

DEPARTMENT OF TECHNOLOGY ORDER NO. 1 REGULATIONS IMPLEMENTING SAN FRANCISCO'S "DIG ONCE" ORDINANCE

SECTION 1: PURPOSES OF ORDER

This Order implements Public Works Code sections 2.4.14, 2.4.95 and 2.4.96, as adopted by Board of Supervisors in Ordinance No. 220-14, by establishing the Department of Technology Requirements authorized in Section 2.4.96.

SECTION 2: DEFINITIONS

A. Use of Defined Terms.

Unless the context otherwise specifies or requires, when capitalized the terms defined in this Section shall mean the following for all purposes of this Order:

1. "Approval Number" means a number generated by DT through the ROWMS that indicates that DT has approved the Dig Once Plans for a Project. Approval Numbers will begin with a Y.
2. "Conduit" means a pipe or tube through which water, waste water, gas are conveyed or which is used to protect electrical or communications cables.
3. "Confirmation Number" means a number generated by DT through the ROWMS that indicates that DT has reviewed a Project and made a determination to participate. Confirmation Numbers will begin with a C.
4. "Day" means any calendar day. For the purposes hereof, the time in which an act is to be performed shall be computed by excluding the first Day and including the last. For the purposes hereof, if the time in which an act is to be performed falls on a Day that is not a business Day the time for performance shall be extended to the following business Day.
5. "Dedicated Trench" means a trench dedicated to the placement of Standard City Communications Infrastructure.
6. "Dig Once Coordinator" means the person designated by the Executive Director of DT to administer DT's participation in the Dig Once program.

7. "Dig Once Plans" means plans submitted by Applicants that include City Communications Infrastructure conforming to the Standard City Communications Infrastructure Specifications.
8. "DPW" means the Department of Public Works.
9. "DT" means the Department of Technology.
10. "Exemption Incremental Cost" will be the difference between Applicant's costs for the Project with the items necessary to install City Communications Infrastructure and Applicant's costs without it.
11. "Order" means this Department of Technology Order No. 1, Regulations Implementing San Francisco's "Dig Once" Ordinance.
12. "Permit" means an excavation permit issued by DPW under Article 2.4 of the Public Works Code.
13. "Permit Application" means an application for a permit under Article 2.4 of the Public Works Code.
14. "Previously Planned Project" means a Project entered in ROWMS by an Applicant before June 15, 2015.
15. "Project" means an excavation that includes the installation of one or more Conduits of more than 900 linear feet. "Project" shall not include emergency excavations or directional boring regardless of the length of the excavation or boring.
16. "Refusal Number" means a number generated by DT through the ROWMS that indicates that DT has reviewed a Project and made a determination not to participate. Refusal Numbers will begin with an N.
17. "ROWMS" means DPW's on line Right-of-Way Management System for utility coordination. At the time of this publication, this system is "Envista," which is also known as "Acela Right of Way Management."
18. "Shared Communications Trench" means a trench constructed for another communications project that will also contain City Communications Infrastructure.
19. "Shared Trench" means a trench constructed for another non-communications project that will also contain City Communications Infrastructure.

B. Defined Terms Used in the Public Works Code.

Any of the capitalized terms used in this Order that are not identified above shall have the same meaning as set forth in Public Works Code Section 2.4.4.

SECTION 3: DT PARTICIPATION CRITERIA

- A. Under Public Works Code § 2.4.95(b), DT should elect to participate in Projects only when DT determines that participation is “both financially feasible and consistent with the City’s long-term goals to add City communications infrastructure to the proposed excavation project.”
- B. To determine whether DT’s participation in a particular Project is consistent with the City’s goals, DT will consider whether:
 1. The length of the Project. In particular, DT will look for Projects that will result in a long continuous route offering DT a wide range of potential uses in the future.
 2. The proximity of the Project to current or planned City facilities and/or community anchor locations requiring service (i.e. health clinics, hospitals, areas of economic development).
 3. The presence of existing City Communications Infrastructure in the vicinity of the Project.
- C. To determine whether DT’s participation in a particular Project is financially feasible, DT will consider:
 1. Whether physical constraints (bridges, freeway underpasses, underground utility districts) would make it unlikely that there are cost-effective alternatives for DT to install City Communications Infrastructure in the vicinity if needed in the future.
 2. Whether DT has any partners or customers willing to lease access to the City Communications Infrastructure installed in the Project so as to defray DT’s costs.
 3. The cost of alternative routes, such as placement on utility poles, compared to the cost of serving a facility or area using City Communications Infrastructure installed in the Project.
 4. Any budgetary constraints to DT’s participation.
- D. Regardless of any findings made by DT under Sections 3.B and 3.C, DT may decline to participate in a Project if Applicant demonstrates to DT that DT’s participation in the Project would cause Applicant to do one or more of the following:
 1. Delay a Project that involves Applicant’s installation of critical infrastructure;
 2. Incur costs that render the Project financially infeasible; or
 3. Assume undue risk that DT’s continued use of City Communications Infrastructure would compromise Applicant’s maintenance of its facilities in the Project.

SECTION 4: NOTICE REQUIREMENTS AND DT PARTICIPATION

- A. As soon as practical, Applicant shall notify DT of a Project by entering the Project into ROWMS. This initial notice should include a map showing the proposed route for the Project, the anticipated starting and ending dates, and the Applicant's contact information.
- B. Within 7 days of receipt of the notice specified in Section 4.A, the Dig Once Coordinator will confirm whether, based on the factors contained in Section 3, DT will or will not participate in a Project by entering an Approval Number or Refusal Number in the ROWMS.
- C. For all Projects where DT has confirmed participation, Applicant will provide DT with Dig Once Plans at least 14 Days before submitting the Permit Application to DPW.
- D. Within 7 Days of receiving the Dig Once Plans, the Dig Once Coordinator will notify Applicant whether the Dig Once Plans meet the Standard City Communications Infrastructure Specifications by providing Applicant with a Confirmation Number to be included in the Permit Application.

SECTION 5: MONTHLY MEETINGS

- A. DT will conduct monthly meetings to coordinate DT's participating in Projects.
- B. During these monthly meetings, Applicants can notify DT of a Project, which notice can take the place of the formal notice procedures set forth in Section 4.
- C. Within 7 Days of receiving notice during a monthly meeting, the Dig Once Coordinator will confirm whether DT will or will not participate in a Project by entering a Confirmation Number or Refusal Number in the ROWMS.
- D. Applicants may also use the monthly meetings to provide DT with the required Dig Once Plans.
- E. Within the 7 Days of receiving the Dig Once Plans during a monthly meeting, the Dig Once Coordinator will confirm that the Dig Once Plans meet the Standard City Communications Specifications by providing Applicant with an Approval Number to be included in the Permit Application.

SECTION 6: PERMIT APPLICATIONS AND APPROVALS

- A. Applicant may submit a Permit Application to DPW only if:
 - 1. DT has informed Applicant and DPW that it intends to participate in the Project and provided Applicant with an Approval Number; or
 - 2. DT has declined to participate in the Project and provided Applicant with a Refusal Number.

- B. DPW will not review a Permit Application that falls within Section 6.A.1 unless DT has provided DPW with a Confirmation Number.
- C. DPW will not review a Permit Application that falls within Section 6.A.2 unless DT has provided DPW with a Refusal Number.
- D. Concurrent with its Permit Application, Applicant will notify the Dig Once Coordinator that it has applied for a Permit and will supply a copy of its final Dig Once Plans.
- E. DT will notify Applicant and DPW if the Dig Once Coordinator determines either that Applicant has not complied with notice requirements of this Order or that the Dig Once Plans do not include City Communications Infrastructure that meets the Standard City Communications Infrastructure Specifications.
- F. Upon receipt of such notice from DT, DPW will deny the Permit.
- G. If DPW has denied a Permit for failure to comply with the requirements of this Order, the Applicant may reapply for the Permit as soon as Applicant complies with those requirements.

Section 7: Standard City Communications Infrastructure Specifications

The Standard City Communications Infrastructure Specifications are:

- A. Four 2-inch Conduits, minimum HDPE SDR 11, each of a separate color or unique striping to simplify identification of Conduits within vaults and between vaults, in the event conduit must be accessed or repaired at intermediate points.
- B. Composite vaults having dimensions of 30" x 48" x 36" (W x L x D) placed in the sidewalk or available green space within the City right-of-way, as close to the curb or gutter as possible.
- C. Vaults spaced at intervals of 600 feet or less, typically at the intersection of a City block.
- D. Sweeping Conduit bends with a minimum radius of 36-inches to allow cable to be pulled without exceeding pull-tension thresholds when placing high-count fiber cables (e.g. 864-count).
- E. Conduits placed in the same trench directly above Applicant's infrastructure, or, where this is not possible, placed with minimum horizontal offset.
- F. Further detail is shown in typical drawings presented in Appendix A, with Figure 1 showing a typical configuration for a Dedicated Trench, Figure 2 showing a typical configuration of a Shared Trench, and Figure 3 showing a typical configuration for a Shared Communications Trench .

SECTION 8: INCREMENTAL COST

- A. Applicant may request reimbursement for the Incremental Cost of DT's participation in the Project.
- B. DT will reimburse Applicant according to the schedule set forth in Appendix B. The Incremental Cost will be calculated by multiplying the per foot cost in Appendix B by the length of the Conduit run. The per foot Incremental Cost includes design, engineering, trenching, installation of conduit, placement of vaults, and all other associated items in the appropriate table in Appendix B. Table 1 is for a Dedicated Trench and Table 2 is for a Shared Trench and Shared Communication Trench.
- C. In order to receive reimbursement, Applicant's installation of City Communications Infrastructure must pass inspection by DT, and Applicant must provide documentation including as-built drawings of all City Communications Infrastructure.
- D. DT will reimburse Applicant for its Incremental Cost or Exemption Incremental Cost within 30 Days after DT has accepted City Communications Infrastructure from Applicant as set forth in Section 10.

SECTION 9: EXEMPTION INCREMENTAL COST

- A. Applicant may submit a request in writing to recover its Exemption Incremental Cost. This request shall contain Applicant's detailed design and the itemized bid pricing and shall specify how Applicant determined the costs attributable to installing City Communications Infrastructure. The itemized bid will include optional item(s) necessary to install City Communications Infrastructure.
- B. In order to enable DT to determine whether its participation in the Project is financially feasible, Applicant should submit a request for an Exemption Incremental Cost along with its submission of the Dig Once Plans. DT will be more likely to approve a request for an Exemption Incremental Cost that is received before work on the Project has commenced.
- C. DT may approve a request for Exemption Incremental Cost if Applicant demonstrates to DT one or more of the following: (i) the Project is in a corridor with limited space for additional Conduit; (ii) the Project is in a highly congested area where it is difficult to avoid existing utility facilities, other obstructions, or environmental hazards; or (iii) any other circumstances particular to the Project that will require Applicant to incur costs in excess of the Incremental Cost.
- D. Upon receipt of a request for an Exemption Incremental Cost, the Dig Once Coordinator will evaluate the request and make a determination whether the

- request complies with the requirements of this Order. In making this determination, the Dig Once Coordinator may agree to reimburse Applicant for some or all of the costs identified in the request for an Exemption Incremental Cost.
- E. The Dig Once Coordinator will notify Applicant within 7 Days whether the Dig Once Coordinator will approve the request for an Exemption Incremental Cost and, if so, which of Applicant's Exemption Incremental Cost will be reimbursed. If the Dig Once Coordinator does not approve the request in its entirety, the notice shall specify the reasons for the refusal to approve some or all of Applicant's Exemption Incremental Cost.
 - F. The Dig Once Coordinator's refusal to approve a request for an Exemption Incremental Cost shall not excuse Applicant's compliance with the requirements of this Order.
 - G. If the Dig Once Coordinator refuses to approve a request for an Exemption Incremental Cost in its entirety, Applicant may request that the Director of DT review its request. This request must be made within 3 days of the Dig Once Coordinator's determination. The Director's decision whether to approve the request for an Exemption Incremental Cost shall be final.

SECTION 10: DT ACCEPTANCE OF CITY COMMUNICATIONS INFRASTRUCTURE

- A. Applicant will notify the Dig Once Coordinator at least 72 hours in advance of the date and time that City Communications Infrastructure will be ready for DT inspection.
- B. The Dig Once Coordinator will notify Applicant within 24 hours after inspection whether the City Communications Infrastructure meets the Standard City Communications Infrastructure Specifications. If DT does not notify Applicant of any deficiencies within 24 hours, DT will have been deemed to have approved the City Communications Infrastructure.
- C. Upon completion of the Project, Applicant shall provide DT with as-built drawings that include scale plans of the completed Project for inclusion in ROWMS and City databases. These drawings shall contain:
 - 1. Vertical and horizontal position of Conduits and vaults;
 - 2. GPS coordinates for DT's manholes;
 - 3. Edge-of-curb offset measurement every 50 feet; and
 - 4. Conduit colors, diameters, and materials.
- D. After receipt of Applicant's as-built drawings, DT will notify Applicant in writing whether DT has accepted the City Communications Infrastructure from Applicant. DT may refuse to accept City Communications Infrastructure only

if DT finds that it does not meet the Standard City Communications Infrastructure Specifications.

- E. Once DT has accepted the City Communications Infrastructure from Applicant, DT will assume sole responsibility for the operation, use, and maintenance of the accepted City Communications Infrastructure.

SECTION 11: PREVIOUSLY PLANNED PROJECTS

- A. The Dig Once Coordinator will review all Previously Planned Projects that have been entered into the ROWMS but have not been permitted by DPW.
- B. The Dig Once Coordinator will notify Applicants and DPW whether DT intends to participate in any of those Previously Planned Projects by June 30, 2015 by entering a Confirmation Number or Refusal Number in the ROWMS. If DT does not enter a Confirmation or Refusal Number by the date, DT will have been deemed to have elected not to participate in the Project.
- C. For those Previously Planned Projects in which DT has issued a Confirmation Number, DPW will not issue a Permit until Applicant has provided DT with Dig Once Plans containing City Communications Infrastructure meeting the Standard City Communications Infrastructure Specifications. DT encourages Applicants to submit these plans as soon as possible.
- D. The Dig Once Coordinator will review the Dig Once Plans for conformity with the Standard City Communications Infrastructure Specifications.
- E. The Dig Once Coordinator will confirm that the Dig Once Plans meet the Standard City Communications Specifications by providing Applicant with an Approval Number to be included in the Permit Application.

Approved:

Miguel A. Gamiño Jr.
Chief Information Officer and
Executive Director, Department of Technology

Dated: _____, 2015

APPENDIX A: TYPICAL DRAWINGS

FIGURE 1: TYPICAL CONFIGURATION FOR CONDUIT IN A DEDICATED TRENCH)

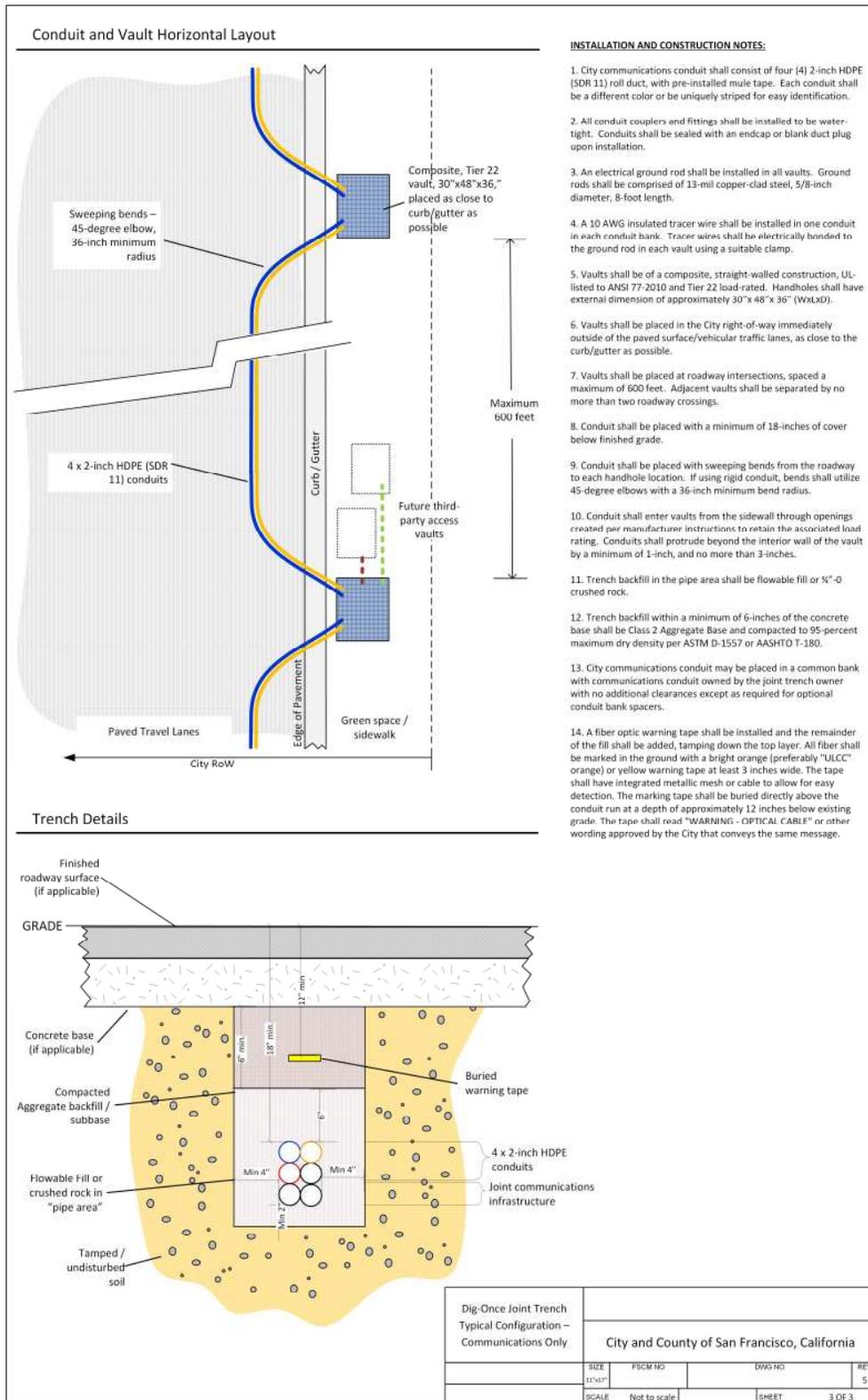
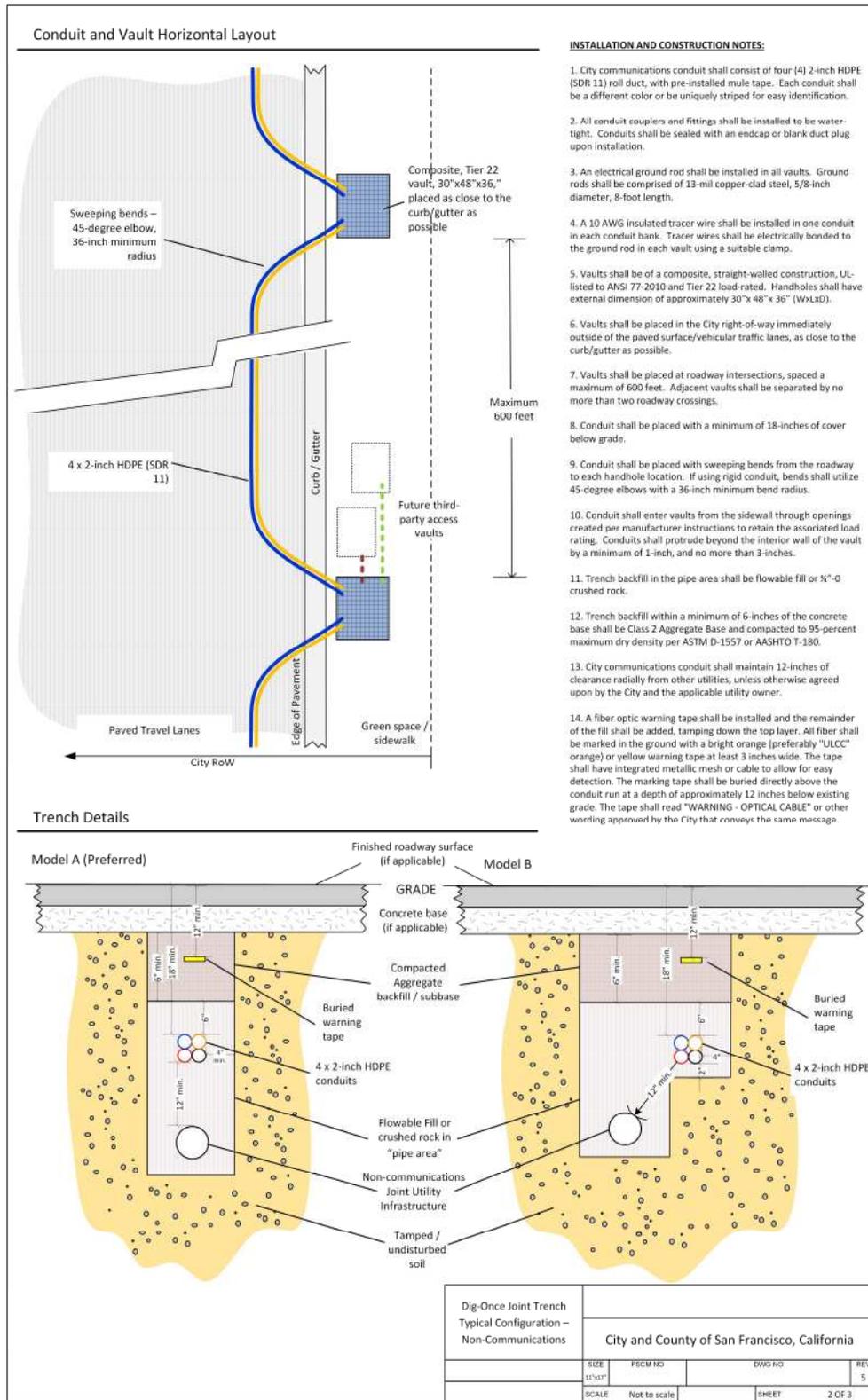


FIGURE 2: TYPICAL CONFIGURATION FOR CONDUIT IN SHARED TRENCH



APPENDIX B: INCREMENTAL COST CALCULATIONS

San Francisco Dig-Once Conduit Cost Estimates					
Model A: Dedicated Trench, no roadway restoration					
Average vault spacing (FT): 300					
Total conduits per bank: 4					
Labor					
Item	Unit	Unit Price	Qty per Mile	Cost Per Street Mile	Cost Per Street Foot
Trench and installation of single 2" conduit <i>(includes standard backfill, installation of a tracer wire, and installation of all necessary conduit couplings and fittings)</i>	LF	\$ 8.45	5,808	\$ 49,077.60	\$ 9.30
Installation of a 2" conduit in an existing trench <i>(no additional excavation required)</i>	LF	\$ 1.58	17,424	\$ 27,442.80	\$ 5.20
Installation of a 30"x48"x36" vault	EA	\$ 303.44	17.60	\$ 5,340.50	\$ 1.01
Installation of a ground rod	EA	\$ 65.94	17.60	\$ 1,160.50	\$ 0.22
Remove and replace sidewalk <i>(assumes removal and repair of four (4) 3'x3' sidewalk flags)</i>	SF	\$ 10.40	457.60	\$ 4,759.04	\$ 0.90
Remove and replace curb <i>(assumes removal of 6 linear feet of curb adjacent to vault)</i>	LF	\$ 25.00	105.60	\$ 2,640.00	\$ 0.50
Labor Subtotals:				\$ 90,420.44	\$ 17.13
Material					
Item	Unit	Unit Price	Qty per Mile	Cost Per Street Mile	Cost Per Street Foot
2" HDPE conduit, SDR 11 <i>(includes all fittings and couplings)</i>	LF	\$ 0.87	23,232	\$ 20,211.84	\$ 3.83
Vault, Tier 22, 30"x48"x36"	EA	\$ 770.52	17.60	\$ 13,561.15	\$ 2.57
Tracer wire, insulated, 10 AWG	LF	\$ 0.34	5,280.00	\$ 1,795.20	\$ 0.34
Warning tape, orange, 3-inch width	LF	\$ 0.35	5,280.00	\$ 1,848.00	\$ 0.35
Ground rod, 13 mil copper-clad steel (RUS listed), 5/8" diameter, 8' length, including clamp	EA	\$ 22.20	17.60	\$ 390.72	\$ 0.07
Material Subtotals:				\$ 37,806.91	\$ 7.16
				Cost Per Street Mile	Cost Per Street Foot
				\$ 128,227.35	\$ 24.29
Engineering				\$ 25,645.47	\$ 4.86
Total				\$ 153,872.82	\$ 29.14

San Francisco Dig-Once Conduit Cost Estimates					
Model B: Shared trench, no roadway restoration					
Average vault spacing (FT):				300	
Total conduits per bank:				4	
Labor					
Item	Unit	Unit Price	Qty per Mile	Cost Per Street Mile	Cost Per Street Foot
Installation of a 2" conduit in an existing trench <i>(no additional excavation required - includes installation of a tracer wire, and installation of all necessary conduit couplings and fittings)</i>	LF	\$ 1.58	23,232	\$ 36,590.40	\$ 6.93
Installation of a 30"x48"x36" vault	EA	\$ 303.44	17.60	\$ 5,340.50	\$ 1.01
Installation of a ground rod	EA	\$ 65.94	17.60	\$ 1,160.50	\$ 0.22
Remove and replace sidewalk <i>(assumes removal and repair of four (4) 3'x3' sidewalk flags)</i>	SF	\$ 10.40	457.60	\$ 4,759.04	\$ 0.90
Remove and replace curb <i>(assumes removal of 6 linear feet of curb adjacent to vault)</i>	LF	\$ 25.00	105.60	\$ 2,640.00	\$ 0.50
Labor Subtotals:				\$ 50,490.44	\$ 9.56
Material					
Item	Unit	Unit Price	Qty per Mile	Cost Per Street Mile	Cost Per Street Foot
2" HDPE conduit, SDR 11 <i>(includes all fittings and couplings)</i>	LF	\$ 0.87	23,232	\$ 20,211.84	\$ 3.83
Vault, Tier 22, 30"x48"x36"	EA	\$ 770.52	17.60	\$ 13,561.15	\$ 2.57
Tracer wire, insulated, 10 AWG	LF	\$ 0.34	5,280.00	\$ 1,795.20	\$ 0.34
Warning tape, orange, 3-inch width	LF	\$ 0.35	5,280.00	\$ 1,848.00	\$ 0.35
Ground rod, 13 mil copper-clad steel (RUS listed), 5/8" diameter, 8' length, including clamp	EA	\$ 22.20	17.60	\$ 390.72	\$ 0.07
Material Subtotals:				\$ 37,806.91	\$ 7.16
				Cost Per Street Mile	Cost Per Street Foot
				\$ 88,297.35	\$ 16.72
Engineering				\$ 17,659.47	\$ 3.34
Total				\$ 105,956.82	\$ 20.07