landscaping for the street trees, the proposed Project would not pump groundwater from the aquifer. Groundwater impacts within the project limits would be less than significant because the proposed Project entails repairing and improving existing sidewalks within the City, an existing urbanized area with impervious surfaces. In addition, the proposed Project would not require the construction of a groundwater well or the use of groundwater supplies, and would not interfere with recharge of a local aquifer. The proposed Project sites are within an established urban community serviced by the Los Angeles Department of Water and Power, the proposed Project does not propose to pump groundwater, and no groundwater dewatering is anticipated. Water needed for the proposed Project would be associated with construction activities and would be obtained from available public or private sources (e.g., water trucks). However, the proposed Project would include street tree removal and street tree planting. The City is responsible for watering and maintaining all street trees for 3 years. Routine watering would increase the amount of water used from current conditions. The street trees located within the sidewalk do provide a permeable area for water to infiltrate into the ground, albeit minor. While these areas can infiltrate water, they do not contribute significantly to groundwater recharge. Further, street trees would be replanted in its place. As such, no impacts on the local aquifer would occur. This issue will not be further discussed in the EIR.

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 that would result in substantial erosion or siltation on or off site?

Reference: L.A. CEQA Thresholds Guide (Sections G.1 and G2)

Comment: A significant impact may occur if the proposed Project resulted in a substantial alteration of drainage patterns that caused a substantial increase in erosion or siltation during construction or operation.

Less-than-Significant Impact. Implementation of the proposed Project would not substantially affect the existing drainage pattern of the proposed Project sites. No component of the proposed Project would result in substantial alteration of the existing drainage pattern of the sites. The proposed Project would comply with all applicable BOE and City standards for maintaining slopes with regards to drainage and slopes. The proposed Project sites are currently developed as sidewalks within the City. The City is an urbanized community consisting of pervious and impervious surfaces that would be reconstructed or repaired. The rate and amount of surface runoff is determined by multiple factors, including topography, the amount and intensity of precipitation, the amount of evaporation that occurs in the watershed, and the amount of precipitation and water that infiltrates to the ground. According to the Western Regional Climate Center, average annual rainfall in Los Angeles totals approximately 15 inches, with the highest monthly averages occurring in January and February (about 3 inches per month) (Western Regional Climate Center 2017). No increase in impervious surfaces is anticipated for sidewalk repairs, and, therefore, the proposed Project would not have the potential to result in an increase in erosion potential of downstream receiving water bodies during a rain event compared to existing conditions. Sidewalk repairs and other construction activities would not substantially alter the existing drainage pattern of the sites or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off site. As such, impacts are anticipated to be less than significant. This issue will be further analyzed in the EIR.

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 or off site?

Reference: L.A. CEQA Thresholds Guide (Sections G.1)

Comment: A significant impact may occur if the proposed Project resulted in increased runoff volumes during construction or operation that would cause flooding conditions affecting the proposed Project sites or nearby properties.

Potentially Significant Impact. See IX.c. with respect to impacts from construction activities and operation of the proposed Project. Nevertheless, it is possible that removal of street tree canopy, if substantial in a particular location, could affect flooding conditions on the street and result in a faster-than-existing volume of runoff into the storm drain system. This issue will be analyzed further in the EIR. As such, the proposed Project could substantially alter the existing drainage pattern of a site or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion, siltation, or flooding on or off site. This issue will be further analyzed in the EIR.

e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Reference: L.A. CEQA Thresholds Guide (Section G.2)

Comment: A significant impact may occur if the volume of runoff were to increase to a level that exceeded the capacity of the storm drain system serving a project site. A significant impact may also occur if the proposed Project would substantially increase the probability that polluted runoff would reach the storm drain system.

Less-than-Significant Impact. See the discussion under IX.a and IX.c. While the capacities of the conveyance facilities serving the proposed Project sites are unknown, the proposed Project may result in impervious surfaces that could increase stormwater runoff into the drainage system or provide substantial additional sources of polluted runoff. Standard BMPs and NPDES requirements would reduce impacts to less than significant. This issue will be further analyzed in the EIR.

f) Otherwise substantially degrade water quality?

Reference: Refer to IX.a above.

Comment: Refer to IX.a above.

Less-than-Significant Impact. See discussion under IX.a. The proposed Project would comply with all requirements related to water quality and would not otherwise substantially degrade water quality. Impacts would be less than significant. This issue will be further analyzed in the EIR.

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?

Reference: L.A. CEQA Thresholds Guide (Sections G.1 to G.3); City of Los Angeles General Plan Safety Element.

Comment: A significant impact may occur if the proposed Project were to 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.

No Impact. The Safety Element of the City's General Plan indicates that several portions of the proposed Project area are located within a 100-year flood plain. However, the proposed Project would not include the construction of housing, and, therefore, no impacts would occur. This issue will not be further discussed in the EIR.

h) Place within a 100-year flood hazard area structures that would impede or redirect floodflows?

Reference: L.A. CEQA Thresholds Guide (Sections G.1 and G.3); City of Los Angeles General Plan Safety Element.

Comment: A significant impact may occur if the proposed Project were to place within a 100-year flood hazard area structures that would impede or redirect floodflows.

Less-than-Significant Impact. As noted in IX.g, several portions of the proposed Project sites are located within a 100-year flood plain. Pursuant to the recent California Supreme Court decision in *California Building Industry Association v. Bay Area Air Quality Management District*, CEQA does not require an analysis of how the existing environmental conditions will affect a project's residents or

users unless the project would exacerbate those conditions. Therefore, when discussing impacts of the environment on the proposed Project, such as placing structures within a 100-year flood hazard area that would impede or redirect floodflows, the analysis will first determine if there is a potential for the proposed Project to exacerbate the issue. If evidence indicates it would not, then the analysis will conclude by stating such. If it would potentially exacerbate the issue, then evidence is provided to determine if the exacerbation would or would not be significant. The proposed Project would not impede or redirect floodflows and, as such, would result in a less-than-significant impact. This issue will be further analyzed in the EIR.

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?

Reference: L.A. CEQA Thresholds Guide (Sections E.1 and G.3); City of Los Angeles General Plan, Safety Element.

Comment: A significant impact may occur if the proposed Project were located in an area where a dam or levee could fail, exposing people or structures to significant risk of loss, injury or death.

No Impact. Pursuant to the recent Supreme Court case decision in *California Building Industry Association v. Bay Area Air Quality Management District*, CEQA does not require an analysis of how the existing environmental conditions will affect a project's residents or users unless the project would exacerbate those conditions. Therefore, when discussing impacts of the environment on the proposed Project, such as placing structures within a levee or dam inundation area that would impede or redirect floodflows, the analysis will first determine if there is a potential for the proposed Project to exacerbate the issue. If evidence indicates it would not, then the analysis will conclude by stating such. If it would potentially exacerbate the issue, then evidence is provided to determine if the exacerbation would or would not be significant. Several portions of the proposed Project are located in a levee or dam inundation area. However, the proposed Project is repairing existing sidewalks and curbs located throughout the City and would not expose people or structures to significant risks involving flooding, including flooding as a result of the failure of a levee or dam. No impact would occur. This issue will not be further discussed in the EIR.

j) Contribute to inundation by seiche, tsunami, or mudflow?

Reference: LA CEQA Thresholds Guide (Section E.1); City of Los Angeles General Plan Safety Element; and California Department of Conservation (http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps)

Comment: A significant impact may occur if the proposed Project would cause or accelerate geologic hazards, which would result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury.

No Impact. Portions of the proposed Project area are located adjacent to the Pacific Ocean. A review of the California Department of Conservation's tsunami regulatory maps and the City's Safety Element indicates that portions of the proposed Project sites are located within a Tsunami Hazard Zone. In addition, the proposed Project is located adjacent to several dams, reservoirs, and large bodies of water (e.g., Baldwin Hills Dam and Van Norman Dam) that may be subject to a seiche. Additionally, there are hillside slopes that could be at risk for mudflow. Pursuant to the recent Supreme Court case decision in *California Building Industry Association v. Bay Area Air Quality Management District*, CEQA does not require an analysis of how the existing environmental conditions will affect a project's residents or users unless the project would exacerbate those

conditions. The proposed Project is repairing existing sidewalks and curbs located throughout the City. The repair and replacement of existing sidewalks would not exacerbate inundation by seiche, tsunami, or mudflow. The proposed Project would not result in a greater risk than currently exists. As such, no impacts would occur. This issue will not be further discussed in the EIR.

X. Land Use and Planning	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☒	☐
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☒	☐	☐	☐

Would the project:

a) Physically divide an established community?

Reference: LA CEQA Thresholds Guide (Section H.2); City of Los Angeles General Plan and Municipal Code; Community Plans.

Comment: A significant impact would occur if the project includes features such as a highway, above-ground infrastructure, or an easement that would cause a permanent disruption to an established community or would otherwise create a physical barrier within an established community.

Less-than-Significant Impact. The proposed Project would include repairs and upgrades to sidewalks, pavement, curbs, and slopes that are not compliant with applicable accessibility requirements throughout the City. As such, proposed Project activities would take place on previously disturbed, urban areas and would result in a minor alteration of land that would restore or improve disturbed areas when compared to their original surface conditions. Under all prototypical project types/construction scenarios, the proposed Project would not include highway work, substantial above-ground infrastructure, or easements that would cause a permanent disruption to an established community or would otherwise create a physical barrier within an established community. Therefore, the proposed Project would not physically divide an established community, and impacts would be less than significant. This issue will be further analyzed in the EIR.

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?

Reference: LA CEQA Thresholds Guide (Sections H.1 and H.2); City of Los Angeles General Plan; ZIMAS.

Comment: A significant impact may occur if the proposed Project were inconsistent with the General Plan, or other applicable plan, or with the site's zoning if designated to avoid or mitigate a significant environmental impact.

Potentially Significant Impact. The proposed Project would occur at various locations throughout the City, governed by its General Plan's Land Use Element, which is made up of 35 distinct community plans. Due to the relatively noninvasive nature of the proposed Project activities, it is unlikely that the proposed Project would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed Project adopted for the purpose of avoiding or mitigating an environmental effect. However, certain project prototypes/construction scenarios would require tree removal and replacement, utility relocation, new rights-of-way or easements, and may or may not take place in culturally sensitive areas/HPOZs and/or Coastal Zones. Though specific requirements associated with street tree removals would be identified separately, and replacement would occur consistent with the City's replacement ratios, due to the variety of potential land use considerations, land use consistency evaluations should be made on a more thorough case-by-case basis, considering the location of repair work and governing policies at each location (i.e., examinations of land use policies in existing Area Planning Commission areas, relative to each prototypical project types/construction scenarios), to the extent practicable In addition, the proposed Project would include changing the permit process for street tree removal, which could include an ordinance and/or policy setting criteria for street tree replacement ratios or specifying species, size, or location of replacement street trees. This issue will be further analyzed in the EIR

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Reference: LA CEQA Thresholds Guide (Sections H.1 and H.2); City of Los Angeles General Plan; Los Angeles County Draft General Plan; Rancho Palos Verdes NCCP/HCP (https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans/Rancho-Palos-Verdes).

Comment: A significant impact may occur if the proposed Project were located within an area governed by an HCP or NCCP and would conflict with such plan.

Potentially Significant Impact. The Rancho Palos Verdes NCCP boundary is located within the southern portion of the proposed Project area, specifically within the San Pedro Community Plan Area. Due to the relatively noninvasive nature of the proposed Project activities, it is unlikely that the proposed Project would conflict with the Rancho Palos Verdes NCCP. However, certain project prototypes/construction scenarios would require tree removal and replacement, utility relocation, new rights-of-way, or easements, and may or may not take place in biologically sensitive areas as identified in the Rancho Palos Verdes NCCP. No other NCCP/HCPs are identified within the proposed Project area. Therefore, a potentially significant impact could result under all prototypical project types/construction scenarios, and this issue will be further analyzed in the EIR.

XI. Mineral Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Reference: L.A. CEQA Thresholds Guide (Section E.4); City of Los Angeles General Plan Conservation Element; California Division of Oil, Gas, and Geothermal Resources (http://maps.conservation.ca.gov/doggr/#close); City of Los Angeles 2001: Exhibit A.

Comment: A significant impact may occur if the proposed Project is in an area used or available for extraction of a regionally important mineral resource, if the proposed Project converts a regionally important mineral extraction use to another use, or if the proposed Project affects access to such use.

No Impact. As described in the Conservation Element of the City of Los Angeles General Plan, the California State Geologist classifies areas in which sand, gravel, and oil deposits can be found. The Conservation Element identifies the locations of Mineral Resource Zones (MRZ). MRZ-2 mineral resource zones are areas where sand and gravel extraction has occurred historically, which are in the eastern portion of the San Fernando Valley and around downtown Los Angeles. State-designated oil fields have been identified in the northern portion of the San Fernando Valley, the Mid-City area, near Playa del Rey, and to the north of San Pedro. Because the proposed Project would repair existing sidewalks and curbs and these areas are developed and not used for mineral resource extraction at present, the proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. No impact would occur. This issue will not be further discussed in the EIR.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Reference: Refer to XI.a above.

Comment: Refer to XI.a above.

No Impact. As discussed in XI.a. and the Conservation Element of the City of Los Angeles General Plan, the locations of surface and subsurface mineral resource deposits have been identified in several parts of the City of Los Angeles. The proposed Project would repair existing sidewalks within public rights of way. Because these sidewalks are developed, they are not used as locally-important mineral resource recovery sites at present. Therefore, no impact would occur. This issue will not be discussed further in the EIR.

XII. Noise	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☒	☐	☐	☐
b. Expose persons to or generate excessive ground-borne vibration or ground-borne noise levels?	☒	☐	☐	☐
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Would the project:

a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Reference: City of Los Angeles Municipal Code (Chapter IV, Article 1, Section 41.40; Chapter XI).

Comment: A significant impact may occur if the proposed Project were to expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Potentially Significant Impact. Construction activity would involve the use of various noise-generating construction equipment. Even the simplest proposed Project element would likely involve equipment such as a jackhammer, concrete truck, tamper, skid steer, dump truck, stump grinder, and/or reciprocating saw. More complex repairs and street tree removals could require additional equipment such as a chainsaw, bucket loaders, an auger, mini-excavators, backhoes, shoring equipment, and compactor. These types of equipment typically generate maximum noise levels in the range of 76–89 A-weighted decibels (dBA) at a distance of 50 feet. Repair times could range from 2–3 weeks for an entire block with standard nine-man crew, to more than 5 weeks for more complex repairs (such as those involving major utility relocation work). Proposed Project

construction would occur throughout the City, including in residential neighborhoods and adjacent to other potentially noise-sensitive land uses. Based on the high noise levels generated by the proposed construction equipment, coupled with the proximity of sidewalks to the neighboring land uses, the proposed Project could result in exposure of persons to or generation of noise levels in excess of standards established in the general plan or noise ordinance, or applicable standards of other agencies, and, as such, impacts could be potentially significant. This issue will be further analyzed in the EIR. It is possible that some of the construction activity would not be subject to City noise standards based upon exemptions or variances within the code; the applicability of any such exemptions or variances will be investigated further in the EIR.

The proposed Project is not anticipated to generate any significant noise impacts after construction is complete, both because sidewalks are generally passive land uses, and because the new sidewalks would be direct replacements and improvements of the existing sidewalks.

b) Expose persons to or generate excessive ground-borne vibration or ground-borne noise levels?

Reference: L.A. CEQA Thresholds Guide (Section I); City of Los Angeles General Plan; City of Los Angeles Municipal Code.

Comment: A significant impact may occur if the proposed Project were to expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.

Potentially Significant Impact. The proposed Project is not anticipated to use high-impact construction methods such as pile-driving or blasting. Nonetheless, construction equipment such as jackhammers, loaded trucks, augers, heavy earthmoving equipment (excavators, backhoes, etc.), and compactors have the potential to generate perceptible ground-borne vibration at nearby locations. Based on the likely proximity of proposed Project construction activity to homes or other sensitive buildings, the proposed Project could result in exposure of persons to excessive ground-borne vibration or ground-borne noise levels from construction activities, and, as such, impacts could be significant. This issue will be further analyzed in the EIR.

Because there are no operational elements of the proposed Project that would be sources of perceptible vibration, the proposed Project would not generate any ground-borne vibration impacts after construction is complete.

c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Reference: L.A. CEQA Thresholds Guide (Section I).

Comment: A significant impact may occur if the proposed Project were to substantially and permanently increase the ambient noise levels in the proposed Project vicinity above levels existing without the proposed Project.

No Impact. The primary noise source associated with the proposed Project would be construction activity, which would be temporary and not permanent. The proposed Project consists of an infrastructure project and would not introduce population into the City. As noted under VII.a, sidewalks are generally passive land uses that would not generate significant noise levels. Any changes to the sidewalks that would occur as a result of the proposed Project would not change the ambient noise environment in the surrounding community. As a result, the proposed Project would have no impact. This issue will not be discussed in the EIR.

d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Reference: L.A. CEQA Thresholds Guide (Section I); City of Los Angeles Municipal Code.

Comment: A significant impact may occur if the proposed Project were to create a substantial increase in the ambient noise levels on a temporary or periodic basis.

Potentially Significant Impact. The only temporary or periodic noise source associated with the proposed Project would be construction activity. As described in VII.a, construction equipment generates typical maximum noise levels in the range of 76–89 dBA at a distance of 50 feet. Such noise levels have the potential to significantly increase ambient noise levels at nearby noise-sensitive receptors on a temporary or periodic basis, and, as such, impacts could be significant. This issue will be further analyzed in the EIR.

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, would the project expose people residing or working in the project area to excessive noise levels?

Reference: None.

Comment: A significant impact may occur if the proposed Project would expose people residing or working in the proposed Project area to excessive noise levels due to the proposed Project sites being located within an airport land use plan or within 2 miles of a public airport where such a plan has not been adopted.

Less-than-Significant Impact. The proposed Project would occur at various locations throughout the City, and it is likely that at least some of these locations will be close to one of the region's airports, such as LAX. Specifically, construction activities could occur near airports. However, the proposed Project would not build any permanent structures or directly lead to any new people residing in the proposed Project area. Construction workers working in the vicinity of an airport would use ear protection in compliance with applicable OSHA regulations, which would reduce the exposure to airport noise to less than significant. Furthermore, the proposed Project would not affect airport flight operations or change the associated noise levels. This would be considered a less-than-significant impact. This issue will be further analyzed in the EIR.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Reference: None.

Comment: A significant impact may occur if the proposed Project would expose people residing or working in the proposed Project area to excessive noise levels in the vicinity of a private airstrip.

Less-than-Significant Impact. The proposed Project would occur at various locations throughout the City, and some of these locations may be close to a private airstrip. However, the proposed Project would not build any permanent structures or directly lead to any new people residing in the proposed Project area. Construction workers working in the vicinity of an airstrip would use ear protection in compliance with applicable OSHA regulations, which would reduce the exposure to airstrip noise to less than significant. Furthermore, the proposed Project would not affect airstrip flight operations or change the associated noise levels. This would be considered a less-than-significant impact. This issue will be further analyzed in the EIR.

XIII. Population and Housing	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Would the project:

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)?

Reference: L.A. CEQA Thresholds Guide (Section J.1); Willits v. City of Los Angeles Settlement Term Sheet.

Comment: A significant impact may occur if the proposed Project induced substantial population and housing growth through new development in undeveloped areas or by introducing unplanned infrastructure that was not previously evaluated in the adopted community plan or general plan.

No Impact. The proposed Project would not include housing or commercial development. In addition, proposed Project construction would not indirectly induce growth in the area because the proposed Project would not include the extension of roads or other infrastructure. The proposed Project would provide repairs to curbs and sidewalks to comply with the applicable accessibility requirements and remove and replace street trees and utilities throughout the City. As such, proposed Project activities would take place on previously disturbed, urban areas and would result in a minor alteration of land that would restore or improve disturbed areas when compared to their original surface conditions. Because of the highly specialized nature of most construction projects, workers are likely to be employed on the job site only for as long as their skills are needed to complete a particular phase of the construction process. For that reason, it is reasonable to assume that most construction workers would not relocate their households to work on the proposed Project. Therefore, the proposed Project would not induce substantial population growth either directly or indirectly, and there would be no impacts. This issue will not be further discussed in the EIR.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Reference: L.A. CEQA Thresholds Guide (Sections J.1 and J.2); Willits v. City of Los Angeles Settlement Term Sheet.

Comment: A significant impact may occur if the proposed Project displaced substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

No Impact. The proposed Project would not displace existing housing and would not necessitate the construction of housing elsewhere because this is an infrastructure project. The proposed Project would not include housing or commercial development. In addition, proposed Project construction would not indirectly induce growth in the area because the proposed Project would not include the extension of roads or other infrastructure. The proposed Project would provide repairs to curbs and sidewalks to comply with the applicable accessibility requirements and remove and replace street trees and utilities throughout the City. As such, proposed Project activities would take place on previously disturbed, urban areas and would result in a minor alteration of land that would restore or improve disturbed areas when compared to their original surface conditions. Therefore, no impacts would occur. This issue will not be further discussed in the EIR.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Reference: See XIII.b above.

Comment: A significant impact may occur if the proposed Project displaced substantial numbers of people, necessitating the construction of replacement housing elsewhere.

No Impact. The proposed Project would not displace substantial numbers of people and would not necessitate the construction of housing elsewhere because this is an infrastructure project. The proposed Project would not include housing or commercial development. In addition, proposed Project construction would not indirectly induce growth in the area because the proposed Project would not include the extension of roads or other infrastructure. The proposed Project would provide repairs to curbs and sidewalks to comply with the applicable accessibility requirements and remove and replace street trees and utilities throughout the City. As such, proposed Project activities would take place on previously disturbed, urban areas and would result in a minor alteration of land that would restore or improve disturbed areas when compared to their original surface conditions. Therefore, no impacts would occur. This issue will not be further discussed in the EIR.

XIV. Public Services	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 any of the following public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Would the project:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 any of the public services:

i. Fire protection?

Reference: L.A. CEQA Thresholds Guide (Section K.2); City of Los Angeles General Plan Safety Element.

Comment: A significant impact may occur if the proposed Project required the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.

Less-than-Significant Impact. The proposed Project sites are served by various battalions and stations of LAFD throughout the City. The proposed Project would not result in a substantial increase in population and, thus, would not generate a need for new or altered fire protection facilities. Under all prototypical project types/construction scenarios, the proposed Project would be constructed in accordance with all applicable fire codes set forth by the state Fire Marshal and LAFD. Therefore, the proposed Project would not be considered a fire hazard and would not exceed the capacity of LAFD with respect to serving the site or other areas with existing fire protection services. The nearest local fire responders would be notified, as appropriate, of traffic control plans during construction so as to coordinate emergency response routing during construction work. Construction and operation of the proposed Project would not create hazards that would increase the need for fire protection. All construction would require prior coordination with the LAFD to ensure that emergency access is maintained at all times. Therefore, this impact would be less than significant. This issue will be further analyzed in the EIR.

ii. Police protection?

Reference: L.A. CEQA Thresholds Guide (Section K.1); City of Los Angeles General Plan Safety Element.

Comment: A significant impact may occur if the proposed Project were to result in an increase in demand for police services that would exceed the capacity of the police department responsible for serving the site.

Less-than-Significant Impact. The proposed Project sites would be served by various divisions and stations of LAPD throughout the City. Typically, demand for additional police protection is created when there is an increase in the residential, commercial, or industrial population in an area. Under all prototypical project types/construction scenarios, the proposed Project would not require additional police protection beyond what is currently provided throughout its service areas because there would be no population growth associated with the proposed Project. The nearest local police station would be notified, as appropriate, of traffic control plans to coordinate emergency response routing during construction work. During construction, the proposed Project sites and areas would be fenced and screened, nighttime lighting provided, and access controlled to deter theft. Similarly, during proposed Project operation, an increase in calls to police is not anticipated due to the nature of the proposed work, repairing sidewalks. All construction would require prior coordination with LAFD to ensure that emergency access is maintained at all times. Therefore, this impact would be less than significant. This issue will be further analyzed in the EIR.

iii. Schools?

Reference: L.A. CEQA Thresholds Guide (Section K.3).

Comment: A significant impact may occur if the proposed Project included substantial employment or population growth that could generate demand for school facilities that exceeded the capacity of the school district responsible for serving the project site.

No Impact. The proposed Project would not include a housing component, nor would it directly or indirectly generate substantial employment or population growth, which usually results in the need for new schools or additional school population. Therefore, new or physically altered school facilities would not be required. The purpose of the proposed Project is to repair the sidewalks and other pedestrian passageways in urban areas. It does not entail the construction of residential, commercial, or industrial land uses that are normally associated with employment and population growth. Therefore, the proposed Project would not generate demand for school facilities that would exceed the capacity of the school district(s) responsible for serving the project site(s) under all prototypical project types/construction scenarios. Proposed Project construction could, however, potentially re-route pedestrian and vehicle traffic while repairs are being made. During this period of temporary disruption, access to school facilities would be maintained, and construction signage would delineate alternate access routes as necessary. Therefore, no impacts would occur, and this issue will not be further discussed in the EIR.

iv. Parks?

Reference: L.A. CEQA Thresholds Guide (Section K.4).

Comment: A significant impact may occur if the recreation and park services available could not accommodate the population increase resulting from the implementation of the proposed Project and new or physically altered facilities were needed.

No Impact. No new or physically altered government facilities, such as recreation and park services, would be needed to accommodate population increases resulting from the implementation of the proposed Project. The purpose of the proposed Project is to repair the sidewalks and other pedestrian passageways in urban areas. It does not entail the construction of residential, commercial, or industrial land uses that are normally associated with such impacts. Therefore, it would not lead to an increase in population, nor would it induce growth or strain park services through direct or indirect means under all prototypical project types/construction scenarios. Proposed Project construction could, however, potentially re-route pedestrian and vehicle traffic while repairs are being made. During this period of temporary disruption, access to park and recreational facilities would be maintained, and construction signage would delineate alternate access routes as necessary. Therefore, no impacts would occur, and this issue will not be further discussed in the EIR.

v. Other public facilities?

Reference: None applicable.

Comment: A significant impact would occur if the proposed Project results in the need for new or altered public facilities, such as libraries, due to population or housing growth.

No impact. Typically, demand for new or altered public facilities such as libraries is created when there is an increase in the residential population in an area. The proposed Project would not result in an increase of residential units, nor would it contribute to overall population or housing growth under all prototypical project types/construction scenarios. Thus, the proposed Project would not result in the need for new or altered public facilities, such as libraries. No other facilities would be constructed or operated as a result of this proposed Project. No impacts would occur, and this issue will not be further discussed in the EIR.

XV. Recreation	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Would the project:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Reference: L.A. CEQA Thresholds Guide (Section K.4); City of Los Angeles, Department of Parks and Recreation (http://www.laparks.org/department/who-we-are).

Comment: A significant impact may occur if the proposed Project included substantial employment or population growth that generated demand for public park facilities that exceed the capacity of existing parks or that substantially affected the level or service of existing park facilities.

No Impact. The City of Los Angeles contains 444 park sites with athletic fields, playgrounds, tennis courts, recreation centers, fitness areas, swimming pools and aquatic centers, senior centers, skate parks, golf courses, museums, and dog parks. Implementation of existing sidewalk and curb repair, and removal and replacement of street trees and utilities would not generate demand for public park facilities that would exceed the capacity of existing parks and recreational facilities. There would be no introduction of new population or housing in the City as a result of the proposed Project. It would not induce growth and would not strain park services through direct or indirect means under all prototypical project types/construction scenarios. Therefore, no impacts would occur, and this issue will not be further discussed in the EIR.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Reference: None.

Comment: A significant impact may occur if the proposed Project would require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

No Impact. The City of Los Angeles contains 444 park sites. The proposed Project would not include recreational facilities, nor would it require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. The only areas that would be affected by the proposed Project would be sidewalks surrounding the recreational facilities. Proposed Project activities would take place on previously disturbed areas, would be temporary in duration, and would result in a minor alteration of land that would restore or improve disturbed areas when compared to their original surface conditions. Therefore, no impacts would occur, and this issue will not be further discussed in the EIR.

XVI. Transportation/Traffic	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☒	☐	☐	☐
b. Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e. Result in inadequate emergency access?	☐	☐	☒	☐
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☒	☐	☐	☐

Would the project:

a) Exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Reference: L.A. CEQA Thresholds Guide (Section L).

Comment: A project would have a significant traffic impact if the traffic volume to roadway capacity ratio (V/C) is increased, as follows:

- V/C ratio increase >0.080 if final Level of Service (LOS) is C.
- V/C ratio increase >0.040 if final LOS is D.
- V/C ratio increase >0.020 if final LOS is E or F.

"Final LOS" is defined as projected future conditions including project, ambient, and related project growth but without project traffic mitigation.

Potentially Significant Impact. During the course of construction activities, work zones would be established within and adjacent to existing roadways, potentially requiring lane or parking zone closures for approximately 2–3 weeks or more than 5 weeks. Temporary signage, traffic cones, fencing, and barriers would be placed where needed during the construction period. In addition, staging areas and work zones could displace existing parking at various locations (e.g., schools and roadways). Following construction activities, sidewalks would be repaired, and there would be no proposed Project-related adverse effects on roadway operations. The potential for construction activities to conflict with the performance of existing public transit, bicycle, or pedestrian facilities will be further evaluated in the EIR. In addition, the proposed Project would include changing the permit process for street tree removal, which could include an ordinance and/or policy setting criteria for street tree replacement ratios or specifying species, size, or location of replacement street trees. This issue will be further analyzed in the EIR.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Reference: L.A. CEQA Thresholds Guide (Section L).

Comment: A significant impact may occur if the proposed Project conflicts with the 2010 Los Angeles County Metropolitan Transportation Authority Congestion Management Program.

Potentially Significant Impact. As described in XVI.a, the proposed Project could disrupt traffic and conflict with congestion management plans or existing level-of-service standards during construction period, as temporary lane or parking zone closures could be required. The potential for the proposed Project to conflict with congestion management plans or level-of-service standards related to the circulation system will be further analyzed in the EIR.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?

Reference: L.A. CEQA Thresholds Guide (Section L).

Comment: A significant impact may occur if the proposed Project results in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks.

Less-than-Significant Impact. The proposed Project would involve repairing sidewalks and would therefore not result in a change in air traffic patterns. Construction activities may occur in areas within airport influence areas, but would not be adjacent to existing runways such that an alteration of air traffic patterns would occur. Therefore, this impact would be less than significant, and this issue will be further analyzed in the EIR.

d) Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Reference: L.A. CEQA Thresholds Guide (Section L.5).

Comment: A significant impact may occur if the proposed Project substantially increased road hazards due to a design feature or incompatible uses.

Less-than-Significant Impact. During the construction period, work zones would be established within and adjacent to roadways and would include heavy machinery, handheld equipment, and street tree/vegetation removal activities; and lane and parking zone closures could be required for

some work zones. Following the construction period, no adverse operational effects related to traffic hazards would occur. The proposed Project sites would be compliant with applicable accessibility requirements, which would reduce design hazards and improve intersection functionality and safety. Therefore, there would be a less-than-significant impact, and this issue will be further analyzed in the EIR.

e) Result in inadequate emergency access?

Reference: L.A. CEQA Thresholds Guide (Section L.5 and L.8).

Comment: A significant impact may occur if the proposed Project resulted in inadequate emergency access.

Less-than-Significant Impact. During the construction period, parking zone and lane closures could be required to accommodate work zones and the use of equipment. Both parking zone and lane closures could affect access to roadways that are used by emergency providers. Construction activities could result in the temporary disruption of existing roads. Disruption of traffic during the construction period has the potential to delay fire personnel, police, or other first responders and possibly to increase response times. All construction would require prior coordination with the LAFD to ensure that emergency access is maintained at all times. Therefore, there would be a less-than-significant impact, and this issue will be further analyzed in the EIR.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Reference: L.A. CEQA Thresholds Guide (Section L).

Comment: A significant impact may occur if the proposed Project were to conflict with adopted policies, plans, or programs supporting alternative transportation.

Potentially Significant Impact. Construction activities would take place along roadways that are designated as bus corridors. Buses could be delayed if lanes are needed to provide space for work zones. Bus stops may be temporarily relocated in consideration of the locations of the work zones. Sidewalk closures and work zones would also temporarily preclude the use of sidewalks by pedestrians, and temporary detours would be provided until construction is complete. Following the construction period, the proposed Project would improve sidewalks for pedestrians and transit users, and no adverse effects would occur. Discussion of replacement of non-conforming (relative to Mobility 2035) facilities will be addressed in the EIR. The potential for the proposed Project construction activities to conflict with applicable plans, ordinances, or policies related to the circulation system will be further analyzed in the EIR.

XVII. Tribal Cultural Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☒	☐	☐	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☒	☐	☐	☐

Would the project:

a) Cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

Comment: A significant impact may result if the proposed Project caused a substantial adverse change to the significance of a tribal cultural resource.

Potentially Significant Impact. It is likely that there are tribal cultural resources in the proposed Project area. Also, previously unknown tribal cultural resources may be discovered as a result of Native American consultation or during proposed Project-related ground disturbance. If resources are found, construction work would be stopped and an assessment of the resources would be required. This issue will be further analyzed in the EIR.

b) Cause a substantial adverse change in a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Comment: A significant impact may result if the proposed Project caused a substantial adverse change to the significance of a tribal cultural resource.

Potentially Significant Impact. See discussion for XVII.a above. This issue will be further analyzed in the EIR.

XVIII. Utilities and Service Systems	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	☒	☐	☐	☐
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☒	☐	☐	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Reference: L.A. CEQA Thresholds Guide (Section M.2)

Comment: A significant impact would occur if the proposed Project discharges wastewater that would exceed the regulatory limits established by the Los Angeles RWQCB.

Less-than-Significant Impact. The proposed Project would provide repairs and upgrades to sidewalks, pavement, curbs, and slopes that are non-compliant with the applicable accessibility requirements throughout the City. Required construction activities would include excavation of existing sidewalks, grading, construction of the repaired portions of sidewalks, and cleanup of construction sites. Construction activities related to excavation and grading are expected to produce negligible amounts of wastewater. Construction workers

would be expected to follow standard BMPs, which would reduce any construction-related wastewater impacts. Impacts would be less than significant, and this issue will be further analyzed in the EIR.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Reference: L.A. CEQA Thresholds Guide (Sections M.1 and M.2)

Comment: A significant impact may occur if the proposed Project resulted in the need for new construction or expansion of water or wastewater treatment facilities that could result in an adverse environmental effect that could not be mitigated.

Less-than-Significant Impact. See XVIII.a. The proposed Project would provide repair and upgrades to sidewalks, pavement, curbs, and non-compliant slopes throughout the City. Construction activities associated with the proposed Project would include street tree root pruning, street tree canopy pruning, street tree removal, street tree planting, sidewalk repaving, enlarging street tree wells, relocation of street signs and street lights, construction of walls (under 3 feet), and replacement of utility covers. These activities would occur over the life of the proposed Project (approximately 30 years), during which time watering of the site or wastewater may be discharged from the construction areas. Such wastewater discharges must be compliant with applicable regulations such as the City's MS4 Permit (Order No. R4-2012-0175) for areas under 1 acre, and, for any portion of the proposed Project replacing over 1 acre of sidewalk, the proposed Project would be required to comply with the CGP through the State Water Resources Control Board. The CGP and associated NPDES requirements include development and implementation of a SWPPP with associated monitoring and reporting. Stormwater BMPs are required to control erosion, minimize sedimentation, and control stormwater runoff water quality during construction activities. The EIR will discuss the proposed Project water and wastewater requirements. Furthermore, construction workers would be expected to follow BMPs, which would reduce any construction-related wastewater impacts. It is not anticipated that the proposed Project would require the construction of new water or wastewater treatment facilities or expansion of existing facilities. In addition, the proposed Project would include changing the permit process for street tree removal, which could include an ordinance and/or policy setting criteria for street tree replacement ratios or specifying species, size, or location of replacement street trees. This issue will be further analyzed in the EIR.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Reference: L.A. CEQA Thresholds Guide (Section M.2).

Comment: A significant impact may occur if the volume of stormwater runoff from the proposed Project increases to a level exceeding the capacity of the storm drain system serving a proposed Project site.

Potentially Significant Impact. The proposed Project would provide repairs to curbs and sidewalks to comply with the applicable accessibility requirements, and would remove and replace street trees and utilities throughout the City. These repairs could include curb and gutters, curb ramps, and utility relocation. In some cases, repairs and upgrades of existing sidewalks may require the partial reconfiguration of existing stormwater drainage facilities. Compliance with the minimum construction site BMP requirements in the MS4 Permit, or the CGP SWPPP that require construction

phase BMPs would ensure that construction activities would not degrade the surface water quality of receiving waters to levels below standards considered acceptable by the Los Angeles RWQCB or other regulatory agencies or impair the beneficial uses of receiving waters. The proposed Project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. As such, proposed Project activities would take place on previously disturbed, urban areas and would result in land that would restore or improve disturbed areas when compared to their original surface conditions. This issue will be further analyzed in the EIR.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Reference: L.A. CEQA Thresholds Guide (Section M.1).

Comment: A significant impact may occur if the proposed Project's water demands would exceed the existing water supplies that serve the site.

Potentially Significant Impact. The proposed Project would provide repairs and upgrades to sidewalks, pavement, curbs, and slopes that are non-compliant with the applicable accessibility requirements throughout the City. Required construction activities would include excavation of existing sidewalks, grading, construction of the repaired portions of sidewalks, and cleanup of construction sites. Water would be used during concrete work, grading, dust suppression, and other construction activities. Water would also be required to establish new street trees during the first 3 years after planting. The City usually provides watering of the street trees from a water truck. The water uses described above could result in a substantial permanent increase in water consumption, and this issue will be discussed in the EIR. In addition, the proposed Project would include changing the permit process for street tree removal, which could include an ordinance and/or policy setting criteria for street tree replacement ratios or specifying species, size, or location of replacement street trees. This issue will be further analyzed in the EIR.

e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Reference: L.A. CEQA Thresholds Guide (Section M.2).

Comment: A significant impact may occur if the proposed Project results in a determination by the wastewater treatment provider that serves or may serve the proposed Project that it does not have adequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments.

Less-than-Significant Impact. See XVIII.a. LA Sanitation (LASAN) is the wastewater treatment provider for the City. The proposed Project would produce negligible amounts of wastewater for each sidewalk project. Furthermore, construction workers would be expected to follow standard BMPs, which would reduce any construction-related wastewater impacts. Therefore, LASAN would have adequate capacity to serve the proposed Project's projected demand in addition to LASAN existing commitments. Impacts would be less than significant, and this issue will be further analyzed in the EIR.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Reference: L.A. CEQA Thresholds Guide (Section M.3); California Department of Resources Recycling and Recovery (2010), Solid Waste Information System (http://www.calrecycle.ca.gov/SWFacilities/Directory/); City of Los Angeles Solid Waste Integrated Resources Plan (http://www.zerowaste.lacity.org) and LASAN (http://www.lacitysan.org/solid_resources/recycling); California Integrated Waste Management Act of 1989 (Assembly Bill 939).

Comment: The management of solid waste in the City involves public and private refuse collection services as well as public and private operation of solid waste transfer, resource recovery, and disposal facilities. A significant impact would occur if the proposed Project results in solid waste generation of 5 tons or more per week.

Potentially Significant Impact. The proposed Project would provide repairs and upgrades to sidewalks, pavement, curbs, and slopes that are non-compliant with the applicable accessibility requirements throughout the City. Excavation of existing sidewalks, curbs, and other public ROW improvements would result in solid waste that would need proper disposal and that could require disposal as hazardous waste. Proposed sidewalk repair would occur over a 30-year time period, and substantial amounts of reconstruction would be occurring simultaneously throughout the City as a result of the proposed Project. In addition, on March 5, 2010, Council approved Council File 09-3029 pertaining to a Citywide Construction and Demolition (C and D) Waste Recycling Ordinance that requires all mixed C and D waste generated within City limits be taken to City-certified C and D waste processors. LASAN is responsible for the C and D waste recycling policy. The Zero Waste Progress Report 2013 conducted by the UCLA Engineering Extension's Municipal Solid Waste Management Program reported that the City has achieved a recycling rate of 76.4 percent. An additional survey conducted by the UCLA Engineering Extension reported that the City has the highest recycling rate out of the 10 largest U.S. cities. All construction projects are subject to the City's requirements for construction waste recycling. The proposed Project would result in large amounts of sidewalk, curb, and gutter waste, some of which could be classified as hazardous waste. This issue will be further analyzed in the EIR.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Reference: L.A. CEQA Thresholds Guide (Section M.3)

Comment: A significant impact may occur if the proposed Project would generate solid waste that was in excess of or was not disposed of in accordance with applicable regulations.

Less-than-Significant Impact. The proposed Project would provide repairs and upgrades to sidewalks, pavement, curbs, and slopes that are non-compliant with the applicable accessibility requirements throughout the City. Disposal of all solid waste generated by the proposed Project would comply with federal, state, and local statues and regulations related to solid waste. Disposal of hazardous waste must be compliant with applicable regulations such as the Resource Conservation and Recovery Act (RCRA), DOT Hazardous Materials Regulations, and Los Angeles County General Plan goals and policies. The Citywide Construction and Demolition (C and D) Waste Recycling Ordinance requires all mixed C and D waste generated within City limits be taken to City-certified C and D waste processors. Construction waste would be disposed of in compliance with applicable regulations. Therefore, impacts would be less than significant in terms of the proposed Project's compliance with federal, state, and local statutes and regulations, and this issue will be further analyzed in the EIR.

XIX. Mandatory Findings of Significance	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b. Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☒	☐	☐	☐
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Would the project:

a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Reference: Preceding analyses.

Comment: None.

Potentially Significant Impact. The proposed Project would entail sidewalk repairs and associated improvements throughout the City, including street root pruning, street tree removal and replacement, street tree planning, sidewalk-repaving, and enlarging street tree wells. The study area, which consists of the City and the surrounding area, are built out with various land uses, which could contain designated ESHAs and contain sensitive species and associated habitats. Similarly, proposed sidewalk repairs could occur within designated historic districts. The EIR will further analyze the proposed Project's potential to substantially affect or reduce the habitat of a fish or wildlife species, and/or cause a fish or wildlife population to drop below self-sustaining levels. The EIR will also analyze the proposed Project's potential to eliminate a plant or animal community, and reduce the number or restrict the range of rare or endangered plants or animals, and the potential to affect important examples of the major periods of California history or prehistory.

b) Have impacts that are individually limited, but cumulatively considerable? ("cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Reference: Preceding analyses.

Comment: None.

Potentially Significant Impact. As stated earlier, the proposed Project would include construction associated with sidewalk repair and other associated improvements including street root pruning, street tree removal and replacement, street tree planning, sidewalk-repaving, and enlarging street tree wells for 30 years. Most of the impacts are anticipated to be localized and confined to the immediate study area; however, during the course of the proposed Project there could be significant impacts on several resource areas, including: aesthetics, air quality, biological resources, cultural resources, geology/soils, GHG emissions, hydrology/water quality, noise, transportation/traffic, and utilities/services. These impacts could contribute to cumulative impacts. These issues will be further analyzed in the EIR.

c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Reference: Preceding analyses.

Comment: None.

Potentially Significant Impact. The proposed Project would include sidewalk repair including street root pruning, street tree removal and replacement, street tree planning, sidewalk-repaving, and enlarging street tree wells. Potentially significant impacts associated with aesthetics, air quality, biological resources, cultural resources, geology/soils, GHG emissions, hydrology/water quality, noise, transportation/traffic, and utilities/service systems could occur. Therefore, implementation of the proposed Project could result in significant adverse effects on human beings, either directly or indirectly. These issues will be further analyzed in the EIR.

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Chapter 4
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Chapter 5
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Initial Study Preparation and Oversight

City of Los Angeles

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Chapter 6
Acronyms and Abbreviations

AB	Assembly Bill
AB 32	California Global Warming Solutions Act of 2006
ADA	Americans with Disabilities Act
APCs	Area Planning Commissions
Basin	South Coast Air Basin
BMPs	Best Management Practices
BSS	Bureau of Street Services
Caltrans	California Department of Transportation
CAO	City Administrative Officer
CAPCOA	California Air Pollution Control Officers Association
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGP	Construction General Permits
City	City of Los Angeles
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO_2e	Carbon Dioxide Equivalent
Council	Los Angeles City Council
dBA	A-weighted Decibels
DOT	Department of Transportation
EIR	Environmental Impact Report
ESHA	Environmentally Sensitive Habitat Area
GHG	Greenhouse Gas
GIS	Geographic Information System
Greenbook	Standard Specification for Public Works Construction
HCPs	Habitat Conservation Plans
HPOZs	Historic Preservation Overlay Zones
IS	Initial Study
BOE	City of Los Angeles, Public Works Department, Bureau of Engineering
LADBS	Los Angeles Department of Building and Safety
LADPW	Los Angeles Department of Public Works
LAFD	Los Angeles Fire Department
LAPD	Los Angeles Police Department
LASAN	LA Sanitation
LAX	Los Angeles International Airport
LOS	Level of Service

MBTA	Migratory Bird Treaty Act
MMRP	Mitigation Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System
MT	Metric Tons
NCCP	Natural Community Conservation Plan
NOA	Notice of Availability
NOD	Notice of Determination
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
Policy	Board of Public Works Street Tree Removal Permit Process and Policy
Prioritization System	Prioritization Matrix and Scoring System
proposed Project	Sidewalk Repair Program
RCRA	Resource Conservation and Recovery Act
ROW	Right-of-Way
RWQCB	Los Angeles Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District
Settlement	Willits v. City of Los Angeles Settlement Term Sheet
SR-	State Route
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic Air Contaminant
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
V/C	Volume to Capacity
ZIMAS	Zone Information & Map Access System

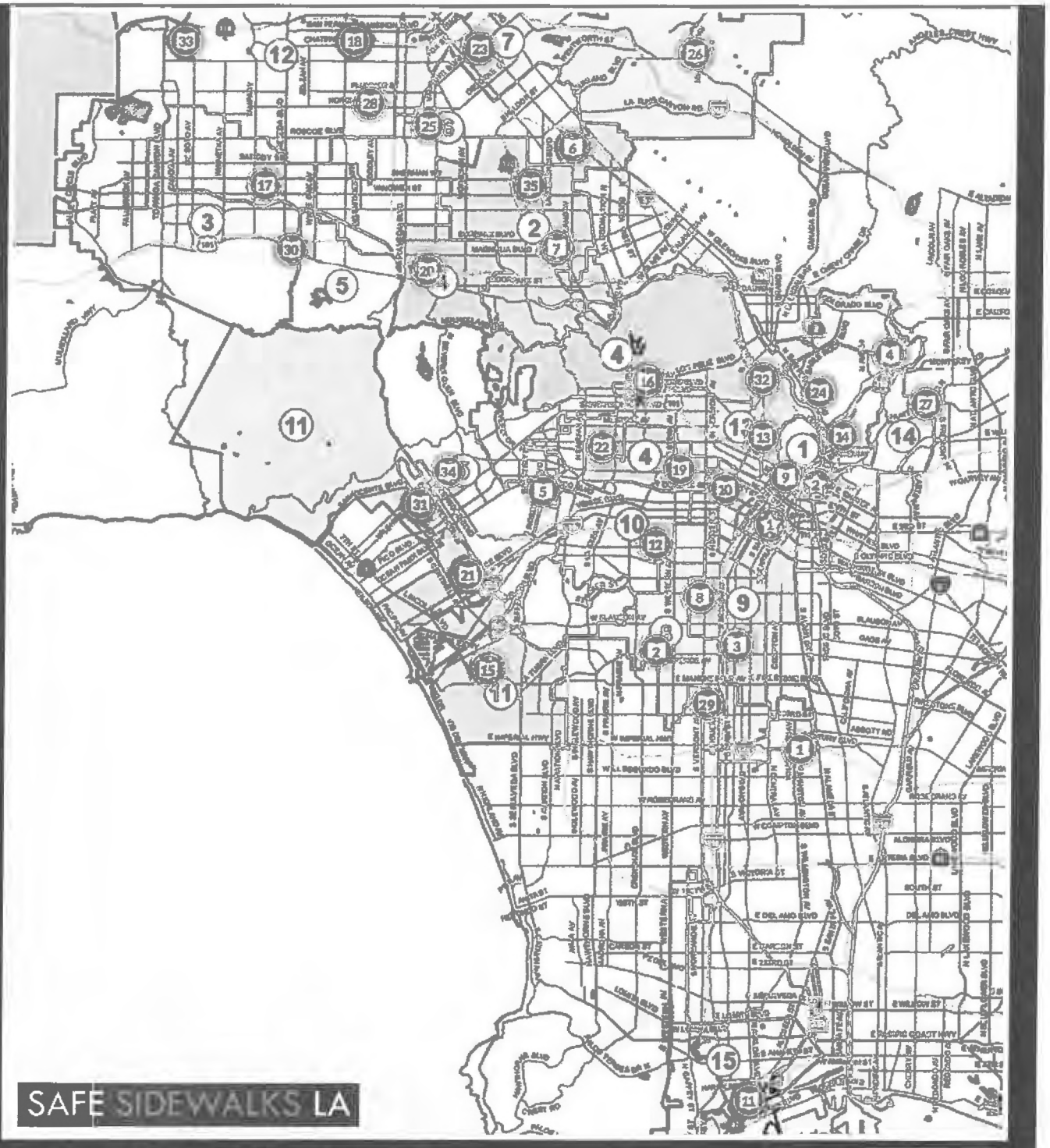
Appendix A
List of NOP/IS Availability Locations And Map

Copies of the NOP/IS are available for review at the following locations:

Council District	Organization	Address
CD 1	Lincoln Heights Branch Library	2530 Workman St, Los Angeles, CA 90031
	Cypress Park Branch Library	1150 Cypress Ave, Los Angeles, CA 90065
	Pico Union Branch Library	1030 S Alvarado St, Los Angeles, CA 90006
CD 2	North Hollywood Amelia Earhart Regional Library	5211 Tujunga Ave, North Hollywood, CA 91601
	Valley Plaza Library	12311 Vanowen St, North Hollywood, CA 91605
CD 3	West Valley Regional Branch Library	19036 Vanowen St, Reseda, CA 91335
	Encino-Tarzana Branch Library	18231 Ventura Blvd, Tarzana, CA 91356
CD 4	Sherman Oaks Library	14245 Moorpark St, Sherman Oaks, CA 91423
	Fairfax Branch Public Library	161 S Gardner St, Los Angeles, CA 90036
CD 5	Robertson Library	1719 Robertson Blvd, Los Angeles, CA 90035
	Westwood Branch Library	1246 Glendon Ave, Los Angeles, CA 90024
CD 6	Sun Valley Library	7935 Vineland Ave, Sun Valley, CA 91352
	Panorama City Branch Library	14345 Roscoe Blvd, Panorama City, CA 91402
CD 7	Sunland-Tujunga Branch Library	7771 Foothill Blvd, Tujunga, CA 91042
	Pacoima Branch Library	13605 Van Nuys Blvd, Pacoima, CA 91331
CD 8	Hyde Park Branch Library	2205 W Florence Ave, Los Angeles, CA 90043
	Mark Twain Library	9621 S. Figueroa Street, Los Angeles, CA 90003
CD 9	Ascot Branch Library	120 W Florence Ave, Los Angeles, CA 90003

Council District	Organization	Address
	Vermont Square Branch Library	1201 W 48th St, Los Angeles, CA 90037
CD 10	Jefferson Library	2211 W Jefferson Blvd, Los Angeles, CA 90018
	Pio Pico Library	694 S Oxford Ave, Los Angeles, CA 90005
CD 11	Westchester Loyola Village Library	7114 W Manchester Ave, Los Angeles, CA 90045
	Mar Vista Branch Library	12006 Venice Blvd, Los Angeles, CA 90066
	West Los Angeles Regional Library	11360 California Route 2, Los Angeles, CA 90025
CD 12	Granada Hills Library	10640 Petit Ave, Granada Hills, CA 91344
	Mid Valley Regional Library	16244 Nordhoff St, North Hills, CA 91343
	Chatsworth Branch Library	21052 Devonshire St, Chatsworth, CA 91311
CD 13	Edendale Branch Library	2011 Sunset Blvd, Los Angeles, CA 90026
	Frances Howard Goldwyn-Hollywood Regional Branch Library	1623 Ivar Ave, Los Angeles, CA 90028
	Silver Lake Branch Library	2411 Glendale Blvd, Los Angeles, CA 90039
CD 14	Arroyo Seco Library	6145 N Figueroa St, Los Angeles, CA 90042
	The Los Angeles Central Library	630 W 5th St, Los Angeles, CA 90071
	El Sereno Branch Library	5226 S. Huntington Drive, Los Angeles, CA 90032
CD 15	San Pedro Regional Library	931 S Gaffey St, San Pedro, CA 90731
	Willowbrook Library	11838 Wilmington Ave, Los Angeles, CA 90059

Organization	Address
City of Los Angeles Bureau of Engineering	1149 S. Broadway, Suite 600, Los Angeles, CA 90015
City of Los Angeles City Clerk	200 N. Spring Street, Room 360, Los Angeles, CA 90012



SRP PRIORITY COMMUNITIES

BRANCH LIBRARIES

1. Willowbrook Library
2. Hyde Park Branch Library
3. Ascot Branch Library
4. Arroyo Seco Library
5. Robertson Library
6. Sun Valley Library
7. North Hollywood Amelia Earhart Regional Library
8. Vermont Square Branch Library
9. The Los Angeles Central Library
10. Pico Union Branch Library
11. San Pedro Regional Library
12. Jefferson Library
13. Edendale Branch Library
14. Lincoln Heights Branch Library
15. Westchester Loyola Village Library
16. Frances Howard Goldwyn-Hollywood Regional Branch Library
17. West Valley Regional Branch Library
18. Granada Hills Library
19. Pio Pico Library
20. Sherman Oaks Library
21. Mar Vista Branch Library
22. Fairfax Branch Public Library
23. Pacoima Branch Library
24. Cypress Park Branch Library
25. Panorama City Branch Library
26. Sunland-Tujunga Branch Library
27. El Sereno Branch Library
28. Mid-Valley Regional Library
29. Mark Twain Library
30. Encino-Tarzana Branch Library
31. West Los Angeles Regional Library
32. Silver Lake Branch Library
33. Chatsworth Branch Library
34. Westwood Branch Library
35. Valley Plaza Library

OTHER LOCATIONS

1. City of Los Angeles Bureau of Engineering
2. City of Los Angeles City Clerk

COUNCIL DISTRICT

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EXHIBIT C

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Original article

Increased home size and hardscape decreases urban forest cover in Los Angeles County's single-family residential neighborhoods

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ABSTRACT

Single-family residential neighborhoods make up large areas within cities and are undergoing change as residences are renovated and redeveloped. We investigated the effects of such residential redevelopment on land cover (trees/shrubs, grass, building, and hardscape) in the 20 largest cities in the Los Angeles Basin from 2000 to 2009. We identified spatially stratified samples of single-family home lots for which additional square footage was recorded and for which additional construction was not recorded by the tax assessor. We then digitized land cover on high-resolution color imagery for two points in time to measure land cover change. Redevelopment of single-family homes in Los Angeles County resulted in a significant decrease in tree/shrub and grass cover and a significant increase in building and hardscape area. Over 10 years, urban green cover (trees/shrubs and grass) declined 14–55% of green cover in 2000 on lots with additional recorded development and 2–22% of green cover in 2000 for single-family lots for which new permits were not recorded. Extrapolating the results to all single-family home lots in these cities indicate a 1.2 percentage point annual decrease in tree/shrub cover (5.6% of existing tree/shrub cover) and a 0.1 percentage point annual decrease in grass cover (2.3% of existing grass cover). The results suggest that protection of existing green cover in neighborhoods is necessary to meet urban forest goals, a factor that is overlooked in existing programs that focus solely on tree planting. Also, changing social views on the preferred size of single-family homes is driving loss of tree cover and increasing impervious surfaces, with potentially significant ramifications for the functioning of urban ecosystems.

1. Introduction

For nearly a hundred years since the establishment of North American residential suburban neighborhoods, and accelerating since World War II, single-family neighborhoods have exhibited a characteristic ratio of building to landscape, with properties reliably including a healthy proportion of tree, shrub, and grass cover (Ward, 2011; Gillespie et al., 2012). Suburban tracts being laid out through the middle decades of the twentieth century in North America reflected a cultural value of appreciation for greenery and shade, included places for children and pets to play outdoors, and provided hedges affording privacy. With the aging of the housing stock, emerging preferences for larger homes, and market forces rewarding speculative development, many homes in single-family neighborhoods are being expanded and redeveloped. This redevelopment results in larger homes (National Association of Home Builders (NAHB) 2006, 2010), with a trend toward increased hardscape, play spaces being brought indoors or moved off-site, increased indoor storage, and an overall drastic change to the relatively homogeneous landscape of neighborhoods that had been developed with similar massing and building–landscape ratios.

Besides fulfilling an aesthetic objective, the landscape design of the first wave of single-family residential tract development inherently brought with it a range of what would now be recognized as ecological services (e.g., shade, stormwater management, habitat for birds and other wildlife). These ecologically beneficial consequences occurred organically—not as the result of conscious environmental policy, but rather as an outgrowth of the cultural aesthetic and economics of the times. That these benefits were not planned does not diminish their value. In fact, the ecosystem services of such neighborhoods are an integral, although unrecognized, part of the land use baseline which forms the context in which current urban land use decisions are made (Tratalos et al.,

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2007). That is, the landscape aesthetics of the single-family neighborhood provide significant environmental benefits that can be underappreciated in current discussions over the future of cities, especially those promoting density as a sustainable urban form (Jabareen, 2006; Hassan and Lee, 2015). Furthermore, the redevelopment of these neighborhoods threatens to eliminate their environmental benefits in a way that is not readily appreciated because the zoning classification does not change. Public agencies spend significant funds on parklands and open space, with the expectation that such lands will continue to support resident and migratory species of birds and other wildlife. In truth, if the areas in between urban parklands are allowed to be filled in, paved, and denuded through redevelopment of neighborhoods, those values will be diminished (Fernández-Juricic, 2000).

In this study, we investigated trends in green cover, defined as trees, shrubs (bushes), and grass (lawn), in single-family neighborhoods relative to patterns of redevelopment of those lots on an individual basis. The study focused on the 20 largest cities in the Los Angeles Basin (that is, on the coastal side of the major mountain ranges in Los Angeles County) as an example of a landscape with mature single-family neighborhoods. The time period investigated is 2000–2009, which was a decade of rapid appreciation in the local housing market that fueled the aggressive expansion and replacement of residences. Our approach, which compared changes detected using parcel-level aerial imagery with official records of building size, additionally provided an indication of whether expansion of single-family homes is being permitted and recorded in a way that allows it to be properly taxed. With this approach, we asked three research questions:

- How has green cover changed on parcels for which the permitted building footprint increased compared with those for which no change was recorded?
- How has the rate of building modification and associated changes in green cover varied across the 20 most populous cities in the Los Angeles Basin?
- How much has green cover changed across the Los Angeles Basin as a result of the redevelopment of single-family neighborhoods?

2. Background

The size of the average single-family home has increased dramatically in North America over the past 50 years, with the size of new or expanded structures in some neighborhoods reaching proportions that have been described as "mansions" (e.g., Szold, 2005) and in some cases referred to as "McMansions" because they are developed on a speculative basis in a manner out of scale with their surroundings.

Residential areas, especially single-family neighborhoods, play an important role in urban ecosystems because they cover a large fraction of the land area in cities. For example, single-family neighborhoods consume more than half of the land area in urbanized Los Angeles County. According to the NAHB (NAHB, 2006, 2010), the average size of single-family homes in the U.S. has steadily increased from 983 ft^2 in 1950 to 2349 ft^2 in 2004. In addition, the number of bedrooms and bathrooms, as well as the number of parking spaces, has increased. For example, just 1% of single-family homes had four bedrooms and only 2% had three bathrooms in 1950; these rates had increased to 37% with four bedrooms and 24% with three bathrooms by 2005. Meanwhile, the size of the average household dropped from 3.67 persons in 1940 to 2.62 persons in 2002 (Wilson and Boehland, 2005), meaning that these newer, larger homes are resulting in a lower density of urban residents (see Ward, 2011 for similar statistics in Canada).

The environmental benefits of trees and other forms of green cover are many and varied and play a crucial role in improving residents' quality of life and in maintaining urban environmental amenities (Akbari et al., 1997, 2001; Dwyer et al., 1992; Dwyer and Miller, 1999; Longcore et al., 2004; Simpson and McPherson, 1996). Abundant green cover helps to maintain or boost property values and brings environmental benefits such as reduction in energy use, improvement in air quality, reduction in noise, control of stormwater runoff, provision of habitat for wildlife, and enhancement of aesthetic values. Together, the tree, shrub, and grass cover of the city can be conceptualized as an "urban forest," which meets the definition of a forest by exceeding 10% cover of trees (Rowntree, 1984).

Trees provide shade and decrease energy consumption by helping to keep buildings cool in summer (Dwyer et al., 1992; Simpson and McPherson, 1996). Trees intercept sunlight before it heats buildings and reduce wind speed by as much as 50%. Approximately $10 billion is spent annually to cool residential dwellings in the U.S. so the potential impact of these savings is considerable (Akbari et al., 1990). Akbari et al. (2001) reported that the City of Los Angeles, for example, could save $270 million annually from an expanded tree cover. Vegetation cover may also help to reduce the urban heat island and thereby reduce nighttime residential energy consumption.

Trees also improve air quality because gaseous pollutants such as CO_2, O_3, and NO_2 are absorbed by leaves and O_2 is released to the air (McPherson et al., 2005a; Nowak et al., 2006). It has been estimated that the addition of 100 million mature trees in cities in the U.S. would remove 8.16 million tons of CO_2 from the atmosphere and save approximately $2 billion per year (Akbari et al., 1998; Dwyer et al., 1992). In addition, increasing tree cover decreases O_3 concentrations (Taha, 1996; Nowak et al., 2000) and improved air quality enhances human health and can reduce expenditures for health care (Dwyer et al., 1992; Dwyer and Miller, 1999; Gauderman et al., 2004, 2005). Lovasi et al. (2008) suggest that trees play an important role in preventing childhood asthma and one cost-effective way to reduce air pollution is to increase the extent and quality of urban forest (Escobedo et al., 2008). Heavy vehicular traffic usually leads to elevated levels of noise and air pollution; both adversely affect human health. Strategically placed trees, such as near roadways, substantially reduce the perception of traffic-related noise (Dzhambov and Dimitrova, 2014).

Urban green cover also plays an important role in reducing stormwater runoff because green cover intercepts rainfall and some of this intercepted precipitation is evaporated back to the atmosphere (Brooks et al., 2012). Xiao and McPherson (2002), for example, have shown that Santa Monica, California's municipal urban forest intercepts 1.6% of the total rainfall per year. Trees and other forms of green cover also promote infiltration and groundwater recharge (McPherson et al., 2005a) and thereby help to control stormwater runoff (McPherson et al., 2005a, 2005b). Sanders (1986) estimated that existing trees reduced runoff by 7% in Dayton, Ohio and that this would increase to 12% with planned growth of tree cover. Reducing runoff volume mitigates potential flood hazard and pollutant loadings to nearby rivers and lakes (Millward and Sabir, 2011).

Urban neighborhoods support birds and other wildlife of various types (Livingston et al., 2003; Aronson et al., 2014), but the increasing urban footprints and accompanying population growth threaten habitats for a variety of wild species (Matteson and Langellotto, 2010; McKinney, 2008).

Finally, trees enhance the aesthetics of single-family neighborhoods, help sustain and improve residential property values, and provide a series of recreational opportunities (Conway and Urbani, 2007). Anderson and Cordell (1988) reported that in Athens, Georgia between 1978 and 1980 each large front-yard tree resulted

in an average 0.88% increase in home sale prices, and the same authors later argued that increased property values can, in turn, increase a city's property tax revenues. Sander et al. (2010) also show a positive relationship between tree cover and property sale value such that a 10% increase in tree cover within 100 m of a home increased property sale prices by 0.48% and within 250 m of the home increased sale prices by 0.29%. Conway et al. (2010) conclude in a study of Los Angeles that proximity to greenspace has a significant impact on home prices and greening cities may be a way to elevate depressed housing markets. In contrast, Saphores and Li (2012) did not find a large price benefit of trees on single-family residential parcels, but did find such an effect for the surrounding 200 m, suggesting that people want trees, but perhaps do not want to pay to take care of them.

The mixed result on home sale prices from Saphores and Li (2012) highlights that trees do have costs for homeowners (Roy et al., 2012), including the perceived need to trim trees (although much urban tree trimming is unnecessary and violates arboricultural guidelines), potential damage to infrastructure, production of allergens, and production of volatile organic compounds.

The benefits of green cover, especially trees, within cities have been well documented and recognized. As a consequence, plans and efforts have been launched in recent decades to increase green cover in a variety of urban settings. The United Nations Environment Programme (2011), for example, launched the Billion Trees Campaign to encourage national, state, county, and city governments as well as nonprofit organizations and individual residents to plant indigenous trees in both rural and urban areas. Likewise, the U.S. Conference of Mayors launched a Community Trees Task Force to protect and increase urban green cover and increase public awareness of its value (U.S. Conference of Mayors, 2008). The Task Force surveyed local officials in 135 cities with at least 30,000 residents in 36 states and documented the methods used to manage, sustain, and expand green infrastructure as well as to share information about urban forest status. Los Angeles and New York, the two largest cities in the U.S., launched projects in 2006 to plant an additional one million trees (City of Los Angeles, 2006; City of New York, 2006), with different approaches and eventual outcomes (Pincetl, 2010).

These new programs can add to green cover only if existing green cover is retained. Increases in home sizes in single-family neighborhoods result in removal of existing vegetation, including trees, and expansion of the area covered by impermeable surfaces. The extent of these threats to urban green cover during a period of growth in the residential real estate market is the subject of our investigation.

3. Methods

3.1. Study area

Los Angeles County, California is the most populous county in the U.S. and, if it were a state, it would constitute the eighth most populous state (ahead of Ohio). The County's population grew from 4,151,687 in 1950 to 9,858,989 in 2011 (U.S. Census Bureau, 2000; California Department of Finance, 2011) and dramatically increased in urban footprint. As a result of the increase, Los Angeles County ranked first among all counties in terms of the funds ($9.4 billion) spent on home remodeling per year from 2005 to 2009. Cook County, Illinois ($4.6 billion), Orange County, California ($4 billion), San Diego County, California ($3.4 billion), and Maricopa County, Arizona ($3 billion) rounded out the top five counties in terms of remodeling expenses during this same period.

More than 90% of the population in Los Angeles County resides in the County's 88 incorporated cities and most of the remaining residents live in urbanized areas that are located near one or more of these cities. The land mass varies in elevation from sea level to 3000 m. Most of the urban population resides in relatively flat, low-lying areas that constitute the analysis units chosen for this study (Fig. 1).

The City of Los Angeles is the largest city in Los Angeles County (and in California) and the second largest city in the U.S. For purposes of this study, the City of Los Angeles was analyzed in units defined by the 15 council districts used for city governance (see Fig. 1 and Table 1 for additional details). We used the district boundaries from June 2009.

3.2. Data sources

The two main data sources were property information and aerial imagery. Property information (2000–2001 and 2009–2010), which was generated June 18, 2009, is maintained and distributed as a GIS dataset (boundary shapefile and a tabular data) by the Los Angeles County Office of the Assessor and includes sales information, property values, property built year, property boundaries, building descriptions, land uses, and other variables. The property information dataset was created for use in this study by joining the tabular data to the boundary shapefile using the Assessor Index Number (AIN).

One-foot (2000) and four-inch (2008) pixel resolution color ortho-imagery was obtained from the Los Angeles Region – Imagery Acquisition Consortium (LAR-IAC). The color ortho-imagery consists of 3 bands (red, green, blue) without an infrared band so we did not pursue an image classification approach to extract vegetation features that an infrared band would have allowed.

Both of the two main datasets were projected to the North America Datum (NAD) 1983 State Plane California V FIPS coordinate system. We also used the city boundary layer from the Los Angeles County GIS Data Portal. We chose the 2009 data to describe the 2008 imagery to account for delays in recording permitted redevelopment and renovation by the Office of the Assessor.

3.3. Sample design

The 20 largest cities in the Los Angeles Basin by population in 2010 were chosen to maximize coverage of the region and to provide a dataset with which we could compare differences between municipalities. Combining the 15 council districts of the City of Los Angeles with the 19 remaining cities yielded 34 analysis units ranging in population from 81,604 (City of Baldwin Park) to 494,709 residents (City of Long Beach) (see Table 1 for additional details).

More than 2.3 million parcels are found in Los Angeles County and among these more than 1 million parcels were occupied by single-family homes in both 2000 and 2009. For this study, we examined the 639,080 parcels in the 20 largest cities in both 2000 and 2009 that were classified as single-family homes using the land use code specified by the Los Angeles County Office of the Assessor (Table 1).

Single-family home parcels in each city and council district were extracted using the addresses recorded by the Assessor's office as well as city and council district boundaries. In some instances, however, the addresses were mismatched with geographic boundaries. The Spatial Join tool (in ArcGIS 10.3) was used with the intersecting match option, in which the features in the join features were matched if they intersected a target feature, to count the number of single-family home parcels in 19 cities and 15 council districts.

We split the existing single-family homes into a treatment group and a control group. The treatment group includes those homes for which the Los Angeles County Office of the Assessor recorded a change in building area from 2000 to 2009. The control group contained a sample of developed single-family residential lots for

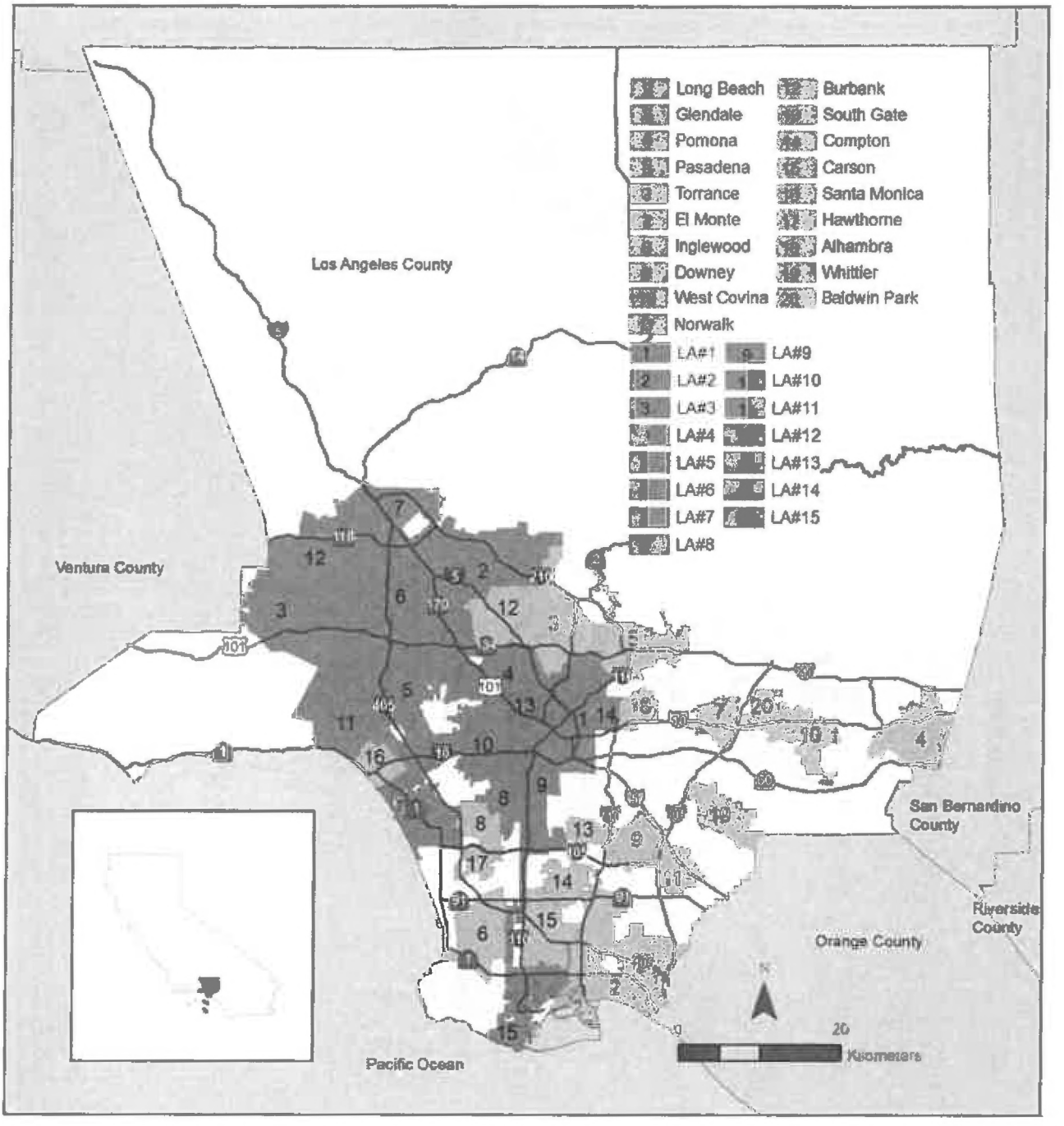

Fig. 1. Los Angeles County, California, with outlines of all 88 cities, the 20 largest cities are indicated (gray), with the dark gray area showing the City of Los Angeles divided into 15 council districts.

which no such change was recorded. For the treatment group, changes in square footage included new single-family homes on vacant lots and the occasional removal of a home. This approach eliminated the need to specify what constituted a "large" new house on a "small" lot and a "large-scale" addition and renovation to an existing home; we measured the effects of all changes in recorded building square footage. For lots where a change in building square footage had been recorded, the larger of a 1% or 30-home stratified random sample was selected in each of the 34 analysis units; for lots at which no change had been recorded, 20 homes were randomly sampled in each of the 34 units of analysis (Table 1).

3.4. Digitizing and change analysis

Five land cover types (buildings, hardscape, swimming pools, grass, and trees/shrubs) were digitized for each of the sampled home lots on the color ortho-imagery for 2000 and 2008. Shrubs were included with trees and further reference to tree cover includes shrub cover as well. Additionally, shaded (unknown) areas were identified (Fig. 2). Land cover types were digitized using the Editor tool in ArcGIS 10.3, with a single investigator (S.J. Lee) interpreting all aerial imagery (see e.g., Fig. 2). To minimize user errors, the point, end, vertex, and edge snapping tools were implemented while creating new features and segments by tracing existing features.

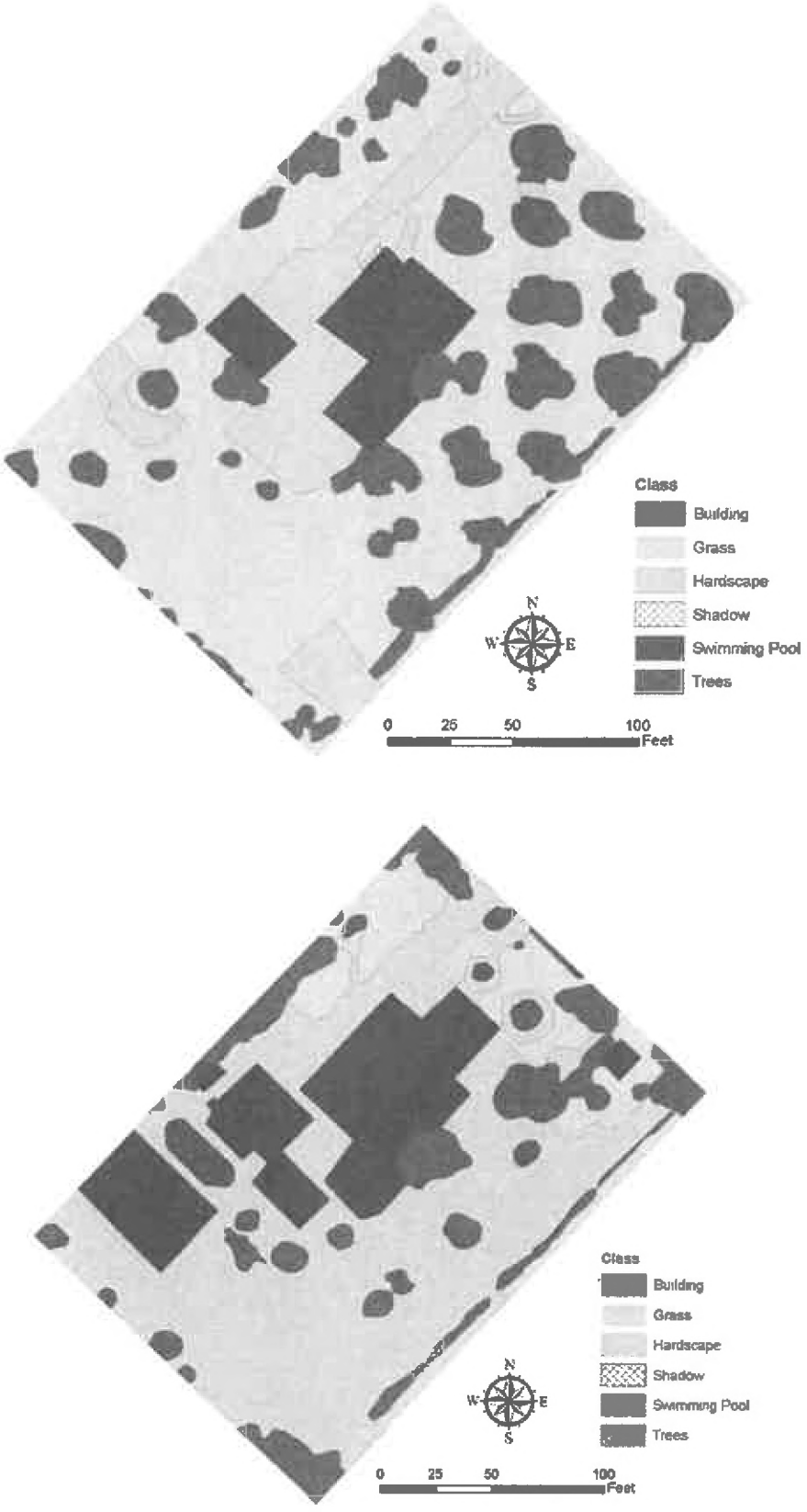

Fig. 2. Samples of digitized single-family residence lots using six classes: 1) building, 2) grass, 3) hardscape, 4) shadow, 5) swimming pool, and 6) trees (including shrubs) in 2000 (upper) and 2009 (lower).

Table 1
Population and housing statistics for the 20 most populous cities in Los Angeles Basin, 2010 (Population compiled from California Department of Finance (2011) and housing data from Los Angeles County Office of the Assessor (2010)). Lots with buildings in 2000–2001 and 2009–2010.

Cities/Council Districts	Population (2010)	No. of single-family homes	Fraction of modified homes (%)	No. of modified homes	No. of modified homes sampled	No. of other homes sampled
Los Angeles	4,094,764	346,006	9	30,756	463	300
LA#2	290,380	31,354	11	3420	34	20
LA#7	287,670	22,642	10	2205	30	20
LA #3	284,200	32,719	8	2737	30	20
LA#12	281,480	31,815	7	2369	30	20
LA#11	274,090	33,616	12	3911	39	20
LA#4	274,020	17,038	8	1289	30	20
LA#5	271,410	25,770	12	3033	30	20
LA#15	268,920	26,898	8	2103	30	20
LA#6	261,750	23,723	11	2493	30	20
LA#9	261,250	13,156	8	1003	30	20
LA#13	252,280	9365	8	759	30	20
LA#8	251,290	31,083	8	2485	30	20
LA#10	250,790	14,936	8	1127	30	20
LA#14	247,180	23,704	6	1432	30	20
LA#1	246,680	8187	5	390	30	20
Long Beach	494,709	51,497	11	5733	57	20
Glendale	207,902	18,133	6	1101	30	20
Pomona	163,683	18,307	5	993	30	20
Pasadena	151,576	16,923	9	1597	30	20
Torrance	149,717	25,275	8	2099	30	20
El Monte	126,464	7992	8	665	30	20
Inglewood	119,053	9798	8	792	30	20
Downey	113,715	14,134	10	1477	30	20
West Covina	112,890	14,628	7	962	30	20
Norwalk	109,817	18,694	10	1789	30	20
Burbank	108,469	14,190	13	1797	30	20
South Gate	101,914	9631	10	1000	30	20
Compton	99,769	14,226	6	898	30	20
Carson	98,047	16,052	10	1568	30	20
Santa Monica	92,703	6055	13	763	30	20
Hawthorne	90,145	6030	7	435	30	20
Alhambra	89,501	8996	8	740	30	20
Whittier	87,128	13,299	9	1138	30	20
Baldwin Park	81,604	9214	10	910	30	20
Totals	6,602,196	639,080	9	57,213	1060	680

Once land cover features on the stratified random samples were digitized, we merged land cover features by land cover in each sample to yield the total area of each land cover category. The merged data were then spatially joined by each city or council district for the statistical analysis. The digitized land cover features at each of the two dates were then compared using the field calculator within the attribute table.

3.5. Statistical analysis

We calculated summary statistics for land cover types in each of the sampled categories in the 19 cities and 15 council districts. We then calculated the total cover for each time period for all single-family neighborhoods in each of the units by weighting the averages by the area within each unit that either had or did not have a change in home area reported by the Assessor. This extrapolation was also used to calculate the total area of land cover changes in units and across the entire study area for the 639,080 parcels with single-family homes in our study. All calculations were for single-family residential parcels only and do not include streets and roads. Calculations were performed by extracting data with the Select by Attribute and Field Calculator tools in ArcGIS 10.3. and exporting to the JMP Pro 12.0 statistical software (SAS, Cary, North Carolina) for calculation of descriptive statistics and other analyses.

4. Results

4.1. Distribution of lot size and building footprints for single-family homes

The average lot size for single-family homes varied substantially (Fig. 3). The fraction of building area relative to lot size (i.e., floor-area ratio; FAR) that is recorded by the Los Angeles County Office of the Assessor on all single-family home lots (639,080) increased from 22.0% in 2000 to 22.8% in 2009. This proportion increased in all 20 cities from 2000 to 2009, ranging from 0.3% (Pomona) to 2.1% (Santa Monica). Floor-area ratio increased more than 1% in Santa Monica (2.1%), LA#11 (1.7%), LA#5 (1.3%), Long Beach (1.2%), Burbank (1.2%), and Downey (1.1%). Compton (0.4%), Glendale (0.4%), West Covina (0.4%), LA#1 (0.4%), and Pomona (0.3%) showed less than 0.5% increase in the fraction of building area from 2000 to 2009.

4.2. Land cover change from 2000 to 2009

From the stratified random samples (n = 1740, Table 1), the following results were extracted. Taking the cities and City of Los Angeles council districts as the units of analysis, the average proportion of each lot covered by building and hardscape increased both for lots where permitted expansion was documented by the Assessor's office and for lots where increased square footage was not documented (Fig. 4).

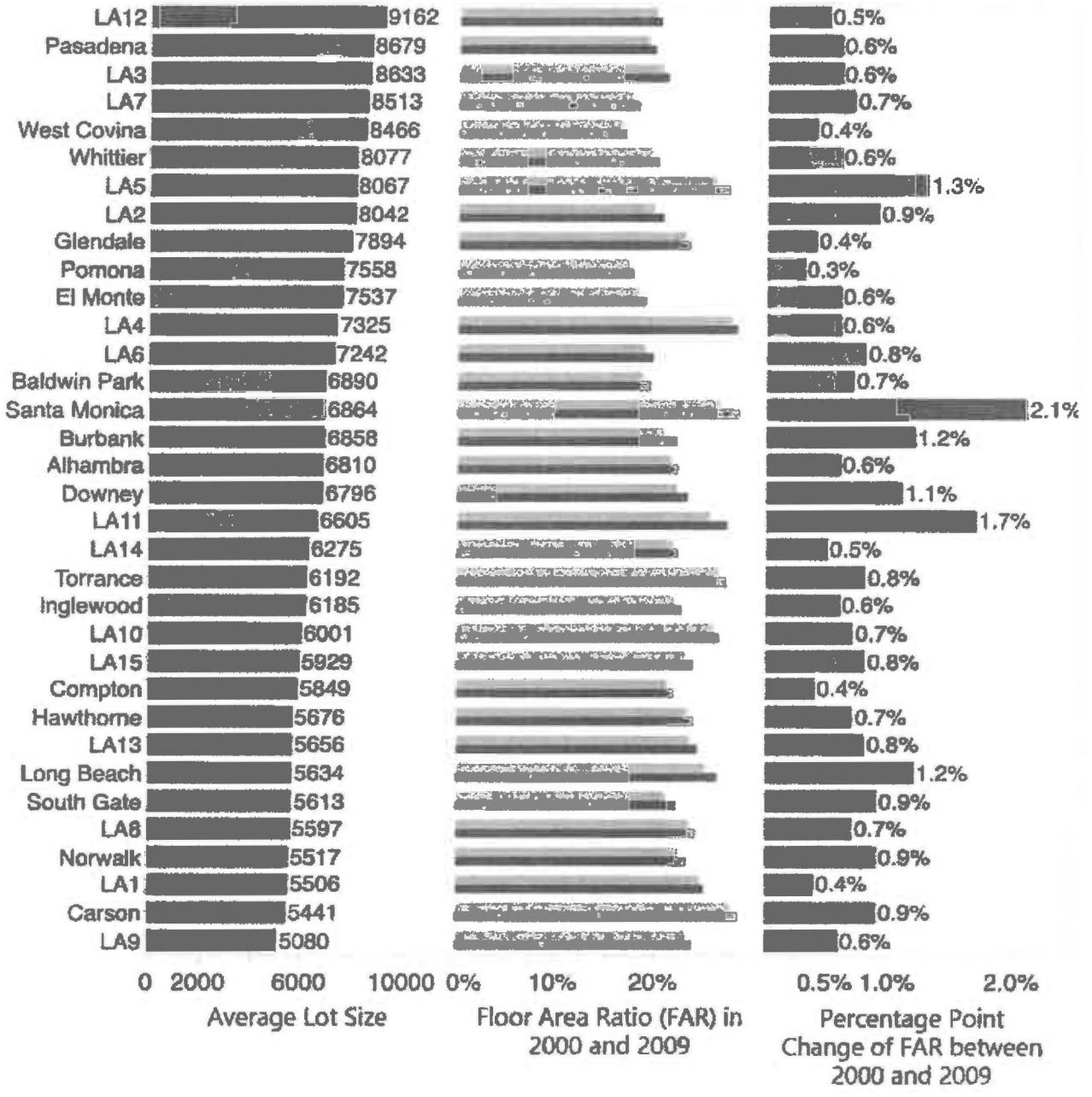

Fig. 3. Average lot size, floor area ratio in 2000 (light gray) and 2009 (dark gray), and average percentage point change of floor area ratio between 2000 and 2009 for all single-family home lots (n = 639,080) in the 20 most populous cities in the Los Angeles Basin.

An additional 9.1% of lots was covered by buildings (13% for recorded development and 2.8% for no recorded increase). Hardscape increased 8.7% (10.2% for recorded development and 6.5% for no recorded increase). The average increase in impervious surfaces was 17.8% ± 5.9% s.d. (n = 34). For sites with recorded development, average increase in buildings and hardscape was 23.2% ± 8.4% s.d. and for no recorded development average increase in buildings and hardscape was 9.3% ± 5.7% s.d.

Similarly, tree cover decreased an average of 13.6% (16.9% for recorded development and 8.4% for no recorded increase). Grass cover declined 4.1% (6.2% for recorded development and 0.8% for no recorded increase). Overall, average green cover declined 17.7% ± 6.0% s.d. (n = 34). For sites with recorded development, average decline in green cover was 23.1% ± 8.5% s.d. and for no recorded development average decline in green cover was 9.2% ± 5.8% s.d.

The changes in pervious (trees and grass) and impervious (building and hardscape) surfaces were a mirror image (Fig. 5). This pattern was consistent across jurisdictions with widely variable lot sizes. This pattern strongly suggests that loss of grass cover was not the result of conversion to shrubs or trees, but rather by the replacement of grass by impermeable surfaces.

The green cover changes in single-family neighborhoods across the jurisdictions (Fig. 6) are all negative and show a highly variable spatial pattern across the Los Angeles Basin between 2000 (Fig. 7) and 2009 (Fig. 8). The decrease in green cover in single-family neighborhoods ranges from 14% to 55% (Fig. 6). In 2000, single-family neighborhoods in the study area ranged from 42% green cover in Hawthorne to 70% green cover in Baldwin Park, with

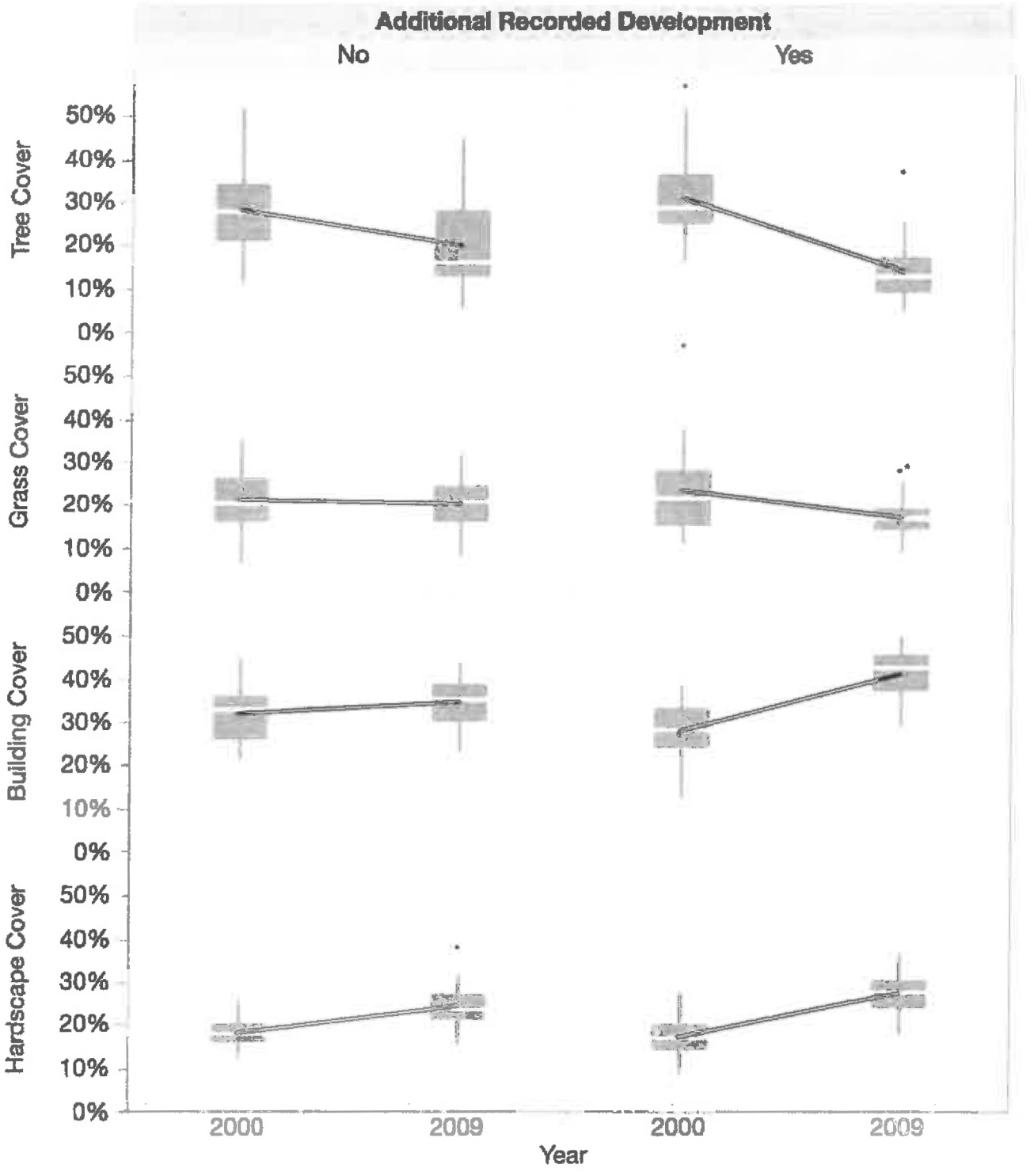

Fig. 4. Change in lot cover for trees/shrubs, grass, buildings, and hardscape between 2000 and 2009 for single-family residences in 15 Los Angeles City Council Districts and 19 cities that either did or did not have additional development recorded for the property by the Assessor. Whisker plots show median value, first and third quantile, and outliers. Solid black lines connect means.

an average of 52%. By 2009, the green cover in Baldwin Park's single-family neighborhoods had declined 39 percentage points (from 70% to 31% green cover, a loss of 55% of the existing green cover in 2000), indicating the most dramatic loss of cover within a city or council district.

Looking specifically at lots where building additions were recorded, the loss of tree and grass cover was not consistent across jurisdictions. For example, developed lots in Baldwin Park lost 55% green cover and those in Compton lost 41%, while the developed lots in Pasadena lost only 14% and Glendale only 15% of the green cover present in 2000. As a whole, the average green cover for sites with reported increases in building area dropped by nearly a third, from 52% in 2000 to 35% in 2009.

Remarkably, only a quarter of lots (24%; 170 of 720) without additional recorded development had more tree canopy at the end of the study period than at the beginning and for lots with addi-

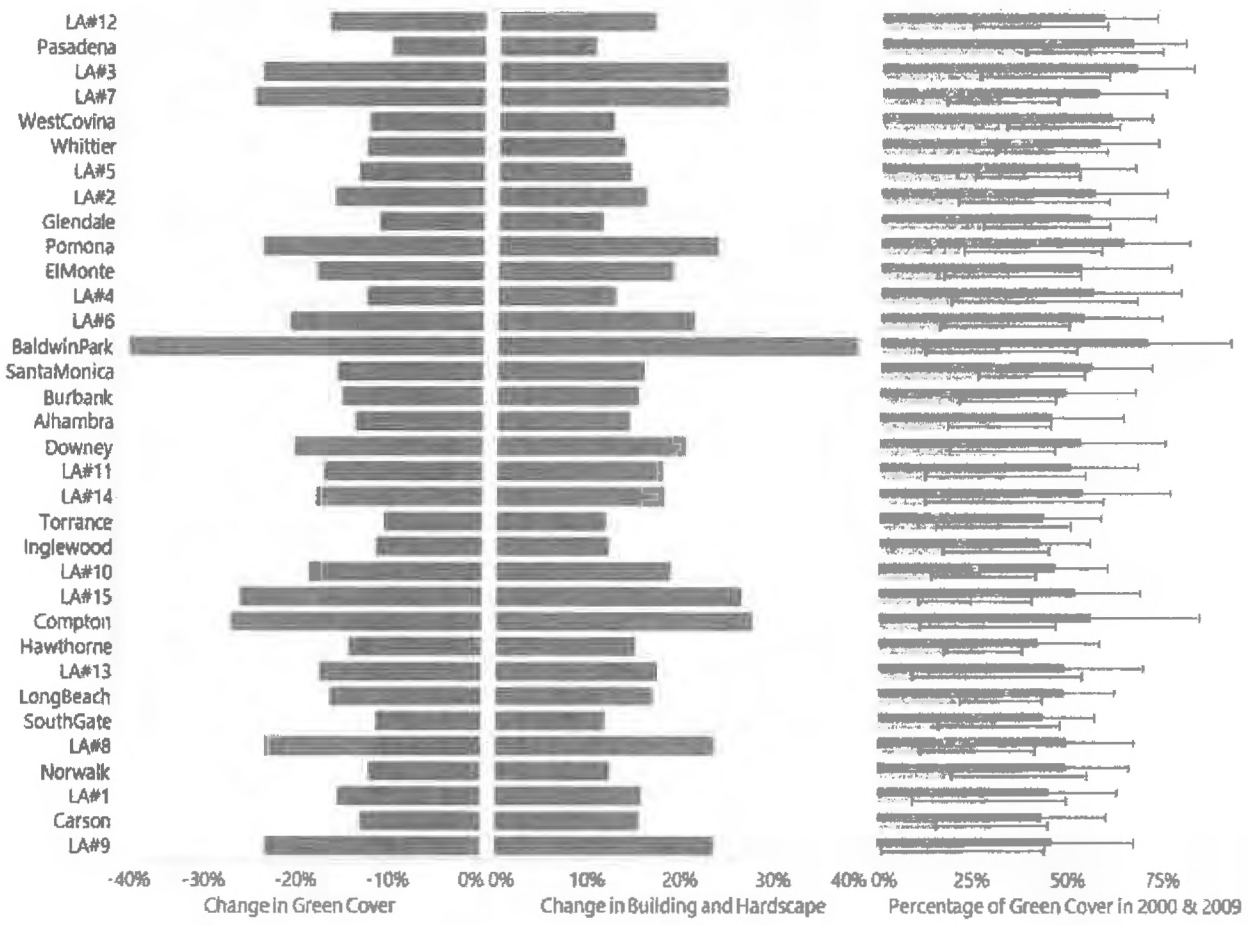

Fig. 5. Bars (ordered by average lot size) show changes in green cover (left) and building and hardscape (center) between 2000 and 2009; and percentage of green cover (right) in 2000 (dark gray) and 2009 (light gray) with standard deviations in the 20 largest cities in Los Angeles County.

tional development that proportion declined to 12% (126 of 1020). The cover of grass increased on 381 of 1020 sampled lots (38%) for which building footprint additions were recorded and on 308 of 720 sampled lots (42%) for which building footprint additions were not recorded. Increases in both trees and grass occurred on only 9 lots for which building footprint additions were recorded (0.8%), and on 25 single-family home lots for which building footprint additions were not recorded (3.5%).

4.3. Cumulative green cover loss

One of the most important consequences of the trends in single-family neighborhood redevelopment is the resulting decrease in green cover in neighborhoods across individual cities and the metropolitan region as a whole. The green cover losses (Fig. 4), not surprisingly, closely tracked the building and hardscape gains. Baldwin Park, Compton, LA#7, LA#15, and Downey were the top five study units in terms of green cover loss on single-family home lots for which building footprint additions were recorded.

Taken as a whole, the results show that the 20 cities studied have lost approximately 6.9 km^2 of tree cover and approximately 1.6 km^2 of grass cover on single-family home lots for which building footprint additions were recorded by the Los Angeles County Office of the Assessor, and 34.8 km^2 of tree cover and approximately 4.0 km^2 of grass cover on single-family home lots for which building footprint additions were not recorded. This result represents a 9.6% decrease in tree cover and a 1.0% decrease in grass cover across all of the 639,080 single-family lots in the 20 cities studied.

4.4. Digitizing errors

The aerial photographs contained only red, green, and blue color bands without an infrared band, which restricts implementing image classification approaches. We found that heads-up digitizing can generate interpretation errors so we tried to minimize errors by comparing total area of land cover with lot size. Digitizing errors as measured by a comparison of the digitized areas with the total lot size were less than ±20 ft^2 (<0.2% of lot size), which we believe is acceptable, given the magnitude of the differences in land cover detected.

5. Discussion

Green cover changed substantially on residential lots in single-family residential neighborhoods across Los Angeles County during the decade examined here. These results present a troubling reversal of the long-term trend in urban forest cover in Los Angeles. This reversal was also detected for 2005–2009 (Nowak and Greenfield, 2012) and points to a failure of existing policies to protect and increase tree cover in various jurisdictions. Furthermore, the discovery that homes for which no additional legal building area had been reported to the Assessor nevertheless had both increased building area and lost tree cover has potentially significant ramifications for municipal finance.

Gillespie et al. (2012) reported long-term tree cover increase between the 1920s and 2006 in representative areas of urban Los Angeles. Their results show that since the 1950s tree density

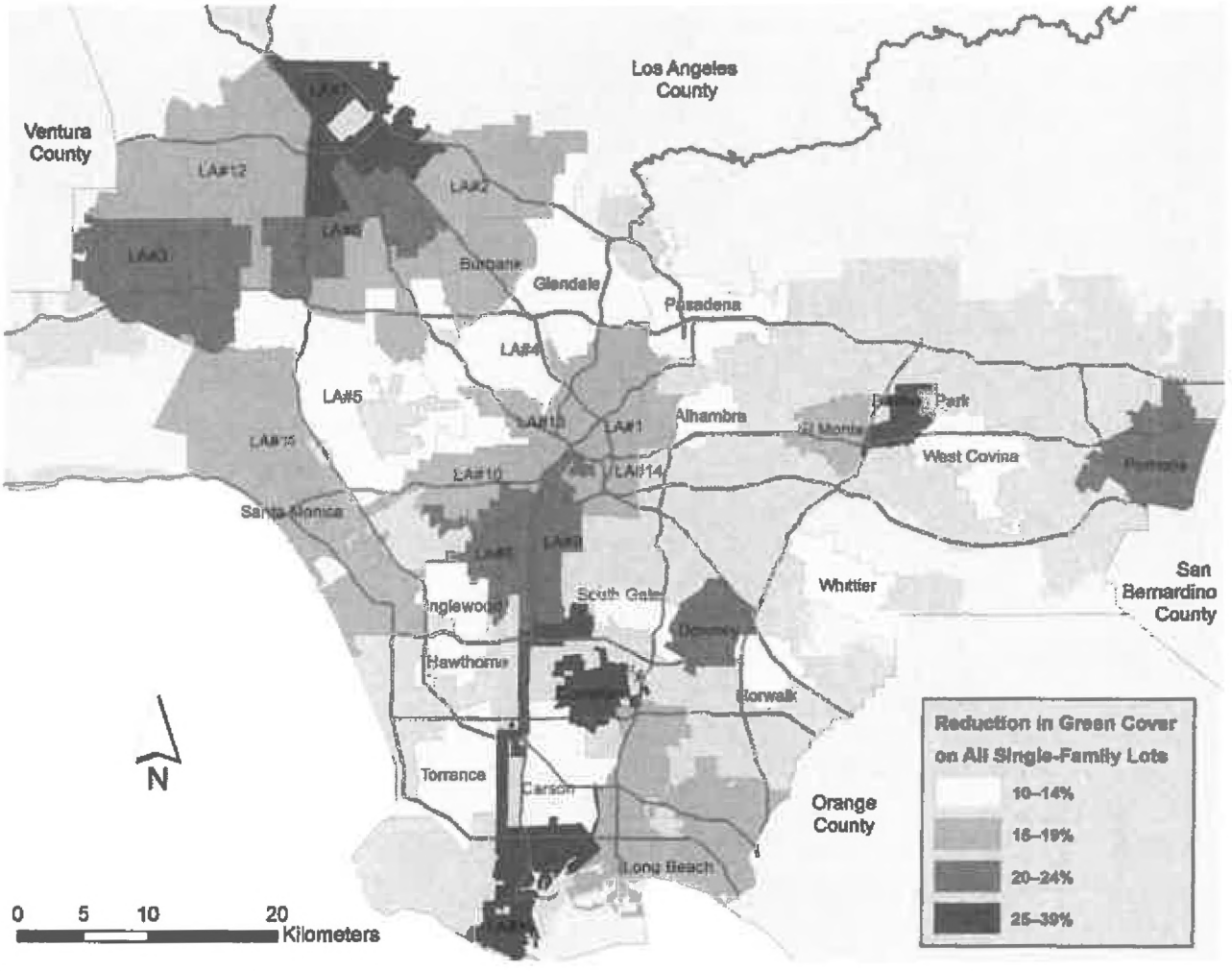

Fig. 6. Percent point reduction in green cover between 2000 and 2009 in single-family neighborhoods across the 15 City of Los Angeles council districts (LA#1–LA#15) and the next 19 largest cities.

increased much more substantially on private land than on land under public ownership. Although we measured tree canopy area, which is not directly comparable with the tree stems per acre measured by Gillespie et al. (2012), our results indicate a reversal of the long-term increase in urban forest cover dating from the 1920s through 2000 and underscore the vulnerability of the urban forest to the changing attitudes about trees on private property and especially in residential neighborhoods.

The relatively recent and rapid decline in urban tree cover in the Los Angeles Basin undermines the ability of jurisdictions to adapt to increased urban temperatures, manage urban stormwater, and maintain urban nature and quality of life. Two important processes may explain these patterns.

First, as documented in this study, the redevelopment of single-family homes through both additions and replacement construction has resulted in homes filling more of each parcel, with an associated decrease in space for green cover. In addition, property owners are increasing hardscape area significantly. For the neighborhoods across much of the region that were laid out in the post-World War II housing boom with homes that were scaled to their parcel size, this redevelopment results in large houses on small- or medium-sized parcels and a dramatic decline in green cover. Such redevelopment is seen in cities in this study with large areas of wealthy, single-family neighborhoods, such as Santa Monica, and in socioeconomically similar council districts in the City of Los Angeles (e.g., LA#3, LA#11). Our results provide evidence that the aggressive, lot-filling redevelopment of these neighborhoods (i.e., mansionization) is indeed resulting in significant changes in the urban fabric.

Second, we observed a familiar pattern from the urban forestry literature, which is continued low levels of green cover in the poorest areas, where we documented significant declines as well. The disparity between rich and poor neighborhoods in terms of tree cover is so prevalent across the U.S. that recent scholars have observed that "trees grow on money" (Schwarz et al., 2015). Such is the case in Los Angeles County, where poorer cities and council districts show both low green cover and significant declines in green cover (e.g., Compton, LA#9) during the decade we measured. We assume that these declines are associated with either owners or absentee landlords removing trees to avoid the expense of their care or to make way for legal or illegal housing densification. Ironically, both rich and poor neighborhoods alike saw reductions in green cover and increases in hardscape during the study period, but the poorest neighborhoods started with less green cover and the smallest parcel sizes to accommodate additional development. It is our observation that speculative development drives the increased home and hardscape extent in middle and upper income neighborhoods, while economic necessity leading to densification drives the pattern in low income neighborhoods and future research could investigate these overlapping forces in the market.

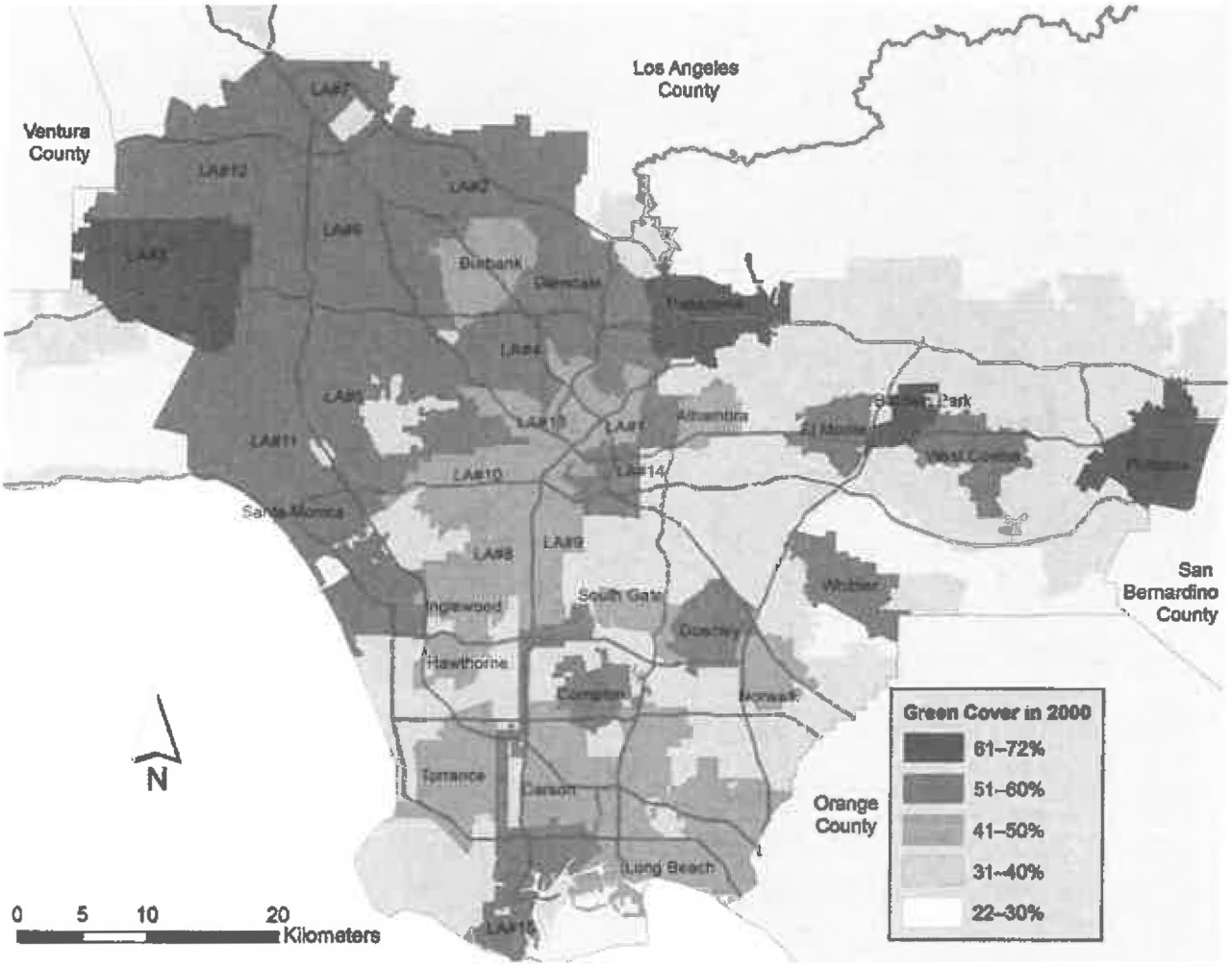

Fig. 7. Percentage green cover in 2000 in single-family neighborhoods across the 15 City of Los Angeles council districts (LA#1–LA#15) and the next 19 largest cities.

5.1. Efforts to increase tree cover

In 2006, then-Mayor Antonio Villaraigosa established the "Million Trees LA" initiative, which focused on planting new trees on private land rather than public land (McPherson et al., 2011; Pincetl, 2010). McPherson et al. (2008) developed tree-planting scenarios in which the City of Los Angeles planned to encourage residents to plant 290,000 new trees through 2010. Although the benefits of such a program would take many years to manifest, our results from 2009 indicate that if any increases in tree cover on single-family residential properties resulted from the program, they were more than offset by tree removal to accommodate additional hardscape and larger homes.

Monitoring of urban forest cover would have been a valuable tool for this program, which merged with another tree program in 2010 to create a new program known as City Plants. The tree-planting initiative was arguably a failure in policy direction because it did not recognize that tree canopy was already being eroded rapidly for construction and hardscape. Rather than focusing on protecting trees that had been grown and nourished over decades (see Gillespie et al., 2012), it attempted to increase canopy cover by planting new trees. In retrospect, this effort was shoveling sand against the tide.

Many cities in the U.S. implemented large-scale tree planting programs in the mid-2000s because of a growing recognition that urban forest cover can improve human health, socioeconomic conditions, and the environment (Arnberger and Eder, 2012; Clarke et al., 2013; Gillespie et al., 2012; McPherson et al., 2011; Nowak and Greenfield, 2012; Pincetl et al., 2013). Similar to our results, however, Nowak and Greenfield (2012) investigated 20 U.S. cities over the previous decade and reported that tree cover had decreased in 17 of them (including Los Angeles). Tree cover had been reduced by about 0.27% per year and impervious surface had increased by 0.31% per year (Nowak and Greenfield, 2012).

5.2. Legal or illegal residential development

Our results also uncovered a pattern we were not originally investigating—widespread increases in building footprint for parcels where no legal increase in square footage had been reported to the Assessor. We had included samples of parcels where the recorded building footprints had not changed as a control to compare with the effects of increasing building footprints on land cover, expecting that changes in tree cover at such parcels would be the result of natural changes in landscaping over time, impacts from re-landscaping, and other factors. Instead, we discovered that the remotely measured footprints of buildings in many instances had increased without being recorded by the Assessor. The two likely explanations are that 1) the owners of these properties had building permits to increase building area but those increases were not reported to the Assessor or were delayed in being reported, or 2) the owners did not have permits for the additional building

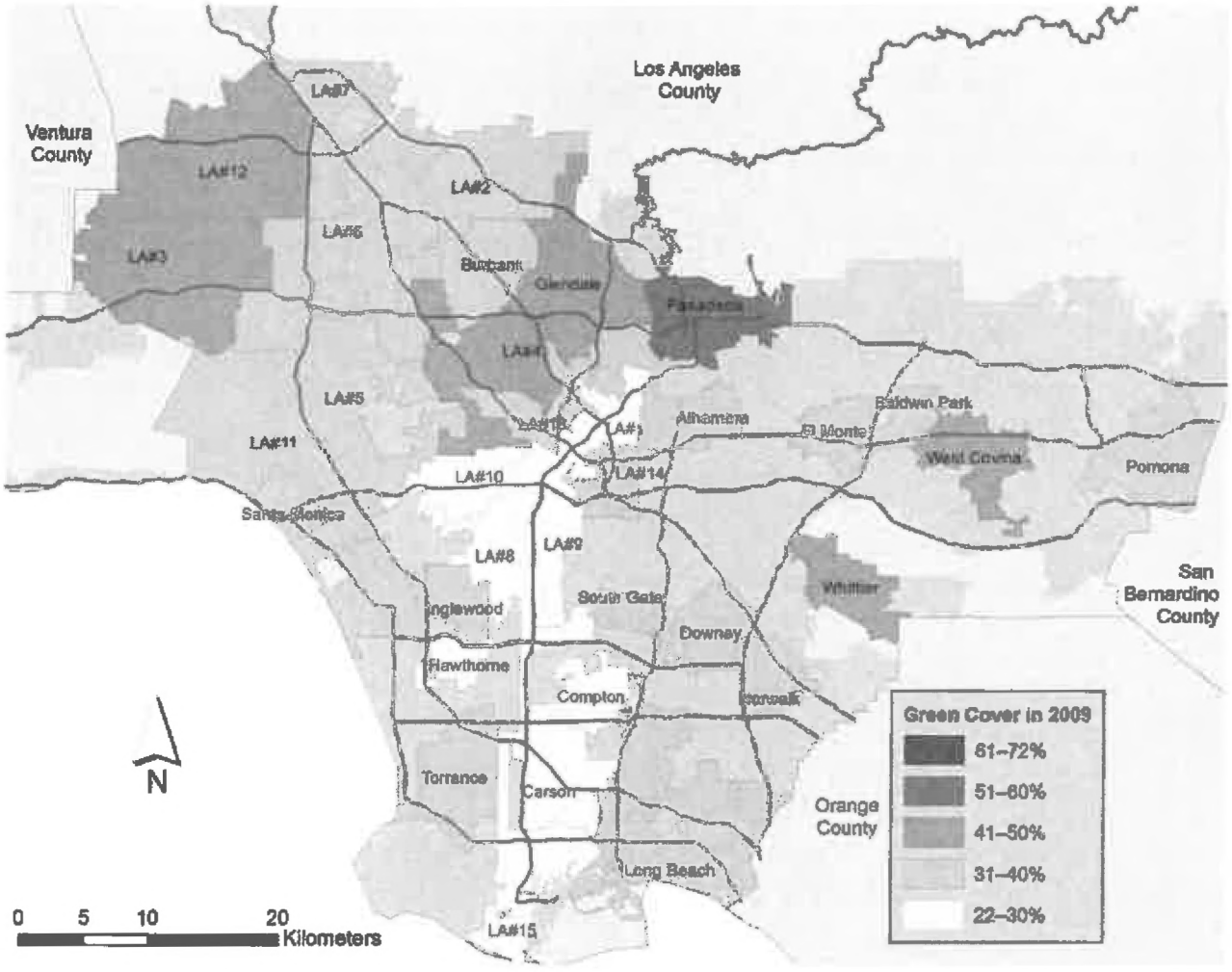

Fig. 8. Percentage of green cover in 2009 in single-family neighborhoods across the 15 City of Los Angeles council districts (LA#1–LA#15) and the next 19 largest cities.

area. In either scenario, the Assessor had not recorded the full area of the houses in many instances. Furthermore, the level of additional, unrecorded development was significantly greater in the City of Los Angeles compared with all other cities. The two possible explanations for this pattern are that the City of Los Angeles is ineffective at ensuring compliance with its building codes and/or it is much slower at reporting new permitted building to the Assessor. Smaller cities with good reputations for a well-functioning city government (e.g., Burbank, Glendale) have much lower levels of presumably unpermitted development and far lower rates of urban forest removal as a result.

Our discovery of apparently widespread expansion of home size without associated recording by the Assessor has important implications for municipal finance. Because of the tax system in California, upward assessment of property values is significantly constrained. One of the few opportunities for municipalities to increase tax revenues is when properties are redeveloped. The existence of many properties for which redevelopment has occurred but reassessment for tax purposes (tied to the legal square footage) has not is therefore extraordinarily problematic because it represents the annual loss of millions of dollars of uncollected property taxes.

6. Conclusions

Fully one-third of the existing green cover of each single-family residential lot is lost during the average home expansion in the Los Angeles Basin. The rate of redevelopment in our study area was sufficiently high that green cover is declining cumulatively at a substantial annual rate across single-family neighborhoods as a whole. Because low density residential land uses represent a substantial portion of the land area of most cities, actions to address these private land uses will be necessary to protect the ecosystem services and natural amenities provided by trees and green cover.

The pattern of residential redevelopment seen in the decade we measured may have been subsequently slowed by an economic downturn, but the following economic recovery has seen an equally rapid increase in housing prices and associated development. Indeed, for all cities with population growth and appreciating real estate prices over the long run, increases in home size and resulting decrease in green cover are likely, and this factor may be at the root of at least part of the documented national patterns of urban tree cover decline (Nowak and Greenfield, 2012). Furthermore, the trend toward increased densification across all land uses as manifested by efforts to weaken single-family zoning and densify multi-family zoning in cities with high housing pressures (e.g., Los Angeles, Seattle) also seems likely to continue. As we have shown previously (Lee et al., 2010), residential density

decreases green cover in Los Angeles cities while laws that protect tree species on private property and limit floor-area ratios are associated with higher green cover, similar to findings in other regions (Troy et al., 2007; Landry and Pu, 2010). Without regulations that specifically protect existing tree and green cover the ability of cities to maintain a healthy and ecologically vibrant urban landscape will be hampered.

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EXHIBIT D

DECLARATION OF CASEY MADDREN

I, Casey Maddren, declare as follows:

1. I am a resident of the State of California. I am a member of the United Neighborhoods for Los Angeles, a community organization composed of residents of the City of Los Angeles frustrated by City Hall's unwillingness to listen to their concerns about poor planning, the lack of housing, green space, crumbling infrastructure and inconsistent enforcement of building codes. I have personal knowledge of the facts set forth herein and if called upon to testify, I could and would testify to them.

2. On Friday, April 27 at about 4:15 pm I visited 750 South Spaulding, just south of Wilshire Blvd. in Los Angeles. The sidewalk on the east side of this block between Wilshire Blvd. and Eighth Street appeared to have been recently repaired. The concrete, while dry, appeared to have been poured recently. I observed square spaces near the curb that appeared to be planters for trees, but no trees had been planted at the time of my visit. I took photos of the site. True and correct copies of these images are attached as Exhibit A.

3. On May 16, 2018 at 12:07 pm, I took a screenshot of a Google image that was captured in June 2017 which shows several Indian Laurel Fig trees on the sidewalk on the east side of this block between Wilshire Blvd. and Eighth Street. These are several out of 12 trees that were removed on this block. A true and correct copy of this image is attached as Exhibit B.

I declare under penalties of perjury under the laws of the State of California that the foregoing is true and correct. Executed on this17th day of July 2018 in Los Angeles, California

CASEY MADDREN

EXHIBIT A


WILSHIRE
GALLERIA
750


GTP2126

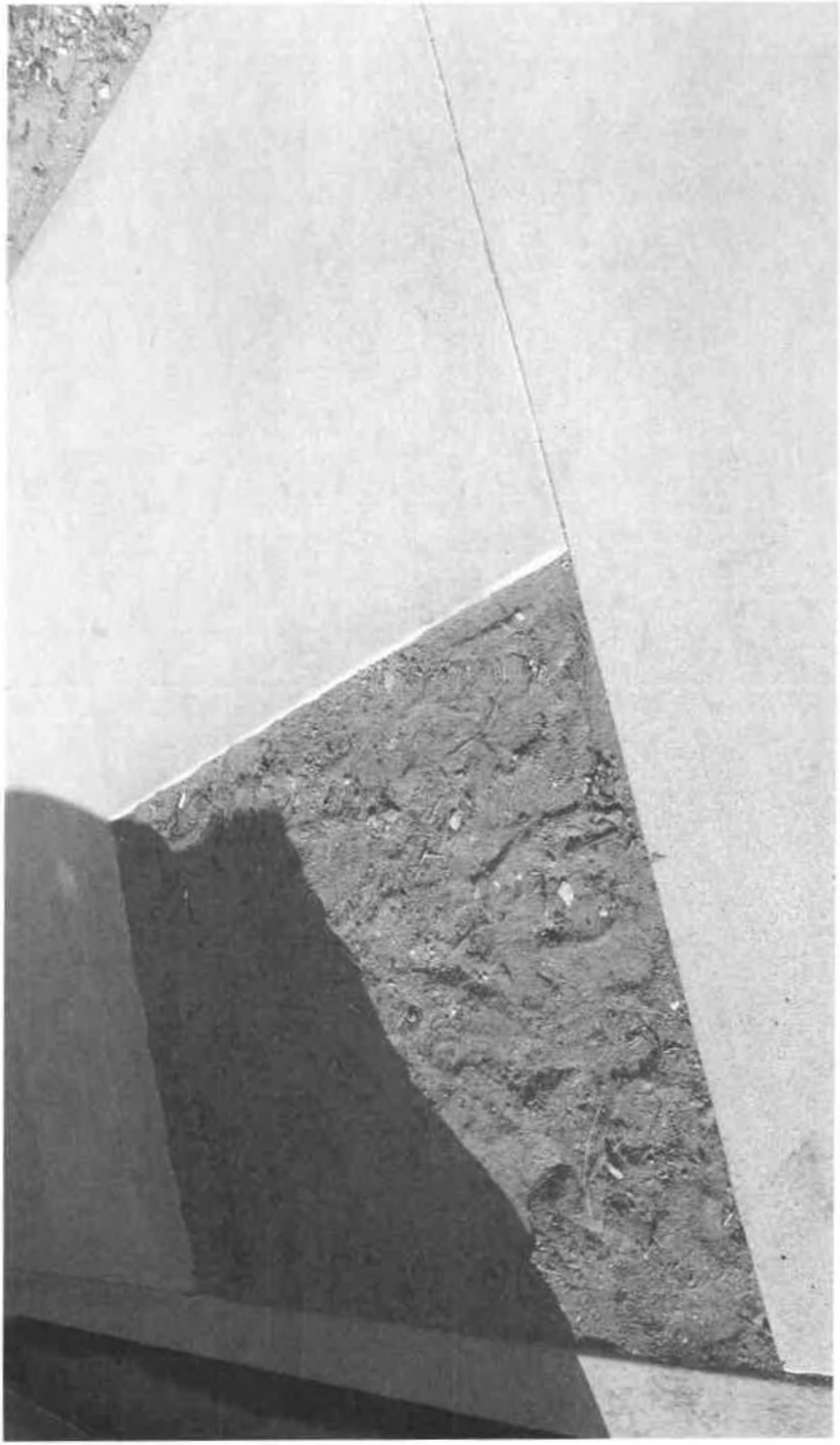

EXHIBIT B


13,000 fall into homeless
FAQ.pdf
Safe & Healthy LA
Image splat - Google Se
Add subscriber to Pasta
750 S Spaulding Ave - G
Secure
750 S Spaulding Ave
Los Angeles, California
Google, Inc.
Street View - Jun 2017
Urban Light
W 8th St
Google
Splat 2.jpg
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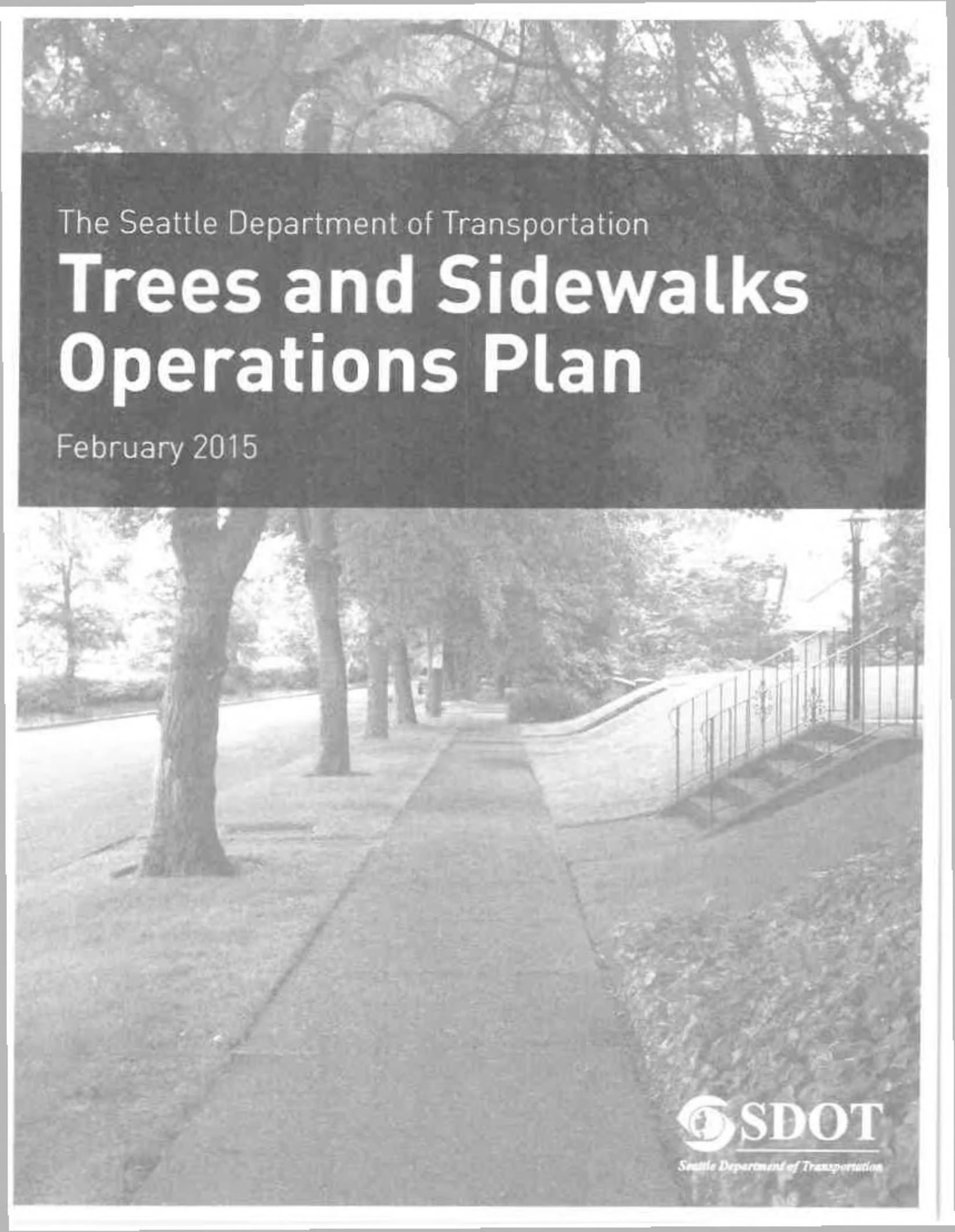
Show all

EXHIBIT E



The Seattle Department of Transportation

Trees and Sidewalks Operations Plan

February 2015

SDOT

Seattle Department of Transportation

ACKNOWLEDGMENTS

The Trees and Sidewalks Operations Plan is a product of the Seattle Department of Transportation, working together with planners, landscape architects, engineers, arborists, and those with tree management and regulatory responsibilities. The plan provides a framework for the actions and responsibilities that will help preserve, maintain, and enhance the condition of Seattle's urban forest.

Seattle Department of Transportation:

Jennifer Wieland, Project Manager

Barbara Gray, SDOT Interim Deputy Director

Darren Morgan, Urban Forestry Manager

Elizabeth Sheldon, Interim Street Maintenance Director

Shane Dewald, Senior Landscape Architect

Joshua Erickson, Field Operations Manager

Shannon Glass, Public Space Management Program

Jinny Green, Pedestrian Lead

Ben Hansen, Pavement Lead

Jane Rebelowski, Crew Project Inspector

Ben Roberts, Arboriculturist

Nolan Rundquist, City Arborist

Lou Stubecki, Arboriculturist

Special Thanks:

Urban Forestry Commission

Seattle Pedestrian Advisory Board

Project Team:

SvR Design Company

GeoEngineers

Harrison Design

Norton-Arnold & Company

Ribeiro Consultants

Stenn Design

Tree Solutions

SDOT Contact Information:

SDOT Urban Forestry: http://www.seattle.gov/transportation/forestry.htm, 206-684-8733

SDOT Street Maintenance: http://www.seattle.gov/transportation/streetmaintenance.htm, 206-684-7623

CONTENTS

SEATTLE DEPARTMENT OF TRANSPORTATION

Mission

Delivering a first-rate transportation system for Seattle

Vision

A vibrant Seattle with connected people, places, and products

Core Principles

1. Keep it Safe—Improve safety for people of all ages and abilities so they are comfortable moving around the city, regardless of what travel mode they choose
2. Focus on the Basics—Keep our transportation system in good condition in a way that promotes long term fiscal and environmental stewardship
3. Build Healthy Communities—Develop an equitable transportation system that focuses on neighborhoods, offers healthy travel choices and great public spaces
4. Support a Thriving Economy—Move people and goods efficiently to keep our economy thriving and provide efficient and practical transportation choices that enhance our quality of life, draw new businesses and visitors to our city
5. Provide Great Service—Sustain an innovative and engaged workforce who strongly value public service, strive to be good financial stewards, deliver services equitably, and engage all parts of the community in our work

PURPOSE & INTENT OF OPERATIONS PLAN

Street trees and sidewalks both play vital roles in Seattle's public realm, helping to make our city more livable and sustain our quality of life. It is not uncommon for conflicts to arise between trees and sidewalks, particularly in locations where they were installed some time ago. These conflicts can compromise pedestrian access to the sidewalk and/or tree health.

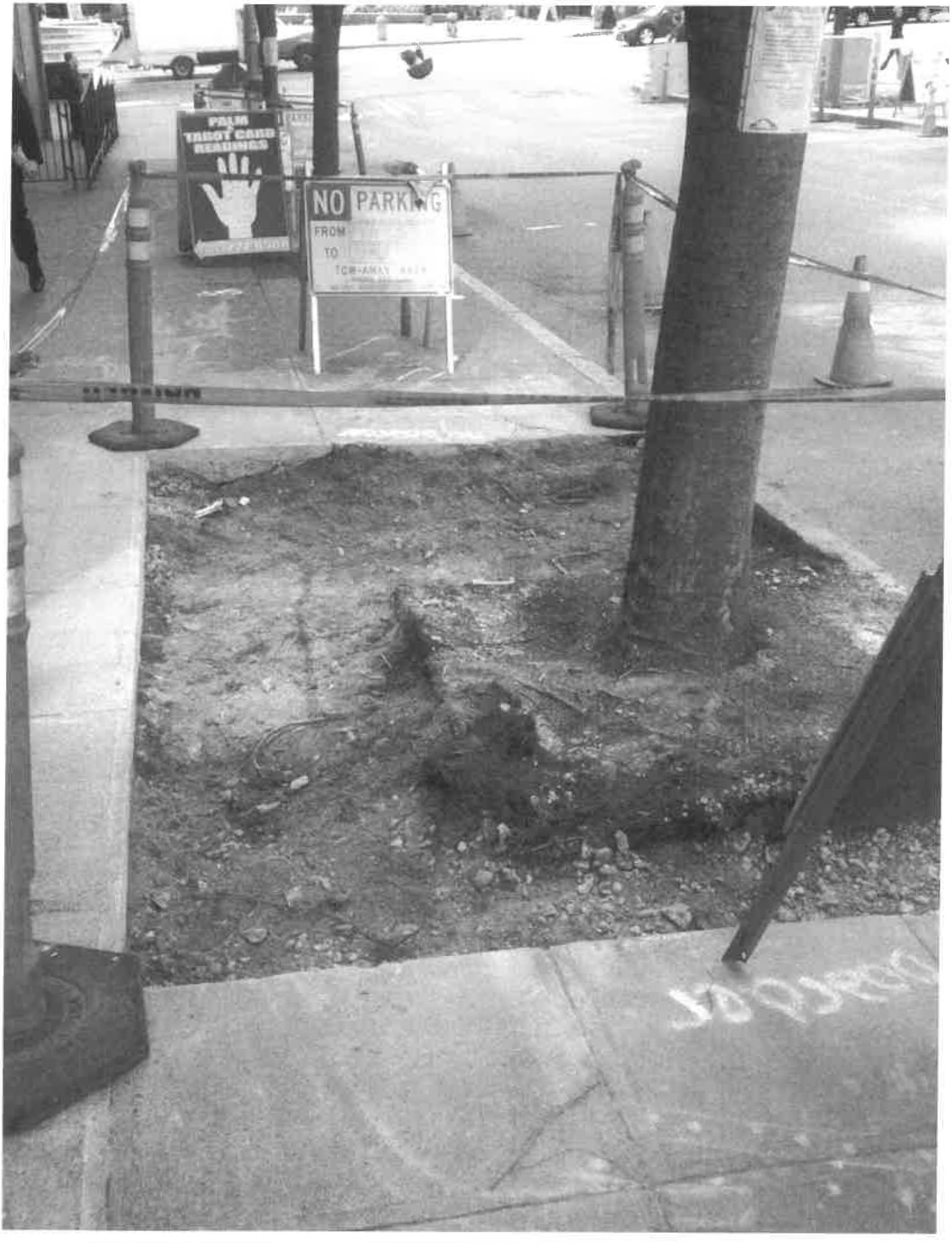
Purpose

The purpose of the Trees and Sidewalks Operations Plan is to clarify responsibilities and work processes and to provide guidance on installation, repair, and maintenance of sidewalks and street trees in public places in Seattle. (The term *public place[s]* is used in this Operations Plan to mean areas in the public right-of-way, as defined in Seattle's Street Tree Manual.)

Intended Audience

This plan is intended primarily for internal use by the Seattle Department of Transportation (SDOT). It will be particularly relevant to operations within SDOT Urban Forestry and SDOT Street Maintenance, as well as within other divisions working with streetscape elements that relate to trees and sidewalks. Other City departments may also use the plan as a resource to help manage trees in the city's public right-of-way, including Seattle Public Utilities (SPU), Seattle City Light (SCL), and the Department of Parks and Recreation (Parks).

This plan is also intended to clarify to the broader public the processes and procedures that SDOT uses to manage street trees and sidewalks.


PALM
TAROT CARD
READINGS
NO PARKING
FROM
TO

INTRODUCTION

Plan Goals and Objectives

The goals of this Operations Plan are supported in existing city policies and plans as well as by Seattle residents.

- **Accessibility and Health**: To provide a safe, accessible, and inviting walking environment, following universal design* principles
- **Environment**: To protect and expand a healthy urban forest
- **Equity**: To thoroughly consider the needs of all communities in accordance with the City's Race and Social Justice Initiative
- **Efficiency**: To preserve existing assets—both street trees and sidewalks—and use resources wisely

These goals will be met by achieving the following objectives.

- Explore strategies that enhance neighborhood aesthetic, reduce lifecycle costs, and allow sidewalks and substantial trees to coexist
- Repair sidewalks damaged by street trees with sustainable solutions
- Retain healthy, mature, and appropriately-sited trees whenever possible, while ensuring mobility
- Assess the appropriateness of street trees based on established criteria, including species, location, planting space, maintenance, past and current conflicts, and proximity to public and private structures and infrastructure
- Explore and implement alternative and/or innovative sidewalk repair approaches to preserve trees where feasible
- Evaluate sidewalk repair approaches across a range of criteria, including lifecycle costs and benefits as well as community costs and benefits
- Implement tree removal, when no other practicable alternatives exist, in phases to enable continued canopy coverage
- Increase the urban canopy by planting new street trees in vacant locations
- Communicate to property owners the importance of proper tree maintenance to address implementation of the revised Street Tree Ordinance and the walkable zone (as defined in the Pedestrian Master Plan)

*Universal design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability.

VALUE OF TREES AND SIDEWALKS

Seattle has approximately 4.35 million trees worth $4.9 billion and over 2,000 miles of sidewalk worth $2.8 billion.

Source: SDOT Transportation Infrastructure Inventory

Responsibility for Street Trees and Sidewalks

In accordance with SMC 15.43.040, maintenance of street trees within public places is the responsibility of the adjacent property owner(s). **The exceptions to this policy are trees specifically designated for maintenance by SDOT Urban Forestry.** These responsibilities include, but are not limited to, maintaining the required clearances above the sidewalk and the parking/travel lane of the street. These clearances are specified in the Street Tree Ordinance, Seattle Right-of-Way Improvements Manual (ROWIM), and Seattle's Standard Specifications and Standard Plans for Road, Bridge, and Municipal Construction.

To confirm the maintenance responsibilities for street trees, SDOT has developed a street tree map, posted online at web6.seattle.gov/SDOT/StreetTrees/. To access the information, enter an address into the upper left search field. Most trees have a unique identifying number.

Responsibility for sidewalk repairs in conjunction with SDOT-managed trees typically falls to the Street Maintenance and Urban Forestry. Staff working to repair sidewalks damaged by trees and maintain any trees causing such issues should find this Operations Plan's best practices research and the "responsive" tools within the Solutions Toolkit particularly useful.

The "proactive" tools and many of the best practices should also have broader applicability and are appropriate for consideration by all SDOT staff who are designing or reviewing plans for streets that include tree plantings. This includes capital projects managed by SDOT as well as plans for street improvements submitted by private parties through the Street Improvement Permit (SIP) process.

Americans with Disabilities Act

SDOT is responsible for ensuring that sidewalks and curb ramps within public places are accessible, continuous, and unobstructed for use by all people, including people with disabilities. The Americans with Disabilities Act (ADA) and the US Access Board Public Right-of-Way Accessibility Guidelines (PROWAG) provide guidance and regulation for sidewalks in the public right-of-way.

While sidewalks do not need to be perfectly straight, curves that direct the pedestrian away from the natural path of the roadway should not be introduced solely for aesthetic reasons. Sidewalks shall provide a minimum four-foot wide clear zone along the path of travel (per PROWAG Sections R302.3 and R302.4). Pedestrian facilities shall be designed to allow all users to logically connect to other pedestrian facilities. They shall be in compliance with current ADA requirements. Sidewalks and walkways should be constructed with accompanying curb ramps, including companion ramps, as required by current ADA standards.

Related Documents

Many City documents provide policy guidance for this Operations Plan. The Pedestrian Master Plan (2009), Right-of-Way Improvements Manual (2012), Urban Forest Stewardship Plan (2013) and Street Tree Ordinance (2013) have recently been adopted by City Council. These documents highlight the importance of the tree canopy along streets as well as the requirements for sidewalk construction and maintenance to provide pedestrian access for all people in Seattle.

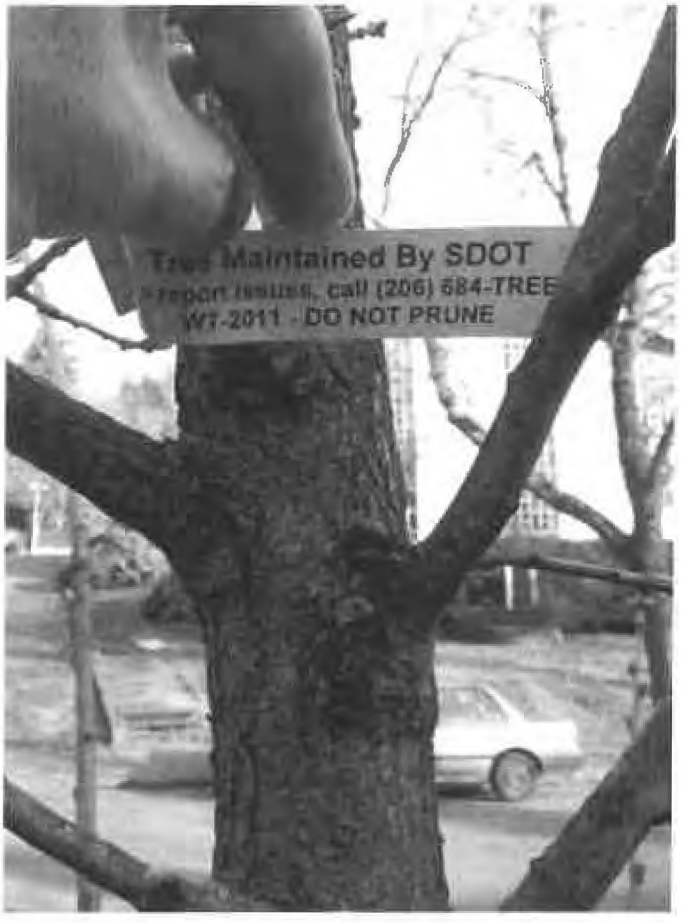
Community input has also served to help initiate and inform this Operations Plan, including the community-produced report Safer Sidewalks, Mature Trees: A Madrona Demonstration Project (2012).

Pedestrian Master Plan

The Pedestrian Master Plan (PMP) includes an issue paper on the topic of trees and sidewalks as well as targeted implementation actions to address the "walkable zone," including conflicts between trees and sidewalks. The walkable zone is a clear pedestrian zone that is a minimum of six feet wide by eight feet tall, wherever possible. In the Pedestrian Master Plan Implementation Actions, Strategy 2.4 deals specifically with trees and sidewalks, calling for policy and programmatic actions "to support the dual benefits of tree canopy coverage and walkability."

Urban Forest Stewardship Plan

The Urban Forest Stewardship Plan (UFSP) provides a policy framework that guides decision-making and identifies principles, priorities, goals, and strategies that will help Seattle preserve, protect, maintain, and restore its urban forest over the next 24 years. The UFSP provides the foundation to direct and integrate management of the many issues and opportunities of Seattle's urban forest resources. One of the four goals of the UFSP is to expand Seattle's forest canopy cover to 30% by 2037. Based on 2007 data, the city's canopy coverage was about 23%. The "Environment" goal of this Operations Plan supports the UFSP canopy cover goal by providing solutions to maintain and grow healthy trees in public places and reduce conflicts with sidewalks and other infrastructure.



Right-of-Way Improvements Manual

The Right-of-Way Improvements Manual (ROWIM) guides property owners, developers, architects, landscape architects, and engineers involved with the design, permitting, and construction of improvements to Seattle's streets.

The ROWIM attempts to balance the access and mobility needs of all street users.

SDOT is updating the ROWIM in 2015.

Street Tree Ordinance & Street Tree Manual

On April 29, 2013, the City of Seattle amended Seattle Municipal Code (SMC 15.43), the Tree and Vegetation Management in Public Places Ordinance (Street Tree Ordinance), to expand SDOT's regulatory authority to protect, maintain, and preserve trees in the public right-of-way.

SDOT's Street Tree Manual clarifies the intent and scope of the Street Tree Ordinance. It includes information about tree planting, maintenance, and preservation.

SDOT updated the Street Tree Manual in 2015.

BACKGROUND & RESEARCH

Seattle's Urban Forest: Street Trees

Seattle's urban forest includes all trees and understory plants on public and private property. The urban forest includes a diverse mix of vegetation, managed by both individuals and groups and located in natural areas, parks, other City-owned property, rights-of-way, and private property.

The urban forest provides important ecosystem services through stormwater retention, air and water pollution reduction, climate change mitigation, and reduction of heat island effect (urban areas collect and radiate more heat than nearby rural areas, a difference which trees can help reduce). Seattle's urban forest is home to diverse wildlife and provides food, shelter, and nesting opportunities that are essential to supporting this wildlife. The presence or absence of trees can define a neighborhood, and studies show that people enjoy trees and are more comfortable in the presence of trees than they are without them in a landscape.

SDOT is responsible for the management of trees in the right-of-way (street trees), including design, installation, and stewardship of trees and landscapes in the right-of-way and permitting of actions that could impact these trees. SDOT maintains over 40,000 street trees and regulates planting and maintenance of another 100,000 street trees. Since 2007, SDOT has planted an average of 1,200 trees per year. The department must balance canopy cover goals with the need to minimize tree conflicts with surrounding infrastructure and transportation safety requirements.

A permit is required for any work in a public place including, but not limited to, tree planting, tree removal, and tree pruning of limbs greater than two inches in diameter.

Throughout Seattle, there are locations where the existing planting strip or tree pit is too small to accommodate the tree that has been planted. In many cases this has caused adjacent sidewalks to heave and break, creating potential hazards for pedestrians. This condition typically occurs because the tree species needs a larger volume of soil to achieve its mature canopy size or has an aggressive root system or a trunk character that spreads at the base but is constrained by its planting

area. Root upheaval may also occur because the subgrade soils are severely compacted or dense and do not allow root penetration. The City has developed an Approved Street Tree List (2000) to clarify which species are appropriate in certain locations as well as standards for locating trees near other infrastructure.

SDOT estimates that about 20% of street trees could be considered for removal due to improper location (e.g., large trees under utility lines, conflicts with underground utilities or sidewalks, insufficient growing space) or structural and health issues. SDOT currently removes trees only if they pose an imminent hazard or if removal allows the City to take advantage of opportunities to replace trees as part of a larger planting project. SDOT also removes privately-maintained street trees when they become imminent hazards.

Street Tree Governance

Permitting & Jurisdiction

SDOT Urban Forestry has arborist and landscape architect services that permit and inspect tree management activities in public places under Seattle Municipal Code (SMC) 15.43. Urban Forestry also conducts plan review and inspection of street trees and related urban forestry infrastructure for Department of Planning and Development (DPD) and/or SDOT Street Improvement Permit (SIP) projects to ensure compliance with land use code, drainage code, and the Seattle Green Factor ordinance.

Department of Planning and Development (DPD) is responsible for permitting and inspections of tree management activities on private property under SMC 25.11. This code section also outlines the designation and protection of exceptional trees on private property.

Street Tree Management

SDOT maintains certain street trees throughout Seattle. SDOT's Urban Forestry division also oversees work on street trees that SDOT does not actively manage and maintain.

Other departments also manage trees in Seattle. The Department of Parks and Recreation manages trees in parks as well as some trees along park boulevards. Seattle City Light prunes trees planted under power lines. Seattle Public Utilities works with SDOT in managing street trees to avoid conflicts with underground utilities.

Heritage trees, designated for special protection by the City, may be located on public or private property. These trees are identified based on one of the following categories: Specimen, Historic, Landmark, or Collection. Those growing in street rights-of-way are regulated by virtue of being street trees, and require a permit to perform any work on them.

Seattle's Sidewalks

Seattle has over 2,000 miles of sidewalks and pathways with a replacement value of $2.8 billion.

About 72% of Seattle's blocks have sidewalks. Most of the existing sidewalks were built when the parcels were first developed. SDOT's Pedestrian Program and other capital projects install and replace sidewalks. New sidewalks are also built or replaced when required by the land use code for private development projects.

SDOT's Sidewalk Repair Program oversees maintenance of the city's sidewalks and curbs. The program's goal is to ensure that sidewalks are safe and accessible for all pedestrians.

Sidewalk Governance

Permitting & Jurisdiction

SDOT Street Maintenance manages the Sidewalk Repair Program. The program's goal is to ensure that all sidewalks are safe and accessible for all pedestrians. Street Maintenance also monitors the maintenance and performance of City streets and establishes multi-year repaving priorities.

SDOT Street Use manages sidewalk replacement and repair by other city departments and private property owners by issuing permits, inspection, project coordination, public outreach, utility record keeping, and plan review.

Sidewalk Management

As stated in Client Assistance Memo (CAM) 2208: "SMC 15.72 requires property owners to keep the sidewalk adjacent to their property fit and safe for the purposes of public travel.

As such, property owners must repair cracks and other damage to the sidewalk as well as ensure that snow and ice do not pose a hazard to pedestrians. If the sidewalk is determined to be unfit or unsafe, SDOT must direct the abutting property owner to fix their sidewalk. However, in the case of sidewalks damaged by street trees that are managed by SDOT, the City maintains adjacent sidewalks and repairs damage."

Research Summaries & Links to Other Cities' Street Tree Management Documents

Chicago Department of Transportation (CDOT) builds and maintains hundreds of miles of sidewalks each year, working with local aldermen to determine locations for repair. CDOT also operates the Shared Cost Sidewalk Program, in which property owners and the City share the cost of a new sidewalk. The Bureau of Forestry trims thousands of trees a year, plants new trees, addresses insect and disease problems, and otherwise promotes tree health throughout the City.

http://www.cityofchicago.org/city/en/depts/streets/provdrs/forestry.html

San Francisco, CA has a Better Streets Plan that identifies street tree specification and maintenance requirements for adjacent property owners.

http://www.sfbetterstreets.org/find-project-types/greening-and-stormwater-management/greening-overview/street-trees/

The Better Streets Plan identifies sidewalk design requirements...

http://www.sfbetterstreets.org/design-guidelines/

... as well as maintenance requirements for constrained sidewalks.

http://www.sfbetterstreets.org/learn-the-process/maintenance/

As part of its Urban Forest Plan, San Francisco identified key findings and recommendations for financing of San Francisco's Urban Forest.

http://www.sf-planning.org/ftp/files/plans-and-programs/planning-for-the-city/urban-forest-plan/UFP_Financing_Study_Exec_Sum_131216.pdf

Minneapolis, MN has an Urban Forestry Policy that outlines actions around trees in sidewalk zones.

http://www.minneapolismn.gov/www/groups/public/@cped/documents/webcontent/convert_282934.pdf

Portland, OR details its Sidewalk Maintenance Repair Program, identifying property owner responsibilities.

http://www.portlandonline.com/auditor/index.cfm?c=27478&a=472303

Portland also has a sidewalk repair manual that identifies sidewalk repair methods and materials needed to maintain the adjacent sidewalk.

http://www.portlandoregon.gov/transportation/article/443054

Sacramento, CA requires property owners to repair the sidewalk regardless of who owns the tree.

http://portal.cityofsacramento.org/Public-Works/Maintenance-Services/Sidewalks-Curbs-Gutters

Spokane, WA has Guidelines for Infilling Street Trees. This document identifies allowable sidewalk adjustments that can be made to accommodate trees.

http://spokaneurbanforestry.org/uploads/forestry_page_content_body/Street%20Tree%20Infill_11_1_10_FINAL.pdf

Bellevue, WA takes responsibility for maintenance of trees and sidewalks within the right-of-way in the downtown core.

http://www.bellevuewa.gov/street_maintenance.htm

City Research

Management of street trees and sidewalks varies across the country. Research on various cities' related policies and programs informed the decision process and comparison of Seattle practices. In most cities, healthy street trees are not removed solely for the purpose of repairing a sidewalk. Similar to Seattle, most cities expressed challenges identifying solutions that would meet accessibility requirements for a sidewalk.

Page 16 lists the Street Tree/Sidewalk programs researched as part of this project, including links to selected best practices. More findings from the research are included in Appendix A.

Best Practices Research Topics

- Trees
- Street Edge / Hardscape
- Roots
- Nutrients & Subbase Soils
- Irrigation & Aeration of Existing Trees
- Failures
- Utilities
- Transportation
- Education / Outreach
- Design Standards
- Easements

Seattle Practices

Seattle's Street Tree Manual clarifies practices around trees. The current status of Seattle practices informed the development of the solutions toolkit included in this Operations Plan.

Trees

Seattle provides a great deal of publicly accessible information about tree selection, pruning, and maintenance through such resources as SDOT's Urban Forestry website, SDOT's Approved Street Tree List, a Tree Pruning Guide for Seattle Residents, and the Seattle reLeaf website.

Seattle currently maintains a two-for-one tree replacement policy, as directed by Executive Order in 2005 by Mayor Nickels, and identified in the 2013 Urban Forest Stewardship Plan. City departments plant two trees for each tree they remove from City property or the right-of-way.

Seattle is similar to Chicago where the transportation department maintains both trees and sidewalks. In many other large cities including Los Angeles, New York, and Bellevue, the Parks Department maintains street trees. SDOT maintains approximately 40,000 trees in Seattle's right-of-way, with responsibility for maintenance of other right-of-way trees falling to the abutting property owners. The industry standard tree pruning cycle is five to seven years; SDOT currently has two tree crews and is operating on a 20+ year pruning cycle.

Inspection services for all street trees (including approximately 100,000 privately maintained street trees) is shared among approximately 11 positions within SDOT Urban Forestry. However, many more staff within Urban Forestry and other SDOT divisions interact with trees regularly.

Street Edge / Hardscape

Seattle allows a variety of pavement materials in the right-of-way. Not all of the standard pavement sections work well where there are existing trees. Some required installation depths for pavers are greater than eight inches, which can be problematic for trees with shallow root systems.

Researchers have found that a washed gravel layer under the sidewalk pavement may reduce damage by tree roots.[1] The open-graded gravel does not hold water, and the lack of soil and nutrients in the voids discourages root growth while supporting the pavement.

Roots

SDOT has arborists and arboriculturists on staff that coordinate tree root evaluation and pruning. Currently, Seattle has no standard specification or guidance for tree root evaluation and pruning.

[1] Smiley, E. Thomas. 2008. "Comparison of Methods to Reduce Sidewalk Damage from Tree Roots," in Arboriculture & Urban Forestry 34(3):179-183.

Nutrients & Subbase Soils

There is little review or preparation of the subbase soil at locations where existing trees were removed when new (replacement) trees are installed there. Once a tree is planted, it receives short-term maintenance, primarily watering.

For new tree installation, mulch and compost mixes are identified in Seattle's Standard Specifications for Road, Bridge, and Municipal Construction. These materials are typically approved by a landscape architect or engineer for compliance. Soil tests are not typically performed. City standards are in place to improve consistency through procurement as an alternative to onsite testing upon delivery.

SDOT currently does not give guidance or specifications for structural soil or appropriate soil volumes for tree plantings based on mature sizes of trees. Nationwide best practices for tree planting include the provision of certain minimum volumes of soil that are useable by the tree for root growth (e.g., the soils contain nutrients/organic matter and some degree

of void space to accommodate air, water, and root growth; see, for example Washington, DC Department of Transportation's 2014 Green Infrastructure Standards). Future Seattle construction projects will likely follow current best practices for soil volume and use structural soils (among other means) to increase soil volumes for trees.

Irrigation & Aeration of Existing Trees

Providing water and/or aeration for street trees during establishment and mature trees during periods of weather stress can help to maintain and establish a healthy urban forest. SDOT does routinely water and aerate street trees.

Failures

Two common reasons for tree failures in Seattle are impacts from construction activity and poor pruning. Seattle has updated standard details and specifications for work near existing trees. Construction contractors are required to submit and adhere to a Tree, Vegetation, and Soil Protection Plan (TVSPP). Responsibility for field inspections is shared between SDOT and the Department of Planning and Development (DPD), depending on tree location. However, field inspections to ensure that the standards and the TVSPP are followed are limited due to the number of inspectors available.

Utilities

Seattle is a developed city, and there are very few locations where trees could be installed without coordinating with existing utilities. The ROWIM and the Standard Details identify setbacks of trees from utilities and other infrastructure. These setbacks are similar to the standard requirements found in other jurisdictions.

Transportation – Trees at Intersections & Along Corridors

Trees at planting do not indicate the visibility problems that might occur when they mature. Mature trunk diameter is not necessarily considered when locating street trees near intersections and when siting bus stops. SDOT standards require trees to be located a minimum of 30 feet from the extension of the cross street's curb line at intersections (see Standard Plan 030). The City does not currently provide guidance on placement of trees in relation to bus stop clearances for visibility, safety, and exposure to the elements in the standard plans or ROWIM.

Education & Outreach

SDOT coordinates with Seattle Public Utilities and the Office of Sustainability and Environment on the ReLeaf Program to educate people in Seattle about trees (http://www.seattle.gov/trees). SDOT has information regarding trees and sidewalks on the Urban Forestry, Street Maintenance, and Sidewalk Repair Program websites.

The public can also call 206-684-TREE (8733) to find answers to tree questions in Seattle. Rules and regulations differ depending on the location of the tree. This number provides a menu of options or allows the caller to connect directly to the appropriate person and City department.

The City passed Ordinance 123052 in August 2009 establishing an Urban Forestry Commission to advise the Mayor and City Council concerning the establishment of policy and regulations governing the protection, management, and conservation of trees and vegetation in the City of Seattle. The Urban Forestry Commission holds meetings twice a month that are open to the public.

Design Standards & Specifications

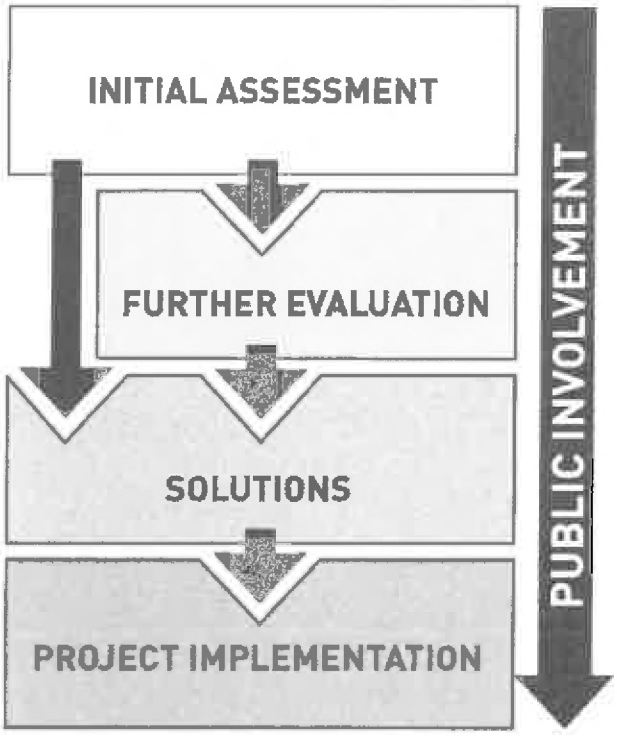
The City of Seattle has design standards and specifications in the Standard Specifications and Standard Plans for Road, Bridge, and Municipal Construction. These standards are also referenced in the ROWIM. Existing standards provide information about tree planting, soils, and tree establishment. There is currently no standard plan or specification for minimum soil volume required for various tree species. Seattle's minimum tree pit sizing (24 square feet) is fairly small compared to other cities. Some other jurisdictions, such as Washington, DC, list recommended soil volumes for trees in their standard construction details (e.g., for green infrastructure) and/or plant lists. The ROWIM is under revision and there is an opportunity to review and revise the standards as part of this process.

Easements

Established procedures for dedications of rights-of-way or easements are outlined in CAM 2203. Typically SDOT does not pay for sidewalk easements to maintain access along a street frontage.

DECISION PROCESS

During the development of this Operations Plan, the need to clarify the decision process to address tree and sidewalk conflicts became apparent. SDOT has used checklists and forms internally, but these traditionally have not been available to the public. To make the decision process around the retention or removal of trees more transparent and consistent, SDOT has clarified the typical process and has developed diagrams to highlight the key decision points. A summary diagram of the refined process is shown to the right, and a more detailed process diagram is on page 25.



This decision process was developed for the Sidewalk Safety Repair Program (SSRP), which is coordinated between SDOT's Street Maintenance and Urban Forestry divisions. The SSRP focuses on repairs around SDOT-managed trees and adjacent sidewalks. However, this process can be adapted and used by other divisions in SDOT. The decision process is intended to work on projects of many scales, ranging from a spot location where there is only one tree being affected to a corridor project over several blocks or more.

The decision process considers existing trees and sidewalks as well as opportunities to plant new trees within the public right-of-way. This process will help project and program managers understand the amount of time and type of resources that must be allocated toward a project to provide and promote tree canopy growth and accessible sidewalks.

The processes for selecting and confirming a project that involves trees and sidewalks vary depending on the SDOT division leading the effort, the funding source and the street classification and/or street typology.

Initial Assessment

SDOT strives for consistency and predictability in the initial assessment of trees and sidewalks at potential project locations. The initial assessment allows the project manager to collect information, including:

- **Tree Preservation Potential.** What is the tree quality or health, and is it worth preserving?
- **Tree Mitigation Exploration.** If a tree exhibits poor health or vigor, can that be mitigated by any means other than removal?
- **Public Safety Risk.** Is the tree a potential hazard that cannot be mitigated by any means other than removal? This includes any tree or tree part that poses a high risk of damage to persons using or property located in public places (as determined by the Director, according to the tree hazard evaluation standards established by the International Society of Arboriculture [Defined in SMC15.02.044.E]).

The initial assessment should occur no later than 30% design or an equivalent level of design effort (e.g. a preferred design has been selected and basic draft design is under development/review). See the next page or Appendix C for an Initial Assessment form.

Initial Tree Decision

Engineer & Arborist/Landscape Architect Coordination

For the initial assessment to be successful, both an engineer and arborist/landscape architect will visit the potential project location and assess the tree and sidewalk conditions together. This will allow for better coordination between divisions as the project moves forward. The engineer and arborist/landscape architect will review the information collected and identify one of the following actions at each tree location within the project area:

- **Remove Tree and Replace Sidewalk.** A tree is identified to be removed if it is unhealthy or if it is hazardous, as identified in the Street Tree Ordinance.
  - ***Tree is Removed.*** Replace the removed tree with the minimum 2:1 replacement ratio. Identify if the replacement trees can be located in the same location or on the same street as the removed tree. If not, replacements should be planted as close to the removal as geographically feasible. Identify the estimated cost to remove the tree(s), repair the sidewalk, and plant replacement trees.
- **Keep Tree and Maintain Sidewalk.** A tree will be kept and the sidewalk will be maintained if a sidewalk of standard width and a tree pit of standard width (at a minimum) can be installed or retained.
  - ***Tree is Kept.*** Identify targeted sidewalk maintenance cycle to maintain public safety. Estimate the cost of the sidewalk repair that would achieve the desired lifecycle for the repair. Estimate

INITIAL ASSESSMENT CHECKLIST

SDOT Trees and Sidewalks Operations Plan
Initial Street Tree and Sidewalk Assessment Checklist

FEBRUARY, 2015
Prepared by: SvR Design Company, Harrison Design, Tree Solutions, Olaf Ribeiro

The purpose of this document is to outline the INITIAL ASSESSMENT for locations where sidewalk work is located within the dripline of an existing street tree.

Project Location/Address	
Tree Species/Diameter	
Street Classification/Type	
Tree Asset Inventory ID	
Sidewalk Segment #	
Is this assessment along a corridor project?	

An ENGINEER and ARBORIST will look at the site and assess the condition of both the sidewalk and the tree.
If the tree has the following characteristics, it should be removed/replaced pursuant to *SMC 15.43.030 (C): The City's policy is to retain and preserve street trees whenever possible. Accordingly, street tree removal shall not be permitted unless the Director determines that a street tree:*

1. *Is a hazardous tree;*
2. *Poses a public safety hazard;*
3. *Is in such a condition of poor health or poor vigor that removal is justified; or*
4. *Cannot be successfully retained, due to public or private construction or development conflicts.*

Initial Assessment:

1. **Is this tree healthy and worthy of preservation?**
   Yes ☐ *No* - ☐

2. **Poor Health—Is this tree in a condition of poor health or poor vigor that cannot be mitigated by any means other than removal?**
   - Is the tree in poor health or poor vigor or dead?
   - Is there chronic trunk wounding due to inadequate street clearance?

   Yes ☐ *No* - ☐

3. **Hazardous Tree— Defined in 15.02.044.E any tree or tree part that poses a high risk of damage to persons using, or property located in the public place, as determined by the Director according to the tree hazard evaluation standards established by the International Society of Arboriculture.**
   Yes ☐ *No* - ☐

4. **Minimum Standards—Is there enough space for a 6 foot wide sidewalk and a 5 foot wide planting strip?** *Yes* ☐ *No* - ☐

5. **Public Safety Hazard—Does the tree present a public safety hazard that cannot be mitigated by any means other than removal?**
   - Does the tree location obstruct the visibility for pedestrians, cyclists, and/or cars at an intersection?
   - Is the tree impacting a curb ramp such that it no longer meets City of Seattle ADA requirements?
   - Is the tree potentially impacting private property?

Yes ☐ *No* - ☐ Use this space to draw a sketch of the location. Identify existing clearances from nearby infrastructure.

Recommendation for this tree:

☐ ***—Remove Tree / Replace Sidewalk***
A tree is identified to be removed if it is not healthy or if it is hazardous as identified in the Street Tree Ordinance.

☐ ***—Keep Tree and Maintain Sidewalk***
A tree will be kept and the sidewalk will be maintained if a sidewalk of standard width and a tree pit of standard width (at a minimum) can be installed or retained around a healthy tree.

☐ ***—Evaluate Sidewalk and/or Tree Further***
SDOT views trees and sidewalks as important public infrastructure assets. SDOT intends to keep healthy trees and have accessible sidewalks. If standard widths cannot be met then SDOT will take the time and resources to evaluate if alternative approaches (such as sidewalk width reduction, alternative sidewalk materials, adjustments to the tree pit and/or tree root pruning) can be used to retain a tree and provide an accessible sidewalk at problem locations.

NEXT STEPS

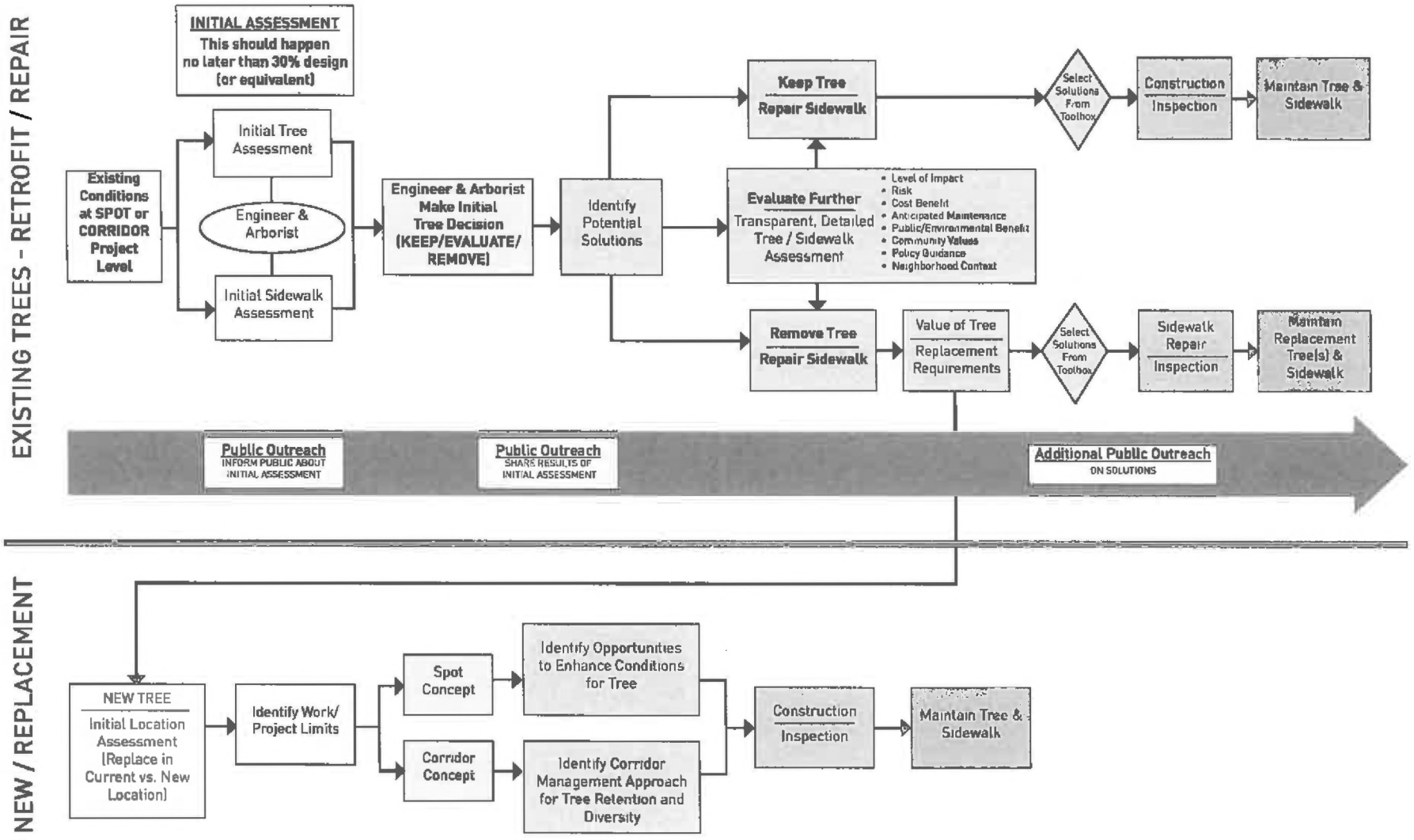
If Tree is REMOVED –Replace the removed tree with the minimum 2:1 replacement ratio. Identify if the replacement trees can be located in the same location or on the same street as the removed tree. If not, replacements should be planted as close to the removal as geographically feasible. Identify the estimated cost to remove the tree(s), repair the sidewalk, and plant replacement trees.

If Tree is KEPT –Estimate the cost of the sidewalk repair that would achieve the desired lifecycle for the repair. Estimate sidewalk and tree maintenance needs/costs and any maintenance to the tree that is being retained (e.g., root pruning, branch pruning, soil amendments).

If EVALUATE Further – Use Tree and Sidewalk Evaluation Form (IN DEVELOPMENT) and/or the tree risk assessment should follow ISA TRAQ guidelines:
http://www.isa-arbor.com/education/onlineresources/basictreeriskassessmentform.aspx

Arborist	Engineer
Title	Title
Date	Date

TREE/SIDEWALK ASSESSMENT & WORK PROCESS



sidewalk and tree maintenance needs/ costs and any maintenance to the tree that is being retained (e.g., root pruning, branch pruning, soil amendments).

- **Evaluate Sidewalk and/or Tree Further.** There are limitations to the initial assessment. It is not the appropriate time for extensive explorations of pavement, soils, or evaluation of the tree's root system; additionally the project may not have survey information to identify the adjacent grades. The purpose of the initial assessment is to identify where these future actions are required so that the appropriate schedule and funding for the project can be determined.

  SDOT views trees and sidewalks as important public infrastructure assets. SDOT strives to keep healthy trees and have accessible sidewalks. If standard widths cannot be met then SDOT will take the time and resources to evaluate if alternative approaches (such as sidewalk width reduction, alternative sidewalk materials, adjustments to the tree pit and/ or tree root pruning) can be used to retain a tree and provide an accessible sidewalk at problem locations.

Further Evaluation

The team conducting further evaluation may include a civil engineer, arborist, landscape architect, urban designer, geotechnical engineer, traffic engineer, or other professionals with expertise relevant to the project details.

In addition to collecting technical information about the trees and sidewalks, SDOT will consider the following:

- **Level of impact** if the tree were to be removed or to remain.
- **Any risks** for the city or the public as the project moves forward.
- **Cost/benefit** of keeping the tree versus continually maintaining the sidewalks. This is a complex issue that is being evaluated based on public safety, tree species, and budget projections.
- **Anticipated maintenance** of the sidewalk if the tree were to be kept.
- **Public/environmental benefit** the tree is providing in terms of shade, view screening, stormwater interception, etc, and how well those benefits could be replaced with new trees.
- **Community values** placed on for either the sidewalk or the tree.
- **Policy guidance** from a neighborhood plan, urban design framework, or other guiding document that exists for the project area.
- **Neighborhood context.** The tree provides or contributes to defining character of the neighborhood and/or a sense of place for the block or corridor where it is planted.
- **Historic Districts.** Seattle has established seven historic districts: Ballard Avenue; Columbia City; Fort Lawton; Harvard-Belmont; International District; Pike Place Market; and Pioneer Square. The appearance of public spaces within each district is regulated by a public review board and/or the Landmarks Preservation Board. Special coordination and review is required in these districts.

SDOT will periodically review and refine these criteria and ensure that emerging best practices are continually incorporated and addressed in the process.

Solutions

Identify Potential Tree Solutions: Keep, Evaluate Further, or Remove

As a result of the initial assessment and further evaluation, SDOT will document the decision process for individual trees and sidewalks. The engineer and arborist/ landscape architect will discuss the potential solutions as part of the process of determining whether to keep or remove the tree.

- **If Remove, Valuation of Tree.** If the tree must be removed, SDOT will provide options to replace the tree with a minimum 2:1 ratio. Ideally, the tree would be replaced at the same location. If this is not possible due to space constraints or other safety concerns, the replacement trees will be planted along the corridor first. If the corridor does not offer planting opportunities, SDOT will plant trees on adjacent residential streets near the project area.
- **If Keep, Corridor Management Approach.** Many corridors, especially along arterials, have one tree species that was planted at the same time. These corridors are aesthetically appealing and often provide a consistent view down a corridor. During the initial assessment, SDOT

will identify the opportunity or need to diversify the corridor by planting new, younger trees and/or different species along the corridor. There could also be an opportunity to manage the trees with corrective actions to provide clearance from the sidewalk, traffic control devices and vehicles and maximize beneficial tree canopy.

Identify Potential Sidewalk Solutions

The Solutions Toolkit in this Operations Plan includes the range of sidewalk materials that Seattle allows within public places. This range provides flexibility for SDOT to construct and/or approve sidewalk repair plans in a variety of conditions. Information gathered during the initial assessment and subsequent site visits will support the selection of the surface type at the project location.

Identify Opportunities to Improve Conditions for New Trees

When new trees are planted, SDOT will select an appropriate tree for the location and follow best practices in site and tree pit preparation to provide enough soil volume to support the tree root growth and minimize future pavement damage by roots.

Project Implementation

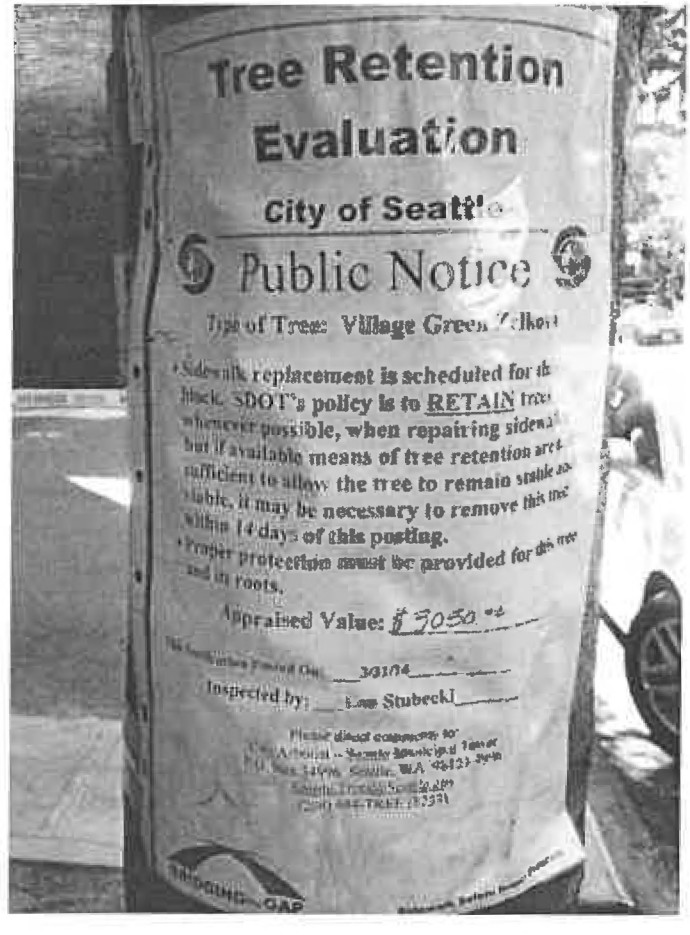
Sidewalk Repair / Inspection

Whether the sidewalk repair is occurring at a location where the tree is retained or removed, SDOT must meet ADA requirements. The minimum width for a sidewalk in the City of Seattle is 6 feet. The minimum width of a public sidewalk to meet ADA requirements is 4 feet.

Public Involvement

SDOT will provide three main public involvement opportunities when tree and sidewalk work occurs.

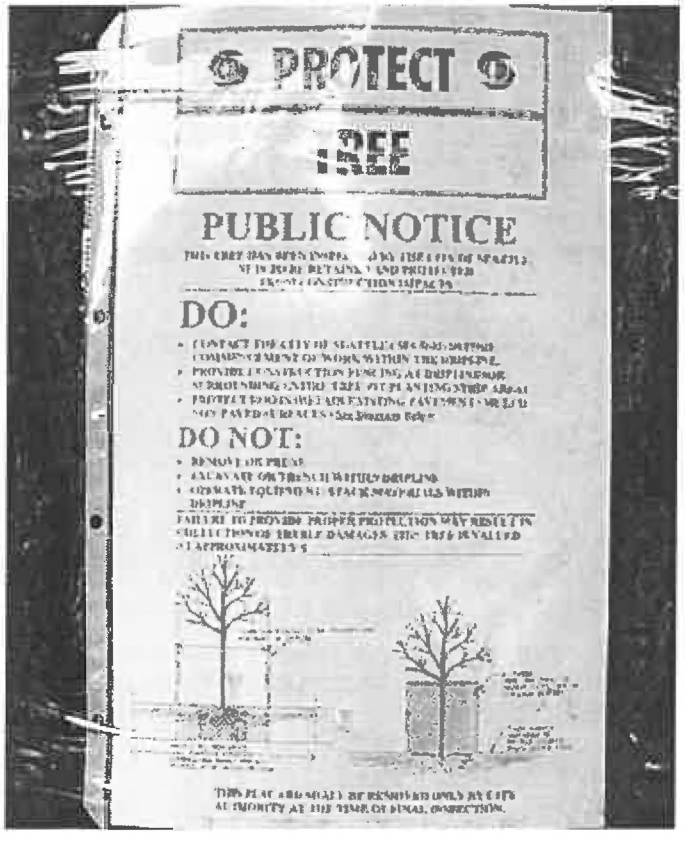
- The **first opportunity** is when SDOT is performing the initial tree/sidewalk assessment. This outreach may be posting a public notice about the process (on affected trees and/or in nearby public places). This should occur at the beginning of the project during scoping but could happen up to 30% design. It is important that the initial public contact be early so the community understands the purpose and scope of the proposed project. SDOT funds projects through a variety of sources that have different



scope and project requirements. This is the opportunity to let the community know that an initial assessment is occurring.

- The **second opportunity** for public outreach is following the completion of the initial assessment. SDOT can share the results of the assessment completed by the engineer and arborist/landscape architect, discuss potential solutions, and consider any public feedback in the design.
- The **third opportunity** to reach out to the public is following the selection of the solutions. At this point, SDOT can present the proposed design and confirm the timeline for the project.

The amount of time between these public outreach opportunities will vary depending on the SDOT program responsible for the project, the funding source, whether SDOT or contracted crews are performing the construction, and if the trees need to be evaluated further before a solution can be confirmed.



Maintenance

Trees and sidewalks need to be maintained. Like most cities, Seattle has a backlog of maintenance activities. The process and tools outlined in this Operations Plan provide solutions that support efficient use of SDOT resources and staff to maintain sidewalks and street trees at an ideal frequency.

The Seattle Pedestrian Master Plan prioritizes projects and proactive maintenance across the city. The priority areas include many key pedestrian destinations and areas that have a great need for pedestrian facilities.

Both new and repaired sidewalks must be maintained and potentially repaired in the future. Maintenance of the sidewalk is the responsibility of the adjacent property owner. However, SDOT must track and document maintenance of SDOT-managed trees and adjacent sidewalks. Tracking this maintenance will provide information about the durability of materials and lifecycle of repair methods and will help SDOT allocate staff and material resources for future maintenance. These records will also provide information to the public about when infrastructure was installed, who should maintain it, and which types of repair may be the most effective.

SOLUTIONS TOOLKIT

The purpose of this toolkit is to identify solutions that may be employed to plant and retain healthy trees and provide accessible, walkable surfaces. This toolkit was created as part of the SDOT Trees and Sidewalks Operations Plan for use by SDOT Urban Forestry and Street Maintenance. However, this toolkit may also be used as a resource for other Seattle departments and private developers or property owners seeking guidance on installation and maintenance of trees and sidewalks adjacent to their property.

This toolkit includes both tree-based and infrastructure-based techniques and materials to guide design, construction, and maintenance activities related to trees and sidewalks. The toolbox is organized into the following four categories and identifies each as:

P **proactive** (at new installations and major reconstruction)

R **responsive** (as part of maintenance)

MATERIAL **Paving and Other Surface Materials**
These materials can be used to create a walkable surface or to delineate space for people and/or the tree.

DESIGN **Infrastructure-Based Design Solutions**
These design considerations can be employed to support a tree and/or sidewalk.

ROOT **Rootzone-Based Materials**
These tools can support tree health and guide tree growth below the ground.

TREE **Tree-Based Solutions**
These solutions are focused on tree selection and tree maintenance.

For most projects, multiple solutions will be required to resolve existing conflicts between trees and sidewalks. Each solution includes the following information as applicable:

- Description of the solution
- Application for the solution
- When the solution should be applied and when it should not be applied
- Cost
- Expected useful life
- If the solution is currently in the standard plans, specifications, or ROWIM.

Many of these solutions are currently used by SDOT but have been updated in the toolbox with information collected during the best practices research. However, some of solutions are not currently part of SDOT's ROWIM or Seattle's Standard Plans and Specifications and will require further review and approval, potentially on a project-by-project basis. The use of some non-standard solutions may require the following actions by SDOT:

- engineering review;
- asset ownership agreements;
- maintenance regimens; and/or
- standardization.

There is a note on the left side of each tool summary page that indicates whether or not there is a City of Seattle standard or guidance for that tool.

The following pages contain a table of contents for the solutions toolkit.

TOOLKIT OVERVIEW

CATEGORY	TOOLS	PROACTIVE	RESPONSIVE	COST* $ $$ $$$ $$$$	EXPECTED USEFUL LIFE Month Year Decade Century
MATERIAL	**PAVING AND OTHER SURFACE MATERIALS**				
	Asphalt	P	R	$-$$$	M Y D C
	Expansion Joints	P	R	$	M Y D C
	Pavers	P	R	$$-$$$	M Y D C
	Pervious Concrete	P	R	$$$-$$$$	M Y D C
	Reinforced or Thicker Slab	P	R	$$-$$$	M Y D C
	Rockery / Wall	P		$$-$$$$	M Y D C
	Beveling		R	$-$$	M Y D C
	Porous Asphalt	P	R	$-$$$	M Y D C
	Shims		R	$	M Y D C
	Tree Guards and Tree Rails	P	R	$$-$$$	M Y D C
	Decomposed Granite	P	R	$-$$	M Y D C
	Mudjacking (Concrete Leveling)		R	$$-$$$$	M Y D C
DESIGN	**INFRASTRUCTURE-BASED DESIGN SOLUTIONS**				
	Monolithic Sidewalk	P	R	$$$	M Y D C
	Pavement Thickness		R	$$$	M Y D C
	Tree Pit Sizing	P	R	$	M Y D C
	Bridging		R	$$$$	M Y D C
	Curb Bulbs	P	R	$$$-$$$$	M Y D C
	Curb Realignment	P	R	$$$-$$$$	M Y D C
	Curving or Offset Sidewalk	P	R	$$-$$$	M Y D C
	Easement	P	R	$-$$$	M Y D C
	Suspended Pavement Systems	P		$$$-$$$$	M Y D C
	Lowered Sites	P		$$$-$$$$	M Y D C
	Soil Volume	P	R	$-$$$	M Y D C

CATEGORY	TOOLS	PROACTIVE	RESPONSIVE	COST* $ $$ $$$ $$$$	EXPECTED USEFUL LIFE Month Year Decade Century
ROOT	**ROOTZONE-BASED MATERIALS**				
	Mulch	P	R	$	M Y D C
	Root Barriers	P	R	$	M Y D C
	Continuous Trenches	P	R	$$$	M Y D C
	Foam Underlay	P	R	$-$$	M Y D C
	Modified Gravel Layer	P	R	$	M Y D C
	Root Paths	P		$-$$	M Y D C
	Soil Modification	P	R	$-$$	M Y D C
	Steel Plates		R	$$-$$$	M Y D C
	Structural Soils	P		$$-$$$	M Y D C
	Subsurface Aeration / Irrigation	P	R	$$	M Y D C
TREE	**TREE BASED SOLUTIONS**				
	SDOT Street Tree List	P		$	M Y D C
	Corrective Pruning	P	R	$-$$	M Y D C
	Root Pruning		R	$-$$	M Y D C

*General cost notes:

- Sidewalk material costs, when given in linear feet, assume 6-foot sidewalk width
- Costs are 2014 3Q planning-level costs and will vary for actual construction
- Costs do not include design, permitting, or other "soft" costs
- Costs not included in tool costs but which would be necessary with use of some solutions include:
  - Drainage structure and connection = approximately $5,650 / location
  - Curb ramps = approximately $5,000 / ramp

MATERIAL

P
R

ASPHALT

Asphalt is not typically used as a standard sidewalk material in Seattle; however, it may be used as a short- to medium-term pavement solution for sidewalk repair or replacement. It has less initial cost, is more flexible, and can more easily be repaired than concrete pavement. However, asphalt has a much shorter expected useful life and requires a higher level of ongoing maintenance than concrete.

EXPECTED USEFUL LIFE

M | Y | D | C

DECADES

COST

$-$$$

Tool addressed in COS Standard Plans

BEST USED IF

- A shorter-term repair solution is needed in an area with existing concrete sidewalks.
- A lower-cost option is appropriate for a new sidewalk.
- A flexible paving material is desirable until specific existing trees are replaced.

DON'T USE IF

- Sidewalk segment is short and between existing concrete sidewalk (typically replace with concrete instead).

PROACTIVE / RESPONSIVE

- Proactive - May be used for new sidewalks in areas where concrete sidewalks are not feasible.
- Responsive - Replace sidewalk with asphalt in situations outlined above.

NOTE

- Useful life of asphalt pavement can vary greatly with site conditions.

ESTIMATED COST

- $22 / linear foot

REFERENCES

- City of Seattle Standard Plan 425
- Seattle Right-of-Way Improvements Manual

MATERIAL

P
R

EXPANSION JOINTS

Photo Credit: Philadelphia Water Department

EXPECTED USEFUL LIFE

M | Y | D | C

DECADES

COST

$

Tool addressed in COS Standard Specifications

Expansion joints are transverse joints used to control the location of cracking and allow movement of concrete due to temperature and subgrade moisture variation. The standard interval for expansion joints in Seattle sidewalks is 28 or 30 feet. When sidewalk is being replaced, these joints may be strategically located in relation to new or existing adjacent trees and existing root conditions.

BEST USED IF

- Existing roots can be pruned to accommodate the installation and significant future root growth is not anticipated (e.g., tree is mature and/or roots have been provided with space to grow in subgrade through other applied solutions).
- There is adequate soil volume in areas the roots are intended to grow.

DON'T USE IF

- Tree root growth is vigorous and the monolithic construction is unlikely to provide more than a short-term solution.

PROACTIVE/RESPONSIVE

- Proactive – When installing a new sidewalk, consider locating expansion joints near trees to reduce potential for differential lifting of slabs.
- Responsive – Expansion joints may be used on replacement slabs, following removal of damaging roots (root pruning) or application of other subgrade solutions. This approach may confine future damage from new roots to a smaller area.

ESTIMATED COST

- n/a (adjust locations during pavement design)

REFERENCES

- City of Seattle Standard Specifications, Section 8-14
- Costello, L. R. and K. S. Jones. 2003. Reducing Infrastructure Damage By Tree Roots: A Compendium of Strategies. Western Chapter of the International Society of Arboriculture.

MATERIAL

P

R

PAVERS

Many types of unit pavers are available, including several varieties made from materials such as rubber or composite plastics. When properly installed and maintained, pavers may provide accessible surfaces that are more flexible than concrete, providing room for continued tree root growth under the sidewalk.

BEST USED IF

- There are existing pavers or panels.
- Urban design guidelines recommend alternative paving surfaces.

DON'T USE IF

- There are a large number of utility structures, such as water meters or maintenance holes, and the pavers would have to be cut around the structures.

PROACTIVE / RESPONSIVE

- Proactive – Pavers installed at the same time as trees can provide an accessible walking surface.
- Responsive – This application is typically used when a small section of sidewalk needs to be replaced. Rubber or plastic panels could be used as a temporary solution until a larger section of sidewalk can be reconstructed.

NOTE

- The depth of installation varies greatly depending on the paver type and material. As a result, some pavers will not work at locations with existing trees with shallow root structures.
- Maintenance needs and durability will vary by type.
- See specific manufacturers' product information for installation details and recommendations.

ESTIMATED COST

- $10 - $50 / square foot

REFERENCES

- City of Seattle Standard Plan 425
- Seattle Right-of-Way Improvements Manual

EXPECTED USEFUL LIFE

M Y D C

DECADES

COST

$$-$$$

Tool addressed in COS Standard Plans

MATERIAL

P
R

PERVIOUS CONCRETE

Pervious concrete allows air and water to pass through to the bedding and soil layers below. If designed and installed properly, it may deter shallow root growth (and reduce root damage to the sidewalk) by allowing water to infiltrate more deeply into the soil profile and providing air contact just below the pavement.

BEST USED IF

- There is adequate space for installation of the pervious concrete and necessary subbase layers without excessive impact to existing roots.

DON'T USE IF

- Adjacent properties are below surface grade of sidewalk.

EXPECTED USEFUL LIFE

M | Y | D | C

DECADES

COST

$$$-$$$$

Tool addressed in COS Standard Plans

PROACTIVE / RESPONSIVE

- Proactive - May be used to provide better growing conditions in structural or other soils below the sidewalk bedding material.
- Responsive - May be used to encourage deeper root growth and/or discourage rooting near surface to deter further sidewalk damage.

NOTE

- Requires more maintenance than standard concrete pavement.

ESTIMATED COST

- $35 / linear foot

REFERENCES

- City of Seattle Standard Plan 425
- Seattle Right-of-Way Improvements Manual

MATERIAL

R

ROCKERY / WALL

Private properties are not always at the same elevation as the adjacent public rights-of-way. A wall or rockery can be used to transition from the property to the sidewalk if the grade of the sidewalk needs to be adjusted to accommodate roots.

BEST USED IF

- The maximum wall height at the front of the wall is 4 feet.
- Space is needed to re-align a sidewalk or increase width.

DON'T USE IF

- Wall height is greater than 4 feet or the ground surface above the wall slopes up more steeply than 3H:1V (would require a geotechnical and/or structural engineer).

EXPECTED USEFUL LIFE

M | Y | D | C

DECADES

PROACTIVE/RESPONSIVE

- Responsive – Typically installed to provide a grade break.

COST

$$-$$$$

NOTE

- Depending on height and direction of grade change, a hand rail / guard rail may be required.
- Consider drainage impacts of grade changes.
- For private property owners: from Seattle DPD TIP 321 - You don't need a construction permit if you meet all of the following conditions:
  1. The rockery or retaining wall will be 4 feet or lower in height.
  2. The wall is not located in an environmentally critical area (ECA) or near an ECA.
  3. You will not damage adjoining properties or structures during or after construction of the wall.

  If these three conditions are not met, you need a new construction permit.

Tool addressed in COS Standard Plans

ESTIMATED COST

- $25 / square face foot

REFERENCES

- City of Seattle Standard Plan 141
- City of Seattle Standard Plan 801
- DPD Tip 321

MATERIAL

P
R

REINFORCED OR THICKER SLAB

Photo Credit: University of Florida

EXPECTED USEFUL LIFE

M | Y | D | C

DECADES

COST

$$ - $$$

Tool addressed in COS Standard Plans

A reinforced or thicker (than standard 3-1/2" concrete thickness) sidewalk can be used to help resist uplift of tree roots. Reinforcing may include the use of steel rebar or wire mesh. The use of thicker pavement is similar to the design of sidewalks at driveways, which employ a thicker sidewalk section (6" to 8" concrete thickness) to support vehicular traffic.

BEST USED IF

- Minimal future root growth is anticipated and existing roots can be pruned to accommodate the installation.
- There is adequate soil volume in areas the roots are intended to grow.

DON'T USE IF

- Tree root growth is vigorous and the reinforced or thicker sidewalk is unlikely to provide a lasting solution.

PROACTIVE/RESPONSIVE

- Proactive – Used along new installations to prevent future root uplift.
- Responsive – To correct uplift of the sidewalk and provide resistance from future uplift after corrective actions have been taken.

NOTE

- Reinforced pavement may not be allowed in areas where future utility installation is required.

ESTIMATED COST

- $60 / linear foot for reinforced slab
- $40 / linear foot for 4" thickness

REFERENCES

- City of Seattle Standard Plan 430 (see sidewalk section at back of driveway ramp)

MATERIAL

R

BEVELING

Beveling involves cutting down the raised edge of a concrete panel to make a smoother transition and reduce tripping hazards.

BEST USED IF

- A short-term solution is required.

DON'T USE IF

- Uplift is greater than 1".

PROACTIVE / RESPONSIVE

- Responsive - Provides a relatively short-term solution to raised concrete edges.

NOTE

- There is a limit to how much beveling/grinding can be done at each point on a concrete sidewalk based on pavement thickness and severity of uplift.
- Longevity of fix will depend on how rapidly additional damage (uplift/subsidence of concrete) occurs.

ESTIMATED COST

- $200 / location

REFERENCES

- Seattle Right-of-Way Improvements Manual
- SDOT Client Assistance Memo (CAM) 2208 - Sidewalk Maintenance and Repair

EXPECTED USEFUL LIFE

M	Y	D	C

YEARS

COST

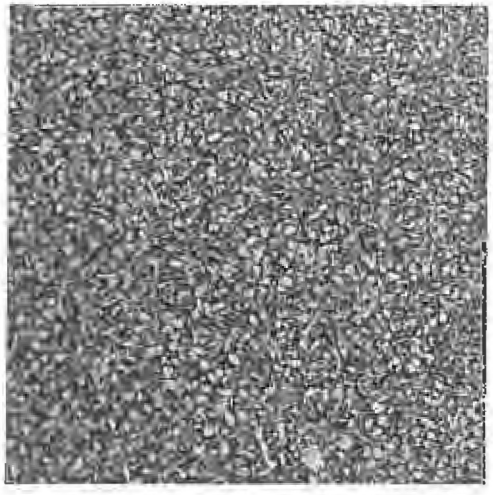
$-$$

Tool addressed in Seattle ROWIM

MATERIAL

P
R

POROUS ASPHALT



Porous asphalt is similar to regular asphalt but will allow water to pass through the pavement. It may be appropriate to use in cases where infiltration in the sidewalk pavement area is desirable.

BEST USED IF

- There are long corridors where concrete sidewalks cannot be constructed.

DON'T USE IF

- Only short segments of repairs are needed.
- Site soils will not allow for infiltration of stormwater.
- Adjacent properties are below surface grade of sidewalk.

PROACTIVE/RESPONSIVE

- Proactive - May be used for new sidewalks in areas where infiltration is desirable (adjacent to bioretention).
- Responsive - May be used for replacement sidewalks in areas where infiltration is desirable (adjacent to bioretention).

EXPECTED USEFUL LIFE

M Y D C

DECADES

COST

$-$$$

Tool addressed in Seattle ROWIM

NOTE

- Due to manufacturing constraints (can't be produced in very small quantities), porous asphalt should only be used for longer sidewalk segments such as multiple blocks.

ESTIMATED COST

- $30 / linear foot

REFERENCES

- Seattle Right-of-Way Improvements Manual

MATERIAL

R

SHIMS

Shims, also called wedges, are temporary or interim measures to treat cracked or lifted sidewalks to reduce tripping hazards and improve accessibility. Asphalt is typically used to construct a shim.

BEST USED IF

- Immediate solution to problem is needed.
- Problem is minor enough to address with shim (generally 1" or less lift) and space is available to install shim at 4H:1V max slope.

DON'T USE IF

- Uplift is too significant to address with shim.

PROACTIVE / RESPONSIVE

- Responsive - Shims are used in response to an issue that must be immediately addressed.

NOTE

- In general, shims are considered a temporary measure and will require more frequent repair or replacement than a fully-repaired sidewalk.

ESTIMATED COST

- $200 / location

REFERENCES

- Seattle Right-of-Way Improvements Manual
- Seattle Client Assistance Memo (CAM) 2208 - Sidewalk Maintenance and Repair

EXPECTED USEFUL LIFE

M | Y | D | C

YEARS

COST

$

Tool addressed in Seattle ROWIM

MATERIAL

P
R

TREE GUARDS AND TREE RAILS

A tree guard around a tree's trunk can help protect the trunk from damage. A tree rail around an entire tree pit/ planting area can help protect the tree as well as prevent soil compaction around it.

BEST USED IF

- Tree planting is in area of high pedestrian traffic.

DON'T USE IF

- Tree planting is in low-traffic area.
- Periodic maintenance of tree guard or railing is unlikely (tree guards near trunk can damage the tree if left in place too long as the tree grows).

PROACTIVE/RESPONSIVE

- Proactive - Best put in place with new plantings in areas where high foot traffic in the tree planting area is anticipated.
- Responsive - May be installed in areas where damage to trees and compaction of planting area is a problem, if reasonable alternative travel areas exist.

EXPECTED USEFUL LIFE

M Y D C

DECADES

COST

$$ - $$$

Tool addressed in Seattle ROWIM

NOTE

- Consider whether there is enough space outside of the planting area to accommodate pedestrian volumes; if not, then consider other solutions, such as relocation of trees, replacing tree pit surface with walkable surface (such as fine crushed gravel), or a tree grate.
- Could be used to help accommodate grade changes between tree planting area and adjacent sidewalk.

ESTIMATED COST

- $50 - $100 / linear foot (rails)
- $250 - $500 / tree (guards)

REFERENCES

- Seattle Right-of-Way Improvements Manual
- City of New York Parks & Recreation. February 2014. Tree Planting Standards. http://www.nycgovparks.org/pagefiles/53/Tree-Planting-Standards.pdf

MATERIAL

P
R

DECOMPOSED GRANITE

Decomposed granite, or small crushed gravel, may be used as a path / walkway surface in residential areas. It may also be used as a finished surface on top of planting soil in tree pits in areas of high pedestrian traffic (see 'Mulch').

BEST USED IF

- Pedestrian volume is relatively low.
- Pathway creates a new pedestrian route (e.g., no sidewalk previously existed on route to be paved with gravel).

DON'T USE IF

- No other ADA-compliant route is available.
- Location is an arterial, business district street, or otherwise busy pedestrian corridor.

PROACTIVE/RESPONSIVE

- Proactive - May be used for a new pathway or section to provide a flexible but walkable surface adjacent to trees and other plantings.
- Responsive - May be used as a temporary surface in root zones where damaged pavement has been removed.

NOTE

- Binders and regular maintenance may be required to meet ADA.
- Consider who will provide maintenance once material is installed. It will require more regular maintenance than asphalt or concrete pavement materials.

ESTIMATED COST

- $12 / linear foot

REFERENCES

- Seattle Department of Parks and Recreation
- Mann, Gordon, RCA. Sidewalk and Root Conflicts: Mitigating the Conflict - An Overview

EXPECTED USEFUL LIFE

M	Y	D	C

YEARS

COST

$ - $$

Tool NOT addressed in Seattle standards

MATERIAL

R

MUDJACKING (CONCRETE LEVELING)

Mudjacking, or concrete leveling, is used to lift concrete panels when they have sunk or collapsed. Usually a cement and soil mixture is pumped under pressure below the existing concrete panel; the practice may also be performed using a foam fill material. The mixture fills the void beneath the surface and adds additional support under the concrete panel.

BEST USED IF

- There is no tree or if the existing tree is being removed.
- A small section of sidewalk needs to be replaced.
- The concrete panel(s) remain in good condition.

DON'T USE IF

- The concrete panel is not in good condition.
- If there is an existing tree (casing the roots in the mixture could cause damage to the tree).

PROACTIVE/RESPONSIVE

- Responsive – This application is typically applied to an existing sidewalk panel section that has settled.

NOTE

- Mudjacking is not a typical maintenance activity in the City of Seattle. This activity would not be performed within the dripline of an existing tree.

ESTIMATED COST

- $10 / linear foot

REFERENCES

- Costello, L. R. and K. S. Jones. 2003. Reducing Infrastructure Damage By Tree Roots: A Compendium of Strategies. Western Chapter of the International Society of Arboriculture.

EXPECTED USEFUL LIFE

M | Y | D | C

DECADES

COST

$$-$$$$

Tool NOT addressed in Seattle standards

DESIGN

P
R

MONOLITHIC SIDEWALK

A monolithic sidewalk is where the roadway curb and sidewalk are constructed as one continuous concrete installation as opposed to two separate installations with an expansion joint separating curb and sidewalk. As one continuous installation there is more concrete weight (mass) to resist the uplift of tree roots. The elimination of the expansion joint at the back of curb also eliminates a potential future weakness in the paving infrastructure.

BEST USED IF

- Future root growth is not anticipated and existing roots can be pruned to accommodate the installation.
- There is adequate soil volume in areas the roots are intended to grow.

EXPECTED USEFUL LIFE

M | Y | D | C

CENTURY

DON'T USE IF

- Tree root growth is vigorous and the monolithic construction is unlikely to provide more than a short-term solution.

COST

$$$

PROACTIVE/RESPONSIVE

- Proactive – Monolithic sidewalks can be used along new installations where the sidewalk is located adjacent to the street to prevent future root uplift.
- Responsive – To correct uplift of the sidewalk and provide resistance from future uplift after corrective actions have been taken and root integrity can be maintained.

Tool addressed in COS Standard Plans

NOTE

- Consider impacts from drainage flow paths for monolithic sidewalks as it is not desirable to convey surface runoff along the face of curb if there is a joint present.

ESTIMATED COST

- $60 / linear foot

REFERENCES

- City of Seattle Standard Plan 421

DESIGN

R

PAVEMENT THICKNESS

EXPECTED USEFUL LIFE

M | Y | D | C

DECADES

COST

$$$

Tool addressed in COS Standard Plans

In some cases, thicker pavement may minimize future root damage by providing greater strength and resistance against root pressure. In other cases, thinner (reinforced) pavement can provide more space for existing tree roots.

BEST USED IF

- Additional excavation to accommodate thicker pavement section will not cause unacceptable damage to existing tree roots or infrastructure.
- Thinner pavement will better accommodate existing tree roots.

DON'T USE IF

- Root structure does not allow for desired pavement thickness.
- Vehicular or other anticipated loads will damage thinner pavement.

PROACTIVE / RESPONSIVE

- Responsive - A thicker pavement section would be used in response to an existing issue; new trees should be planted with adequate space and root barrier (per City of Seattle Standard Plans) so as to not require a thicker pavement section.

NOTE

- This applies to concrete sidewalks only.

ESTIMATED COST

- $40 / linear foot for 4" thickness

REFERENCES

- City of Seattle Standard Plans 420-425

DESIGN

P
R

TREE PIT SIZING

Tree pits are typically used as an alternative to planting strips in business districts where additional sidewalk width is important to accommodate pedestrian volumes.
In Seattle, when permitted as an alternative to planting strips, tree pits shall be constructed per Standard Plan 424, dimensioned to meet or exceed the minimum size required. The minimum square footage for a tree pit is 24 square feet of open area (typically 4' x 6' or 5' x 5'). Any proposed variations shall be subject to site-specific review to ensure that (1) conditions justify the variation; (2) the design meets public safety standards; and (3) the design provides adequate conditions, including soil volume, to support trees.

BEST USED IF

- A continuous planting strip is not a good option for the site (e.g., in a busy/pedestrian setting, or adjacent to curbside parking with frequent turnover).

DON'T USE IF

- Continuous planter strips are more appropriate for the site.

PROACTIVE / RESPONSIVE

- Proactive - Tree pits for new plantings should allow adequate room for trunk and root growth for the species of tree being planted.
- Responsive - In some cases tree pits may be enlarged to alleviate constrained root or trunk space and provide better growing conditions for an existing tree.

EXPECTED USEFUL LIFE

M | Y | D | C

DECADES

ESTIMATED COST

- Proactive - No added cost if included in design
- Responsive - $15 / square yard

COST

$

Tool addressed in COS Standard Plans

REFERENCES

- City of Seattle Standard Plan 424
- City of New York Parks & Recreation. February 2014. Tree Planting Standards. http://www.nycgovparks.org/pagefiles/53/Tree-Planting-Standards.pdf

DESIGN

R

BRIDGING

Bridging can provide grade separation between a sidewalk and the root zone of a tree. Various bridging techniques exist, including pier and beam bridges, cantilevered sections, and boardwalks. Bridging techniques are used to provide space for tree roots to grow in soil without lifting or otherwise damaging the adjacent sidewalk. The "bridge" section of the sidewalk supports itself, from the ends, on piers, without the need for compacted subgrade below it. Various deck materials may be used, including concrete, or steel panels (such as in photo to left) with appropriate non-slip finish.

EXPECTED USEFUL LIFE

M | Y | D | C

DECADES

COST

$$$$

Tool addressed in Seattle ROWIM

BEST USED IF

- To preserve a high-value tree and also meet sidewalk accessibility requirements.

DON'T USE IF

- Cannot work within grading requirements for site-specific conditions.

PROACTIVE / RESPONSIVE

- Responsive - May be used to replace a damaged sidewalk if other measures (such as root pruning) would not allow for a more basic sidewalk repair and continued root damage would be likely.

NOTE

- If drop to adjacent grade is greater than 18", then bridge would require handrail.
- If bridge deck is metal, a non-slip texture or surface treatment must be provided.

ESTIMATED COST

- $225 / linear foot

REFERENCES

- Seattle Right-of-Way Improvements Manual

DESIGN

P

R

CURB BULBS

A curb bulb is a radial extension of a sidewalk at an intersection used to shorten the crossing distance for pedestrians. Curb bulbs may be landscaped and provide additional root growth area for trees, and can improve pedestrian crossings. Designs that include trees and landscaping must ensure proper sight lines are maintained.

EXPECTED USEFUL LIFE

M | Y | D | C

CENTURY

COST

$$$ - $$$$

Tool addressed in Seattle ROWIM

BEST USED IF

- Additional planting space would likely reduce further sidewalk damage by tree roots.
- Existing planting strip does not have enough space for desired tree species.
- Parking restrictions already exist at location (e.g., within 30' of a crosswalk).

DON'T USE IF

- Relocating the curb will not work due to drainage or other infrastructure conditions.
- Curb bulb will not work due to traffic conditions.
- Other street uses may be planned for the existing roadway width (such as bicycle facilities, etc).

PROACTIVE / RESPONSIVE

- Proactive - Curb bulbs may be used to create a larger planting area for a new tree.
- Responsive - Curb bulbs may be used to give an existing tree more space to grow.

NOTE

- Certain conditions must be in place, including curbs, drainage, and proper location of utilities.
- Curb bulbs are generally a costly solution, but may be particularly appropriate where they serve other purposes (such as traffic calming/pedestrian improvements).

ESTIMATED COST

- $50 / linear foot (excludes drainage and ramps)

REFERENCES

- Seattle Right-of-Way Improvements Manual

DESIGN

P
R

CURB REALIGNMENT

Curb realignment involves shifting the curb location for a significant distance (e.g., along an entire block) in order to widen the planting strip and provide more space for trees.

BEST USED IF

- There is space in the right-of-way to create additional width in the planting strip (generally taking space from the street).

DON'T USE IF

- There is not street width that could be used for planting.
- Shifting the curb would cause conflicts with other existing infrastructure.

PROACTIVE / RESPONSIVE

- Proactive - May be done as part of a large-scale street repair/reconstruction (e.g., capital improvement project) to provide additional space for new trees.
- Responsive - May be done as part of a large-scale street repair/reconstruction (e.g., capital improvement project) to provide additional space for existing trees.

NOTE

- Curb realignment will require traffic studies and engineering.
- Must consider impacts to parking, transit, and other transportation facilities.

ESTIMATED COST

- Proactive - Minimal cost change if part of design
- Responsive - $50 / linear foot (excludes drainage modifications and ramps)

REFERENCES

- Seattle Right-of-Way Improvements Manual

EXPECTED USEFUL LIFE

M | Y | D | C

CENTURY

COST

$$$-$$$$

Tool addressed in Seattle ROWIM

DESIGN

P
R

CURVING OR OFFSET SIDEWALK

EXPECTED USEFUL LIFE

M | Y | D | C

CENTURY

COST

$$-$$$

Tool addressed in Seattle ROWIM

Curving (or offset) sidewalks may be used to meander around planting areas to give trees more space to grow.

BEST USED IF

- An existing tree is of high value.
- Curving the sidewalk around one or multiple planting areas can provide a significantly better area for new tree planting.

DON'T USE IF

- Space is limited in the right-of-way.

PROACTIVE / RESPONSIVE

- Proactive - May be used to provide increased planting space where larger species of trees will be used.
- Responsive - May be installed in conjunction with sidewalk repair or larger-scale development in order to help preserve mature trees and protect new infrastructure from root damage.

NOTE

- Can potentially be combined with an easement to locate the sidewalk on private property adjacent to the right-of-way.

ESTIMATED COST

- $38 / linear foot

REFERENCES

- Seattle Right-of-Way Improvements Manual

DESIGN

P
R

EASEMENT

An easement may allow construction of a sidewalk on private property in order to provide more space for existing or new trees. The width of easements is site specific.

BEST USED IF

- Adequate planting space is not available in the right-of-way.

DON'T USE IF

- Topography requires new structures, such as walls, in the right-of-way.

PROACTIVE / RESPONSIVE

- Proactive - Can provide a larger planting area for new trees, particularly if larger species are desired.
- Responsive - May provide larger root zone for existing trees, to prevent future damage after any repairs and potentially prolong life of the tree.

NOTE

- This requires coordination between the property owner and SDOT.

ESTIMATED COST

- Market value or dedication from property owner

REFERENCES

- Seattle Right-of-Way Improvements Manual

EXPECTED USEFUL LIFE

M | Y | D | C

CENTURY

COST

$-$$$

Tool addressed in Seattle ROWIM

DESIGN

P

SUSPENDED PAVEMENT SYSTEMS

Suspended pavement systems may be used in new tree plantings where there is not an adequate volume of soil available for tree root growth. These systems provide structural support for pavement while allowing the use of planting soil as fill, which provides space for roots to grow, promoting healthy trees and preventing pavement damage by roots near the surface.

BEST USED IF

- Adequate soil volume for the size of intended tree species is not available within the tree pit and adjacent planting strip.
- An area below pavement between the planting strip and back of sidewalk is desired for root growth while avoiding pavement damage.

DON'T USE IF

- Cannot work within grading requirements for site-specific conditions.

PROACTIVE / RESPONSIVE

- Proactive - Should be used for new tree plantings, particularly in urban conditions with limited planting area within the streetscape.

ESTIMATED COST

- $15 - $25 / cubic foot (depending on depth)

REFERENCES

- Seattle Right-of-Way Improvements Manual

EXPECTED USEFUL LIFE

M | Y | D | C

DECADES

COST

$$$-$$$$

Tool addressed in Seattle ROWIM

DESIGN

P

LOWERED SITES

Photo Credit: IRONSMITH

EXPECTED USEFUL LIFE

M Y D C

DECADES

COST

$$$-$$$$

Tool NOT addressed in Seattle standards

Lowered sites may be used to provide spatial separation between the finished grade of the tree planting pit and the surrounding sidewalk or other pavement. Pavement over lowered sites requires reinforcement for support. Tree grates or other materials may provide a walkable surface level with adjacent grades over the lowered tree pit area. Trees should be provided with adequate soil volume per the species selected, either within the lowered tree pit or by using other solutions under adjacent pavement such as structural soil and subsurface aeration/irrigation.

BEST USED IF

- Trees are desired in an area with high pedestrian volumes and little available planting space but few underground infrastructure conflicts.

DON'T USE IF

- Space is available for planting trees at grade.
- Underground infrastructure in nearby areas is extensive and would limit available soil volume or present likely conflicts with tree roots.

PROACTIVE/RESPONSIVE

- Proactive - This approach will prevent compaction of soil around the tree pit.

NOTE

- Maintenance can be an issue with lowered tree planting sites, as the lowered sites tend to accumulate trash and debris and may be more difficult to access.
- Planting techniques and details may be similar to tree planting in bioretention planters (planting areas set below adjacent street grade so that stormwater may flow into them) or using bridging.
- Design must provide drainage in lowered planting area to avoid prolonged soil saturation.

ESTIMATED COST

- $50 -$100 / square foot

REFERENCES

- Costello, L. R. and K. S. Jones. 2003. Reducing Infrastructure Damage By Tree Roots: A Compendium of Strategies. Western Chapter of the International Society of Arboriculture.

DESIGN

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SOIL VOLUME

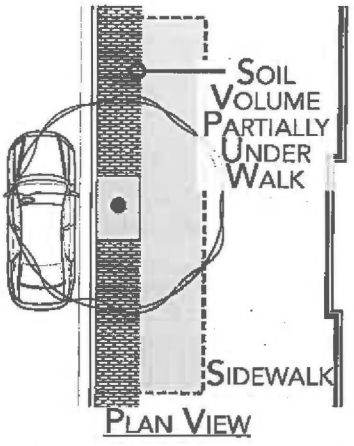

Photo Credit: District of Columbia Dept. of Transportation

EXPECTED USEFUL LIFE

M | Y | D | C

CENTURY

COST

$-$$$

Tool NOT addressed in Seattle standards

All street trees should have an adequate volume of soil of a type and depth that promotes healthy tree and root growth. Many tree and sidewalk conflicts arise due to tree roots growing directly under sidewalks, with compacted fill and other poor soils below. Providing adequate volume and depth of appropriate soils will help grow healthier trees and reduce tree and sidewalk conflicts. Soil volume requirements vary by tree species and location, but a general guideline is two cubic feet of soil per one square foot of area within the tree's mature drip line. Generally the following volumes should be provided:

- small tree = 600 cubic feet of soil
- medium tree = 1,000 cubic feet of soil
- large tree = 1,500 cubic feet of soil

BEST USED IF

- New tree plantings are being planned and installed.
- Opportunity exists to augment the planting soil available to existing trees without adversely impacting the roots.

DON'T USE IF

- Adding soil volume would require cutting or damaging critical roots on an existing tree.

PROACTIVE/RESPONSIVE

- Proactive - Require adequate tree pit size and/or provide soil under adjacent pavement for new tree plantings.
- Responsive - Increase tree pit size and provide soils that promote healthy root growth to extent possible when repairing sidewalks around existing trees.

NOTE

- Planting soils under or at back of sidewalk may count towards soil volume if appropriate soils are provided for tree root growth.
- Actual soil volumes needed for optimum tree health will vary with location, tree species, and other conditions.

ESTIMATED COST

- Varies based on required soil volume

REFERENCES

- District of Columbia Department of Transportation. 2014. Green Infrastructure Standards.
- Casey Trees. 2008. Tree Space Design: Growing the Tree Out of The Box. http://caseytrees.org/resources/publications/treespacedesign/

MULCH

Mulch may be used at the surface to promote tree health, suppress growth of weeds and grasses that compete with a tree for moisture, and encourage root growth in appropriate areas. Arborist wood chip mulch helps prevent soil compaction and allows water to infiltrate into soils in planting areas. Arborist wood chip or other mulch containing compost can contribute beneficial humic acid to the tree's root zone. Crushed gravel may be used as mulch in higher-traffic areas as a means of providing a walkable but flexible surface in the tree pit.

BEST USED IF

- Any soil would be left exposed in the planting area; areas that would otherwise not be planted should be mulched.
- Top of soil in the tree pit is lower than adjacent sidewalk.
- Gravel mulch is typically used in tree pits only in neighborhood commercial areas and downtown Seattle.

DON'T USE IF

- Gravel mulch should not be used if the intention is to deter people from walking in the tree pit.

PROACTIVE/RESPONSIVE

- Proactive – New tree plantings should be mulched with a mulch type appropriate to the location.
- Responsive – Mulch should be applied to an existing tree zone where the soil has settled or the mulch layer has become depleted and there is exposed bare soil.

NOTE

- Existing soil should be loosened/aerated if it is extremely compacted (as possible without root damage) prior to mulch application (see also Soil Modification tool).
- Keep mulch away from trunks; mulch should be avoided in the root crown area for some tree species.

EXPECTED USEFUL LIFE

YEARS

COST

$

Tool addressed in COS Standard Plans

ESTIMATED COST

- $5 - $10 / square yard at 3" depth

REFERENCES

- City of Seattle Standard Plan 100a
- City of Seattle Standard Specifications

ROOT

P
R

ROOT BARRIERS

Root barriers are physical barriers (commonly plastic sheeting or interlocking panels) installed from surface level to a depth of 12"-24" or more at the interface between a tree zone and adjacent paving or other infrastructure. They are intended to deter root growth near the surface that may damage pavement. Typical placement is vertical, although horizontal root barriers also exist.

EXPECTED USEFUL LIFE

M | Y | D | C

DECADES

COST

$

Tool addressed in COS Standard Plans

BEST USED IF

- A new tree is being installed and there is pavement nearby that may be damaged by future root growth.
- There is adequate soil volume in areas the roots are intended to grow.

PROACTIVE/RESPONSIVE

- Proactive - Root barriers are best used for new tree plantings to prevent future damage to adjacent sidewalks and other infrastructure.
- Responsive - Root barriers may be added in specialized retrofit conditions.

NOTE

- Note that root barriers are required adjacent to sidewalks (18" depth) and curbs (24" depth) for new tree plantings per detail in City of Seattle Standard Plan 100a.

ESTIMATED COST

- $8 / linear foot

REFERENCES

- City of Seattle Standard Plan 100a
- Smiley, E. Thomas. 2008. "Comparison of Methods to Reduce Sidewalk Damage from Tree Roots," in Arboriculture & Urban Forestry 34(3):179-183

ROOT

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CONTINUOUS TRENCHES

Photo Credit: Casey Trees, Tree Space Design Report

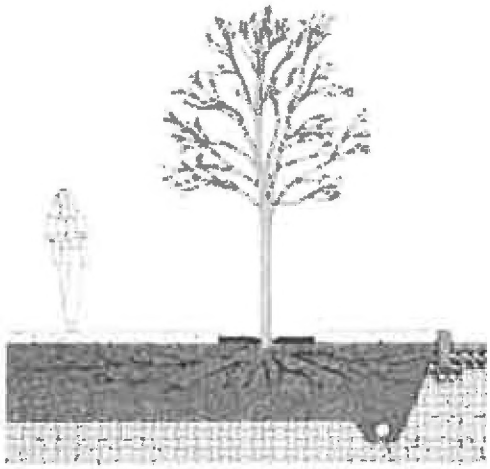

Photo Credit: Casey Trees, Tree Space Design Report

EXPECTED USEFUL LIFE

M Y D C

DECADES

COST

$$ - $$$$

Tool **NOT** addressed in Seattle standards

Continuous trenches may be used to provide extra soil volume for root growth underneath pavement. The trench area (typically 6' wide by 3' deep) is excavated and filled with loosely compacted planting soil. Pavement above the trench area must be engineered and self-supporting, spanning the trench area with adequate support on both sides. The trench may connect several tree pits.

BEST USED IF

- Poor native soil conditions and lack of space for tree pits limit soil volume available for healthy tree roots.

DON'T USE IF

- Adequate structural support for pavement above trench cannot be achieved.

PROACTIVE/RESPONSIVE

- Proactive - May be used to provide adequate soil volume for new tree plantings.
- Responsive - May be added in extensive retrofit or repair work if possible without extensive damage to existing root systems.

NOTE

- Pavement (sidewalks, step-out zones, etc) above the trench must be supported structurally, either by bridging to appropriate supports on either side of the trench or by the inclusion of structural support elements (such as DeepRoot SilvaCells or Citygreen Strata Cells) that can accommodate planting soil and root growth within the trench.

ESTIMATED COST

- Varies - if pavement necessary see Structural Soils and Suspended Pavement Systems

REFERENCES

- City of New York Parks & Recreation. February 2014. Tree Planting Standards. http://www.nycgovparks.org/pagefiles/53/Tree-Planting-Standards.pdf

ROOT

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FOAM UNDERLAY

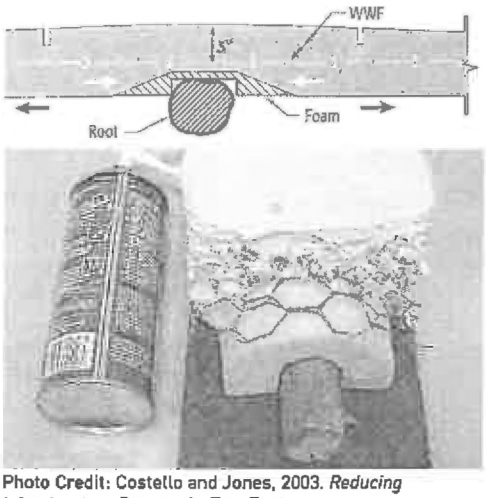


Photo Credit: Costello and Jones, 2003. *Reducing Infrastructure Damage by Tree Roots*

EXPECTED USEFUL LIFE

M | Y | D | C

YEARS

COST

$-$$

Tool NOT addressed in Seattle standards

A foam layer is added between existing roots and new concrete pavement to support the pavement and help prevent movement or damage. Radial root growth (growth in diameter of the root) compresses the foam to some degree before affecting the pavement slab.

BEST USED IF

- Site is a repair at a mature tree (slower root growth).
- Installation is combined with concrete sidewalk replacement.
- Existing roots that cannot be pruned are left near bottom surface of replacement sidewalk pavement.

DON'T USE IF

- Tree (root) growth is expected to be rapid.

PROACTIVE/RESPONSIVE

- Proactive - Rigid foam may be used below the sidewalk pavement to prevent future root damage; may be more effective combined with other tools, such as root barriers.
- Responsive - May prevent or slow further damage to pavement by existing roots when replacing the pavement.

NOTE

- Use of foam underlay under sidewalks is non-standard in the City of Seattle and installation must be reviewed and approved by SDOT.
- Further research or testing of this tool may be necessary. Compare to use of modified gravel layer. May be used where depth available for modified base course is limited (e.g., under 4").

ESTIMATED COST

- $150-$250 / location

REFERENCES

- Smiley, E. Thomas. 2008. "Comparison of Methods to Reduce Sidewalk Damage from Tree Roots," in Arboriculture & Urban Forestry 34(3):179-183
- Costello, L. R. and K. S. Jones. 2003. Reducing Infrastructure Damage By Tree Roots: A Compendium of Strategies. Western Chapter of the International Society of Arboriculture.

ROOT

P
R

MODIFIED GRAVEL LAYER

EXPECTED USEFUL LIFE

M | Y | D | C

DECADES

COST

$

Tool NOT addressed in Seattle standards

An open-graded gravel base course may be applied under the sidewalk pavement to discourage root growth directly under the pavement and reduce likelihood of sidewalk damage.

BEST USED IF

- Depth is available in the pavement profile to include at least 4" of modified gravel layer.

DON'T USE IF

- Extra depth of excavation to install modified gravel layer would damage critical existing roots.

PROACTIVE/RESPONSIVE

- Proactive - Use as a compacted base course below new sidewalk pavement.
- Responsive - Use as a compacted base course below new pavement for sidewalk repairs, as grades allow.

NOTE

- Thickness of gravel layer can be adjusted around existing tree roots.

ESTIMATED COST

- $0.70 / square foot (at 4" depth of gravel)

REFERENCES

- Smiley, E. Thomas. 2008. "Comparison of Methods to Reduce Sidewalk Damage from Tree Roots," in Arboriculture & Urban Forestry 34(3):179-183

ROOT

P

ROOT PATHS

Photo Credit: Arlington, VA, Department of Community Planning, Housing and Development

Photo Credit: Casey Trees, Tree Space Design Report

EXPECTED USEFUL LIFE

M | Y | D | C

DECADES

COST

$-$$

Tool NOT addressed in Seattle standards

Root paths are narrow trenches, roughly 4" wide by 1' deep, installed in compacted subgrade before the gravel base for pavement is added. A commercially available strip drain material could be added to the trench to support drainage, and the remaining space backfilled with planting soil. Root paths extend radially from tree pit locations, and may connect to adjacent tree pits, and/or other nearby planting areas (lawns, etc.).

BEST USED IF

- Underlying (native) soil supports some rooting even when it is somewhat compacted.

DON'T USE IF

- Positive drainage out of / away from root path cannot be achieved.

PROACTIVE/RESPONSIVE

- Proactive - Root paths should be installed for new plantings during construction, at the time of subgrade preparation (before paving).

NOTE

- Root paths may be most applicable in urban areas where tree roots need to be directed around utilities and planting space is limited.

ESTIMATED COST

- $600-$800 per tree [Costello & Jones 2003]

REFERENCES

- Casey Trees. 2008. Tree Space Design: Growing the Tree Out of The Box. http://caseytrees.org/resources/publications/treespacedesign/
- Costello, L. R. and K. S. Jones. 2003. Reducing Infrastructure Damage By Tree Roots: A Compendium of Strategies. Western Chapter of the International Society of Arboriculture.

ROOT

P

R

SOIL MODIFICATION

Photo Credit: Organic Soil Solutions

EXPECTED USEFUL LIFE

M Y D C

DECADES

COST

$-$$

Tool NOT addressed in Seattle standards

Soil modification includes improvements and amendments to site soils, or the use of specific beneficial soils to replace existing soils, to improve conditions for root growth in desirable locations. One recommended amendment is humic acid, an organic soil treatment that can loosen tightly packed soils to improve water infiltration and help foster root growth deeper in the soil horizon. The addition of a high-quality, biologically-active and pathogen-free compost in soil areas where root growth is desirable is also recommended.

BEST USED IF

- Tree roots are staying largely near the soil surface and soils are hard and difficult to penetrate.

DON'T USE IF

- Proposed soil modification would cause excessive root damage.

PROACTIVE/RESPONSIVE

- Proactive - Humic acid may be used with new plantings at the surface of any prepared subgrade where roots may develop.
- Proactive - Soils should be improved in any planting bed areas adjacent to tree plantings to encourage root growth in planted areas rather than under pavement.
- Responsive - Humic acid should be used around any exposed roots and at the base of any excavation to encourage deeper root development and discourage pavement damage.

NOTE

- Also ensure adequate soil volume is available (see Soil Volume tool).

ESTIMATED COST

- $100 / tree minimum for biological treatments

REFERENCES

- Penn State College of Agricultural Sciences. 2008. Planting and After Care of Community Trees. http://www.dec.ny.gov/docs/lands_forests_pdf/planttree.pdf

ROOT R

STEEL PLATES

Photo Credit: Gordon Mann

EXPECTED USEFUL LIFE

M Y D C

DECADES

COST

$$-$$$

Tool NOT addressed in Seattle standards

Steel plates are placed above existing roots and anchored into place to prevent upward root expansion. Pavement is placed over the steel plates.

BEST USED IF

- An existing root should not be pruned but needs to be constrained to prevent or slow further sidewalk damage.

DON'T USE IF

- Steel plate would be placed above an underground utility.

PROACTIVE/RESPONSIVE

- Responsive - Steel plates should be used in response to an issue that has developed. Proactive measures should be used to prevent pavement damage for new plantings.

NOTE

- Use of steel plates under sidewalks is non-standard in the City of Seattle and their installation must be reviewed and approved by SDOT.
- The City should develop and implement a method to track locations where steel plates are installed and alert individuals who may be doing construction work near them to their presence.

ESTIMATED COST

- $500-$1000 / site

REFERENCES

- Mann, Gordon, RCA. Sidewalk and Root Conflicts: Mitigating the Conflict - An Overview. Accessed on Municipal Research and Services Center (MRSC) website at: http://mrsc.org/getmedia/4DD1A628-BD5A-49E3-B1EE-3D09525F63BE/m58mannmade.aspx

ROOT

P

STRUCTURAL SOILS

Structural soils are soils that are specially designed to provide nutrients, space, and porosity to accommodate root growth while also allowing for compaction to support pavement without settling. There are proprietary structural soil mixes available as well as various non-proprietary mixes that have been used in many municipalities.

EXPECTED USEFUL LIFE

M Y D C

DECADES

COST

$$-$$$

Tool NOT addressed in Seattle standards

BEST USED IF

- Structural soil can be placed in adequate depths to allow for root growth away from the bottom of the pavement.

DON'T USE IF

- Depth of at least 12" of structural soil cannot be achieved for a new tree planting (shallow depths will encourage root growth near the bottom of the pavement).

PROACTIVE/RESPONSIVE

- Proactive - May be placed under new pavement areas or under planting soil in planting beds to provide soil volume for root growth.
- Responsive - May be used as fill material around existing roots in areas where sidewalk will be replaced above, if adequate structural soil depth can be placed.

ESTIMATED COST

- $60 - $80 / cubic yard (or $1.85 - $3 / cubic foot)

REFERENCES

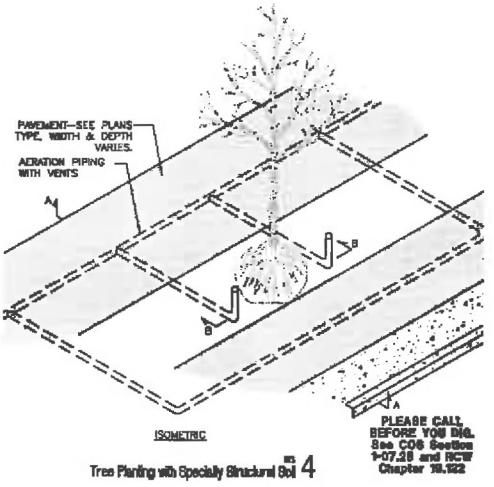
- Urban Horticulture Institute, Cornell University. "Using CU-Structural Soil in the Urban Environment" and related documents. See http://www.hort.cornell.edu/uhi/outreach/index.htm
- Casey Trees. 2008. Tree Space Design: Growing the Tree Out of The Box. http://caseytrees.org/resources/publications/treespacedesign/
- Penn State College of Agricultural Sciences. 2008. Planting and After Care of Community Trees. http://www.dec.ny.gov/docs/lands_forests_pdf/planttree.pdf

ROOT

P

R

SUBSURFACE AERATION & IRRIGATION



Tree Planting with Specialty Structural Soil 4

EXPECTED USEFUL LIFE

M | Y | D | C

YEARS

COST

$$

Tool NOT addressed in Seattle standards

Aeration piping may be installed to help encourage deeper root growth by providing some air to deeper layers of soil, particularly where covered by pavement. In some cases the addition of an irrigation system (typically drip tubing) within the perforated aeration piping can further aid in desirable root growth.

BEST USED IF

- Placement of structural soil or other fill allows for installation of aeration piping at least 12" below finished grade.
- Aeration piping may be added under paved areas.

DON'T USE IF

- Installation of piping would require damage to critical existing roots.
- Piping cannot be installed at adequate depth or in areas where encouraging root growth would be beneficial.

PROACTIVE/RESPONSIVE

- Proactive - Aeration piping and subsurface irrigation may be installed during subgrade preparation under pavement adjacent to tree plantings.
- Responsive - If pavement is to be replaced or added adjacent to existing trees the addition of subsurface aeration piping may help maintain adequate growing conditions for existing roots.

NOTE

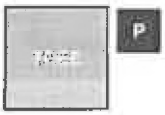
- Aeration piping may become defunct (due to root intrusion or other causes) within 5-10 years, which is acceptable if the tree(s) have become established in their growing conditions.

ESTIMATED COST

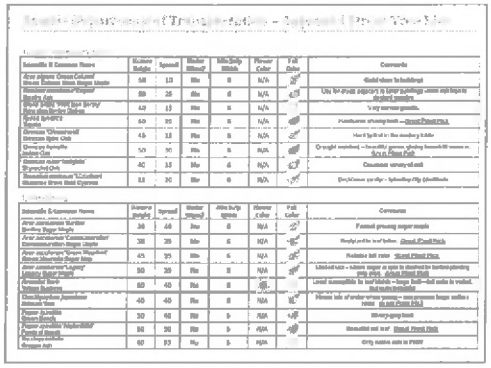
- $750 - $1,500 / tree for proactive installations
- Cost varies for responsive (retrofit) installations

REFERENCES

- Penn State College of Agricultural Sciences. 2008. Planting and After Care of Community Trees (see pg. 14). http://www.dec.ny.gov/docs/lands_forests_pdf/planttree.pdf



SDOT APPROVED STREET TREE LIST



The SDOT Approved Street Tree List provides guidance on selecting trees that are appropriate for the available planting space, considering constraints such as overhead wires, planter width (soil volume), underground utilities, clearances for vehicles, pedestrians and traffic control devices, and other required clearances.

The Approved Street Tree List is available at the SDOT Street Use counter and online.

EXPECTED USEFUL LIFE

M Y D C

DECADES

COST

n/a

Tool addressed in Seattle ROWIM

BEST USED IF

- A tree is being selected for planting in City of Seattle right-of-way.

DON'T USE IF

- The current list should always be consulted for plantings within Seattle's public right-of-way. Other species (not on the list) may be considered for use in particular circumstances (such as larger than typical planting space, or matching historic plantings). However, right-of-way planting of trees not on the list will require SDOT Urban Forestry review and approval.

PROACTIVE/RESPONSIVE

- Proactive - Used for new tree plantings (including replacement trees).

ESTIMATED COST

- Varies based on tree species.

REFERENCES

- Street Tree Ordinance (SMC 15.43)
- SDOT Approved Street Tree List (http://www.seattle.gov/transportation/docs/uf/2011-street_tree_list.pdf)
- Seattle Right-of-Way Improvements Manual

CORRECTIVE PRUNING

Corrective pruning involves above-ground pruning to establish good structural form (proactive), and to remove dead or diseased material and weakly attached parts, and provide clearance for surrounding conditions (such as street traffic, bicyclists, pedestrians, overhead utilities, or adjacent buildings). Trees will typically achieve best form if pruned three times in the first seven years.

All pruning maintenance performed on street trees shall be in accordance with current tree industry standards and supervised by an ISA-certified arborist or an ISA-certified tree worker.

Note standard clearances that apply to tree limbs, per Chapter 4.21.2 of City of Seattle's ROWIM: 14 feet clear above roadways, 10 feet clear above bicycle paths, and 8 feet clear above sidewalks.

EXPECTED USEFUL LIFE

M | Y | D | C

YEARS

COST

$-$$

Tool addressed in SDOT Street Tree Manual

BEST USED IF

- Tree is in good health and vigor and is worthy of preservation.

DON'T USE IF

- Tree is not worthy of preservation or is in poor health to the degree that corrective pruning would not improve its condition.

PROACTIVE/RESPONSIVE

- Proactive - Used to establish good structural form and proactively address potential future clearance issues.
- Responsive - Used to remove dead, diseased, weakly attached parts and to provide clearance.

ESTIMATED COST

- $200-$500/tree depending on size of tree

REFERENCES

- SDOT Street Tree Manual

TREE R

ROOT PRUNING

Root pruning is a responsive treatment in which tree roots that are causing issues, such as sidewalk uplift, are removed, typically in conjunction with repair of damaged sidewalks or other infrastructure. The amount of root pruning that a tree can handle varies by tree size, species, condition, age, and root distribution, and must be supervised by a qualified arborist.

EXPECTED USEFUL LIFE

M Y | D | C

YEARS

COST

$-$$

Tool addressed in SDOT Street Tree Manual

BEST USED IF

- A minimal amount of root pruning can prevent or defer future damage caused by the tree's roots.
- Removal of specific roots makes space available for an appropriate repair (e.g., allows proper sidewalk width and/or grading).

DON'T USE IF

- Arborist determines that root pruning would significantly impact health or structural integrity of the tree.
- Qualified arborist has not been consulted.

PROACTIVE/RESPONSIVE

- Responsive - This practice is used to address tree roots that are directly contributing to an infrastructure issue.

NOTE

- SDOT Urban Forestry must approve removal/pruning of roots greater than 2" in diameter within the dripline of a street tree.
- All root pruning within the critical root zone of a street tree must be supervised or directed by a representative from SDOT Urban Forestry.

ESTIMATED COST

- $500 - $2,000 per tree

REFERENCES

- SDOT Street Tree Manual

CASE STUDIES

Three different case studies were performed to test the draft decision process. The case studies represent a diverse set of conditions throughout the city, with one low-density corridor, one medium-density corridor, and one high-density corridor. For the corridor locations, a conceptual plan was developed as a test case for resolving issues at this scale. The concept plans and results of the initial assessments for these corridors can be found in the appendix.

CASE STUDY #1:
LOW-DENSITY CORRIDOR
34th Avenue, Madrona (see Appendix D)

The Madrona case study limits include 34th Avenue from E Union Street to E Cherry Street. Most of the trees along the corridor are species of maples *(Acer)*. There are overhead wires on both sides of the street, but live electrical wires are on the east side of the street. This corridor is served by a bus line that requires trolley wires. Key destinations accessed from the corridor—including Madrona K-8, St. Therese School, Madrona Playground, Alvin Larkins Park and several neighborhood commercial businesses and other services— are located on 34th Avenue. Many members of the local community place high value on the existing tree canopy along this corridor. Concern has been expressed regarding recent tree removals, and the plan for canopy replacement and aesthetics along the corridor.

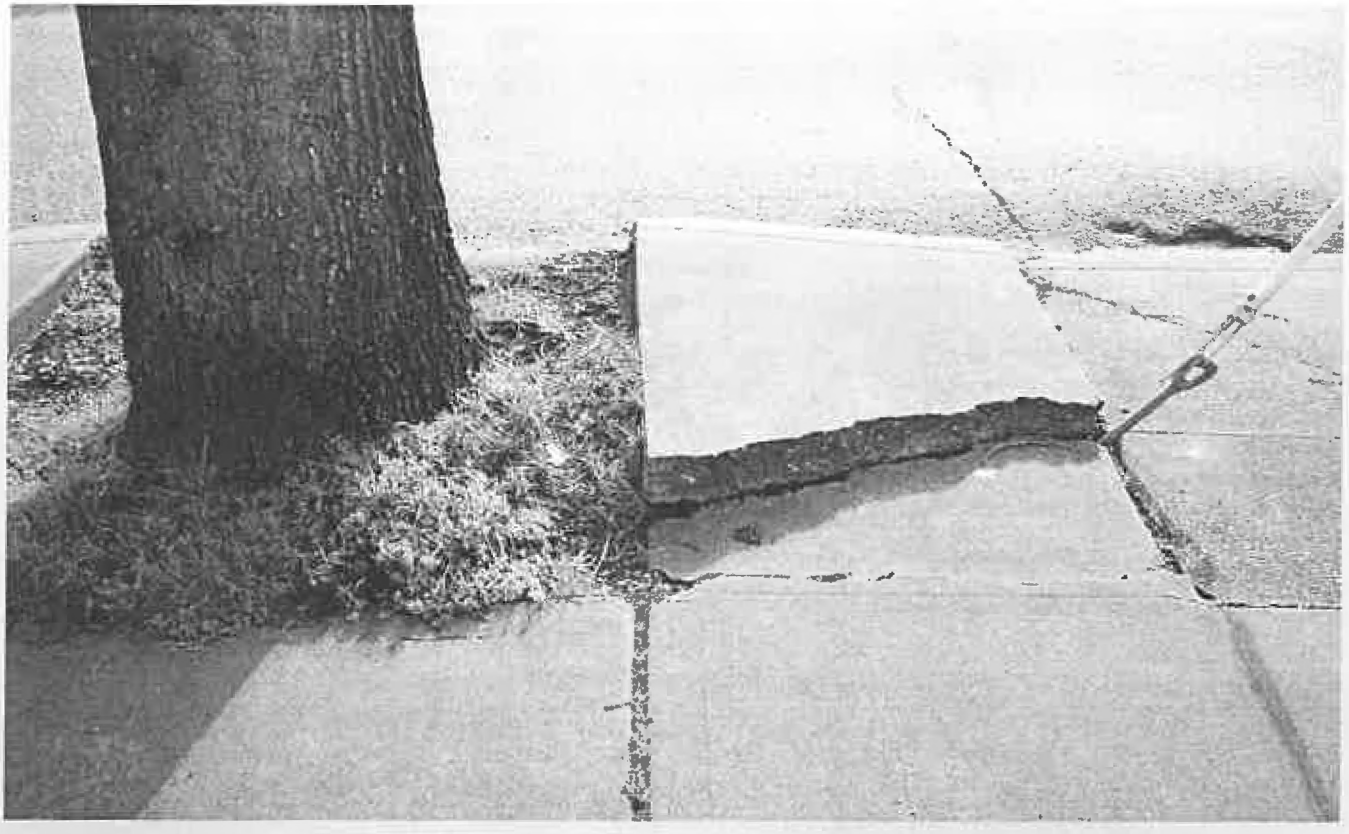
Most of the trees along the corridor are lifting the sidewalk with their roots. The sidewalks along this corridor have been beveled and shimmed in the past. Many of these trees will need to be evaluated further to identify if root pruning and grade adjustments are enough to make sidewalk replacement feasible. Since this corridor is an arterial with bus service and provides access to neighborhood services, it is recommended that concrete sidewalks be installed. If trees need to be removed after further evaluation, new tree pits must be larger.

CASE STUDY #2: MEDIUM-DENSITY CORRIDOR
Lake City (see Appendix E)

The Lake City case study limits include 35th Avenue NE from NE 125th Street to NE 130th Street and NE 130th Street from 35th Avenue NE to 32nd Avenue NE. This corridor contains a mature tree canopy that is predominantly ash *(Fraxinus)* trees. The sidewalk damage is minor but the width of the sidewalk is limited by the adjacent properties and the location of the trees. In some locations, the topography limits the ability to widen the sidewalk. At many locations, the current sidewalk is less than 4 feet wide.

This corridor is within the Lake City Hub Urban Village and is adjacent to Lowrise, Commercial and Single Family zoning. There are two private schools along the corridor, and it is identified as a school walking route for Cedar Park elementary. There is also a transit route which provides a key connection to downtown Seattle.

The concept plan recommends that the shims and bevels be used to improve the minor sidewalk damage along the corridor. Over time, the sidewalks may be improved and widened as properties redevelop along the corridor. In other locations, it may be necessary to obtain easements from adjacent properties to provide an accessible sidewalk and keep the large canopy trees.



CASE STUDY #3:
HIGH-DENSITY CORRIDOR
Rainier Beach (see Appendix F)

The Rainier Beach case study limits include Rainier Avenue S from S Henderson Street to Seward Park Avenue S. Almost all trees showed some signs of damage from vehicles, with several recently planted trees that were destroyed. Planting conditions along this corridor vary between tree wells and continuous planter strips. The sidewalk damage is minor in most areas along Rainier Avenue S with only a few locations that require more intensive repair. Several tree pits on the north end of Rainier Avenue S have recently been improved with larger tree wells and adjustments to the edge of the sidewalk to allow for a clear path of travel.

Rainier Beach is a Residential Urban Village. Rainier Avenue South is adjacent to Lowrise and Neighborhood Commercial zoned property. Key destinations are accessed from the corridor including Rainier Beach High School, South Shore K-8, Rainier Beach Public Library, Beer Sheva Park and Atlantic City Boat Ramp. Several transit stops line the corridor and provide connections for the neighborhood and larger community. The recently updated Neighborhood Plan and the Southeast Transportation Study both identify a community desire to increase tree canopy along this section of Rainier Avenue.

The concept plan identifies locations where trees should be retained and shows opportunities to increase the tree canopy along the corridor.

ACTION ITEMS & CONSIDERATIONS

Internal Action Items and Broad Considerations

The process of developing this Operations Plan led to the identification of a number of areas where additional efforts should be made to support SDOT tree and sidewalk management. The actions listed below are not detailed in this Operations Plan. These recommendations for further and ongoing work are for SDOT to improve upon its operations pertaining to trees and sidewalks.

Actions that may be addressed internally within SDOT's Urban Forestry and Sidewalk Repair divisions:

- Confirm evaluation criteria for trees and sidewalks
- Request budget for staff resources for tree and sidewalk management and operations
- Update street tree list
  - Soil volume
  - Rooting and trunk characteristics
  - Minimum allowable tree pit size
- Update tree inventory and other tree and sidewalk information accessed by public
- Discuss systematic approach to tree and sidewalk maintenance

Additional considerations that will require broader coordination within SDOT and other city departments:

- Integrate tree assessment with complete streets checklist
- Integrate tree assessment with asphalt paving program, Capital Improvement Program, Street Improvement Permits, and other right-of-way permits
- Update standard plans and specifications to align with current tree and sidewalk best practices
  - Tree pit size
  - Soil composition and amendments
  - Soil volume
  - Additional guidance on accessibility requirements for public places
- Coordinate with other departments that maintain trees, including Seattle City Light and Seattle Parks and Recreation
- Allocate additional funding for sidewalk repair and tree planting

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SDOT
Seattle Department of Transportation

February 2015

APPENDIX A

BEST PRACTICES COMPILATION - CITY RESEARCH

SDOT
Seattle Department of Transportation

Healthy Trees and Safe Sidewalks Management Plan
Best Practices Review

Summary of City Research – Sidewalk and Tree Management

January 2014
Prepared by: SvR Design Company

Sidewalk and Tree Management

The SvR Team performed research on a variety of cities throughout the country to identify best practices on how they address sidewalk and street tree management.

A complete list of the cities researched is attached to this document. The following list of actions that Seattle may want to complete to assist with the management of sidewalks and street trees:

- Clarify sidewalk maintenance (external and internal) program and policy based on Pedestrian Master Plan, Street Tree Ordinance, Climate Action Plan, Urban Forest Stewardship Plan and ADA Transition Plan.
- Identify the method for valuing street trees in Seattle.
- Update Street Tree Inventory
- Updates Street Tree Planting List
- Identify funding needed to adequately maintain existing street trees, new street trees, sidewalks and necessary staff and crews to manage the maintenance.
- Enforce the removal, replacement and/or relocation of recently planted street trees that do not comply with the Street Tree Ordinance including approved street tree list, Seattle Standard Plans and Specifications, or the design requirements in the SDOT Right-of-Way Improvement Manual.

Sidewalk Maintenance Policy and Programs

Most of the cities researched identified that healthy street trees would not be removed solely for the purpose of repairing a sidewalk. Many cities had a street tree policy similar to Seattle. Some went further and had a street tree plan that identified how new and existing street trees would be managed to reduce the potential for future damage of city infrastructure including sidewalks and utilities.

With the exception of Boston, MA, most cities require the property owners to maintain adjacent sidewalks. The City of Boston owns approximately 800 miles of paved streets and 1200 miles of sidewalks. The Construction Management Division of Public Works maintains the safety and security of these public right-of-ways. The three major functions of the Construction Management Division are roadway repair and restoration, sidewalk and pedestrian ramp repair, and utility compliance and coordination.

Chicago Department of Transportation builds and maintains hundreds of miles of sidewalks each year, working with local aldermen to determine locations for repair. CDOT also operates the Shared Cost Sidewalk Program, in which property owners and the City share the cost of a new sidewalk. Property owners pay a fixed per-square-foot cost that is well below what a private contractor would charge. The Bureau of Forestry trims thousands of trees a year, plants new trees along the public right-of-way, addresses insect and disease problems, and otherwise promotes tree health throughout the City of Chicago. http://www.cityofchicago.org/city/en/depts/streets/provdrs/forestry.html. Chicago developed a brochure that identifies the reasons for sidewalk disruptions caused by tree roots.

http://www.cityofchicago.org/content/dam/city/depts/streets/supp_info/TreeRootsSewersSidewalks.pdf

Minneapolis has an Urban Forestry Policy that outlines the following actions around trees in sidewalk zones:

> 3.1 Avoid conflicts between trees and public sidewalks or rights-of-way
> 3.1.1. Public Works specifications will include removable sections of sidewalk to accommodate tree roots without having to replace an entire sidewalk panel.
> 3.1.2. According to Public Works specifications, no living trees shall be removed without written permission of the Minneapolis Park and Recreation Board (612) 370-4900. Root removal for the purpose of installing sidewalks at the proper grade is subject to inspection and approval by the Park Board forester. The contractor may remove all roots within the area defined as six and one half (6-1/2) inches below the top of the new finished sidewalk grade, by severing them off cleanly with a sharp axe, or by grinding them off using a root grinding machine, instead of breaking them off with a backhoe or similar equipment. .

http://www.minneapolismn.gov/www/groups/public/@cped/documents/webcontent/convert_282934.pdf

The Forestry Division does not remove trees for the purpose of sidewalk repair. In situations where tree roots are lifting a sidewalk, it is the property owner's responsibility to repair the sidewalk. Enforcement of this procedure is the responsibility of the Department of Public Works Sidewalk Division. The procedure for **protection of the critical root zone** by Forestry governs the repair of sidewalks around trees.

New York City has an option for property owners to hire a certified contractor to construct or maintain the sidewalk. Under Section 19-152 of New York's Administrative Code, property owners are responsible for installing, repairing and maintaining sidewalks adjoining their properties. DOT staff inspects sidewalks and notify the property owner of needed repairs. In the event timely repairs are not made by the property owner, the City may hire private construction firms to make the repairs. When this happens, the City bills the property owner for the costs of the repairs. Property owners must also keep their sidewalks clean and are responsible for snow removal. Download the instructions and guidelines for sidewalk design. New York City has developed a methodology that is often used in the event of tree removal proposals or damage remediation incidents:
http://www.nycgovparks.org/pagefiles/52/NYC-Tree-Valuation-2010.pdf

Portland, OR has a published a document detailing the Sidewalk Maintenance Repair Program identifying what is the property owner's responsibility.
Sidewalk Maintenance Repair Program
http://www.portlandonline.com/auditor/index.cfm?c=27478&a=472303

Portland, OR has recently published a sidewalk repair manual that identifies sidewalk repair methods and materials needed to maintain the adjacent sidewalk.
Sidewalk Repair Manual

http://www.portlandoregon.gov/transportation/article/443054

San Francisco requires that property owners maintain adjacent sidewalks, unless the sidewalk has been damaged by tree roots per Guidelines for Inspection - DPW Order 178,884. http://www.sfdpw.org/Modules/ShowDocument.aspx?documentid=741. For new street trees, the Better Streets Plan identifies street tree specification and maintenance requirements for adjacent property owners. http://www.sfbetterstreets.org/find-project-types/greening-and-stormwater-management/greening-overview/street-trees/. The Better Streets Plan identifies Sidewalk design requirements http://www.sfbetterstreets.org/design-guidelines/constrained-sidewalks/ and maintenance requirements http://www.sfbetterstreets.org/learn-the-process/maintenance/.

Spokane, WA has prepared Guidelines for Infilling Street Trees. This document identifies allowable sidewalk adjustments that can be made to accommodate trees. http://spokaneurbanforestry.org/uploads/forestry_page_content_body/Street%20Tree%20Infill_11_1_10_FINAL.pdf

Financing

Atlanta, GA currently does not have a sidewalk or street tree program. Georgia Institute of Technology reviewed sidewalk programs and policies of Boston, New York, Portland, San Diego and made recommendations for next steps in Atlanta in ***The Cost of Owning and Operating Sidewalks: A Strategy for the City of Atlanta*** document, see attached.
This following table summarizes some demographics about the cities reviewed.

Statistics	Cities				
	Atlanta	New York City	Portland	San Diego	Boston
Population (Persons)	420,000	8,176,000	584,000	1,307,000	618,000
Land Area (Square Miles)	133	302	133	325	48
Density (Persons per Square Mile)	3,145	27,012	4,375	4,020	12,792
Walk to Work	4.4%	10.2%	5.4%	3.1%	14.9%
Transit to Work	12.7%	55.2%	12.0%	4.1%	32.9%
Population Under 18	19.4%	21.6%	19.1%	21.4%	16.8%
Population Over 65	9.8%	12.1%	10.4%	10.7%	10.1%

San Francisco. As part of the Urban Forest Plan, **San Francisco** identified key findings and recommendations for Financing of San Francisco's Urban Forest. http://www.sf-planning.org/ftp/files/plans-and-programs/planning-for-the-city/urban-forest-plan/UFP_Financing_Study_Exec_Sum_131216.pdf A key recommendation of the study found:

> A comprehensive municipal program would provide net benefits to San Francisco residents. Property owners would save $10-$65 per tree annually compared to current costs (estimated at $160-$175 per year) incurred for maintenance, sidewalk repair, and claims associated with sidewalk falls. The program has the added benefit of growing the urban forest by 50 percent over 20 years, while the status quo is expected to result in a continuing decline of the street tree population.

SVR

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The following references were used for the city best practices research.

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Atlanta, GA

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Redlands, CA
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APPENDIX B

BEST PRACTICES RESEARCH SUMMARY FOR IDT MEETING - TECHNICAL RESEARCH

Best Practice Topic	Research Statement	Current Seattle Practices / Regulations	Recommendation / Action
National and International City Research on Tree/Sidewalk Programs and Policies			
	Jurisdictional program and policy research included the following locations: Seattle, Los Angeles, Boston, NYC, Southeastern USA, Montreal, London, Stockholm and Spokane. See individual research summaries for findings.		
Trees			
Type, Diversity, Size, Height, Species, Disease Proclivity	A reasonable strategy for most urban plantings is to limit any one species to between 5% and 10% of a total urban population. Consequently, if a disease or insect infestation should occur, 90-95% of the tree population would remain unaffected and intact. Unfortunately, in most urban areas perhaps only five or fewer species make up the great majority of trees planted. (Bassuk, Curtis, Marranca, et al)	Seattle's urban forest lacks age and species diversity. At this time, only 31% of the forest is made of evergreen trees, while 69% is made up of deciduous trees. (2013 Urban Forest Stewardship Plan)	Incorporate the following categories of information into the current street tree list: • Soil volume needed at maturity • Rooting characteristics (aggressive, surface rooted, etc.) • Trunk characteristics (especially base conditions) • Availability
Clearance (Horizontal/ Vertical)	Trees should be maintained to provide both horizontal and vertical clearance for pedestrian and bicycle access as well as truck/freight access along the roadway.	• Vertical Clearance from sidewalk surfaces to any horizontal projection over named surface shall have a minimum clearance of 8 feet. • Vertical Clearance from bicycle path surfaces to any horizontal projection over named surface shall have a minimum clearance of 10 feet. • Vertical clearance from street to a horizontal projection is 14 feet.	Enforce the clearance requirements. Identify funding opportunities to allocated enough staff and resources to manage the street trees.
Pruning	Proper and timely pruning is essential for successful street trees. Young trees are commonly ignored when they are small. This is actually the time when simple pruning can be most effective in keeping future management costs down. Once trees are established pruning is mainly needed to maintain clearance heights, remove dead or damaged parts. It is not uncommon to see tree pruning activity that is counterproductive.	The City of Seattle requires a street use permit for street tree pruning. The permit makes no reference to current industry Standards for Tree Pruning – ANSI A-300, although the International Society of Arboriculture and Plant Amnesty are mentioned and links provided.	Establish Best Practices guidance that promotes: • Root pruning of new trees at planting as necessary • Structural pruning of young trees • Retention of interior live parts during maintenance pruning
Maintenance	Maintenance of street trees is best done on a regular schedule. With trees managed by the City this is feasible. It is less common with ROW trees that are the responsibility of the property owner. Drive by inspections can alert the street tree manager to issues and help with planning necessary maintenance on an appropriate cycle.	Currently the City SDOT references the ANSI A-300 and ISA best Management Practices as the standard to which they maintain trees. The SDOT website has a section Seasonal Tree Care with tips about tree care season by season.	Develop strategy (outreach, enforcement, etc) to ensure maintenance of ROW trees that are not maintained by the City. Establish standards and best practices to be followed by tree care companies that have the required Street Use Permit for maintenance of ROW trees.
Street Edge / Hardscape			
Accessibility, Maintenance, Temporary Maintenance	Two key documents guide accessible design the Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG) and ADA Accessibility Guidelines (ADAAG) . Designing and maintaining pedestrian facilities within the City of Seattle rights-of-way can be complicated especially when retrofitting and maintaining existing conditions to meet changing requirements.	The Seattle Right-of-Way Improvement Manual identify minimum requirements for accessibility of sidewalks.	TBD
Paver Material Installation Depth	Pavers provide a more flexible surface than does asphalt or concrete. That does not mean that there will net be maintenance required as roots grow under the paving just that it is much easier to repair. With proper installation of compacted base and subgrade, combined with the right amount of sand leveling course, a long lasting paving profile can had.	The City of Seattle currently lists pavers as an alternative form of walkway. http://www.seattle.gov/util/groups/public/@spu/@engineering/documents/webcontent/01_011346.pdf Standard Plan # 425	Ensure that all paver installation adhere to the ICPI's recommendations. Provide more information in the standard detail should be provided to reference correct paver installation within tree root zones.

Best Practice Topic	Research Statement	Current Seattle Practices / Regulations	Recommendation / Action
Rubber Sidewalks	Rubber sidewalks are being installed in various locations throughout North America as well as Australia. They have been installed in several areas in Seattle and the surrounding communities to varying degrees of success. There are several modular versions as well as a poured in place version similar to a running track installation.	The City of Seattle currently has no regulations or guidelines regarding rubber sidewalks.	Establish guidance or regulations regarding rubber sidewalks. Create a list of approved types/manufacturers and situations in which they may be used.
Rails	Tree rails, or tree guards as they are referred to in other parts of the country, are a proven way to help protect trees in urban situations. Damage from car doors, pedestrian foot traffic, bicycles attached to trees, and pets leaving their waste, can be fatal to trees. Guards prevent direct contact with the trunks and adjacent soil area, protecting the tree and preventing compaction and exposure to pet excrement.	The City of Seattle currently has no regulations or guidelines regarding rails / tree guards.	Provide tree guard design details that provide various levels of protection from animals, bikes, people and vehicles. Consider allowing installation of rails with involvement of community groups through fundraising and incentives.
Roots			
Volume/Mass, Tree Pit Size	Trees require a certain amount of cubic soil volume to sustain growth and a supporting root system. Depending on soil type, climate and tree species between one and three cubic feet of soil per will support one square foot of tree canopy. This does not mean that trees will stop when the limits are exceeded however they will experience increasing stress as the soil volume available is exhausted.	The City SDOT has a Client Assistance Memo (CAM 2300) that details Street tree Planting Procedures. No requirements for soil volumes or soil amendments are given. Spacing for three sizes of tree are called out. The ROWIM calls out a minimum of 24 square feet for a tree pit but does not reference soil volume. Details for street tree planting pit construction- 400 Street Paving, Standard Plan 400 and Standard Plan 424a - Expandable Tree Pit Detail show construction details for tree pits.	Update the Standard Plans with new tree pit details to allow adequate soil volumes for the tree species to be planted. Identify options for creating larger soil volumes beneath paved areas adjacent to trees and use of root paths to allow roots into adjacent landscape spoils where feasible.
Structural Integrity, Condition at Planting	The structural integrity of a tree has an above ground component that is dependent on the anatomy of the tree. Sometimes trees from nurseries come with anatomy that is essentially a defect. The below ground component that is essential for structural integrity is the root system. Poor quality root systems are common in nursery grown trees. Tree pits that allow no roots to escape may set trees up for failure when large loads are encountered and the root system cannot resist due to the containment.	The City has A Standard Plan - Specification 1-07.16(2) Tree Vegetation and Soil Protection that includes planting details. This could use an update. No current guidelines or advisory about how to ensure new trees become stable mature trees at present. The City has experimented with bare root tree seedlings and this has been successful.	Update standard details to promote selection and planting of high quality trees, planted at the correct depth in adequate soils, to ensure stability at the roots. Require that trees that will be large at maturity be planted where there is sufficient root below ground for adequate root development Perform structural pruning as necessary when the tree is newly installed to help reduce long term defects in the canopy.
Stability	Basic monitoring programs or drive by inspections may not reveal trees with stability issues under high loads (storm events). Basal and root decay at the root collar are common 'surprise" failure modes.	City has access to a micro-resistance recording drill.	Identify subsets of trees in the Street Tree Inventory that may be at higher risk of low stability. Identify mature tree populations of specific tree species as targets for Level 3 Risk Assessment as part of the City's program.
Dynamic Loading (Pull Test)	When street trees are suspected of being unstable under environmental loads such as wind, or when root pruning has been carried out to allow repairs of pavement there are two methods of testing a tree for stability. A costly science based test Static Integrated Method Pull Test is not commonly done in our region. A simpler method referred to as a basic hand pull test. This test uses a line in the tree and pull and release to simulate the tree under a wind load. Observation of the base of the tree for movement allows an experienced person to determine if a tree is reasonably stable.	This method is not mentioned in SDOT documentation. We are not aware that the City's Field Operations Unit uses this method.	Incorporate both the advanced and the basic pull test as part of the City's tool kit for assessing existing street trees where stability is questioned.

Best Practice Topic	Research Statement	Current Seattle Practices / Regulations	Recommendation / Action
Shaving	Root shaving is a method that allows a portion of an existing root to be removed to allow pavement repairs where the root projects into the finished grade. Decay is likely to ensue subsequent to this treatment, but will vary with species and location. The intent of the practice is to leave a functioning root, albeit with reduced capacity for support and nutrient transport.	It does not appear the SDOT provides any guidelines for root shaving. This practice is used by the SDOT Field crew when appropriate.	Ensure that the amount of the root that is removed is less than one half of the cross section.
Air Blading	Several tools that use high pressure air to clear soil and excavate around sensitive structures such as tree roots are currently in use. Air excavation can be messy but is very effective. Also referred to as pneumatic excavation. Air tools work better in more porous soils. Dust and debris must be contained during air excavation operations, which can be difficult. Hydro excavation using water is also common but has more limitations as the spoils are removed as a slurry. Soil that is wetted to field capacity allows easier use of these tools. Both methods can be used to locate roots to help with planning for tree retention, and for excavation of soils around trees that reduces the potential for damage.	The City has a set of standard plans and Standard Specification 8-02 Landscape Construction and 8-01.3(2) B Tree, Vegetation, and Soil Protection that reflects good practice. No specifications or recommendations for pneumatic air excavation exist at present.	Develop City standards and/or recommendations for the use of air/hydro excavation tools for use in excavating around tree roots.
Training	It is possible in many situations to "train" roots to grow into areas where conflicts with infrastructure will not occur. Various materials can be used to contain roots so that they follow a certain pathway. Also possible is the use of channels which direct root growth to areas where they can grow without damage to pavement. Root training requires advance planning and available volumes of appropriate soil. Root barriers are commonly used for this purpose. Depending on the soils situation, pavement (curbs or foundations) may be thickened to serve as a root barrier.	The use of root barriers is shown in the Standard Plans, however the City has no specific recommendations or Plan details.	Develop further detail on the use of root barriers and develop construction details/ guidance on other methods of root training.
Nutrients / Subbase Soil			
Mulch and compost	A discussion of the role of organic matter in tree planting soils is integrally related to use of subbase and structural soils, as well as strategies that use soil coring, trenching or mulching as a way to prevent and correct compacted soils; and create alternatives to remediate problem areas. It is also critical to developing strategies for soil amendment where tree replacement is the only practical option.	The City of Seattle officially has a mix of specifications for amending soils for street tree plantings, and in practice custom specifications from department (SDOT, SPU, Parks) or contracted Landscape Architects are often substituted for the City of Seattle Standard Specifications.	Specify the use of mulches to replace turf, or as infill to raise planter grades where sidewalks are raised to bridge root problem areas. Develop standard practices for use of mulch/compost to assure positive drainage in planting pits.
Testing/Inspection	Urban soils are unique in being subjected to a number of factors that greatly affect root growth and tree longevity. Some of the factors in urban areas that impinge on root development and tree longevity include chemical pollutants, disposal of industrial wastes, buildup of de-icing chemicals (salts, etc) or materials (sand/gravel), and rubble (wood, glass, plastic, metal) from construction activities that may have been buried many decades ago.	There is no set protocol for regular testing or inspection of nutrients for SDOT street trees.	Develop and perform soil tests for tree planting areas, to include the following factors: Soil texture (sand/silt/clay composition); soil compaction (has impacts on bulk density, root growth and soil aeration); nutrient levels; soil pH; soil porosity (drainage/infiltration); and presence of pollutants harmful to tree roots.

Best Practice Topic	Research Statement	Current Seattle Practices / Regulations	Recommendation / Action
Long Term Tree Health - Maintenance/ Replenish	It has been assumed that watering and occasional fertilizing is all that street trees require. It is no surprise therefore, that street trees rarely last their full potential life spans. Poor tree maintenance also results in tree stress leading to greater susceptibility to disease problems.	There is no set protocol for long term maintenance for SDOT street trees.	Develop nutrient maintenance protocols for long-term tree health, including: • At planting (apply mycorrhizae, humic acids, Trichoderma to prevent root infections and sea kelp). • Six months after planting (apply humic acids, beneficial microbes and sea kelp) • Established trees (once a year, apply mycorrhizae, humic acids, Trichoderma to prevent root infections, sea kelp and organic fertilizer containing very low levels of nitrogen, potassium and phosphorus – if required)
Solutions in Paver Zone	Several methods are promoted for adding organic matter to the root zones of established trees to relieve compacted conditions. Application methods include digging trenches and filling them with compost or amended soil, opening soil cores by opening holes in the soil around trees using augers, air or water pressure. Most reviewed studies found limited benefit from vertical mulching accomplished by augering cores or opening vertical channels using pressurized air or water, around established trees and filling them with compost, bark, sand and other media. Some saw evidence of dense rooting within the amended holes, but little or no improvement in soil density or rooting in surrounding soil. While there have been many demonstrations of structural and SBS soils, these are still "young" practices with few applications in place for over 15 years. Considering the natural pattern discussed previously of increased surfaced roots as trees age, evaluations of longer-term applications are necessary. Use of a porous gravel subbase to retrofit existing (raise) sidewalks has not been tested, and would not provide structural support to meet code requirements without additional engineering.	The City of Seattle Standard Specification for Road, Bridge and Municipal Construction, Division 5.	Develop guidance and details for implementation of the following: 1. Use of uncompacted gravel, or compacted coarse gravel subbase system in limited areas to bridge problem areas, with protection from soil intrusion. This application would probably need some sort of pier supports to provide structural stability to meet City of Seattle sidewalk stability requirements. 2. Use of structural soils to expand root zones in high use / visibility areas where development of community amenities or new commercial development makes such larger scale infrastructure investment feasible. 3. Any mixes should only use a stable, mature compost to avoid, fine grade compost to minimize future changes in the physical or chemical parameters of the mix. US Composting Council STA Certified Compost at a Minimum, maybe a higher stability standard.
Water / Air			
Aeration / Irrigation, Existing Tree Care	Even in uncompacted soils moisture saturation may be the limiting factor for root growth—rather than physical constraints. Although cultivation and amendment with organic matter or free draining mixes can improve drainage, groundwater or drainage conditions can be overriding factors. Many tree planting specifications require a percolation test of planting pits, and boring of drain holes if conditions warrant.	There is no set protocol for aeration and irrigation of SDOT street trees.	Develop guidance for aeration and irrigation of SDOT street trees.
Failures			
Construction	Construction for new features or for repair of paved surfaces can cause damage that will result in a tree more likely to fail such as roots severed or damaged, or above ground parts damaged. The failure may occur many years after the event as the damage may not be visible, or it may take time for the damage to create a situation, such as decay, that may result in a failure.	The City has a set of standard plans and Standard Specification 8-02 Landscape Construction and 8-01.3(2) B Tree, Vegetation, and Soil Protection that reflects good practice. Typically street trees adjacent to construction sites are signed and required to be protected.	Provide education/outreach for prevention and reduction of this sort of damage and resulting problems. Require and review clear details on construction plans, which are important to successful tree retention.

Best Practice Topic	Research Statement	Current Seattle Practices / Regulations	Recommendation / Action
Pruning / Stability	Pruning tree to remove parts likely to fail or reduce crown dimensions to reduce peak loads can be successful in reducing unexpected tree failures of both tree parts and entire trees. Keeping to manageable pruning cycles with regular basic inspections in between is the best way to accomplish a reduction in failures. Root pruning should also be considered.	The City has a comprehensive tree management program with well trained tree crews. There are approximately 40,000 trees under City management.	TBD
Utilities			
Construction, Setbacks, Separation/Depth, Material	Trees and utilities compete for space in the public rights-of-way. Identifying minimum separations required facilitates maintenance of utilities and health of trees.	The ROWMM identifies minimum separation for trees and utilities. Seattle City Light Tree Trimming Program identifies required clearances between trees and SCL facilities.	Continue to enforce minimum setbacks during design, construction and maintenance practices within the ROW.
Transportation			
Setback From Intersections and Crosswalks	Trees at planting do not cause the same sight limitations at intersections as they do as they mature.	CAM 2300 Revised 3/23/2010	Clarify and enforce the setbacks listed in the CAM. Clarify if sight triangles diagram is required for higher speed/volume intersection redevelopment.
Trees at Transit Stops	Transit stops should be located in front of the tree so that transit riders waiting at the bus stop can be seen by the bus drivers.	City of Seattle coordinates with King County Metro to locate bus stops within the public ROW.	Coordinate with Metro to locate and relocate bus stops that are in conflict with trees.
Trees Along Truck/Bus Corridors	Trees are pruned as needed to accommodate freight, buses and other city vehicles including garbage trucks along the street.	City of Seattle maintains trees for freight and bus clearances.	Coordinate planting and maintenance of trees along freight and bus routes. Identify opportunities to confirm routes as part of Freight Master Plan.
Education / Outreach			
Tree Value	The value of trees to a city has been well documented in numerous research publications. Trees are now recognized as a major asset to a city as a very economical method to improve the quality of life for the community.	Seattle ReLEAF website and outreach provides information about tree maintenance in the city.	Confirm approach to rating and evaluating trees.
Tree Maintenance	In Seattle, many people are responsible for maintaining trees. It can be confusing to identify who maintains which tree.	Currently the City of Seattle (Seattle Department of Transportation) maintains about 25% of the planted trees in the public right-of-way in the city. Only trees that have been planted by the City of Seattle are maintained by the City. Many of the street trees are the maintenance responsibility of the property owner — even if they are planted in the public right-of-way. While the City does not maintain all street trees, it does regulate all of them. Permits are needed to plant, prune or remove privately maintained street trees. SDOT will inspect the trees and schedule them for maintenance.	Continue to provide clear information for community to identify who owns the tree and how to maintain that tree.
Easements	Many cities obtain easements for construction and installation of sidewalks.	City of Seattle does not have a standard easement form for sidewalk construction and maintenance.	Develop a standard form for sidewalk easements.

The following items were researched and limited applied best practices were found:

- Water flowlines
- Curbs
- Platforms
- Irrigation and Aeration of Existing Trees

APPENDIX C

INITIAL ASSESSMENT FORM

SDOT
Seattle Department of Transportation

SDOT Trees and Sidewalks Operations Plan
Initial Street Tree and Sidewalk Assessment Checklist

FEBRUARY, 2015
Prepared by: SvR Design Company, Harrison Design, Tree Solutions, Olaf Ribeiro

The purpose of this document is to outline the INITIAL ASSESSMENT for locations where sidewalk work is located within the dripline of an existing street tree.

Project Location/Address	
Tree Species/Diameter	
Street Classification/Type	
Tree Asset Inventory ID	
Sidewalk Segment #	
Is this assessment along a corridor project?	

An ENGINEER and ARBORIST will look at the site and assess the condition of both the sidewalk and the tree.
If the tree has the following characteristics, it should be removed/replaced pursuant to *SMC 15.43.030 (C): The City's policy is to retain and preserve street trees whenever possible. Accordingly, street tree removal shall not be permitted unless the Director determines that a street tree:*

1. *Is a hazardous tree;*
2. *Poses a public safety hazard;*
3. *Is in such a condition of poor health or poor vigor that removal is justified; or*
4. *Cannot be successfully retained, due to public or private construction or development conflicts.*

Initial Assessment:

1. **Is this tree healthy and worthy of preservation?**
   Yes ☐ *No* - ☐

2. **Poor Health—Is this tree in a condition of poor health or poor vigor that cannot be mitigated by any means other than removal?**
   - Is the tree in poor health or poor vigor or dead?
   - Is there chronic trunk wounding due to inadequate street clearance?

   Yes ☐ *No* - ☐

3. **Hazardous Tree— Defined in 15.02.044.E any tree or tree part that poses a high risk of damage to persons using, or property located in the public place, as determined by the Director according to the tree hazard evaluation standards established by the International Society of Arboriculture.**
   Yes ☐ *No* - ☐

4. **Minimum Standards—Is there enough space for a 6 foot wide sidewalk and a 5 foot wide planting strip?** *Yes* ☐ *No* - ☐

5. **Public Safety Hazard—Does the tree present a public safety hazard that cannot be mitigated by any means other than removal?**
   - Does the tree location obstruct the visibility for pedestrians, cyclists, and/or cars at an intersection?
   - Is the tree impacting a curb ramp such that it no longer meets City of Seattle ADA requirements?
   - Is the tree potentially impacting private property?

Yes ☐ *No* ☐
Use this space to draw a sketch of the location. Identify existing clearances from nearby infrastructure.

Recommendation for this tree:

☐ ***—Remove Tree / Replace Sidewalk***

A tree is identified to be removed if it is not healthy or if it is hazardous as identified in the Street Tree Ordinance.

☐ ***—Keep Tree and Maintain Sidewalk***

A tree will be kept and the sidewalk will be maintained if a sidewalk of standard width and a tree pit of standard width (at a minimum) can be installed or retained around a healthy tree.

☐ ***—Evaluate Sidewalk and/or Tree Further***

SDOT views trees and sidewalks as important public infrastructure assets. SDOT intends to keep healthy trees and have accessible sidewalks. If standard widths cannot be met then SDOT will take the time and resources to evaluate if alternative approaches (such as sidewalk width reduction, alternative sidewalk materials, adjustments to the tree pit and/or tree root pruning) can be used to retain a tree and provide an accessible sidewalk at problem locations.

NEXT STEPS

If Tree is REMOVED –Replace the removed tree with the minimum 2:1 replacement ratio. Identify if the replacement trees can be located in the same location or on the same street as the removed tree. If not, replacements should be planted as close to the removal as geographically feasible. Identify the estimated cost to remove the tree(s), repair the sidewalk, and plant replacement trees.

If Tree is KEPT –Estimate the cost of the sidewalk repair that would achieve the desired lifecycle for the repair. Estimate sidewalk and tree maintenance needs/costs and any maintenance to the tree that is being retained (e.g., root pruning, branch pruning, soil amendments).

If EVALUATE Further – Use Tree and Sidewalk Evaluation Form (IN DEVELOPMENT) and/or the tree risk assessment should follow ISA TRAQ guidelines:
http://www.isa-arbor.com/education/onlineresources/basictreeriskassessmentform.aspx

Arborist	Engineer
Title	Title
Date	Date

APPENDIX D

MADRONA CASE STUDY CONCEPT PLAN

Madrona Case Study

Study Limits – 34th Avenue from East Union Street to East Cherry Street

Existing Conditions

34th Avenue and Union is a neighborhood business district within the Madrona neighborhood. Along the case study corridor, there are a variety of land uses including single family, multi-family, parks, and neighborhood commercial.

The mature canopy is predominantly Maple trees along 34th Ave. The trees have been routinely pruned around the wires on both sides of the street. The east side of the street received more frequent pruning due to the charged overhead wires serving the neighborhood.

Sidewalks on both sides of the street have been impacted by tree roots. The planting strip along the single family properties is approximately three feet wide and does not offer enough soil volume for the trees. Previous maintenance activities include sidewalk replacement, shim and beveling. There is a portion of the existing sidewalk that was temporarily replaced as asphalt.

This corridor is a transit route that requires overhead trolley wires. These wires require additional pruning of the tree canopy to provide clearance for the busses to connect to the wires.

Members of the local community place high value on the existing tree canopy along this corridor. A number of trees have been removed within the case study area in recent years, both due to redevelopment as well as sidewalk repair and reconstruction. The community is concerned about the plan for canopy replacement and maintaining aesthetics along the corridor, both in the short and long term. However the community would also like the sidewalks to be repaired and accessible, and some residents along the street are concerned with tree impacts to private infrastructure (such as retaining walls, sewer lines, etc).

Recommendations

Even though the trees along 34th Ave have limited soil volume and have been pruned, many of them can be retained. There are a few locations where the trees would need to be evaluated further to confirm that the sidewalk can be replaced.

There are 43 SDOT managed trees within the study area. The table below summarizes the results of the initial assessment performed.

Initial Assessment Results	Trees
Keep Tree, Repair Sidewalk	4
Remove Tree, Repair Sidewalk	2
Evaluate Further	37

34th Avenue is an arterial street where people walk to access transit. As such, it is recommended that the sidewalks be constructed of concrete. Extending tree wells along the sidewalk by removing existing pavement would increase the volume of soil available to the existing trees.

Phasing Recommendation Summary:

Phase 1 -

- Survey of 4 Blocks
- Further Evaluation of Trees
- 900 Block Improvements

Future Phase –

- Design completion
- Secure Additional Funding for Construction

The conceptual plans show the results of the initial assessment performed along the corridor and identify specific locations for improvements to the existing trees and sidewalks.

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SDOT Trees & Sidewalks Operations Plan | SvR # 13040

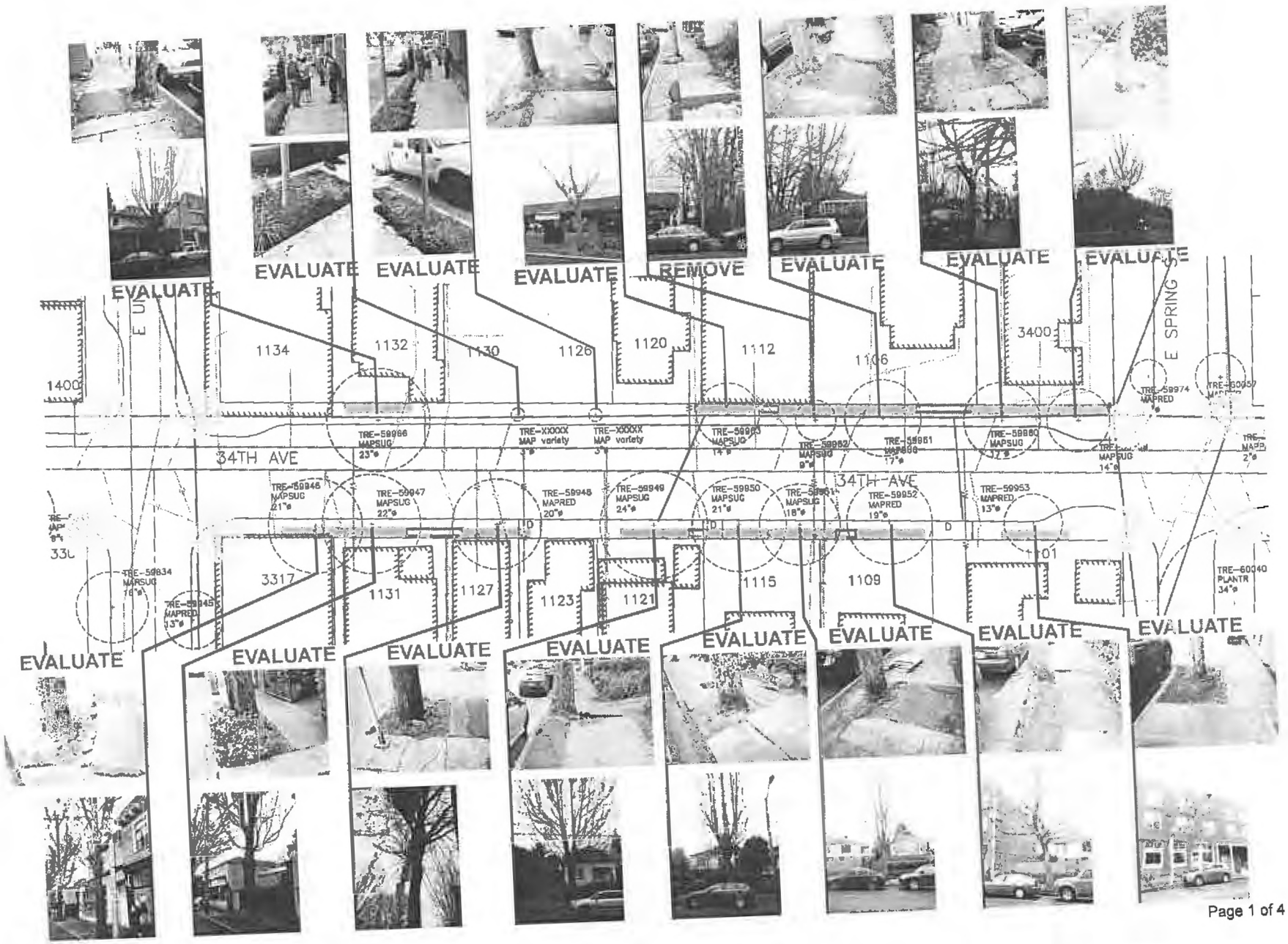
Madrona - 34th Ave, 1100 Block (Union to Spring)

Conceptual Recommendations - INITIAL ASSESSMENT RESULTS

HAVE BEEN UPDATED TO BE CONSISTENT WITH REVISED RESULTING ACTION

DEFINITIONS IN THE DRAFT OPERATIONS PLAN

note: base map information is approximate, based on best available data (COS GIS)



SDOT

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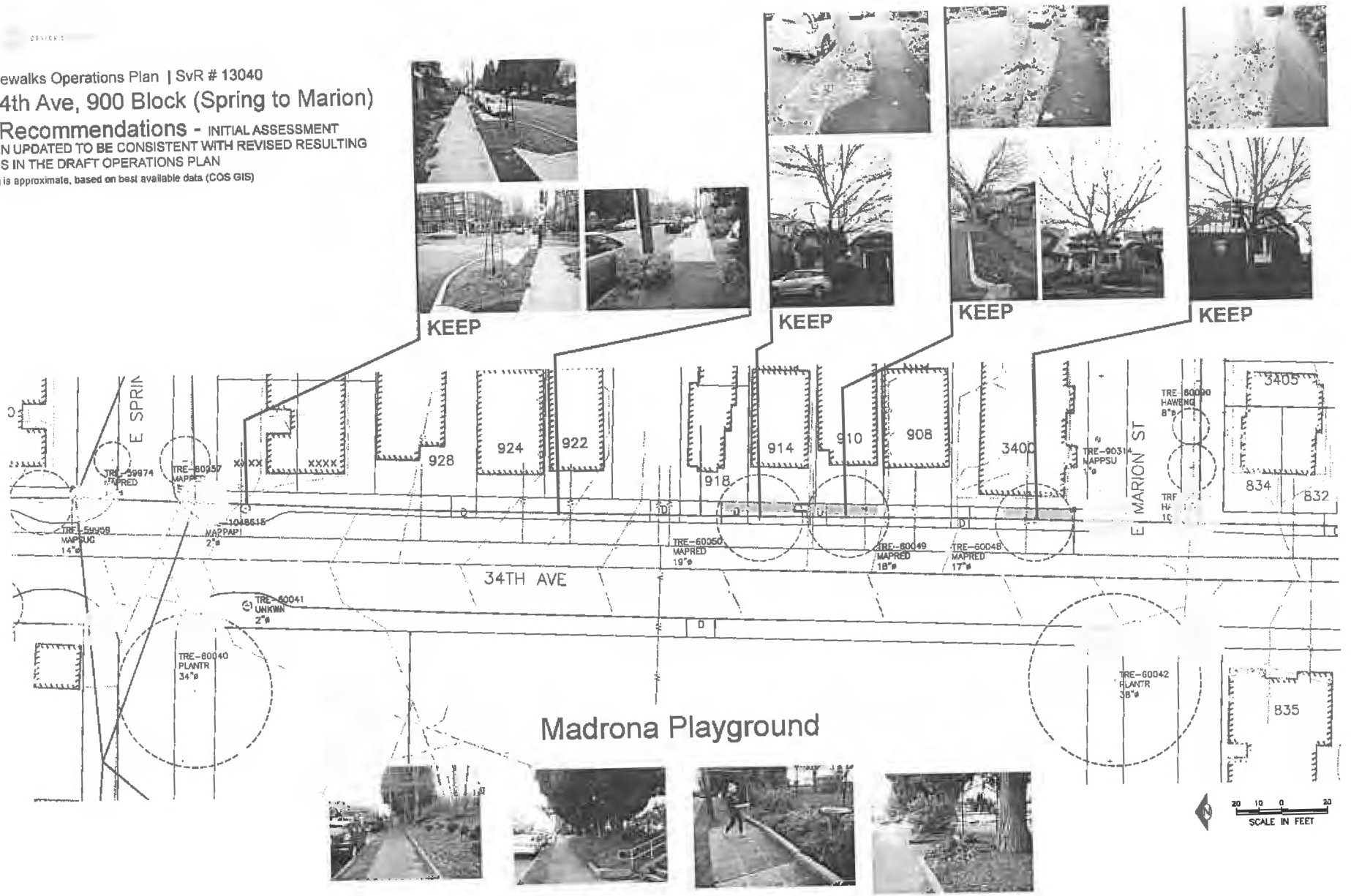
SDOT Trees & Sidewalks Operations Plan | SvR # 13040

Madrona - 34th Ave, 900 Block (Spring to Marion)

Conceptual Recommendations - INITIAL ASSESSMENT

RESULTS HAVE BEEN UPDATED TO BE CONSISTENT WITH REVISED RESULTING ACTION DEFINITIONS IN THE DRAFT OPERATIONS PLAN

note: base map information is approximate, based on best available data (COS GIS)



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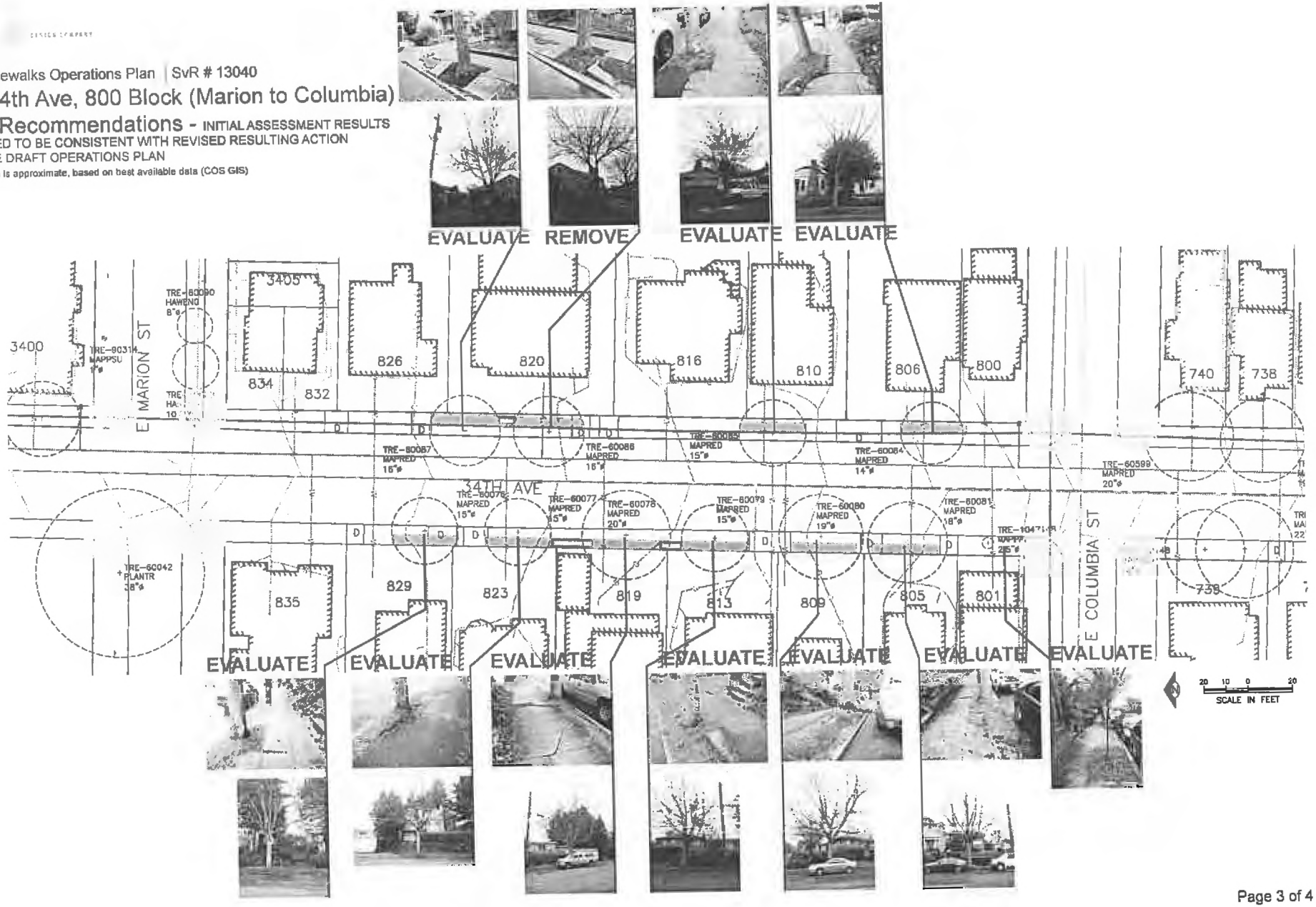
SDOT Trees & Sidewalks Operations Plan | SvR # 13040

Madrona - 34th Ave, 800 Block (Marion to Columbia)

Conceptual Recommendations - INITIAL ASSESSMENT RESULTS HAVE BEEN UPDATED TO BE CONSISTENT WITH REVISED RESULTING ACTION DEFINITIONS IN THE DRAFT OPERATIONS PLAN

note: base map information is approximate, based on best available data (COS GIS)



SDOT Trees & Sidewalks Operations Plan | SvR # 13040

Madrona - 34th Ave, 700 Block (Columbia to Cherry)

Conceptual Recommendations - INITIAL ASSESSMENT RESULTS HAVE BEEN UPDATED TO BE CONSISTENT WITH REVISED RESULTING ACTION DEFINITIONS IN THE DRAFT OPERATIONS PLAN

note: base map information is approximate, based on best available data (COS GIS)

APPENDIX E

LAKE CITY CASE STUDY CONCEPT PLAN

Lake City Case Study

Study Limits – 35th Avenue Northeast from Northeast 125th Street to Northeast 130th Street and Northeast 130th Street from 35th Avenue Northeast to 33rd Avenue Northeast

Existing Conditions

Lake City is a hub urban village. 35th Ave NE and NE 130th Street are arterials that are served by transit. The land use along this corridor is predominantly multi-family and single family. There is also a daycare, a church and a school within the study area. This street is part of the walking route to Cedar Park elementary school.

The mature canopy is predominantly Ash trees along 35th Ave NE. Replacement trees planted in the last ten years add some diversity to the corridor; these trees include *Gingko*, *Zelkova* and *Quercus* genera. The absence of overhead wires allowed the trees to develop extensive canopies without needing pruning for line clearance.

The sidewalk damage was moderate in some areas and minor in others along 35th Ave NE. Mulch in the tree wells varied, including wood chips, concrete tiles, river rock, grass/ weeds and bare soil. The biggest issue found in this corridor was substandard sidewalk clearance, often due to adjacent conditions constraining one side.

Along 130th, *Quercus rubra* trees on the north side require structural pruning for clearance over the street while the trees to the south are effected by poor planting along with girdling roots causing suppression of most of the trees.

The sidewalk on the north side has been repaired with asphalt over minor cracks. There is a transit stop at the west end of the road. This corridor provides a critical walking connection for the neighborhood and larger community.

Recommendations

Since the mature trees along 35th Ave NE are in good condition and not creating many sidewalk issues, it is recommended that a this corridor be further evaluated further to identify opportunities to retain the Ash while providing better tree pit conditions and wider sidewalks. Some corrective pruning to provide clearance and to improve tree structure would help overall tree health of the corridor.

The trees along 130th also need to be evaluated further. The trees were planted more recently than the trees along 35th and the sidewalks are already needing repair.

There are 65 SDOT managed trees within the study area. The table below summarizes the results of the initial assessment performed.

Initial Assessment Results	Trees
Keep Tree, Repair Sidewalk	0
Remove Tree, Repair Sidewalk	1
Evaluate Further	64

Along the length of 35th Ave NE, a majority of the current sidewalk cracking and uplift issues could be resolved through the use of shims and beveling. Extending tree wells and eliminating nonfunctional driveways would allow for the planting of new trees and would increase the volume of soil available to the existing trees.

A major step would be the negotiation of easements along the corridor where sidewalk issues and adjacent conditions create width and clearance issues. Through agreements with property owners, full sidewalk widths could be reached for the length of the street.

In looking at the long term future of the 35th Ave NE corridor there is an opportunity to realign the curb if the road is reconstructed. This would allow for more planting areas, shifting the sidewalk and providing adequate clearance, expanding the planter and redefining parking.

The conditions on NE 130th require a different set of solutions. The trees along the north side of the street are in better condition and could be retained while the trees on the south side require more evaluation due to their poor performance. It is possible that, in the future, a more appropriate tree species might be selected to replant in those locations.

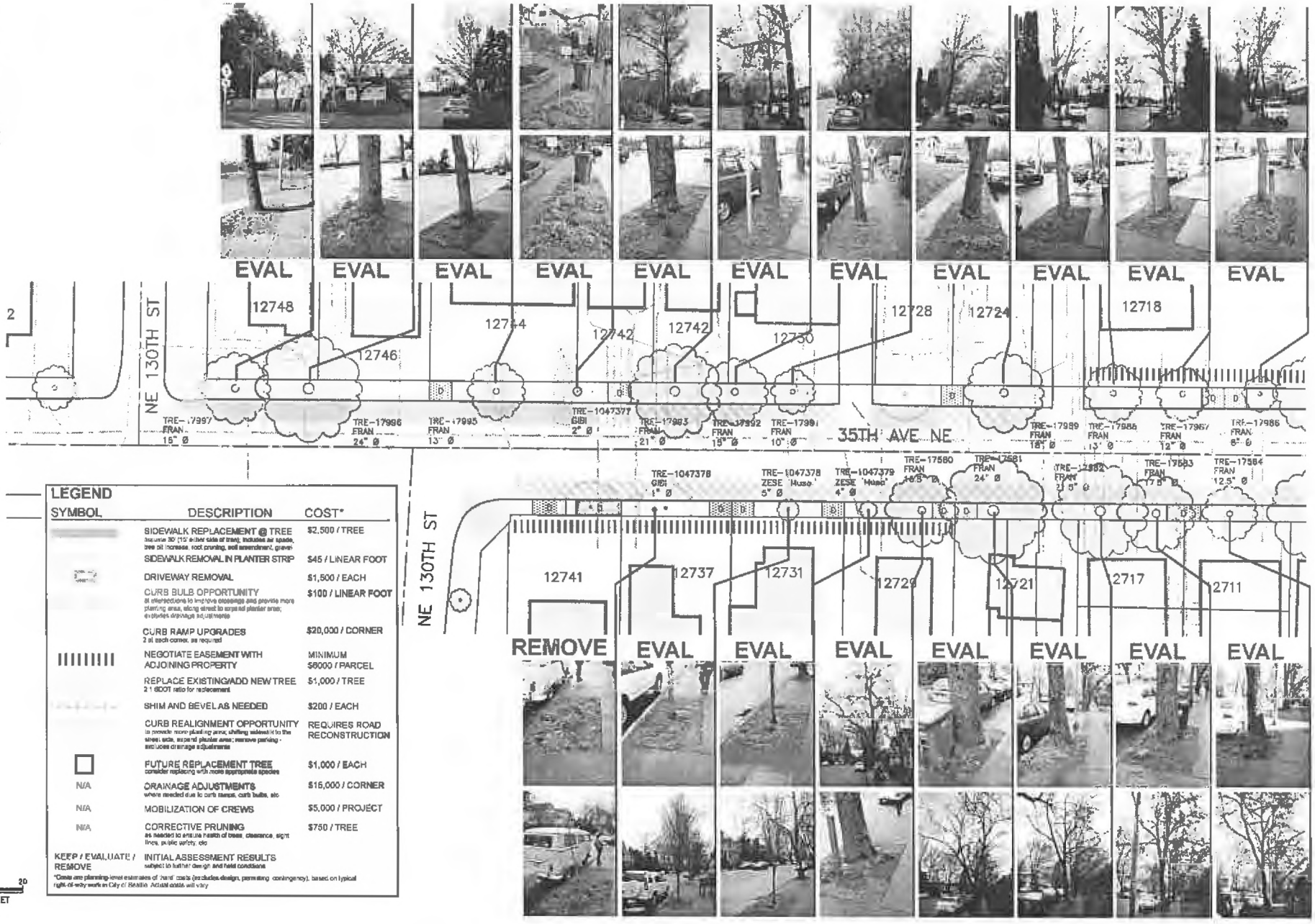
The sidewalk conditions on the north side of the street require that it be replaced. Negotiating an easement with the adjacent property owner would allow for the expanded sidewalk and transit stop area. On the south side, the repair work needed is minor and could be achieved through shimming and beveling as needed. On both sides of the streets it is recommended that the tree wells are extended and continuous planter strips be created.

SDOT Trees & Sidewalks Operations Plan | SvR # 13040

Lake City - 35th Ave NE

Conceptual Recommendations

note: base map information is approximate, based on best available data (COS GIS)



LEGEND

SYMBOL	DESCRIPTION	COST*
	SIDEWALK REPLACEMENT @ TREE assume 30' (15' either side of tree); includes air spade, tree pit increase, root pruning, soil amendment, gravel	$2,500 / TREE
	SIDEWALK REMOVAL IN PLANTER STRIP	$45 / LINEAR FOOT
	DRIVEWAY REMOVAL	$1,500 / EACH
	CURB BULB OPPORTUNITY at intersections to improve crossings and provide more planting area, along street to expand planter area; includes drainage adjustments	$100 / LINEAR FOOT
	CURB RAMP UPGRADES 2 at each corner, as required	$20,000 / CORNER
	NEGOTIATE EASEMENT WITH ADJOINING PROPERTY	MINIMUM $6000 / PARCEL
	REPLACE EXISTING/ADD NEW TREE 2:1 SDOT ratio for replacement	$1,000 / TREE
	SHIM AND BEVEL AS NEEDED	$200 / EACH
	CURB REALIGNMENT OPPORTUNITY to provide more planting area; shifting sidewalk to the street side, expand planter area; remove parking - includes drainage adjustments	REQUIRES ROAD RECONSTRUCTION
	FUTURE REPLACEMENT TREE consider replacing with more appropriate species	$1,000 / EACH
N/A	DRAINAGE ADJUSTMENTS where needed due to curb ramps, curb bulbs, etc	$15,000 / CORNER
N/A	MOBILIZATION OF CREWS	$5,000 / PROJECT
N/A	CORRECTIVE PRUNING as needed to ensure health of trees, clearance, sight lines, public safety, etc	$750 / TREE
KEEP / EVALUATE / REMOVE	INITIAL ASSESSMENT RESULTS subject to further design and field conditions	

*Costs are planning-level estimates of hard costs (excludes design, permitting, contingency), based on typical right-of-way work in City of Seattle. Actual costs will vary

20 10 0 20
SCALE IN FEET

SDOT
Seattle Department of Transportation

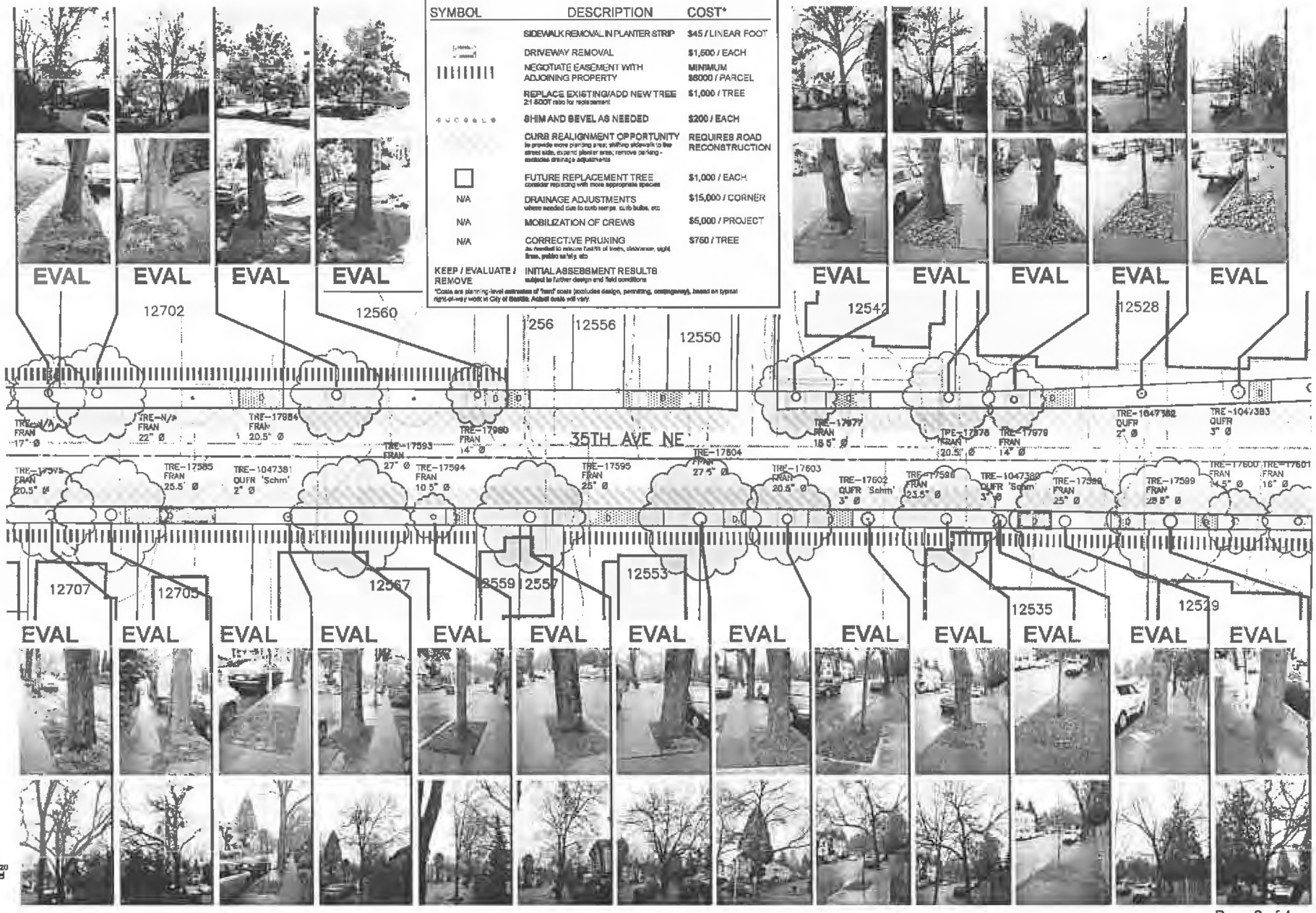
Harrison Design

SDOT Trees & Sidewalks Operations Plan | SvR # 13040

Lake City - 35th Ave NE

Conceptual Recommendations

note: base map information is approximate, based on best available data (COS GIS)

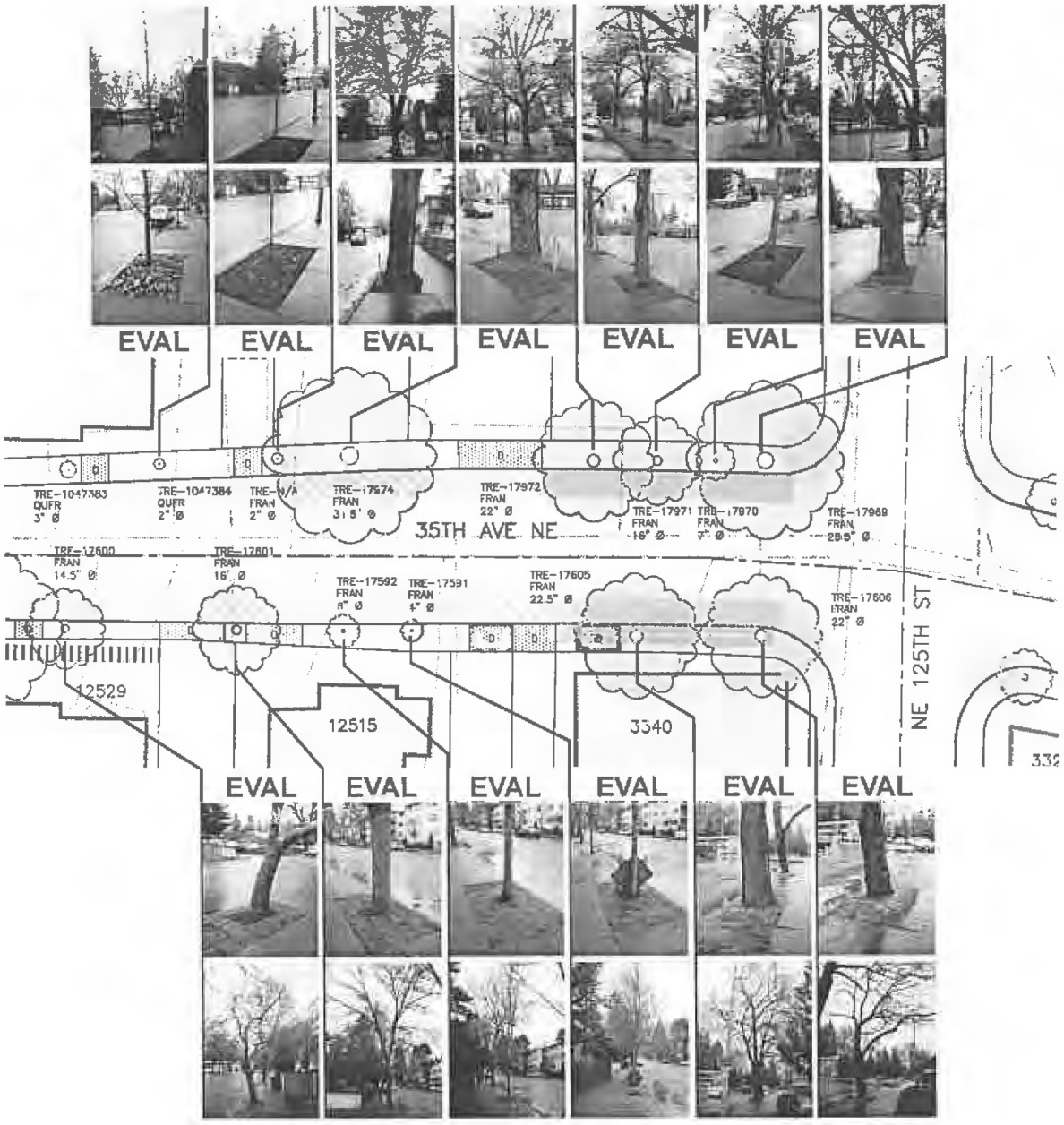


SDOT Trees & Sidewalks Operations Plan | SvR # 13040

Lake City - 35th Ave NE

Conceptual Recommendations

note: base map information is approximate, based on best available data (COS GIS)



LEGEND

SYMBOL	DESCRIPTION	COST*
	SIDEWALK REPLACEMENT @ TREE assume 30' (15' either side of tree), includes air spade, tree pit exercise, root pruning, soil amendment, gravel	$2,500 / TREE
	SIDEWALK REMOVAL IN PLANTER STRIP	$45 / LINEAR FOOT
	DRIVEWAY REMOVAL	$1,500 / EACH
	CURB BULB OPPORTUNITY at intersections to improve crossings and provide more planting area; along street to expand planter area; excludes drainage adjustments	$100 / LINEAR FOOT
	CURB RAMP UPGRADES 2 at each corner, as required	$20,000 / CORNER
	NEGOTIATE EASEMENT WITH ADJOINING PROPERTY	MINIMUM $6000 / PARCEL
	REPLACE EXISTING/ADD NEW TREE 2:1 SDOT ratio for replacement	$1,000 / TREE
	SHIM AND BEVEL AS NEEDED	$200 / EACH
	CURB REALIGNMENT OPPORTUNITY to provide more planting area; shifting sidewalk to the street side, expand planter area, remove parking - excludes drainage adjustments	REQUIRES ROAD RECONSTRUCTION
	FUTURE REPLACEMENT TREE consider replacing with more appropriate species	$1,000 / EACH
N/A	DRAINAGE ADJUSTMENTS where needed due to curb ramps, curb bulbs, etc	$15,000 / CORNER
N/A	MOBILIZATION OF CREWS	$6,000 / PROJECT
N/A	CORRECTIVE PRUNING as needed to ensure health of trees, clearance, sight lines, public safety, etc	$750 / TREE
KEEP / EVALUATE / REMOVE	INITIAL ASSESSMENT RESULTS subject to further design and field conditions	

*Costs are planning-level estimates of 'hard' costs (excludes design, permitting, contingency) based on typical right-of-way work in City of Seattle. Actual costs will vary.

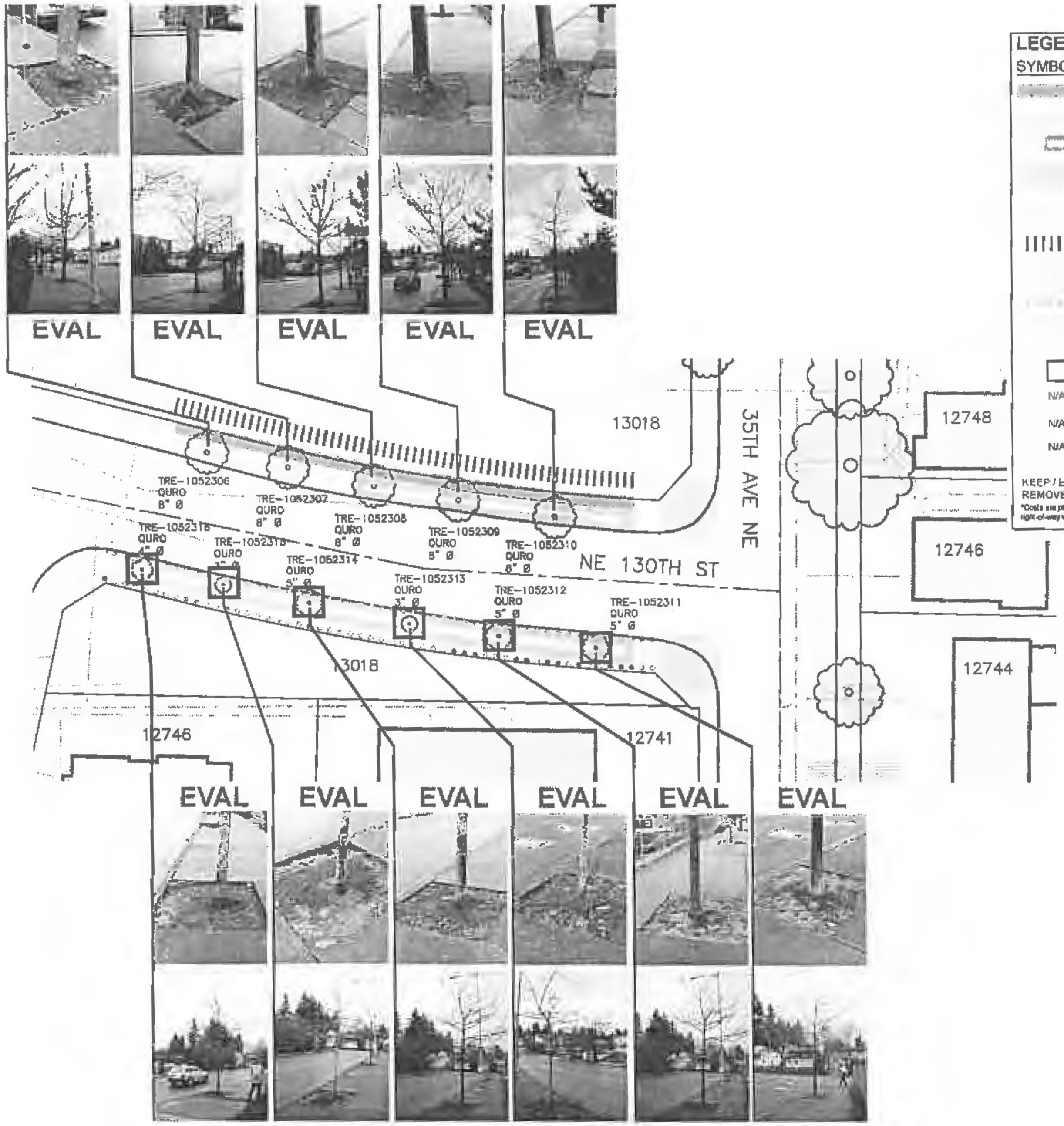
20 10 0 20
SCALE IN FEET

SDOT Trees & Sidewalks Operations Plan | SvR # 13040

Lake City - 35th Ave NE

Conceptual Recommendations

note: base map information is approximate, based on best available data (COS GIS)



20 10 0 20
SCALE IN FEET

LEGEND

SYMBOL	DESCRIPTION	COST*
	SIDEWALK REPLACEMENT @ TREE assume 30' (15' either side of tree); includes air spade, tree pit increase, root pruning, soil amendment, gravel	$2,500 / TREE
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N/A	CORRECTIVE PRUNING as needed to ensure health of trees, clearance, sight lines, public safety, etc	$750 / TREE
KEEP / EVALUATE / REMOVE	INITIAL ASSESSMENT RESULTS subject to further design and field conditions	

*Costs are planning-level estimates of 'hard' costs (excludes design, permitting, contingency), based on typical right-of-way work in City of Seattle. Actual costs will vary

APPENDIX F

RAINIER BEACH CASE STUDY CONCEPT PLAN

Rainier Beach Case Study

Study Limits – Rainier Avenue South from South Henderson Street to Seward Park Avenue South

Existing Conditions

Rainier Beach is a residential urban village with Rainier Avenue South cutting through the center. The Rainier corridor is an important north-south transportation corridor that serves all modes of travel. It is a principal arterial with high traffic volumes. The recent Southeast Transportation Study and the update to the Rainier Beach Neighborhood Plan identify the importance of this corridor and confirm that the community supports trees and sidewalks.

The majority of trees along Rainier Ave S are *Quercus robur* (English oak) with a small group of *Acer* spp. (maples) planted north of 51st Ave S. Overhead wires along both sides of the corridor required somewhat extensive pruning to many of the trees, especially along the eastern end of the corridor, causing severe disfiguration.

Almost all trees show some signs of damage from vehicles, with several recently planted trees being totally destroyed. Planting conditions along this corridor also vary between tree wells and continuous planter strips.

The sidewalk damage was minor in most areas along Rainier Ave S with only a few locations requiring more intensive repair. Several tree pits on the north end of Rainier Ave S have recently been improved with larger tree wells and sidewalk articulation to allow for a clear path of travel.

This section of Rainier Ave S goes through a neighborhood business district and by the Rainier Beach Library. It also provides a connection to several schools and the community center north of South Henderson St. Several transit stops line the corridor and provide connections for the neighborhood and larger community.

Recommendations

Many of the trees along the Rainier Ave S are recommended to be retained. The majority of the trees with the recommendation to be evaluated are exhibiting signs of stress, failure to thrive or issues related to previous pruning. Corrective pruning to improve structure would help overall health of many trees within this corridor.

There are 80 trees within the study area. The table below summarizes the results of the initial assessment performed.

Initial Assessment Results	Trees
Keep Tree, Repair Sidewalk	64
Remove Tree, Repair Sidewalk	2
Evaluate Further	14

Sidewalk damage along Rainier Ave S is minor and does not require intensive repair. Shimming and beveling as needed is recommended to deal with the minor issues. The east end of the corridor has a few locations that require sidewalk reconstruction, allowing for extended planters and greater soil volume for the tree as well as improving the pedestrian experience. There are many opportunities to remove concrete in the planting strip, allowing for greater soil volume and additional tree plantings.

Connectivity across Rainier Ave S can be greatly improved through upgrades to the curb ramps along the street. These would serve to improve the connection to the larger neighborhood pedestrian walkway system.

In looking at the long term future of Rainier Ave S, there is an opportunity to reconstruct the curb when the road is reconstructed. This would allow for more planting areas, expanding the planter, redefining parking and improving pedestrian experience and safety.

The attached conceptual plans show the results of the initial assessment performed along the corridor and identify specific locations for improvements to the existing trees and sidewalks. The conceptual plans also make recommendations on locations where there may be opportunities to increase the tree canopy along Rainier Avenue S.

SDOT
Seattle Department of Transportation

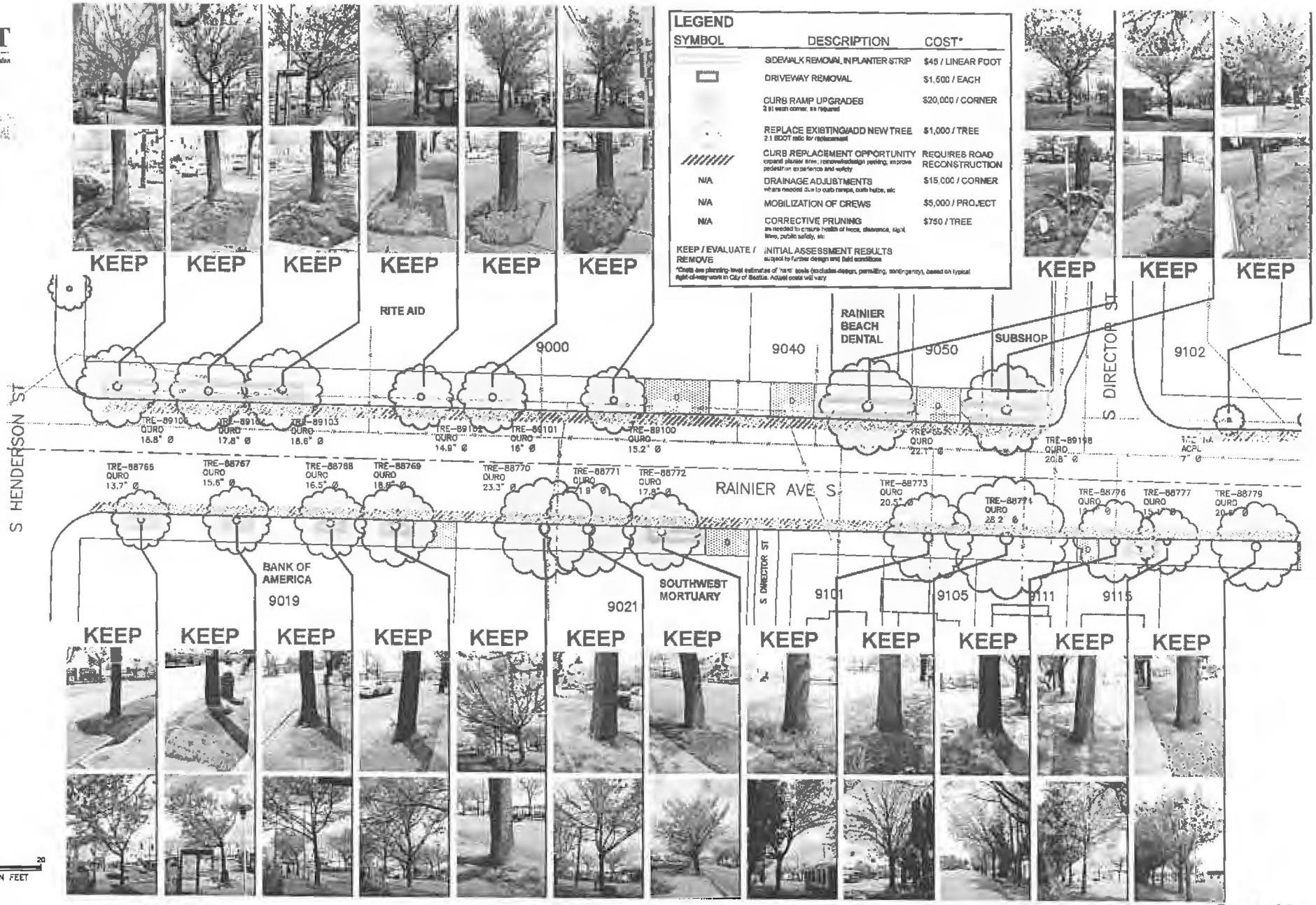
Parisien Design

SDOT Trees & Sidewalks Operations Plan | SvR # 13040

Rainier Beach - Rainier Ave S

Conceptual Recommendations

note: base map information is approximate, based on best available data (COS GIS)



SDOT
Seattle Department of Transportation

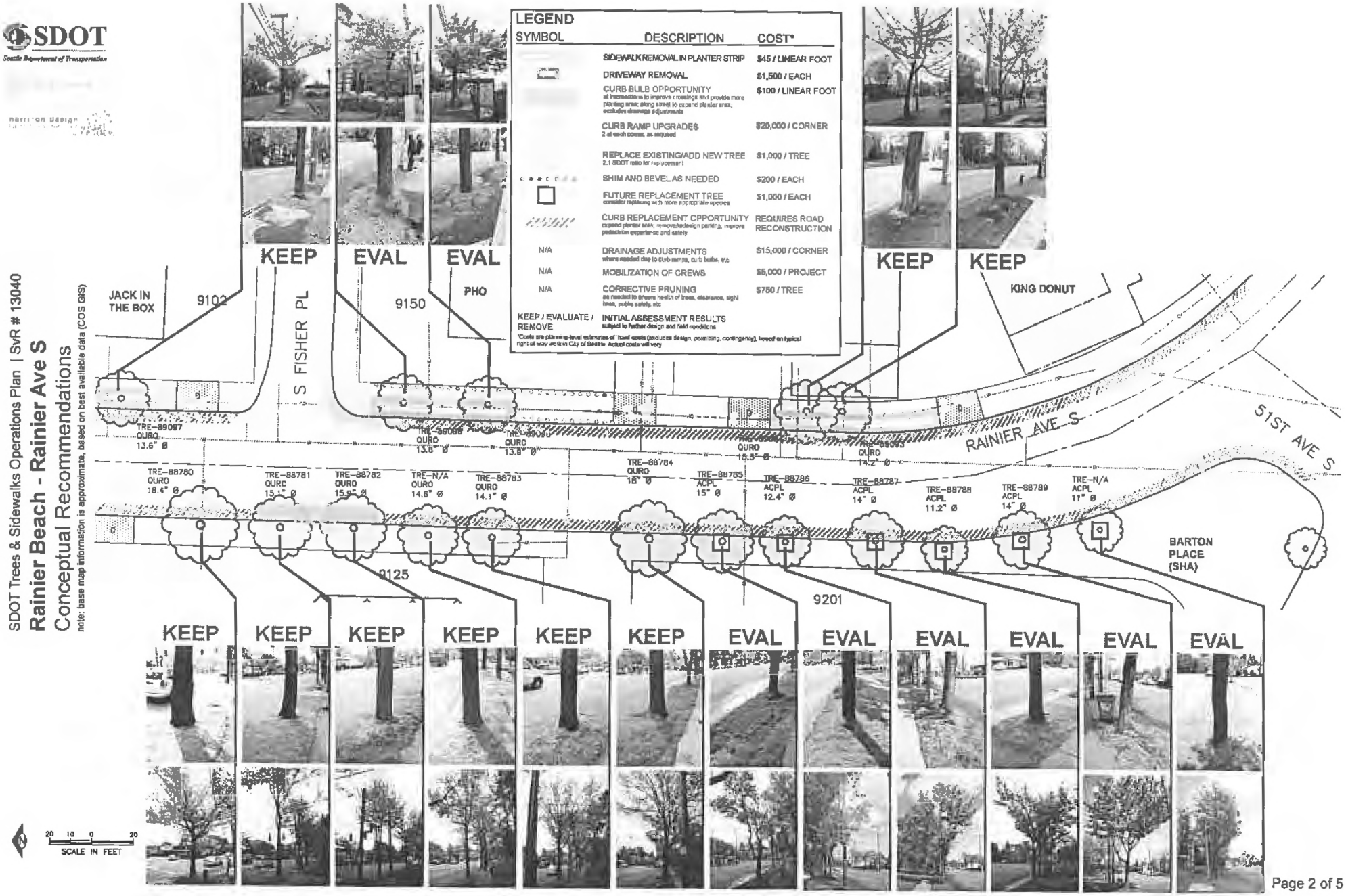
harrison design

SDOT Trees & Sidewalks Operations Plan | SvR # 13040

Rainier Beach - Rainier Ave S

Conceptual Recommendations

note: base map information is approximate, based on best available data (COS GIS)

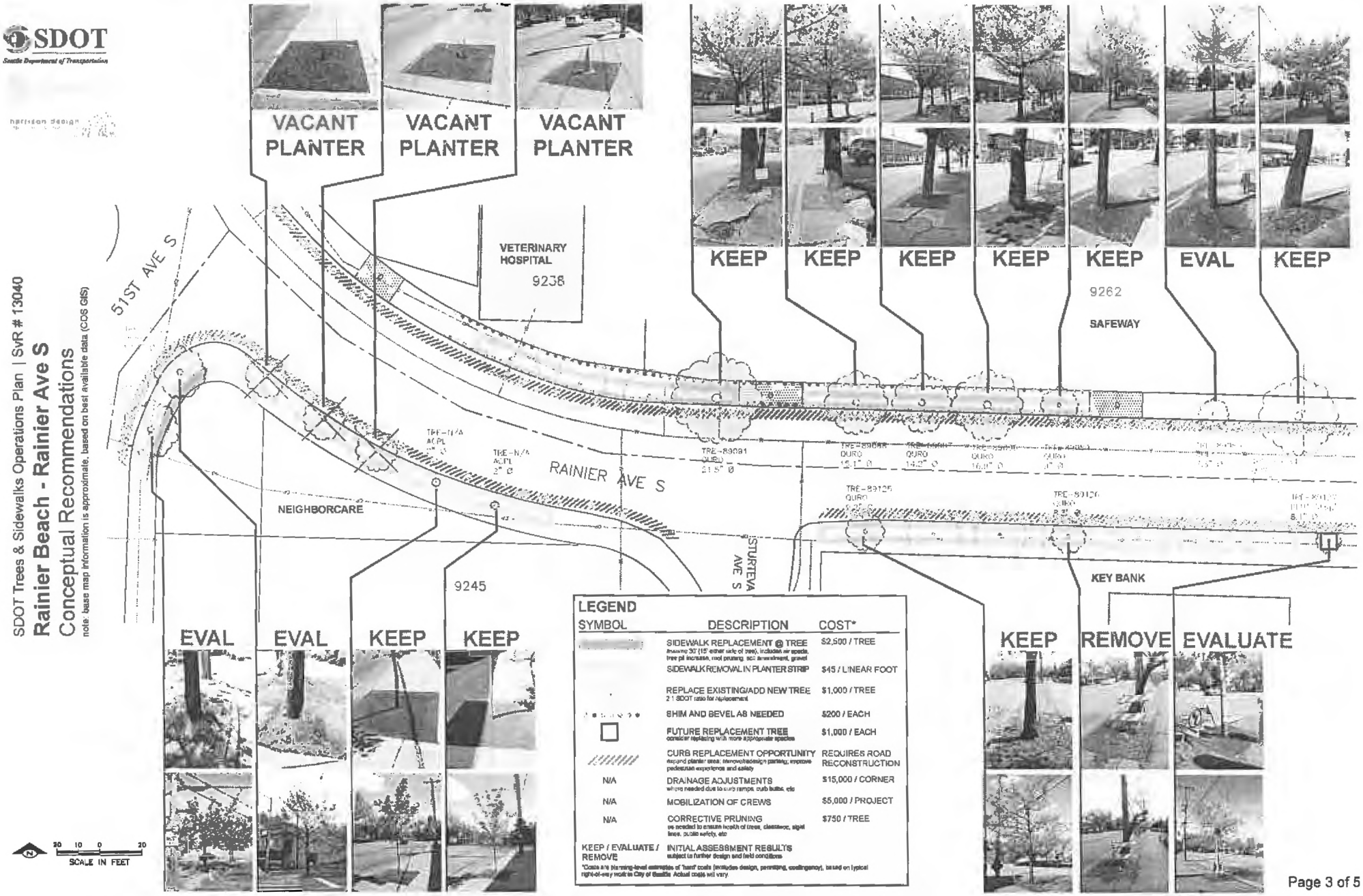


SDOT Trees & Sidewalks Operations Plan | SvR # 13040

Rainier Beach - Rainier Ave S

Conceptual Recommendations

note: base map information is approximate, based on best available data (CDS GIS)

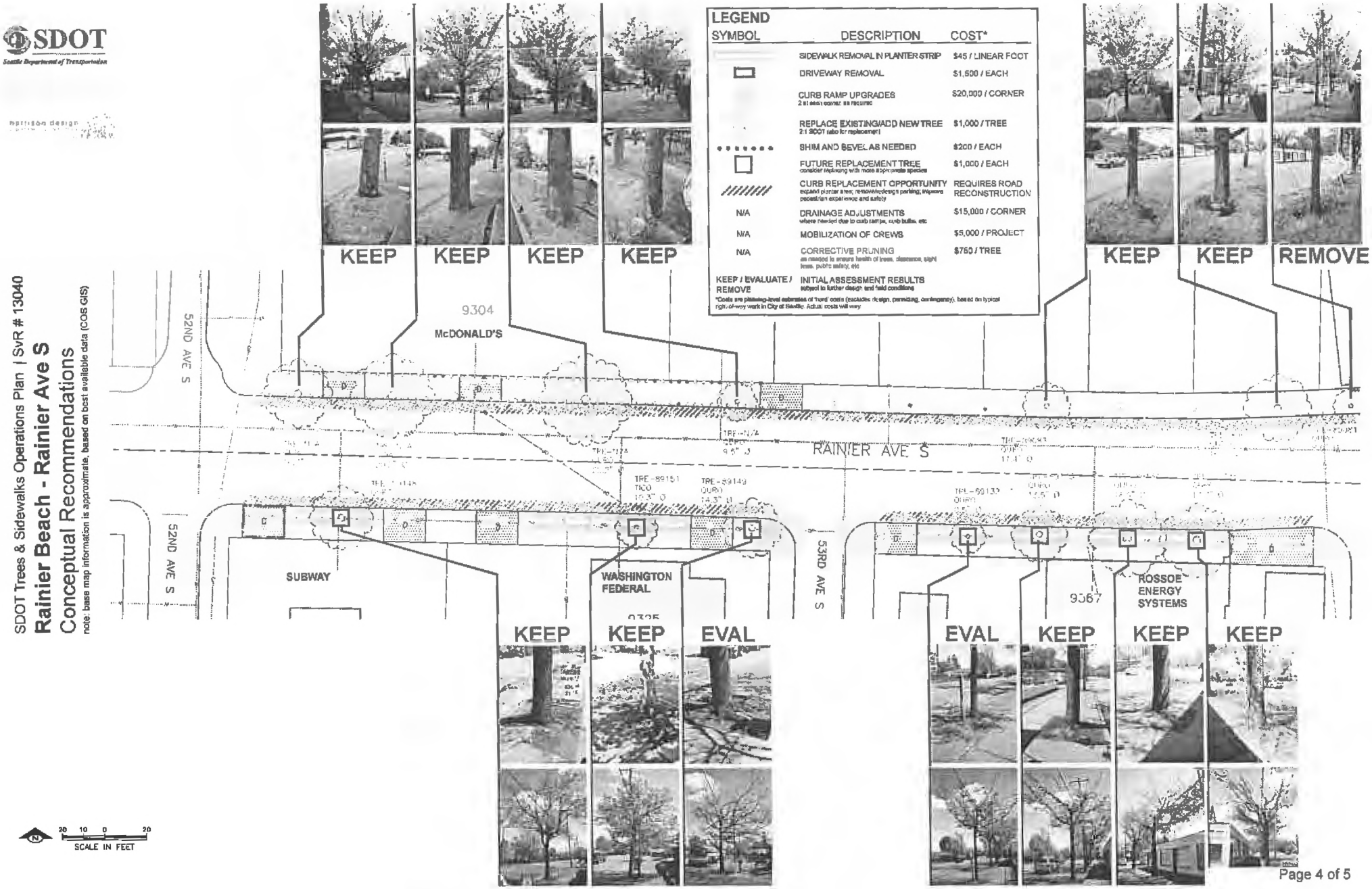


SDOT Trees & Sidewalks Operations Plan | SvR # 13040

Rainier Beach - Rainier Ave S

Conceptual Recommendations

note: base map information is approximate, based on best available data (COS GIS)

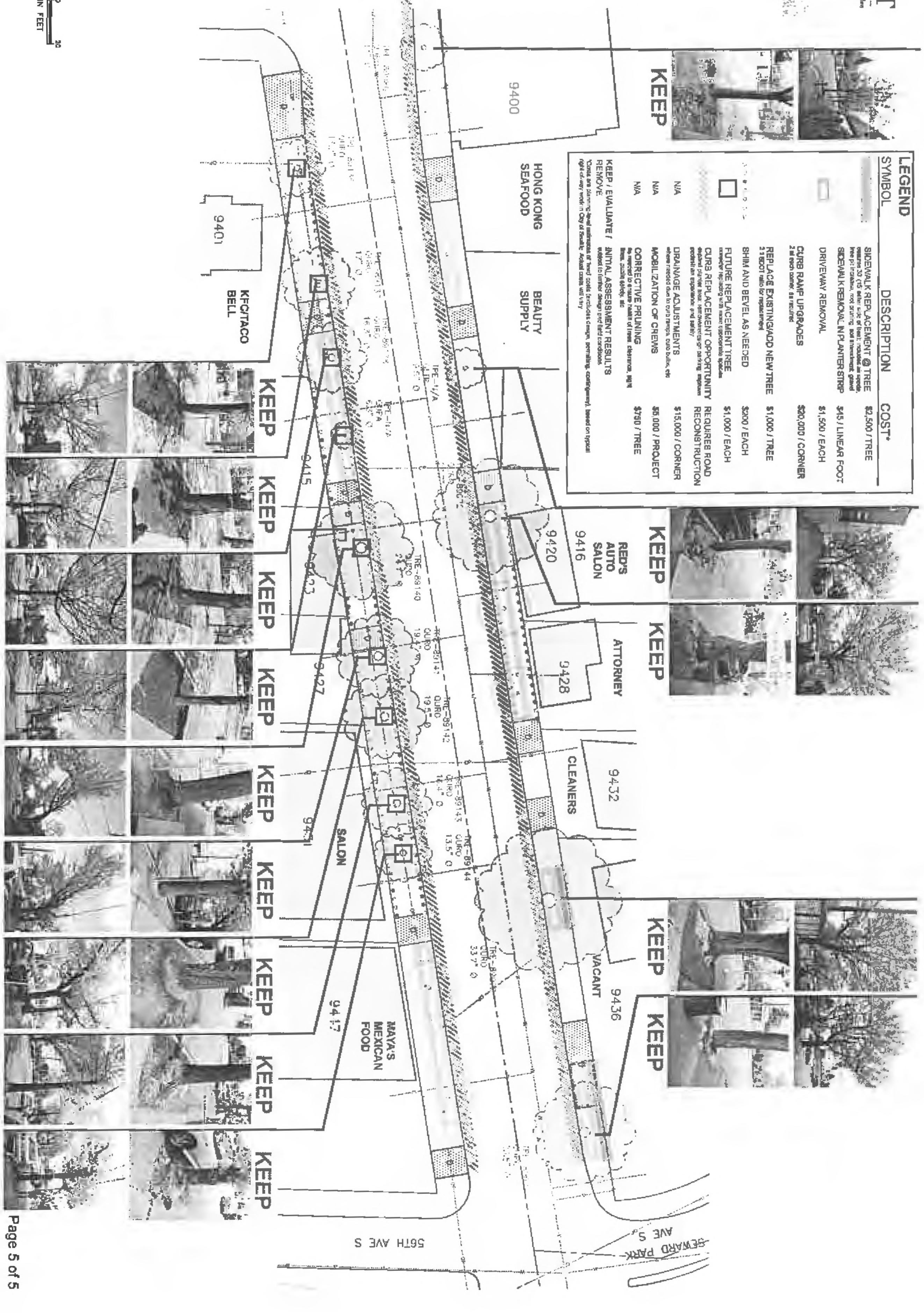


SDOT Trees & Sidewalks Operations Plan | SvR # 13040

Rainier Beach - Rainier Ave S

Conceptual Recommendations

note: base map information is approximate, based on best available data (COS GIS)



APPENDIX G

PUBLIC OUTREACH SUMMARY

City of Seattle
Seattle Department of Transportation
Trees and Sidewalks Operations Plan
Public Outreach Summary

Overview

The Seattle Department of Transportation initiated the process for the Trees and Sidewalks Operations Plan in January 2014, with the plan finalized in July 2014. Over the course of the seven month process, a number of discussions and meetings were held with key stakeholders and the general public. This document summarizes the public involvement program that supported the development of the Operations Plan.

Public Involvement Plan

A public involvement plan was established for the Trees and Sidewalks Operations Plan. This plan was drafted by the consultant team, reviewed by SDOT, and finalized in February 2014. The plan provided detail on the overall Trees and Sidewalks Operations Plan, as well as the events and techniques that would be used to inform and engage the public in the process.

Corridor Case Studies

Three areas of the city were selected for corridor case studies. These areas offered a representative sampling of various tree and sidewalk conditions, providing a wide-ranging framework within which to test a new tree/sidewalk assessment process, as well as a palette of possible tools to address tree and sidewalk conflicts. The corridors were located in the Madrona, Lake City, and Rainier Beach neighborhoods.

Communication with the leadership of these communities began in January. Jennifer Wieland, SDOT project manager, contacted the community councils in each location and offered to present information at their regular meetings. Jennifer briefed the Madrona Community Council, and also presented to both the Lake City and Rainier Beach Community Council meetings. These presentations provided meeting attendees with the opportunity to learn more about the project, the role of the case studies in the overall Operations Plan, and upcoming public meeting opportunities to participate in the development of the Corridor Plan for each community.

Seven public meetings were held in support of the Corridor Plans; three in Madrona and two each in Lake City and Rainier Beach. Each series of meetings began with an overall introduction to the need and purpose for the Operations Plan, the goals for the Corridor Plans, and the schedule/key milestones for the process going forward. At subsequent meetings, attendees were able to review the assessment process that will be used to evaluate tree health and sidewalk conditions, as well as the "toolkit" of available options to both protect trees and repair

sidewalks. Attendees were also asked to review and comment on the draft Corridor Plans before they were finalized.

The meetings were advertised via postcards, email notifications, and posters placed in neighborhood business establishments. Some 1600 postcards were initially mailed in Madrona, over 700 in Lake City, and over 1000 in Rainier Beach. Email notifications were sent via the Madrona, Lake City, and Rainier Beach Community Councils, in addition to other email lists managed by SDOT and varying neighborhood groups.

Attendance at these meetings ranged from 3 to 20. The smaller group size allowed for in-depth discussion and interaction between the SDOT/SvR team and community members. As noted in each meeting report, the discussions were both positive and productive, enabling all involved to learn from each other. The feedback provided by meeting attendees significantly informed the development of the Corridor Plans and greatly benefited the contents of the overall Operations Plan.

Website Presence and On-Line Surveys

In addition to the public meetings and presentations at the community councils, SDOT maintained a website for the project throughout the duration of the planning process.

Presentations with Organized Groups

In addition to the community meetings held for each corridor plan, the SDOT/SvR team kept a number of other groups regularly apprised of the planning process. Seattle's Urban Forestry Commission, Seattle Pedestrian Advisory Board, Commission for People with Disabilities and Madrona Community Council were briefed on the project and asked to review the public draft of the Operations Plan.

Stakeholder Engagement Related to the Citywide Operations Plan

A public draft of the SDOT Trees and Operations Plan was available for public review as a PDF or a word document for the month of January 2015. In addition to posting on the SDOT blog and on the project website, SDOT presented and received comments on the draft plan from the Urban Forestry Commission, Commission for People with Disabilities, Seattle Pedestrian Advisory Board and the Madrona Community Council. Public comments on the plan were also received via email from the public. SDOT responded to individual comments via email and revisions were made in this final version of the Operations Plan.

EXHIBIT F

"Policy" 674

DEPARTMENT OF PUBLIC WORKS
BUREAU OF STREET SERVICES
REPORT NO. #1

ADOPTED BY THE BOARD OF
PUBLIC WORKS OF THE CITY
of Los Angeles, California
JUN - 6 2007
Secretary

Date June 6, 2007
CD Citywide

Honorable Board of Public Works
of the City of Los Angeles

Commissioners:

CITY OF LOS ANGELES PUBLIC LAND LANDSCAPE POLICY – REQUEST BOARD APPROVAL OF THE PROPOSED REVISIONS TO THE POLICIES FOR THE INSTALLATION AND PRESERVATION OF LANDSCAPING AND TREES ON PUBLIC PROPERTY

RECOMMENDATION:

That your Board review and approve the proposed revisions to the Policies and Preservation of Landscaping and Trees on Public Property within the City of Los Angeles.

TRANSMITTALS:

Proposed Revisions to the Policies and Preservation of Landscaping and Trees on Public Property.

RECITAL:

The City of Los Angeles adopted the Policies for the Installation and Preservation of Landscaping and Trees on Public Property in 1971. Since that time, no revisions have been made to that document. In response to the need for landscape policy revision, the Community Forest Advisory Committee (CFAC) and the Urban Forestry Division began review of the policies in 2004. The policies as adopted in 1971 set standards regarding the need for trees and landscaping, amount of vegetation, responsible parties, financial responsibility, and the design of projects on publicly owned or controlled land.

Since 1971, many changes have occurred in the City of Los Angeles' structure, need for landscaping and trees, and practices in the arboriculture and landscaping disciplines. The revisions now proposed attempt to reconcile the policy with existing City structure and current best management practices in the landscape and tree professions. Following is a summary of the policy revisions main points:

1. The general objectives of the currently proposed revisions are to utilize trees and landscaping to optimize their ecosystem services. Additionally, since 1971, the City has added street trees to the infrastructure elements in its General Plan and the

proposed revisions make the City's policies commensurate with this vital element.

2. All public projects shall be designed to optimize tree and landscaping in fulfilling the general objectives.
3. Financial responsibility for large projects may rest with the City. Residential projects generally are the responsibility of the abutting property owners.
4. Authority and responsibility for projects shall be as follows:
    a. Public right-of-way – Department of Public Works
    b. Recreation and Parks land – Department of Recreation and Parks
    c. Public buildings and grounds – Department of General Services
5. All attempts should be made to preserve healthy and mature trees in all public lands.
6. Removed trees shall be replaced on a tree trunk diameter inch-for-inch basis. In locations where tree replacement is not possible, a Reforestation Fund shall be created into which the monetary value of the necessary mitigation trees is placed.
7. Tree types should be those that optimize benefits.
8. Tree maintenance shall conform to current arboriculture principles.
9. Design shall be by landscape designers/architects, arborists, urban foresters or other licensed professionals.
10. The Bureau of Street Services shall be the lead agency and coordinator for the three affected Departments. CFAC shall advise City departments.
11. Public education shall be developed to promote the importance of the urban forest.

The Bureau recommends the word prohibited be changed to discouraged in Section 5 Tree Preservation of the attached revisions. Additionally, City agencies affected by the 50% parking lot canopy coverage within ten years be informed of the need to include this in all future plans if the subject revisions are approved.

The Bureau is of the belief that these proposed policy changes will benefit the City, its residents, and the urban forest. Therefore, the Bureau requests your Board approve these revisions.

(RL—— GG—— NS)

Respectfully submitted,

WILLIAM A. ROBERTSON, DIRECTOR
BUREAU OF STREET SERVICES

Prepared by:

Hector Banuelos
Supervisor II
Street Tree Division
Ext. 5-5675

GG/RL:hb
S:\Board Reports\Landscape Policy Revisions

PROPOSED REVISIONS TO POLICIES FOR THE INSTALLATION AND PRESERVATION OF LANDSCAPING AND TREES ON PUBLIC PROPERTY [R:9/25/04]

Adopted by City Council, September 21, 1971; amended January 10, 1972 (Council File Nos 70-1899; 132989 S-1 & S-2; 145282 S-1)

1. GENERAL OBJECTIVES

The urban forest is recognized as a vital infrastructure system essential to the quality of life in the City of Los Angeles. Tree canopy and landscaping are important factors in every neighborhood, enhancing aesthetics, mitigating the heat island effect, improving air quality, reducing storm-water runoff, providing economic, psychological, and sociological benefits to all inhabitants. Therefore, the planting of new trees which will develop broad canopies, as well as the preservation of mature tree canopy and landscaping shall be considered to be a priority on all public property.

2. PROPOSED IMPROVEMENT PROJECTS

All proposed improvement projects shall be planned to provide the optimum tree cover and landscaping required for conformance to the above general objectives. This shall apply to all improvement projects undertaken by the City, by other public agencies, or by the private sector on land which is publicly controlled.

Trees and landscaping shall be provided in or adjacent to all parkways, on slopes adjacent to streets, in isolated land remnants, in or adjacent to all street frontages abutting public buildings or structures, in median and traffic islands, and on the grounds of public buildings.

In addition, priority shall be given to shading hardscape features such as parking lots, roofs, plazas, etc. An adequate number of trees shall be planted so that 50% of the parking-stall area in parking lots will be shaded within ten years. The only exception is to be when a conflicting use is planned and implementation is to be within ten years of the parking lot's first day of use.

3. FINANCIAL RESPONSIBLIITY

The installation of landscaping and trees which provide wide-spread general benefits to the public, such as on major and secondary streets, may be paid for by the City. Landscaping and trees, in parkway areas located in residential neighborhoods is generally provided by the abutting property owners.

4. AUTHORITY AND RESPONSIBILITY

a. Within the Public Right-of-Way
The Bureau of Street Services of the Department of Public Works is responsible for approving and maintaining all trees which are located within the public street right of

way.

b. Recreation and Parks Department land
The Recreation and Parks Department is responsible for approving and maintaining trees and landscaping in all Recreation and Parks properties. The Recreation and Parks' Planning and Construction Division is responsible for the preparation of improvement plans for landscaping and park tree installation within Recreation and Parks land.

c. Adjacent to Public Buildings and Grounds
The Department of Public Works (General Services) has primary responsibility for the landscaping and trees related to public buildings and their grounds, including publicly owned or operated parking lots, and the public ways.

5. TREE PRESERVATION

The cutting down or removal of structurally sound trees by City forces, or by private parties under contract with the City, shall be prohibited. Existing trees located on publicly controlled property shall not be removed unless necessitated by urgent reasons of safety, imminent death of the tree, unique requirements of individual trees, or to permit the installation of a greatly needed public facility. Before removal of existing trees is approved, a detailed investigation of all possible alternatives so as to retain the trees shall be made. Such alternates shall include, but are not limited to, the following:

a. Developing alternate alignments, especially for streets, sidewalks, and other hardscape, power and communications lines, storm drains, and sewers.

b. Moving roadway alignments from one side of the right of way to the other, to avoid existing mature trees.

c. Relocating tree to an appropriate nearby, neighborhood location, where appropriate, and in consultation with the local Neighborhood Council.

d. Relocating sidewalks immediately adjacent to the roadway when location adjacent to the property line causes interference with trees.

e. Relocating proposed buildings or other structures, including their structural elements, to avoid interference with existing trees.

Whenever the removal of five or more trees, or any outstanding or protected tree specimen, especially a large, historical or significantly handsome tree, is proposed, the following procedure shall be followed:

The local Neighborhood Council, the Councilmember of the respective district, the Department of Public Works, the Forestry Division and the General Manager of the Department of Recreation and Parks, and the Community Forest Advisory Committee (CFAC) shall be consulted regarding possible alternatives.

6. REPLACEMENT OF TREES

Whenever trees are removed, the existing trees' aggregate diameter, measured at breast height (D.B..H. or 4.5-feet above the ground: multitrunk trees are to be measured immediately below the lowest trunk) shall be replaced at an equal or greater rate of caliper of new trees. Each one-inch D.B.H. of existing tree shall be replaced with a minimum one-inch caliper new tree. Replacement trees shall have a minimum caliper of 3/4-inch. For example, a single-trunk tree whose D.B H. is 9 inches may be replaced with 12 trees of $^3/_4$-inch caliper, or with 3 trees of 3-inch caliper: This replacement ratio should represent a minimum. If the replacement ratio cannot be achieved on an individual project, it should be applied on an area-wide basis.

All replacement trees shall be healthy, and free of kinked, overgrown, or otherwise defective roots.

Highest priority for the planting of replacement trees shall be on the same property from which the original tree removal is to occur. If this is not possible, preference shall be given to planting the replacement tree(s) in the immediate neighborhood of its original location. Any replacement planting off-site of the original tree location shall be with the agreement of the property owner of the relocation site and coordinated with the local Neighborhood Council. If space is not available either on the original property or in the neighborhood of the original tree location, the property owner of the site from which the original tree is removed will be required to pay an assessment to the City's Reforestation Fund. The assessment will equal the full value of the tree as determined by using the latest edition of the tree valuation formula developed by the International Society of Arboriculture (ISA).

7. TYPES OF TREES

Tree types shall be selected with the viewpoint of maximizing environmental, aesthetic, and other tree values balanced with acceptable maintenance levels. Wherever suitable, blooming and accent foliage trees shall be used. Trees that will eventually provide a wide canopy and significant shade shall be favored.

The type of trees installed in a particular publicly owned right of way shall conform to the master plan maintained by the Bureau of Street Services, Department of Public Works.

The type of park trees installed in publicly owned parks shall conform to the master plan maintained by the Department of Recreation and Parks, and to one or more of the following: best management practices, suitable species for a site determined by the Department's arborist, Street Tree Planning Guide, and other professional tree planting guides. Deviations shall only be made with the approval of the Department's arborist.

When community plantings are planned, the consensus of the property owners and residents shall be given heavy consideration.

The landscaping of publicly owned properties and parking lots shall conform to the City's Landscape statutes as put forth in the LAMC Sections 12.40 through 12.43.

8. MAINTENANCE OF TREES

Maintenance of landscaping shall be based on the standards developed by the American National Standards Institute, ANSI A300, **Tree Care Operations** (latest edition), and other best practices for planting, pruning, and general maintenance. Agencies shall develop maintenance schedules for trees located on lands under the Agencies control.

9. DESIGN PERSONNEL

To insure a high degree of professional expertise, personnel responsible for directly supervising street tree, landscaping, and maintenance programs, and for preparing related improvement plans shall be licensed professionals in the field of landscape architecture, arboriculture, or urban forestry.

10. COORDINATOR FOR TREE AND LANDSCAPING PROGRAMS

The Bureau of Street Services, in the Department of Public Works, shall coordinate meetings as needed for program changes that affect multiple Departments. A Memorandum of Understanding (MOU) between the multiple Departments shall be established to assure the exchange of information, collaboration, and education. The MOU will include a method of cost sharing between the Agencies for supporting public education programs regarding tree maintenance and the City's annual Arbor Day celebrations.

The Community Forest Advisory Committee (CFAC) shall advise the City Departments in determining the landscaping and tree policy programs and the coordination of those programs. In addition, the CFAC shall report to the City Council on a quarterly basis, the Departments' progress toward establishing their respective landscaping and tree policies in accordance with these policies.

11. PUBLIC EDUCATION

The Department of Public Works shall develop a program to educate the public regarding its responsibilities and rights under these policies. In addition, the program shall promote the public support of urban forestry programs.

EXHIBIT G

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VIA ELECTRONIC MAIL

July 24, 2018

Hand Delivered at the July 25, 2018 Board of Public Works Meeting
President Kevin James
CITY OF LOS ANGELES BOARD OF PUBLIC WORKS
City Hall, Room 350
200 North Spring Street
Los Angeles, CA 90012

Dr. Fernando Campos, Executive Officer
CITY OF LOS ANGELES BOARD OF PUBLIC WORKS
City Hall, Room 361
200 North Spring Street
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CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
BUREAU OF STREET SERVICES
1149 South Broadway, 4th Floor
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Em: bss.boss@lacity.org

RE: Agenda Item No. 13, Tree Removal: 526, 600, 606, 610, 616, & 620 West 48th Street (Sidewalk Repair Program) BPW-2018-0598.

Dear President James, Dr. Campos and the Bureau of Street Services,

On behalf of United Neighborhoods for Los Angeles ("**UN4LA**") and the Eastside Nature Alliance ("**ENA**" or collectively with UN4LA as "**Commenters**"), my Office is contacting you regarding Agenda Item No. 13, Tree Removal: 526, 600, 606, 610, 616, & 620 West 48th Street (Sidewalk Repair Program) BPW-2018-0598 ("**Tree Removal**"). Commenters urge the City of Los Angeles ("**City**") to stay the requested tree removal permit to remove 6 Camphor (Cinnamomum camphora) trees pending appeal, as approval of the Tree Removal would violate the California Environmental Quality Act, Cal. Pub. Res. Code ("**PRC**") §§ 21100 *et seq* ("**CEQA**").

UN4LA is a community organization composed of residents of the City of Los Angeles frustrated by City Hall's unwillingness to listen to their concerns about poor planning, the lack of affordable housing, green space crumbling infrastructure and inconsistent enforcement of building codes. Members of UN4LA live, work and recreate in the area surrounding the Tree Removal and would be negatively impacted if the Tree Removal were to move forward.

ENA is a community organization composed of residents of the City concerned about the preservation of open space, green space and the urban tree canopy here in the City. Members of ENA live, work and recreate in the area around the Tree Removal and would be negatively impacted if the Tree Removal were to move forward.

I. BACKGROUND ON THE SIDEWALK REPAIR PROGRAM AND ENVIRONMENTAL IMPACTS OF THE DECLINE IN URBAN TREE CANOPY.

This Tree Removal is part of a large program of removal of street trees under the guise of the City's Sidewalk Repair Program, which has exacerbated the devastating environmental impacts of City's decline in Urban Tree Canopy over the past few decades. As a recent study published by the University of South California concluded "[t]he relatively recent and rapid decline in urban tree cover in the Los Angeles Basin [is] undermin[ing] the ability of the jurisdictions to adapt to increased urban temperatures, manage urban stormwater and maintain urban nature and quality of life." Su Jin Lee, et al (2017) Increasing home size and hardscape decreases urban forest cover in Los Angeles County's single-family residential neighborhoods 24 Urban Forestry & Urban Greening 222. 231 (attached as Exhibit C hereto) ("**Lee**").

II. BACKGROUND ON THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report except in very limited circumstances. *See, e.g.,* Cal. Pub. Res. Code § 21100. The EIR is the very heart of CEQA. *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal. App. 4th 98, 109. CEQA applies to agency projects that may have an adverse environmental impact. *Friends of Mammoth v. Board of Supervisors*, 8 Cal.3d 247, 259 (1972); *Friends of B Street v. City of Hayward*, 106 Cal.App.3d 988, 1003 (1980) (project that included removal of trees caused significant effect on

environment). CEQA has two broad purposes: 1) avoiding, reducing or preventing environmental damage by requiring alternatives and mitigation measures (14 Cal. Code Regs. § 15002(a)(2)-(3) (hereinafter "**CEQA Guidelines**")); and 2) providing information to decision makers and the public concerning the environmental effects of the proposed project. CEQA Guidelines § 15002(a)(1).

To achieve its objectives of environmental protection, CEQA has a three-tiered structure. CEQA Guidelines § 15002(k); *Comm. to Save the Hollywoodland Specific Plan v. City of Los Angeles* (2008) 161 Cal.App.4th 1168, 1185 – 86. First, if a project falls into an exempt category, or it can be seen with certainty that the activity in question will not have a significant effect on the environment, no further agency evaluation is required. *Id.* Second, if there is a possibility the project will have a significant effect on the environment, the agency must perform a threshold initial study. *Id.*; CEQA Guidelines § 15063(a). If the study indicates that there is no substantial evidence that the project may cause a significant effect on the environment the agency may issue a negative declaration. *Id.*, CEQA Guidelines §§ 15063(b)(2), 15070. Finally, if the project will have a significant effect on the environment, an environmental impact report ("**EIR**") is required. *Id.* Here, since the City proposes to exempt the Project from CEQA entirely, we are at the first step of the CEQA process.

A. Categorical Exemptions from CEQA Are Narrowly Construed.

CEQA exempt activities are either expressly identified by statute (i.e., statutory exemptions, PRC § 21080.01 et seq.; CEQA Guidelines §§ 15261 – 85) or those that fall into one of more than two-dozen classes deemed categorically exempt by the Secretary of Resources (i.e., categorical exemptions). PRC §§ 21080(b)(10); CEQA Guidelines §§ 15300. Public agencies utilizing CEQA exemptions must support their determination with substantial evidence. PRC § 21168.5. Exemptions to CEQA are narrowly construed and exemption categories are not to be expanded beyond the reasonable scope of their statutory language. *Mountain Lion Foundation v. Fish & Game Com.* (1997) 16 Cal.4th 105, 125. A reviewing court must "scrupulously enforce all legislatively mandated CEQA requirements." *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564. Erroneous reliance by the City on a categorical exemption constitutes a prejudicial abuse of discretion and a violation of CEQA. *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 52 Cal.App.4th 1165, 1192.

CEQA identifies certain classes of projects which are exempt from the provisions of CEQA. These are called categorical exemptions. PRC § 21084(a); CEQA Guidelines §§ 15300, 15354. Categorical exemptions are certain classes of activities that generally do not have a significant effect on the environment. *Id.* Public agencies utilizing such exemptions

must support their determination with substantial evidence. PRC § 21168.5. "[I]f the court perceives there was substantial evidence that the project might have an adverse impact, but the agency failed to secure preparation of an EIR, the agency's action must be set aside because the agency abused its discretion by failing to follow the law." *Dunn-Edwards Corp. v. Bay Area Air Quality Mgmt. Dist.* (1992) 9 Cal.App.4th 644, 656. A categorical exemption may not be invoked for any project that may cause a substantial adverse change in the significance of a historical resource. PRC § 21084(e); CEQA Guidelines § 15300.2(f); *Comm. to Save the Hollywoodland Specific Plan v. City of Los Angeles* ("*Hollywoodland*") (2008) 161 Cal. App. 4th 1168, 1186.

CEQA's unique "fair argument" standard applies when reviewing a CEQA exemption. Under the "fair argument" standard, an agency is precluded under the Guidelines from relying on a categorical exemption when there is a fair argument that a project will have a significant effect on the environment. *Berkeley Hillside Pres. v. City of Berkeley* (2012) 203 Cal. App. 4th 656, 670-671; *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego* ("*Bankers Hill*") (2006) 139 Cal. App. 4th 249, 266. In other words, "where there is any reasonable possibility that a project or activity may have a significant effect on the environment, an exemption would be improper." *Id.*; *Dunn-Edwards Corp.*, 9 Cal.App.4th at 654 – 55.

The standard of review in an action challenging a CEQA exemption is whether there has been a prejudicial abuse of discretion. See PRC § 21168.5; *Dunn-Edwards Corp.*, 9 Cal.App.4th at 656. "Abuse of discretion is established if the agency has not proceeded in a manner required by law or if the determination or decision is not supported by substantial evidence." *Id.; Western States Petroleum Assn. v. Super. Ct.* (1995) 9 Cal.4th 559, 568; See, e.g., *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 409. "[I]f the court perceives there was substantial evidence that the project might have an adverse impact, but the agency failed to secure preparation of an EIR, the agency's action must be set aside because the agency abused its discretion by failing to follow the law." *Dunn-Edwards Corp.*, 9 Cal.App.4th at 656; *Bankers Hill*, 139 Cal. App. 4th at 260. "Generally speaking, an agency's failure to comply with the procedural requirements of CEQA is prejudicial when the violation thwarts the act's goals by precluding informed decision-making and public participation." *San Lorenzo Valley Community Advocates for Responsible Education v. San Lorenzo Valley Unified School Dist.* ("*San Lorenzo*") (2006) 139 Cal.App.4th 1356, 1375.

CEQA categorical exemptions "are construed narrowly" and will not be unreasonably expanded beyond their terms. *County of Amador v. El Dorado County Water Agency* (1999) 91 Cal.Rptr.2d 66, 89. Exemptions are strictly construed to allow for the fullest possible

environmental protections within the reasonable scope of statutory language. CEQA Guidelines § 15003(f); *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 52 Cal. App. 4th 1165, 1192 – 93 ("Azusa"); *East Peninsula Ed. Council, Inc. v. Palos Verdes Peninsula Unified School Dist.* (1989) 210 Cal. App. 3d 155, 171; *Laurel Heights Improvement Assn.* v. *Regents of University of California* (1988) 47 Cal.3d 376, 390 (rejecting "an attempt to use limited exemptions contained in CEQA as a means to subvert rules regulating the protection of the environment").

Strict construction of CEQA exemptions conforms with the statutory directive under Section 21084 of the California Public Resources Code providing that unlike statutory exemptions, categorical exemptions such as the Class 1 Existing Facilities exemption the City is seeking to relying upon for the Project may only be provided for types of projects which have been determined by the California Department of Natural Resources to not have a significant environmental effect. PRC § 21084(a); *Azusa,* 52 Cal.App.4th at 1192.

III. APPROVAL OF THE TREE REMOVAL WOULD VIOLATE CEQA.

A. The Tree Removal Is Improperly Piecemealed and Exempted from CEQA Even Though It Is Part of The Larger City of Los Angeles Sidewalk Repair Program Which Is Currently Undergoing Environmental Review.

The Tree Removal is improperly being analyzed and exempted from CEQA even though it is part of the City's larger Sidewalk Repair Program, which is a "project" currently undergoing an environmental review process pursuant to CEQA. It is well established that CEQA forbids piecemeal review of the significant environmental impacts of a project. *Bozung v. Local Agency Formation Com.* ("*Bozung*") (1975) 13 Cal.3d 263, 283–284; *Arviv Enterprises, Inc. v. South Valley Area Planning Com.*(2002) 101 Cal. App. 4th 1333, 1340. Rather, CEQA mandates "that environmental considerations do not become submerged by chopping a large project into many little ones—each with a minimal potential impact on the environment—which cumulatively may have disastrous consequences." *Bozung,* 13 Cal.3d at 283–284. Thus, the term "project" as used for CEQA purposes is defined broadly as "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment...." CEQA Guidelines § 15378(a).

CEQA requires that "[a]ll phases of a project must be considered when evaluating its impact on the environment." CEQA Guidelines §. An EIR must analyze the environmental effects of other phases or future expansions of a project if (1) the other activities are reasonably foreseeable consequences of the initial project (*Bozung,* 13 Cal.3d at 283–284; (2) the other activities are a future expansion of the first activity that will change the scope of the first

activity's impacts (*Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 396; or (3) the related activities are all integral parts of the same project. *Sierra Club v. West Side Irrigation Dist.* (2005) 128 Cal. App. 4th 690, 698, citing *No Oil, Inc. v. City of Los Angeles* (1987) 196 Cal. App. 3d 223.

By having issued a Notice of Preparation (NOP) and Initial Study that concluded that a full environmental impact report is necessary for the Sidewalk Repair Program (see attached at Exhibit A-B), the City has acknowledged that CEQA requires environmental review of the Sidewalk Repair Program project prior to its approval and implementation. Yet the City impermissibly and illegally has been approving components of the Sidewalk Repair Program project (such as this one) without any environmental review, claiming that such tree removals are exempt from CEQA. As the Initial Study for the Sidewalk Repair Program itself notes:

> Minor repairs to existing sidewalks typically fit the definition of a Class 1 existing facility identified under Section 15301 (c). As the proposed Project consists of a long-term sidewalk repair program, with an expected consistent level of funding and activities, additional review under CEQA is required to analyze the impact of these activities collectively, over time. The proposed Project will potentially result in the removal of large quantities of mature street trees, as well as temporary street and sidewalk closures during construction activities. (Initial Study at 2-4, attached as Exhibit B hereto]

By failing to analyze this Tree Removal as part of the Sidewalk Repair Program that the Tree Removal is being performed pursuant to, the City is improperly piecemealing CEQA environmental review.

B. The Project Fails to Qualify for Categorical Exemptions from CEQA.

This Tree Removal fails to facially qualify for the Category 1 categorical exemptions from CEQA as the Tree Removal is part of the City's larger Sidewalk Repair Program which the City itself is currently reviewing under CEQA.

Class 1 categorical exemptions apply to the "operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing . . . topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination." 14 CCR 15301.

However, the Class 1 categorical exemption fails to apply since this Tree Removal involves an expansion of use. Presently, the City is already well aware of the fact that it is conducting

environmental review of the very program, the Sidewalk Repair Program, that this Tree Removal is being conducted pursuant to.

The City itself admitted in beginning of the CEQA environmental review process for the Sidewalk Repair Program, this Tree Removal does not fit under the guise of the Class 1 Existing Facilities exemption since the Tree Removal is part of a "long-term sidewalk repair program [] with an expected consistent level of funding and activities." (*Initial Study* at 2-4).

C. The Project Fails to Qualify for A Categorical Exemption Under the City's Own CEQA Guidelines.

For similar, aforementioned reasons, the Tree Removal also fails to qualify for an exemption under the City's own regulations for Class 1 Categorical Exemptions. In fact, Article III, Section 1, Class 1, Category 3 expressly disqualifies tree removals from CEQA categorical exemptions, exempting "minor alteration of . . . sidewalks . . . **except where the activity will involve removal of a scenic resource including but not limited to a stand of trees, ...**" The Tree Removal is exactly the kind of scenic resources that the City's own regulations bar from being exempted.

This is especially true given the location of this particular Tree Removal – this area of the City has very few trees and is nearby Los Angeles International Airport ("LAX") which experiences heavy air quality pollution from air and ground traffic visiting LAX. Removing the sixteen (16) trees is not just an environmental issue, but an ***environmental justice*** issue, given the well-documented systemic lack of tree cover in economically disadvantaged areas. (*Lee* at 231).

D. Commenters Request That The Board Stay The Cherokee Avenue Tree Removal As Well As Any And All Tree Removals Under The Sidewalk Repair Program Pending The Completion of Environmental Review On The Sidewalk Repair Program

The City is still presently approving tree removals under the Sidewalk Repair Program even as the program proceeds to undergoes environmental review. As these tree removals are being conducted in violation of CEQA, the Board should order an immediate stay of all tree removal activities under the Sidewalk Repair Program.

V. AT A MINIMUM, COMMENTERS REQUEST THAT THE BOARD STAY THIS TREE REMOVAL PENDING THE COMPLETION OF ALL ADMINISTRATIVE APPEALS AGAINST THE TREE REMOVAL

CEQA requires that an appeal of any CEQA determination, including categorical exemptions be appealable to an elected decision-making body. CEQA requires public agencies to allow the public to appeal a CEQA determination to a public "agency's elected decision-making body." Pub. Res. § 21151(c). A CEQA determination and project approval is not "final" until the "final adjudicatory administrative decision." *Hensler v. City of Glendale* (1994) 8 Cal. 4th 1, 22. CEQA defines "project" broadly to mean "the whole of an action, which has a potential for resulting in a physical change in the environment, directly or ultimately ... [¶] [t]he term . . . refers to the activity which is being approved . . . ." Guidelines[1], § 15378, subds. (a) and (c). The scheme proposed by the City, that CEQA only requires a perfunctory appeal regarding the sufficiency of an EIR to an elected decision-making body, defeats the entire point of an EIR, which requires an agency, and if available an agency's elected decision-makers, to "have a real confrontation with the EIR," to "face "the political heat of certifying an EIR," leaving them with "no alternative to taking arms against the troubles identified in the EIR," and to have a "real confrontation . . . with the economic and social values in the project." *Vedanta Soc'y of So. Cal. v. Cal. Quartet* (2000) 84 Cal. App. 4th 517, 527 – 529.

It is a well-established principle that "CEQA is violated when the authority to approve or disapprove the project is separated from the responsibility to complete the environmental review." *POET, LLC v. State Air Resources Bd.* (2013) 218 Cal. App. 4th 681, 734, and that an elected decision-making body "act[] as the final, independent decision-making body for both the Project and the environmental review documents." *Citizens for the Restoration of L Street v. City of Fresno* (2014) 229 Cal.App.4th 340, 359 (emphasis added); *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal. App. 4th 1184, 1202 ("It is the City's bifurcated process, which resulted in segregation of environmental review from project approval, that supports an imputation of bad faith"). The City's practice does exactly what POET and L Street disapprove of -- separating project approval from responsibility to complete the environmental review and allowing elected decision-making bodies to ignore the merits of the project ultimately being analyzed and considered for approval.

As *POET* noted, an EIR cannot be certified after a project had already been approved, as the City has done in declaring the Project Approvals final prior to completing the administrative appeals of the Project's EIR. *POET*, *supra*, 218 Cal. App. 4th at 730 ("The Executive Officer's adoption of the final regulation was improper because it violated the timing requirement of CEQA that "approval" occur after consideration of the environmental review documents."). Similarly, *L Street* independently found that an appeal that included only the sufficiency of an EIR failed to satisfy CEQA's mandates under PRC § 21177. *L Street*, *supra*, 229 Cal. App. 4th at 362 ("the administrative appeal, standing as a separate and independent procedure, did not comply with the CEQA requirement for findings by the decision-making body."). As such, the City's CEQA procedure allowing for appeal to an

[1] Known as the CEQA Guidelines, codified in Title 14 of the Cal. Code of Regulations.

elected decision-making body is in violation of CEQA because it separates components of the project from the environmental review. See *POET*, ***supra***, 218 Cal. App. 4th at 734.

On February 14, 2018, Commenters filed an appeal to City Council regarding Case No. BPW-2018-0111 which involved the removal of 12 Indian Laurel Fig trees at 750 South Spaulding Avenue ("**Spaulding Avenue Trees**"), arguing that the approved tree removal violated CEQA and failed to qualify for a Categorical Exemption under CEQA. Commenters subsequently learned that the Spaulding Avenue Trees had been removed while its administrative appeal was pending. *See* Declaration of Casey Maddren (Exhibit D).

The Board should issue a stay against the Tree Removal pending completion of its administrative process including any appeals of its CEQA determination to the City Council. As the Board's decision on the Tree Removal will be final and not further appealable under the Municipal Code, absent an appeal to the City Council pursuant to CEQA, the Board should stay the Tree Removal pending the outcome of any appeal to City Council.

VI. APPROVAL OF THE TREE REMOVAL WOULD VIOLATE THE CITY'S PUBLIC LAND LANSCAPE POLICY

The Tree Preservation section of the City of Los Angeles Public Land Landscape Policy ("**Tree Policy**") specifically requires that, "The cutting down or removal of structurally sound trees by City forces, or by private parties under contract with the City, shall be prohibited. Tree Policy § 5. Existing trees located on publicly controlled property shall not be removed unless necessitated by urgent reasons of safety, imminent death of the tree, unique requirements of individual trees, or to permit the installation of a greatly needed public facility. Before removal of existing trees is approved, a detailed investigation of all possible alternatives so as to retain the trees shall be made. Such alternates shall include, but are not limited to, the following:

a. Developing alternate alignments, especially for streets, sidewalks, and other hardscape, power and communications lines, storm drains, and sewers.
b. Moving roadway alignments from one side of the right of way to the other, to avoid existing mature trees.
c. Relocating tree to an appropriate nearby, neighborhood location, where appropriate, and in consultation with the local Neighborhood Council.
d. Relocating sidewalks immediately adjacent to the roadway when location adjacent to the property line causes interference with trees.
e. Relocating proposed buildings or other structures, including their structural elements, to avoid interference with existing trees."

Furthermore, the Tree Policy requires that, "Whenever the removal of five or more trees, or any outstanding or protected tree specimen, especially a large, historical or significantly handsome tree, is proposed, the following procedure shall be followed:

The local Neighborhood Council, the Councilmember of the respective district, the Department of Public Works, the Forestry Division and the General Manager of the Department of Recreation and Parks, and the Community Forest Advisory Committee (CFAC) shall be consulted regarding possible alternatives."

A. Commenters Urge the City to Investigate All Possible Tree Removal Alternatives So As To Protect Structurally Sound And Mature Trees

The City's Public Landscape Policy requires a detailed investigation into ALL possible alternatives in order to prevent the removal of structurally sound or mature trees. Commenters urge the city to investigate the following tree removal alternatives prior to approval of the tree removal permit request:

- Sidewalk width reduction;
- Alternative sidewalk materials including asphalt, pavers, pervious concrete, and/or rubber;
- Sidewalk beveling,
- Reinforced or thicker concrete slabs,
- Expansion Joints,
- Shims,
- Concrete leveling,
- Tree pit sizing,
- Bridging,
- Easements,
- Foam Underlay,
- Root paths,
- Steel Plates,
- Subsurface aeration & irrigation,
- Root pruning,
- Meandering

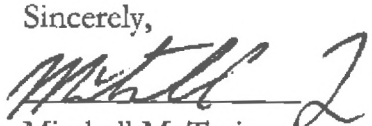
Approval of this tree removal prior to a complete investigation would violate both CEQA and the City's Public Landscaping Policy. Appendix B of a Tree and Sidewalks Operations

Plan prepared by the Department of Transportation for the city of Seattle describes several of the tree removal alternatives mentioned above and provides recommendations for scenarios where the alternatives should be considered.

VII. CONCLUSION.

For the aforementioned reasons, Commenters urge the Board of Public Works to deny the Tree Removal permit and to place on the Board's next agenda a motion that directs the City to cease and desist issuing any permits to remove, or removing, any trees from the public right of way pending the completion of the environmental review process for the Sidewalk Repair Program, as well as the full investigation and implementation of ALL possible tree removal alternatives pursuant to the City's Public Landscape Policy. Failure to do so will result in UN4LA and ENA seeking legal remedies such as a Temporary Restraining Order as to allow a complete environmental review.

Sincerely,



Mitchell M. Tsai

Attached:

Exhibit A: Notice of Preparation regarding Sidewalk Repair Program

Exhibit B: Initial Study regarding Sidewalk Repair Program

Exhibit C: Su Jin Lee, et al (2017) Increasing home size and hardscape decreases urban forest cover in Los Angeles County's single-family residential neighborhoods 24 Urban Forestry & Urban Greening 222. 231Study Report from University of Southern California regarding urban tree cover

Exhibit D: Declaration of Casey Maddren in support of Comment Letter regarding BPW-2018-0494

Exhibit E: City of Seattle Department of Transportation Tree and Sidewalks Operations Plan prepared in February 2015; and

Exhibit F: City of Los Angeles (2007) City of Los Angeles Public Land Landscape Policy – Request Board Approval of the Proposed Revision to the Policies for the Installation and Preservation of Landscaping and Trees on Public Property.

Exhibit G: Land Protection Partners' letter regarding Significant Impacts of Tree Removal Along Crenshaw Boulevard Between Exposition Boulevard and 48th Street for Metro Crenshaw/LAX Transit Project

DEPARTMENT OF PUBLIC WORKS
BUREAU OF STREET SERVICES
REPORT NO. 1
Page 1 of 4
Date: July 25, 2018
CD# 09

Honorable Board of Public Works
Of the City of Los Angeles

Commissioners:

526, 600, 606, 610, 616 and 620 WEST 48TH STREET – CITYWIDE SIDEWALK REPAIR PROGRAM IN COUNCIL DISTRICT NINE REQUEST BOARD AUTHORIZE A PERMIT TO REMOVE SIX CAMPHOR (CINNAMOMUM CAMPHORA) TREES BY CITY FORCES FOR THE RECONSTRUCTION OF THE OFFGRADE PUBLIC SIDEWALK. TREE REPLACEMENTS ARE REQUIRED.

RECOMMENDATION:

1. FIND that the tree removal (1) classifies as operation, repair, maintenance or minor alteration of existing street, sidewalk, and gutter, involving negligible or no expansion of use beyond that previously existing; and does not involve the removal of a scenic resource; (2) that the action is exempt under Article III, Section 1, Class 1, Category 3 (existing facilities – sidewalk repair or maintenance) of the City of Los Angeles Environmental Quality Act Guidelines (2002); and (3) that none of the exceptions to the use of a categorical exemption as set forth in Section 15300.2 of the State CEQA Guidelines apply.

2. Review and approve this tree removal permit request for the removal of six Camphor (Cinnamomum camphora) trees by City forces located on 526, 600, 606, 610, 616 and 620 West 48th Street for the reconstruction of an off-grade sidewalk. Tree replacements are required.

TRANSMITTALS:

1. Tree removal notification sheet.
2. Service Request #1-962032051
3. Property owner's authorization for tree removal.
4. Photographs of the trees to be removed.

CONDITION:

All tree replacements comply with the Board of Public Works 2:1 tree replacement policy and shall be planted by the Office of Community Beautification (OCB) or its contractor. The Urban Forestry Division shall begin weekly watering of the tree replacements upon tree planting confirmation from the OCB. Tree watering shall continue for a three-year period.

- Twelve 24-inch box size Pink Trumpet (Handroanthus heptaphyllus) trees to be replanted on the 500 through 600 block of West 48th Street at the following addresses: one at 520, two at 526, one at 529, one at 530, one at 536, one at 600, one at 606, one at 616, one at 620, one at 640 and one at 714 West 48th Street.

ALTERNATIVE METHODS AND OPTIONS EXPLORED:

The size, species, and location of the trees negate the possibility of tree preservation or relocation.

RECITAL:

The Bureau of Engineering (BOE) is the lead agency in identifying defective sidewalks at several locations throughout the City of Los Angeles as part of the Citywide Sidewalk Repair Program. BOE and its contractors are working in close collaboration with the Bureau of Street Services (Bureau) in addressing potential impacts to street trees adjacent to targeted locations.

The BOE contacted the Bureau in reference to reconstruction of off-grade sidewalk conditions at 500 through 600 block of West 48th Street on the South side of the street bounded by Figueroa Street to the east and Hoover Street to the west. A Bureau Arborist inspected the subject location on April 09, 2018. The inspection revealed six Camphor (Cinnamomum camphora) trees in fair to poor health measuring approximately twenty-four through sixty-four inches in diameter by approximately thirty to forty-eight feet in height growing in four-foot parkways.

The Bureau is proposing to replace the defective sidewalks due to uplift and severe disruption by the roots and root crowns of the subject trees. The trees have severely outgrown their growing space and defective sidewalks are prevalent throughout the area. The required root pruning to allow the trees to remain would significantly and adversely affect the trees' health and roots' structural integrity leaving them potentially unstable. Hence, sidewalk reconstruction will require tree removal.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The Bureau finds the tree removal (1) classifies as operation, repair, maintenance or minor alteration of existing street, sidewalk, and gutter, involving negligible or no expansion of use beyond that previously existing; and does not involve the removal of a scenic resource; (2) that the action is exempt under Article III, Section 1, Class 1, Category 3 (existing facilities – sidewalk repair or maintenance) of the City of Los Angeles Environmental Quality Act Guidelines (2002); and (3) that none of the exceptions to the use of a categorical exemption as set forth in Section 15300.2 of the State CEQA Guidelines apply.

The CEQA Guidelines for Street Tree Removal and Replacements were used in making this finding and are on file with the Bureau and available to the public upon request.

CONCLUSION

Bryce Rosauro, District Advocate, Council District Nine, was informed of the tree removal request on May 31, 2018 and will notify the Bureau of any objections received by their office.

Public comments on this tree removal request will be received and heard, both in-writing and in-person, during the scheduled public hearing with the Board. The following public noticing of this tree removal permit was conducted:

- Notice of the proposed tree removals were physically posted on the subject trees on April 09, 2018.
- Proposed tree removals were included in the Bureau Tree Removal Notification System.
- The Community Forestry Advisory Committee (CFAC) was notified.

The Bureau's Urban Forestry Division shall begin weekly watering of the tree replacements upon tree planting confirmation from (OCB). Tree watering shall continue for a three-year period.

- Twelve 24-inch box size Pink Trumpet (Handroanthus heptaphyllus) trees to be replanted on the 500 through 600 Block of West 48th Street at the following addresses: one at 520, two at 526, one at 529, one at 530, one at 536, one at 600, one at 606, one at 616, one at 620, one at 640 and one at 714 West 48th Street.

All tree replacements comply with the Board of Public Works 2:1 tree replacement policy and shall be planted by the Office of Community Beautification (OCB) or its contractor.

(TT----NS----GS)

Respectfully submitted,

For NAZARIO SAUCEDA, DIRECTOR
BUREAU OF STREET SERVICES

Prepared by:
Urban Forestry Division
Ext. 7-3077

NS/GS/TT/HB:dm
S:\Board Reports\Sidewalk Repair Prog Board Report\FY 2017-2018 526-620 W 48th St

TRANSMITTAL NO.

TREE REMOVAL NOTIFICATION

DATE: **May 31, 2018**
OF PAGES: **1**

TO:
COUNCIL DISTRICT: **9**
ATTENTION: **Bryce Rosauro / James Westbrooks**
PHONE NUMBER: **323-846-2651/ 213-473-7009**
FAX NUMBER: **323-846-2656**
EMAIL: bryce.rosauro@lacity.org / james.westbrooks@lacity.org

FROM: URBAN FORESTRY DIVISION
Mail Stop #550
1149 S. Broadway, 4th Floor
Los Angeles, CA 90015
PHONE # : (213) 847-3077
FAX: (213) 847-3033

MESSAGE: The Urban Forestry Division received the following permit request to remove trees.

REQUESTER'S INFO: City of Los Angeles Bureau of Street Services.
c/o Sidewalk Repair Program
1149 S Broadway 4th Floor
Los Angeles, CA 90015

PERMIT TYPE: No-Fee Permit

TREE LOCATION: 526,600,606,610,616,620 W 48th St
Los Angeles, CA 90037
Bid Pkg # BSS-8 CRM # 1-962032051
Location # 1324 WO #

TREE QUANTITY AND SPECIES: (6) Camphor (Cinnamomum camphora)

REASON FOR REQUEST: Sidewalk Repair Program

CEQA: The tree removal(s) is/are (1) classified as operation, repair, maintenance or minor alteration of existing street, sidewalk, and gutter, involving negligible or no expansion of use beyond that previously existing; and does not involve the removal of a scenic resource; (2) the action is exempt under Article III, Section 1, Class 1, Category 3 (existing facilities - sidewalk repair or maintenance) of the City of Los Angeles Environmental Quality Act Guidelines (2002); and (3) none of the exceptions to the use of a categorical exemption as set forth in Section 15300.2 of the State CEQA Guidelines apply.

TREE REPLACEMENT REQUIREMENTS:
PLANTING QUANTITY AND SPECIES: (12) 24-inch box size Pink Trumpet (Handroanthus heptaphyllus)

FOR BUREAU OF STREET SERVICES USE ONLY

☐ The above request has been reviewed and approved.
☐ The above request is denied.

APPROVED BY: _____

DATE APPROVED: _____

Maricel El-Amin <maricel.el-amin@lacity.org>

Tree Removal Notification - 526 through 620 W 48th St

Maricel El-Amin <maricel.el-amin@lacity.org> Thu, May 31, 2018 at 4:55 PM
To: Bryce Rosauro <bryce.rosauro@lacity.org>, James Westbrooks <james.westbrooks@lacity.org>, Ryan Allen <rallen@labteam.org>

Please see attached. Notice of the proposed tree removals were posted on April 9, 2018.

526 - 620 W 48th St Site 1324.pdf
24K

EXHIBIT H

Search by Name

Search Trees by Characteristics

Search Help

About SelecTree

Right Tree Right Place

Site Preparation

SelecTree: Tree Detail

CAMPHOR TREE

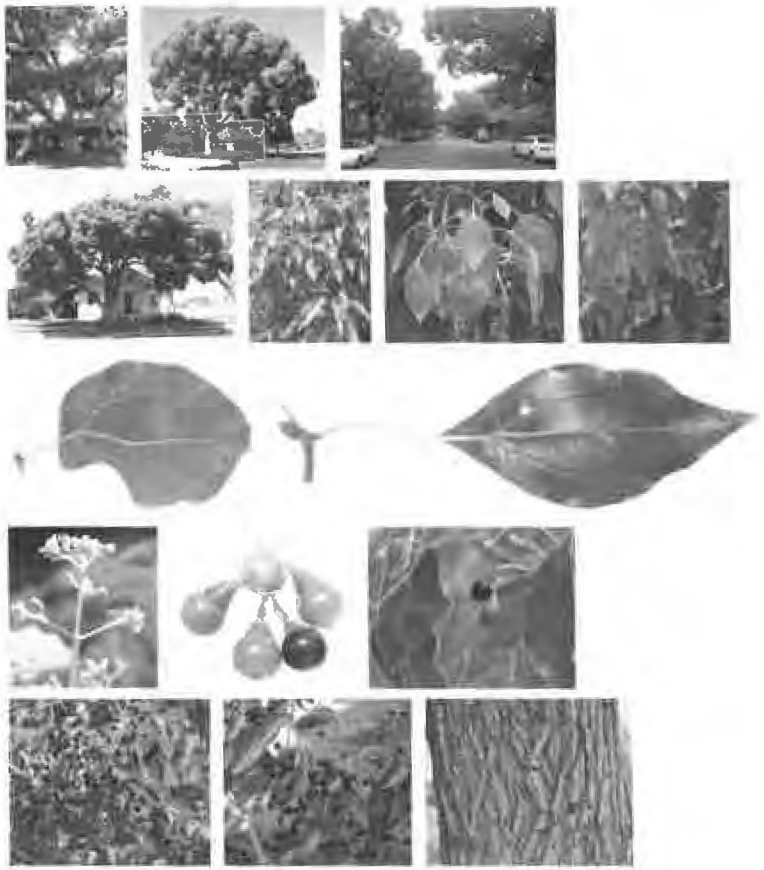


Photo Locations: Cal Poly State University - San Luis Obispo, CA, Stanford, CA, Los Angeles County Arboretum - Arcadia, CA, San Jose, CA, Salinas, CA, Sacramento, CA, San Luis Obispo, CA and Balboa Park - San Diego, CA

See all Cinnamomum

General Notes

Provide good drainage in clay soil. Smog tolerant.

Has fragrant Flower and Leaf.

Native to China and Japan.

A *Cinnamomum camphora* in Stanislaus is registered as a California Big Tree. It measures 53 feet high, with a trunk circumference of 294 inches and a crown spread of 121 feet.

Family: *Lauraceae*

Additional Common Names

CAMPHOR TREE, CAMPHOR LAUREL

Tree Characteristics

Erect or Spreading and requires ample growing space.

Tree Site Conditions & Constraints

Sunset Zones 8, 9 and 12 - 24.

USDA Hardiness Zones 9 - 11.

Exposure Full Sun to Partial Shade.

Moist Soil.

Clay, Loam or Sand Texture.

Slightly Acidic to Highly Alkaline Soil pH.

Salinity Tolerance is Moderate on Coast.

Seaside Tolerance is Good in Mild Zone.

Pests & Disease Information

Susceptible to Anthracnose, Armillaria, Phytophthora, Root Rot and Verticillium.

Rounded or Umbrella Shape.

Has Evergreen Foliage.

Height: 50 - 65 feet.

Width: 50 - 80 feet.

Growth Rate: 24 Inches per Year.

Longevity 50 to 150 years or more.

Leaves Elliptic, Glossy Light to Medium Green, No Change, Evergreen.

Flowers Inconspicuous. Fragrant Flowers in Spring. Has perfect flowers (male and female parts in each flower).

Black Drupe, Small (0.25 - 0.50 inches), fruiting in Winter or Summer.

Bark Dark Gray, Light Gray or Red Brown, Blocky or Furrowed.

Shading Capacity Rated as Dense in Leaf.

Litter Issue is Dry Fruit.

Cite this tree:
SelecTree. "Cinnamomum camphora Tree Record." 1995-2018. Jul 31, 2018
< https://selectree.calpoly.edu/tree-detail/cinnamomum-camphora >

Branch Strength Rated as Strong.

Root Damage Potential Rated as High.

Allergy Health Hazard.

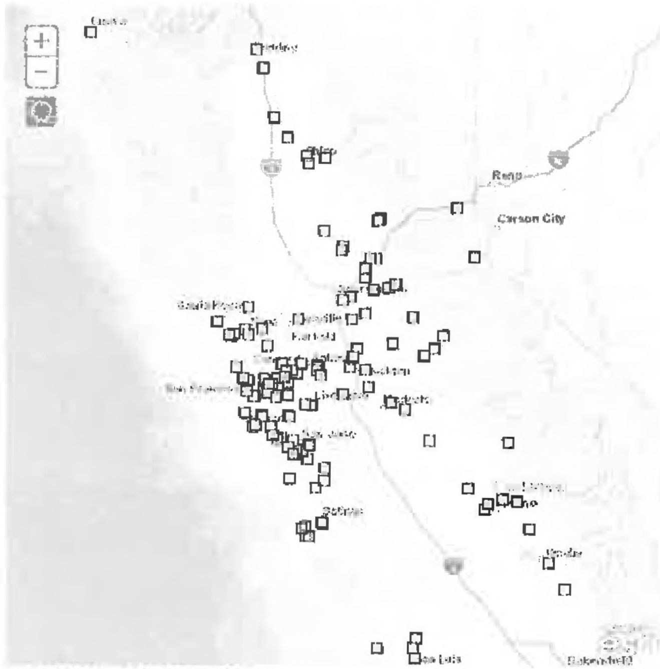
Biogenic Emissions considered Low.

Fire Resistance is Favorable.

Attracts Birds.

Special Uses & Values

Hedges.



SelecTree Nursery Connection Map
Cal Poly / ESRI

SelecTree: Tree Detail

PINK TRUMPET TREE

Handroanthus impetiginosus

Photo Locations: Cal Poly Campus - San Luis Obispo, CA, Claremont, CA, Santa Barbara Courthouse - Santa Barbara, CA and Los Angeles, CA

See all Handroanthus.

General Notes

Branches droop and are susceptible to breakage. Moderate water needs.

Native to Central and South America.

Family: *Bignoniaceae*

Synonyms

Tabebuia impetiginosa
Tabebuia avellanedae

Tree Characteristics

Rounded Shape.

Has Deciduous foliage.

Height: 25 feet.

Growth Rate: 12 to 24 Inches per Year.

Leaves Palmately Compound with Ovate Leaflets, Green, No Change, Deciduous.

Flowers Showy. Purple, Lavender-Pink. Flowers in Spring or Winter. Has perfect flowers (male and female parts in each flower).

Green to Brown Pod, Very Large (Over 3.00 inches), fruiting in Summer.

Shading Capacity Rated as Low to Moderately Low in Leaf.

Shading Capacity Rated as out of Leaf.

Tree Site Conditions & Constraints

Sunset Zones 15 - 16 and 20 - 24.

USDA Hardiness Zones 10 - 11.

Exposure Full Sun.

Well Drained Soil.

Clay, Loam or Sand Texture.

Acidic to Alkaline Soil pH.

Health, Safety & Environmental Concerns

Root Damage Potential Rated as Low.

Special Uses & Values

Specimen, Buffer Strip, Container or Street Tree.

Cite this tree:
SelecTree. "*Handroanthus impetiginosus* Tree Record." 1995-2018. Jul 25, 2018.
< https://selectree.calpoly.edu/tree-detail/handroanthus-impetiginosus >

SelecTree Nursery Connection Map
Cal Poly / ESRI

Urban and Community Forestry

CAL POLY
SAN LUIS OBISPO