



AGENDA REPORT


TO: Jestin D. Johnson
City Administrator

FROM: Megan Wier
Acting Director, Oakland
Department of
Transportation

SUBJECT: Allow Microtrenching For The
Installation Of Telecommunications
Fiber

DATE: March 28, 2024

City Administrator Approval


Jestin Johnson (Mar 29, 2024 14:28 PDT)

Date:

Mar 29, 2024

RECOMMENDATION

Staff Recommends That The City Council Adopt An Ordinance Amending chapter 12.12 of the Oakland municipal code to Allow Microtrenching For The Installation Of Telecommunications Fiber In A Manner Consistent With Figure 1 - Microtrenching Standard Detail, and Directing the Department of Transportation, Within 90 Days Of Passage Of This Ordinance, To Amend Department Rules and Orders To Conform With The Ordinance.

EXECUTIVE SUMMARY

High speed internet is delivered to customers through the deployment of broadband infrastructure, including telecommunications fiber. Fiber is typically installed underground. In October of 2021, passage of California Senate Bill 378 (SB 378) mandated that all local jurisdictions must allow the use of microtrenching, which involves sawing a maximum 4-inch-wide trench, for the installation of underground fiber, and where necessary, adopt or amend policies, ordinances, codes, or construction rules to allow for microtrenching.

City staff has developed a microtrenching policy. The Council action recommended in this report will amend Oakland Municipal Code (OMC) Chapter 12.12 and bring the City of Oakland (City) into compliance with SB 378, allowing telecommunications companies to apply for and receive permits to install fiber via the microtrench technique.

BACKGROUND / LEGISLATIVE HISTORY

SB 378 was passed in October 2021, and requires local jurisdictions to allow, except as provided, microtrenching for the installation of underground fiber. The legislation defines a microtrench as a narrow, open excavation that is less than or equal to 4 inches wide and between 12 and 26 inches deep. Under SB 378, jurisdictions are granted the right to establish conditions for microtrenching projects and to assess reasonable fees for the associated permits. Agencies responsible for reviewing and issuing microtrenching permits must adopt or amend

existing policies, ordinances, codes, and construction rules, as needed, to conform with the adjustment in policy.

Excavations in the public right of way are governed by OMC Chapter 12.12 – Excavation. The high-level policies set forth in OMC 12.12 are supported and enhanced by rules and orders published by City staff, including the City of Oakland Street Excavation Rules, rev. August 2021 (Excavation Rules). Article 3 – Section 3 of the Excavation Rules states that excavation for the installation of conduit shall be performed by open trench. Article 3 – Section 4 states that the minimum depth for pipes and conduits is thirty-six inches. Taken together, these two sections effectively prohibit narrow and shallow excavation techniques, including microtrenching.

ANALYSIS AND POLICY ALTERNATIVES

Staff recommends that the City council adopt an ordinance amending OMC Chapter 12.12 to allow microtrenching for the installation of telecommunications fiber in a manner consistent with **Figure 1** - Microtrenching Standard Detail, and within 180 days of passage of this ordinance, amend City of Oakland Street Excavation Rules to conform with the new microtrench policy.

The Oakland Department of Transportation (OakDOT) is the City agency responsible for approving permits for the use of public space, including excavation permits for the installation of telecommunications fiber. OakDOT enlisted the support of a consultant to advise on development of a microtrenching policy. The consultant had access to the City's StreetSaver database, including Pavement Condition Index (PCI) data, and conducted an analysis to determine the impact that utility cuts have had on the city's road infrastructure.

The PCI is used to present a standardized, objective assessment of pavement quality based on visual inspection. Expressed as a numerical index between 0 and 100, PCI is an essential tool used by transportation agencies to prioritize maintenance and repair activities. Higher PCI scores indicate better pavement condition, and lower PCI scores indicate deteriorating pavement condition.

PCI data was analyzed for road segments with and without utility cuts with attention paid to elapsed time since repaving of each segment. The consultant finding is summarized as follows and in **Table 1** below.

- All utility cuts, including small cuts, have a detrimental impact on PCI.
- The impact of utility cuts is more significant for road segments within five years after repaving.
- The negative impact of utility cuts was mitigated, after 2013, when the City began enforcing restoration standards.

These findings indicate the importance of having and enforcing restoration standards, with special emphasis on recently repaved roads that are still in their five-year protected "moratorium" status.

Table 1: Impact of Small Utility Cuts on PCI

Time Period	0 to 5 years After Paving	6 to 10 years After Paving
2000 to 2013	-10	-4
2014 to 2017	-6	-2
2018 to 2021	-5	-1

The OakDOT consultant also collected data on emerging microtrench policies in other California cities (see **Table 2** below). This information was helpful in ensuring that OakDOT’s proposed microtrench policy was in-line with policies in other California cities that would ultimately be competitors in attracting broadband infrastructure investment.

Table 2: Microtrench Policy Elements in other California Jurisdictions

Entity	Trench Width	Trench Depth	Distance from Curb/Gutter	Restoration beyond T-cut
Los Angeles	1 to 4 inches	Max 26 inches	Min 24 inches	Full bike lane
Manhattan Beach	Max 1.5 inches	12 to 24 inches	None	None
San Diego	2 to 2.5 inches	Max 24 inches	24 to 36 inches	Full bike lane
San Francisco	1 to 4 inches	18 to 26 inches	Min 48 inches	Full bike lane*
San Jose	1 to 2 inches	16 to 24 inches	Min 36 inches	None

*No t-cut restoration required for trenches up to 2 inches with fiber-reinforced cementitious backfill.

OakDOT recommends that microtrenching be subject to conditions, including but not limited to the following:

- Microtrenching shall be permitted on asphalt-paved roadways for the installation of fiber but shall be prohibited on concrete-paved roadways.
- For signalized intersections, mobile ground penetrating radar may be required, in addition to potholing and Underground Service Alert (USA) marking, to determine the location and depth of existing utilities.
- The width of the microtrench shall be a minimum of 2 inches and a maximum of 4 inches.
- The depth of the microtrench shall a minimum of 18 inches and a maximum of 26 inches.

- The position of microtrench shall be outside of the wheel path to minimize vehicular loading.
- The edge of the microtrench shall be a minimum distance from existing pavement structures, as described in detail in **Table 3**.

The Microtrenching Standard Detail in **Figure 1** and the proposed minimum distances in **Table 3** establish the basic conditions of the implementation of microtrench projects, including the restoration of the right of way upon completion of the work.

Figure 1: Microtrench Standard Detail

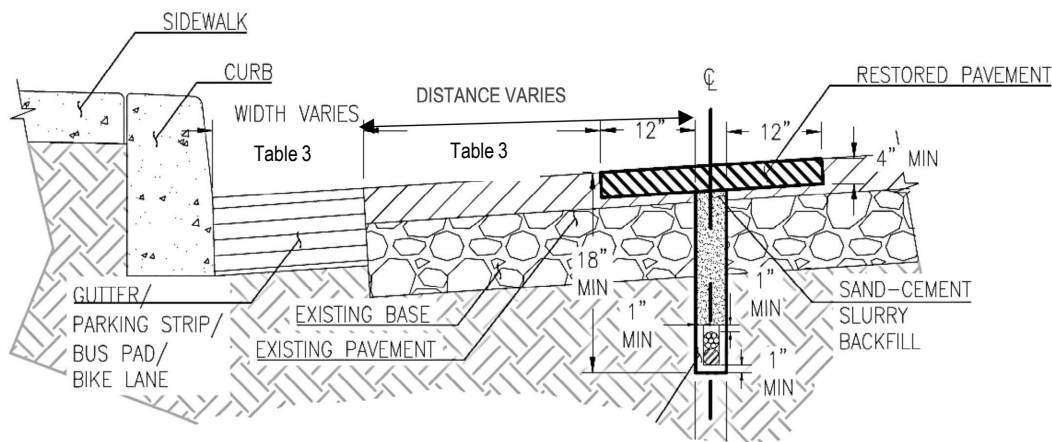


Table 3: Minimum Microtrench Distance from Existing Features

Feature	Typical Width from Face of Curb	Distance to Left Edge of Microtrench
Curb Only	n/a	Min. 24 inches from face of curb; Max. center of travel lane
Gutter	Typical 24" (varies)	Min. 24" from gutter lip; Max. center of travel lane
Parking Strip	7 to 10 feet	Min. 24" from gutter lip or face of curb if no gutter; Max center of parking strip
Bus Pad (Asphalt)	10 feet	Min. 48" from gutter lip or face of curb if no gutter; Max. center of bus pad
Bus Pad (Concrete)	10 feet	No microtrenching in concrete bus pad; Min. 24" from outside edge of concrete bus pad; Max center of travel lane
Bike Lane	5 to 6 feet	Min. 24" from gutter lip or face of curb if no gutter; Max. bike lane center; Pave entire bike lane width

OakDOT proposes to require a “T-cut” restoration of microtrench excavations, as shown in **Figure 1**. The T-cut technique calls for backfilling of the excavation followed by grinding down and restoring an area, at the roadway surface, that is wider than the actual excavation. The resulting t-formation cap makes it more difficult for water to penetrate directly into, and undermine, the repaired excavation cut. Contractors will backfill the narrow excavation with a sand-cement slurry mix, and the trench will be capped with a 4-inch mill and overlay that is 24 to 28 inches wide.

The new City microtrench restoration standard is summarized as follows:

- Sand-cement slurry backfill.
- Minimum 4-inch depth mill and overlay.
- Each “arm” of the T-cut to extend 12 inches beyond the narrow trench.
- For a microtrench in a bicycle lane, repave the entire width of the bicycle lane.
- For microtrenching on recently repaved streets that are within their five-year protected “moratorium” period, OakDOT’s standard restoration policy would apply. Repave a minimum of a full lane width (13 feet).

OakDOT’s proposed microtrench policy promotes the Citywide priority of **vibrant, sustainable infrastructure**. This is achieved in two ways:

- First, by allowing cost-effective fiber deployment via microtrenching, the City will promote fiber projects in the City, ultimately improving the City’s internet infrastructure; and
- Second, by requiring T-cut restoration for most microtrench projects and full lane-width restoration for bicycle lanes and moratorium streets, the City will reduce the negative impact of excavations on pavement quality.

FISCAL IMPACT

The recommendation in this report has no immediate fiscal impact or cost. The direct result of allowing microtrenching for telecommunication fiber projects will be an increase in permitting activity. By statute, OakDOT’s right of way permitting activities are cost-recovering. Telecommunication companies, along with their contractors, will pay fees sufficient to cover OakDOT expenses associated with issuing microtrench excavation permits and inspecting the projects once they are underway.

PUBLIC OUTREACH / INTEREST

OakDOT has frequent contact with telecommunications companies, and their excavation contractors, through the public space permitting process. The companies have also made their perspective clear in the press and in materials they have shared directly with OakDOT. Because the microtrench technique is less disruptive than standard trenching methods, telecommunications companies are requesting that jurisdictions adopt similarly less demanding pavement restoration policies. One telecommunications company estimates that its cost per mile for restoring a microtrench to the City’s normal lane-width standard would be nine times the cost of restoring to a reduced eighteen-inch standard.

OakDOT recommends reduced restoration standards for microtrench projects consistent with peer city best practices, with a 24-inch-wide t-cut mill and overlay at the surface. This compares to the minimum lane-width restoration under the City's normal restoration standard. Bicycle lanes would require full lane restoration, and moratorium streets would be restored per the City's normal restoration standards, minimum full lane-width.

COORDINATION

This report is the result of coordination among key OakDOT stakeholders interested in the repair of city streets and sidewalks. Staff solicited input from the Right of Way Management team that leads OakDOT's permitting operations and the Great Streets Delivery team which oversees OakDOT's paving program. This report and legislation were prepared in coordination with the Budget Bureau and Office of the City Attorney.

SUSTAINABLE OPPORTUNITIES

Economic: The deployment of fiber is an essential driver of economic growth. Each microtrench excavation represents more Oakland residents and businesses gaining connection to modern, high speed internet services. For residents, connection to the internet means connection to work or to school. Access to fast internet service has also been proven to enhance property value. For businesses, high-speed internet means connection to suppliers and customers.

Environmental: Microtrenching is better for the environment than open trench excavation. Microtrench excavations are narrower and shallower than conventional utility trenches, and asphalt, rock, and base layer debris is collected via vacuum as the excavation is taking place. This means less dust in the air and reduced risk of debris runoff into sewers and natural waterways.

Microtrenching generally takes place in the parking lane, and in any case continuous stretches of up to 500 feet may be excavated and reopened to traffic in a single day. The result is less disruption to vehicle traffic and reduced need for detours and delays that lead to carbon dioxide-generating vehicle idling.

Race & Equity: Increasing high-speed internet investment in the city will result in favorable racial equity outcomes. The City has signed Master License Agreements (MLAs) with five telecommunications firms, including a September 2020 agreement with Verizon Wireless, allowing the companies streamlined access to deploy 5G antennas on City-owned streetlight poles. The MLAs include incentives for 5G deployment in Priority Equity Areas (West Oakland, Eastlake/Fruitvale, and Central East Oakland). The agreements also include provisions allowing licensees to make in-kind payments of annual pole rental fees in the form of free public Wi-Fi, or other services and programs, delivered to underserved areas of the City.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The California Environmental Quality Act (CEQA) and the CEQA Guidelines exempt specific types of projects from environmental review. The following CEQA exemptions apply to microtrenching, each of which provides a separate and independent basis for CEQA clearance. CEQA Guidelines section 15301 (Existing Structures), installation of 5G antennas on City streetlight poles would qualify for a Class 1 CEQA exemption under this section. CEQA Guidelines section 15303 (New Construction or Conversion of Small Structures), 5G antennas would qualify as small structures, making microtrenching projects eligible for a Class 3 CEQA exemption under this section. The exemption includes utility extensions to serve such construction.

ACTION REQUESTED OF THE CITY COUNCIL

Staff Recommends That The City Council Adopt An Ordinance To Allow Microtrenching For The Installation Of Telecommunications Fiber In A Manner Consistent With Figure 1 - Microtrenching Standard Detail, and Directing the Department of Transportation, Within 90 Days Of Passage Of This Ordinance, To Amend Department Orders and Rules To Conform With The Ordinance.

For questions regarding this report, please contact Reginald Bazile, Assistant to the Director, at 510.507.6752.

Respectfully submitted,

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[Megan Wier \(Mar 29, 2024 14:03 PDT\)](#)

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