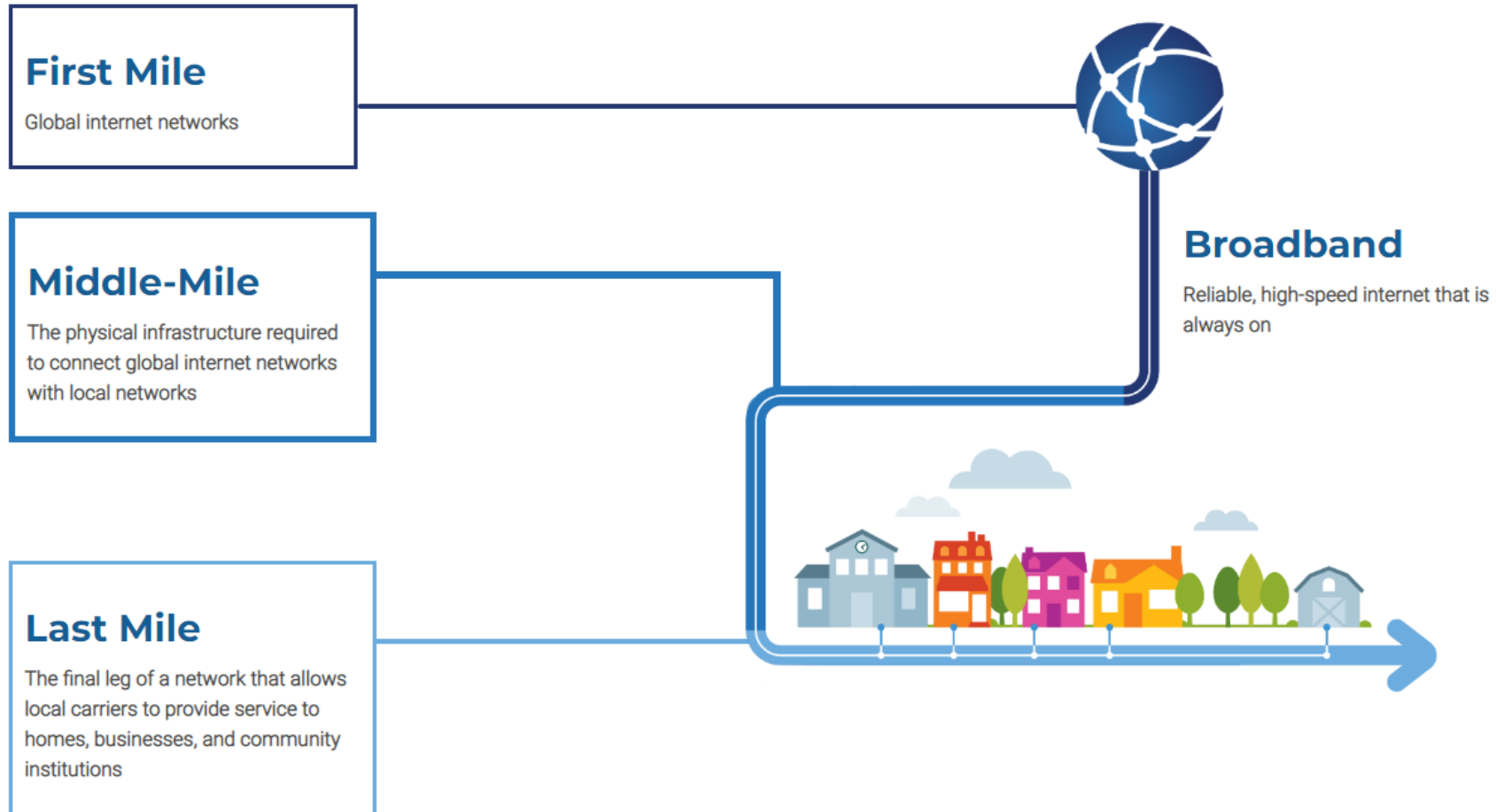




Achieving Broadband for All

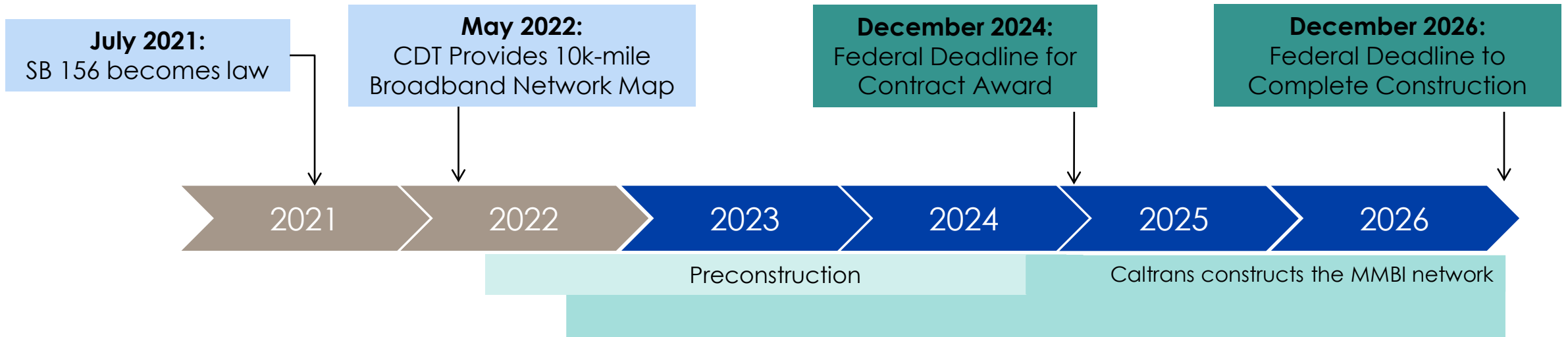
Middle-Mile Broadband Initiative Overview
Wednesday 8 March 2023



Building the Network



Delivery Timeline



Working Together to Achieve Broadband for All



California Department of Technology

- Program, fund management, reporting and oversight
- Retain TPA
- In collaboration with TPA and CPUC, facilitate high speed broadband access through last-mile connectivity



California Public Utilities Commission

- Provide data to identify unserved & underserved areas
- Facilitate public comment
- Recommend network placement



Third Party Administrator

- Manages the development, acquisition, construction, maintenance and operation of the statewide open-access middle-mile broadband network



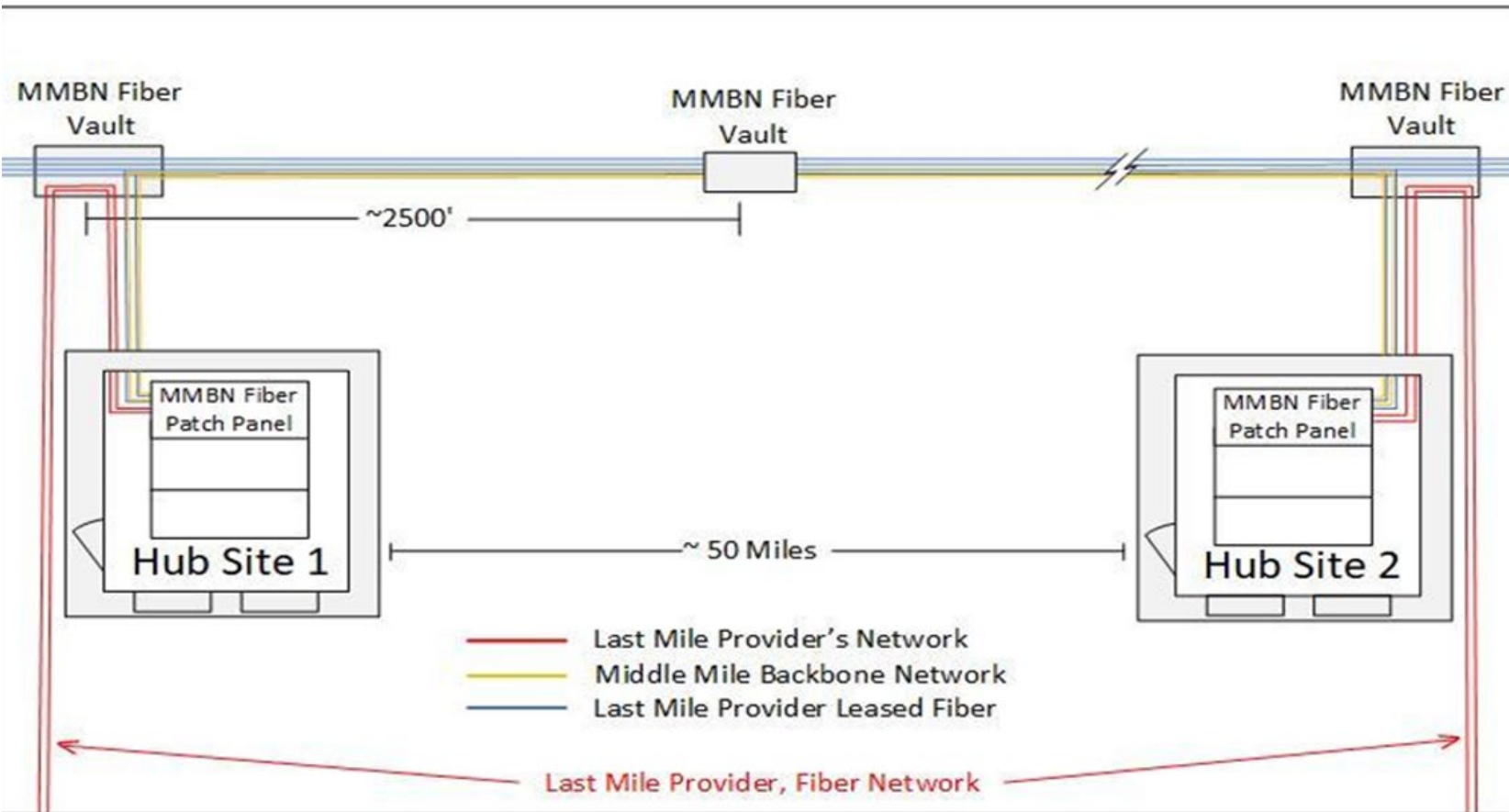
Caltrans

- Leverage existing transportation projects
- Oversee acquisition and management of construction contracts for open-access middle-mile broadband network



Department of Finance

- Budget oversight and facilitation
- State and Local Fiscal Recovery Funds (SLFRF) quarterly reporting to the federal government



System Level Design

Construction Methods



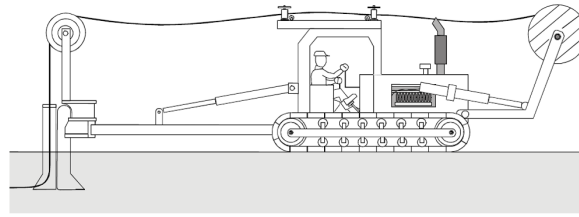
Plowing

Description

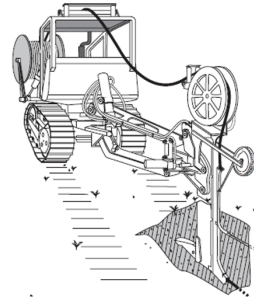
- Vibratory plow using vibratory blades
- Narrow slit in soil as plow moves quickly
- Effortless cleanup
- Minimal soil disturbance
- Minimal soil handling

Application

- Fast installation in soil surface
- Cost-effective installation method
- Tight schedule
- Long-haul work in open areas
- Uneven, wet or dry terrain
- Single pass
- Not applicable to roadway or concrete surfaces



How Does It Work?



Depending on the size and number of conduit or fiber cables used for placing in a single pass, this method is very productive with less material handling. One or more reels are mounted on the plow and are guided safely over the plow tractor and fed directly into the plow chute. When the end of the reel or reels is reached, the tails are brought up and eventually coupled or joined to the starting ends of the next reel or reels.





Trenching

Trenching (Traditional)


- Common for long, cross-country installations
- May effect traffic movement
- Slower than plowing
- More controlled cable installation



Trenching in Pavement


- Narrow trenches (3" to 6") in pavement
- Overcomes width and depth limitations encountered with Microtenching
- Suitable for locations with significant environmental and right-of-way restrictions.



 **MICROTRENCHING**

What is microtrenching?

- Cutting asphalt or concrete
- Generally 2.0" and narrower
- Depths below the upper layer but shallower than most utilities
- Uses vacuum excavation unit to simultaneously remove spoils
- Primarily used to install fiber



 **MAINLINE MICROTRENCHER**

- Depth 0"-26"
- Width 0.375" – 3.0"
- Traversing offset
- Tilts & Swings
- Floating housing follows ground contour with constant pressure



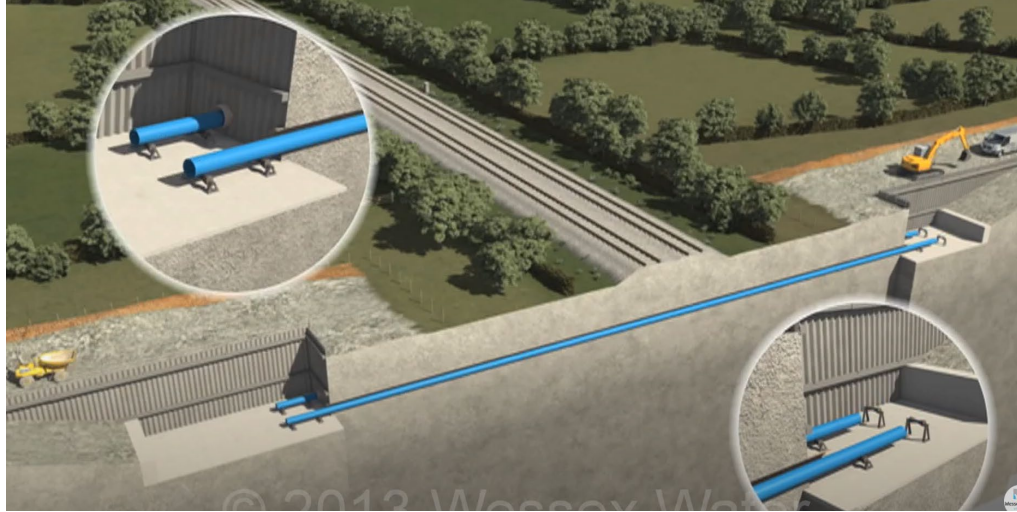
Microtrenching

Horizontal Directional Drilling

Application

- Most terrains
- Long haul
- Rocky ground conditions
- Overpass, embankments, side hill, river crossings





Trenchless Installation

Jack and Boring

Application

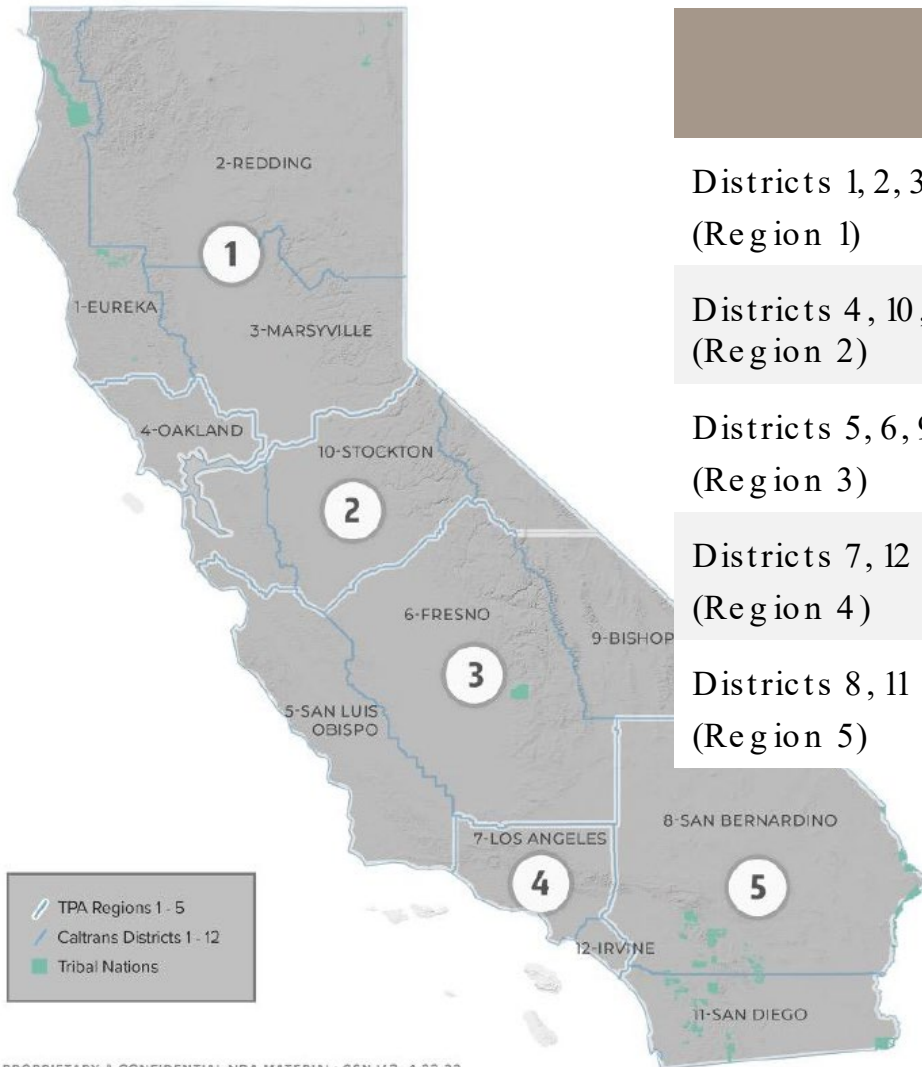
- Cross roadways and railroads when casing is required
- Horizontal Directional Drilling not feasible



CMGC Pre-Construction Contracts

Contract Number	Counties	Prime Contractor	Award Status
11-4B00CM	San Diego, Riverside	Kiewit Infrastructure West	1/6/2023
08-1M87CM	Riverside, San Bernardino	CA Connect (Myers & Sons – Ferreira JV)	1/6/2023
08-1M81CM	San Bernardino	Griffith-Henkels & McCoy JV	2/10/2023
10-1Q23CM	Merced, Madera, Calaveras	Granite Construction	2/22/2023
05-CMGC1CM	San Luis Obispo, Santa Barbara	Flatiron-LTS JV	3/8/2023
05-CMGC2CM	Monterey, San Benito, Santa Cruz	Granite-Michels JV	3/8/2023
06-1F28CM	Fresno, Kern, Madera, Mariposa, Tulare	Granite-Michels JV	3/8/2023
11-4B01CM	Imperial	SOQ Submitted	3/15/2023 (T)
11-4B02CM	South San Diego	SOQ Submitted	3/15/2023 (T)
02MMBN1CM	Lassen, Plumas, Shasta, Siskiyou, Tehama	SOQ Submitted	3/23/2023 (T)
01MMBN1CM	Del Norte, Humboldt, Lake, Mendocino	SOQ Submitted	3/23/2023 (T)
041Y55CM	District 4: Contra Costa, Napa, Santa Clara District 9: Inyo, Kern, Mono District 10: Alpine, Mariposa, Tuolumne	Currently Advertised	5/9/2023 (T)

JOC Master Agreements



	Contract Number	Network Miles
Districts 1, 2, 3 (Region 1)	03A3522	1,800 m iles
Districts 4, 10, 9 (Region 2)	10 A24 80	1,300 m iles
Districts 5, 6, 9 (Region 3)	06A2880	950 m iles
Districts 7, 12 (Region 4)	07A5518	800 m iles
Districts 8, 11 (Region 5)	08A3555	290 m iles

Alternative Delivery Method Overview for MMBI

Presented by
Belinda Hon
HQ Design
Office of Innovative Design & Delivery



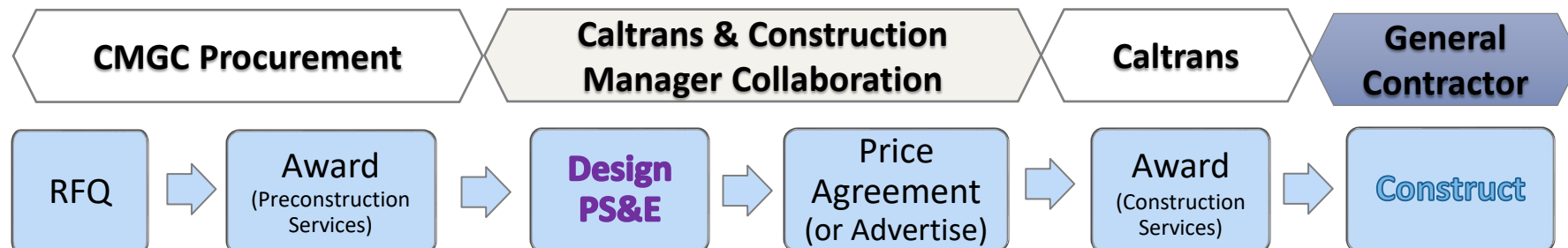
Agenda

- Alternative Delivery Methods
 - Construction Manager/ General Contractor (CMGC)
 - Job Order Contracting (JOC)
- Project Delivery process
- Q&A



CMGC

- Procure a Construction Manager during environmental (recommended) or design phase based on best qualifications
- Construction Manager provides input and services during design phase (aka Preconstruction Services)
- If price is agreed to, Construction Manager becomes the General Contractor
- If price is not agreed to, advertise project



CMGC Two-Phase Contract

PRE-CONSTRUCTION Construction Manager

Professional Services

- Cost Estimating
- Subcontracting Plan
- Scheduling
- Material Procurement
- Utility Coordination
- Construction Phasing
- Constructability Review
- Risk Analysis
- Quantity Verification
- Third Party Negotiation

CONSTRUCTION General Contractor

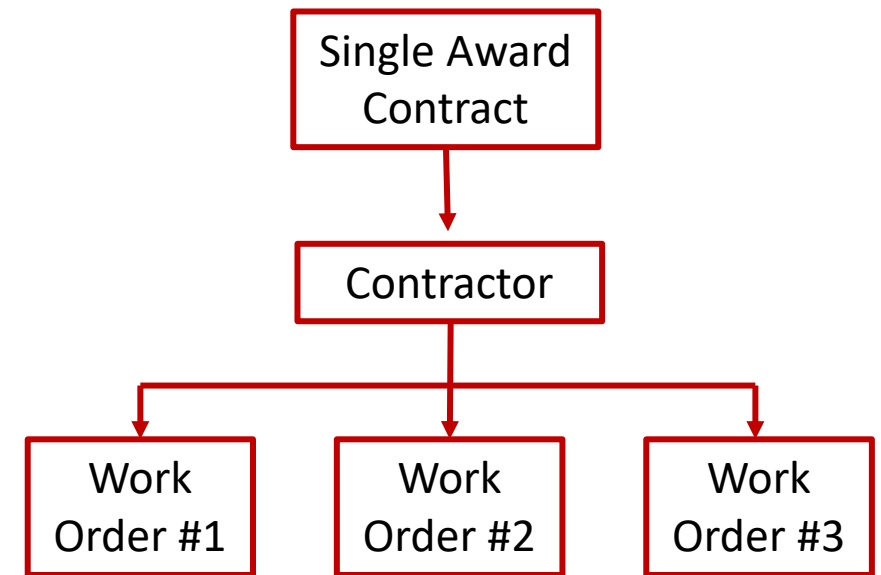
Construction Services

Price Agreement

Job Order Contracting (JOC)

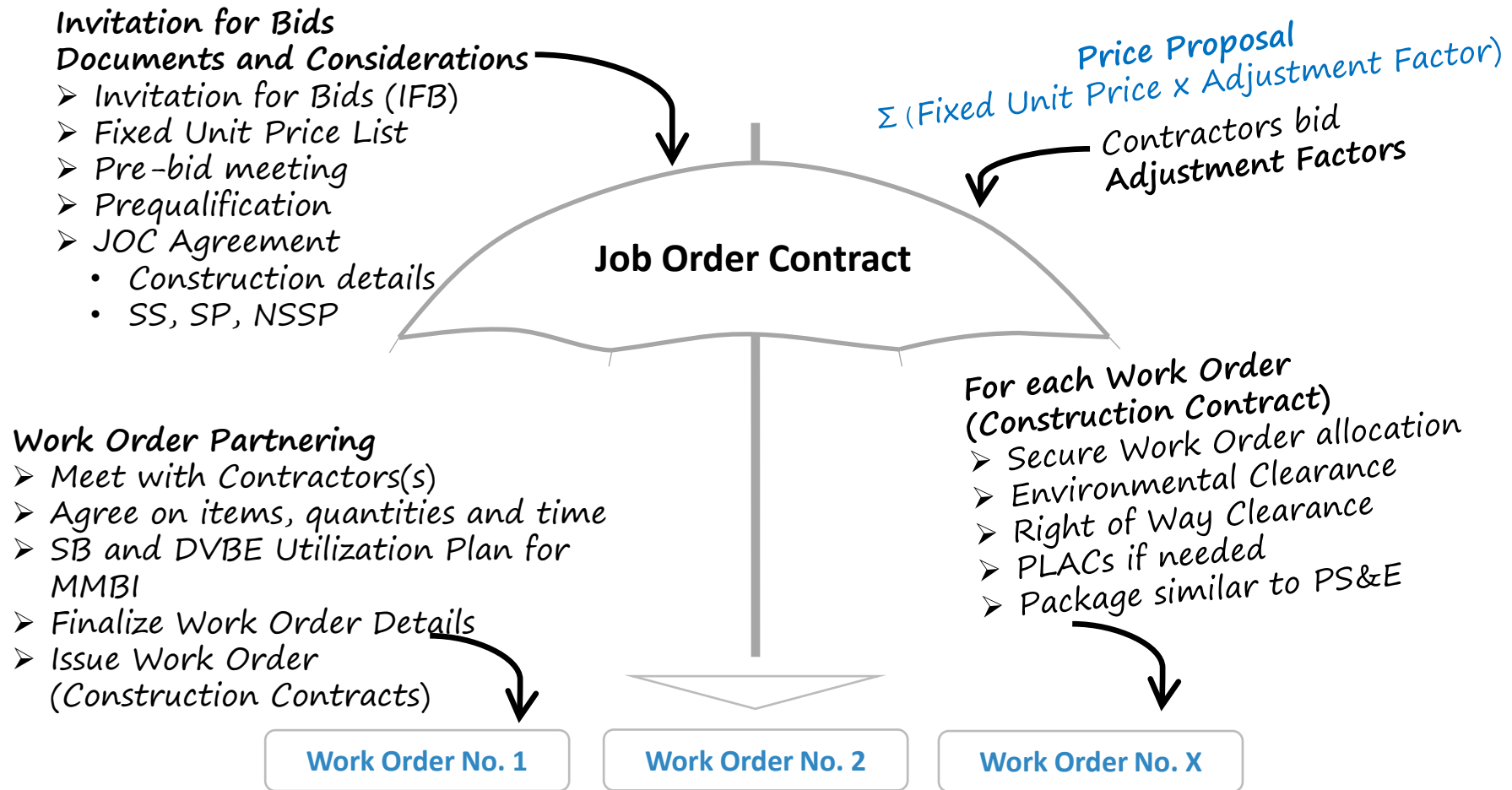
Master Agreement to issue multiple Work Orders

- Similar to service/on-call contracts but for construction services; good for non-complex work
- Indefinite Delivery/Indefinite Quantity (IDIQ) Contract
- Clean CA (AB 129)
- Broadband Middle-Mile Initiative (AB/SB 156)
- Cannot conflict with any existing commercial service contracts



JOC Master Agreement

- No more than 12-month contract with option of extending contract for two 12-month periods
- Defined geographical region (District, counties, or route)
- For MMBI only
 - Stipulated Unit Price – 4% price escalation for each 12-month periods amendment
 - 30% minimum work guarantee
 - Small Business/Disabled Veteran Business Enterprise Utilization Plan



Work Orders

- Require Right of Way and Environmental clearance
- Joint Scope meeting with contractor to develop Work Order
- Small Business/DVBE Utilization Plan for MMBI
- Secure Work Order allocation
- Insurance and Bonds
- Develop Work Order documents

Thank you!

Contact Information

email: Innovative.delivery@dot.ca.gov

CMGC Website:

<https://dot.ca.gov/programs/design/contract-manager-general-contractor>

Design-Build Website:

<https://dot.ca.gov/programs/design/design-build-program>

Job Order Contracting Website:

<https://dot.ca.gov/programs/design/job-order-contracting>



Middle-Mile Broadband Initiative



Thank you