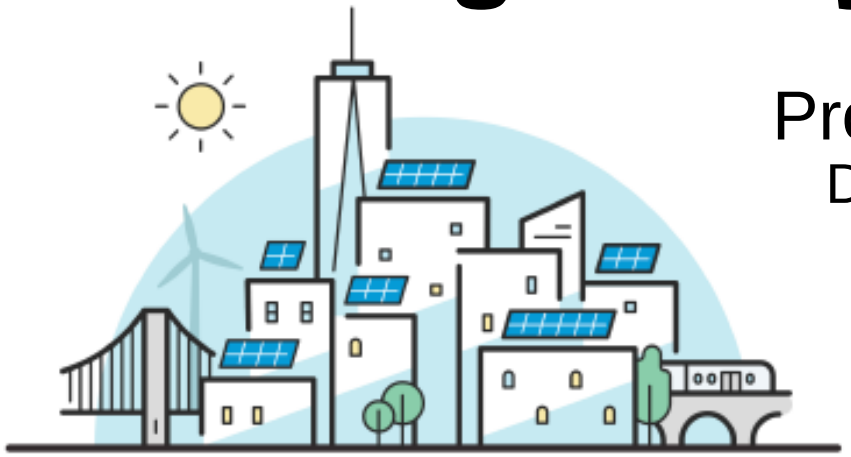
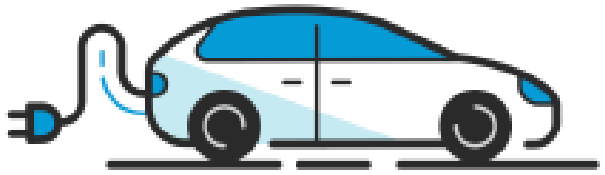
EV Light-Duty Make-Ready Program



Program Workshop

December 16, 2020



Agenda

- Welcome + Introductions – Vicki Kuo, Vice President of Energy Efficiency and Distributed Resource Planning
- EV Team: Overview of Make-Ready Program
- Energy Services: Overview of service request process and timelines
- Engineering Design
- Q&A

EV Team Introductions

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Meeting Logistics

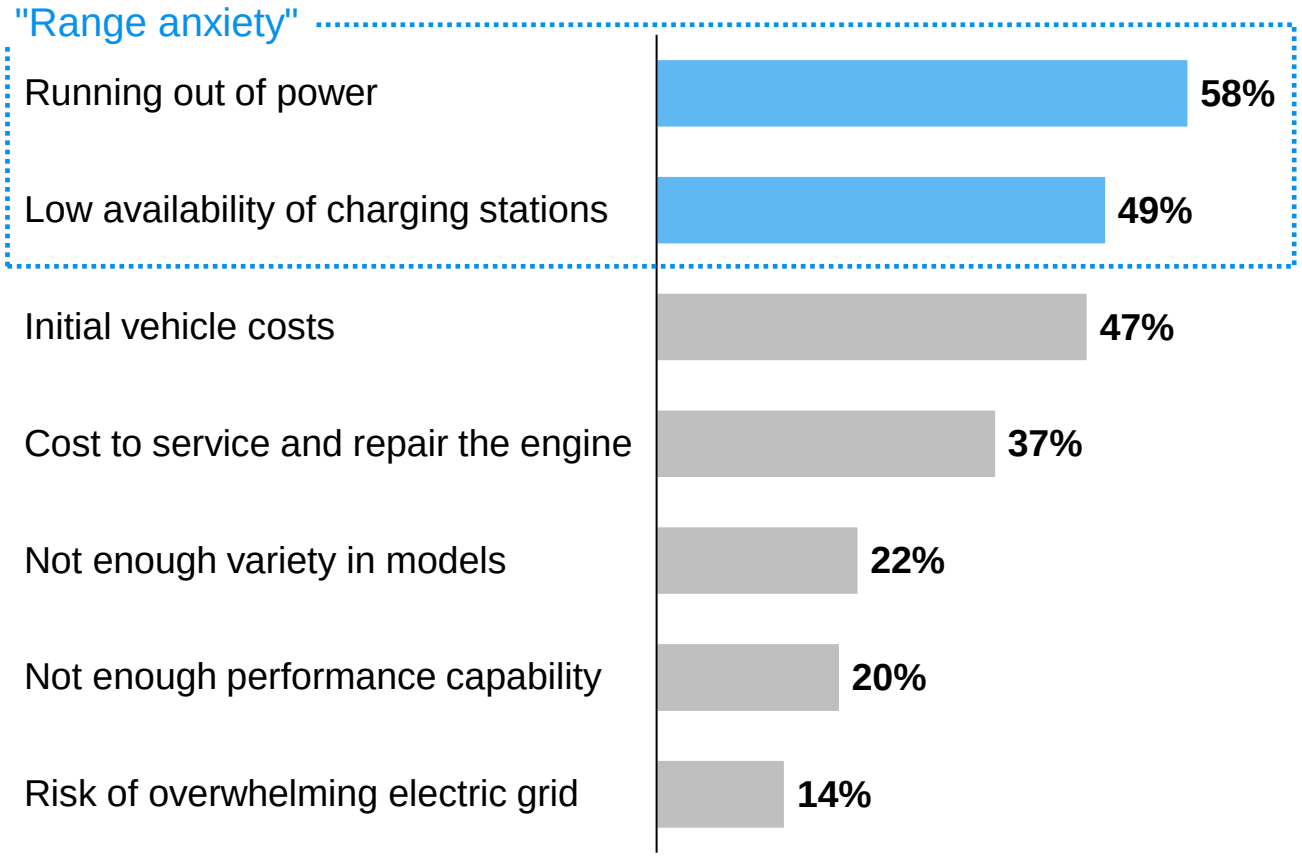
- **Recording**: Please be aware that this meeting will be recorded
- **Questions**: Please type your questions into the chat box and we will address them all together at the end of each presentations. Attendees will be muted until the Q&A.
- This slide deck will be provided to all attendees registered through Eventbrite.

Transportation electrification is critical to the achievement of ambitious New York Climate Goals

Build-out of EV charging infrastructure is key to spurring EV adoption

- **Transportation accounts for 36% of all greenhouse gas emissions statewide**
- Range anxiety is the leading barrier to light-duty EV adoption
- Light-duty make-ready program will support the development of widespread and visible EV charging

[% of drivers who consider factor to be a purchase barrier]

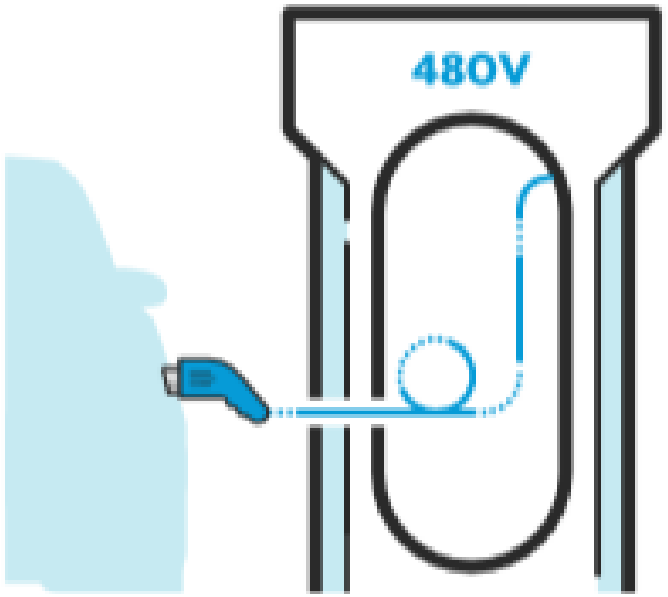


Con Edison Light-Duty Make-Ready Program Overview

As Authorized in NY PSC July 16, 2020 Order

Make-Ready Program Funding

- $234M in incentive funds for customer and utility side work to provide service to L2 and DCFC chargers in NYC and Westchester



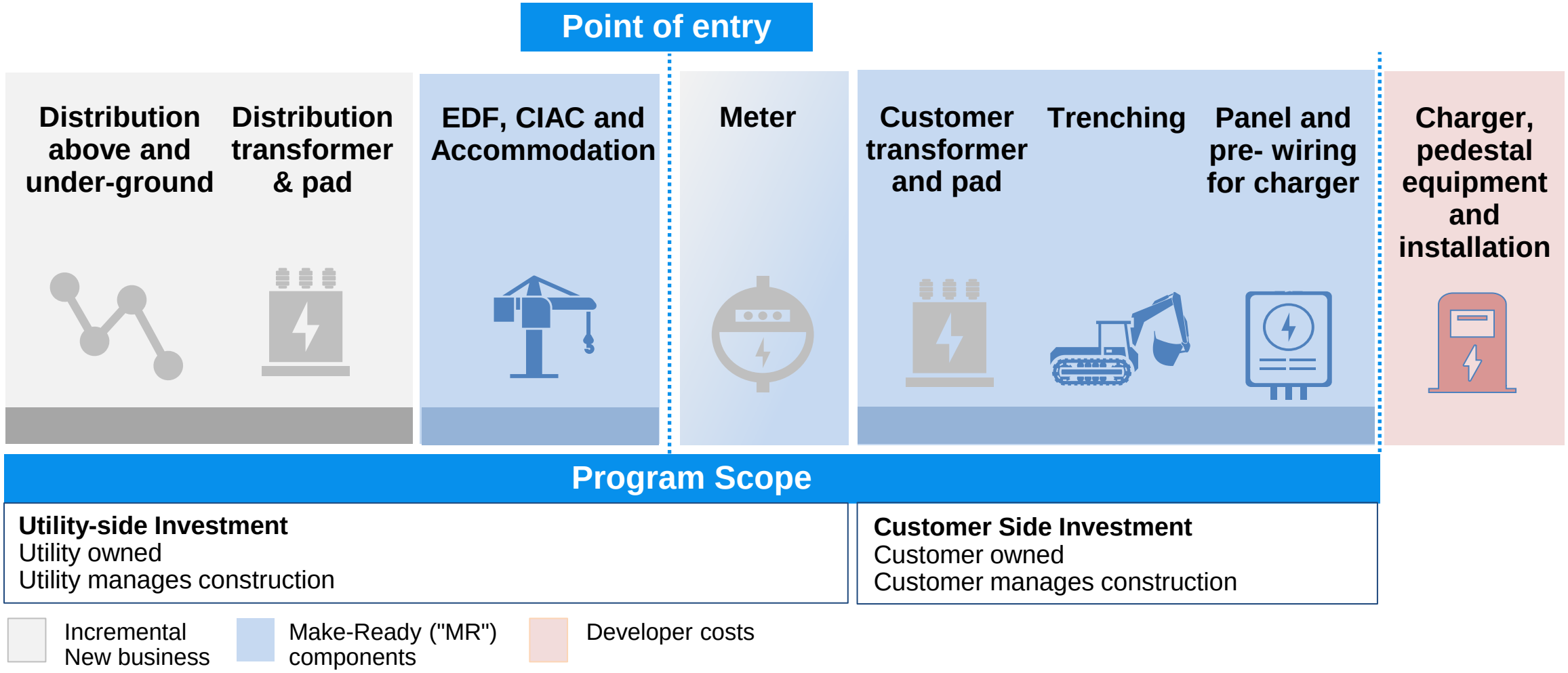
5-Year Program Start Date: July 16, 2020

- Any project not under construction as of that date is eligible

Program Plug Goals (2025)

- 18,539 L2 plugs
- 457 DCFC plugs

Con Edison's Make Ready Program provides incentives for utility-side and customer-side work



The incentive structure provides ‘up to’ a certain level of incentive based on various criteria

Criteria Component	Up to 50%	Up to 90%	Up to 100%
Accessibility	Non-publicly accessible sites *includes workplace, multifamily, and privately-owned pay-to-park lots	Publicly accessible sites *includes municipal paid parking, free parking in pay-to-park lots	
Plug Type			
L2	Proprietary plugs (e.g., Tesla)	Non-proprietary (e.g., SAE J) **OR** co-location *must have equal number simultaneous non-proprietary	
DCFC	Proprietary plugs (e.g., CHAdeMo, Tesla)	Non-proprietary (e.g. CCS) **OR** co-location *must have equal number simultaneous non-proprietary	
Disadvantaged Communities			
L2			Multi-unit dwellings within one mile
DCFC			Publicly accessible sites within one mile

Additional eligibility requirements to participate in MRP

Approved Contractor	• **Customer-side work** must be completed by an Approved Contractor • To become an Approved Contractor, interested entities must complete and submit a **Participating Contractor Application**, available at jointutilitiesofny.org
Participant Application Submittal	• Any customer-side party (e.g., **developer, site host, approved contractor**) can submit the Participant application • The Participant that **signs the program agreement** takes on reporting and other responsibilities
Station Size	• Station sizes must be a **minimum of 2 plugs and maximum of 10 plugs (DCFC only)** • Stations with 2 charging plugs cannot make up more than 50% of the program plugs incentivized • DCFC stations with greater than 10 plugs must seek pre-approval from Con Edison based on grid upgrades required

There are operational requirements for Participants

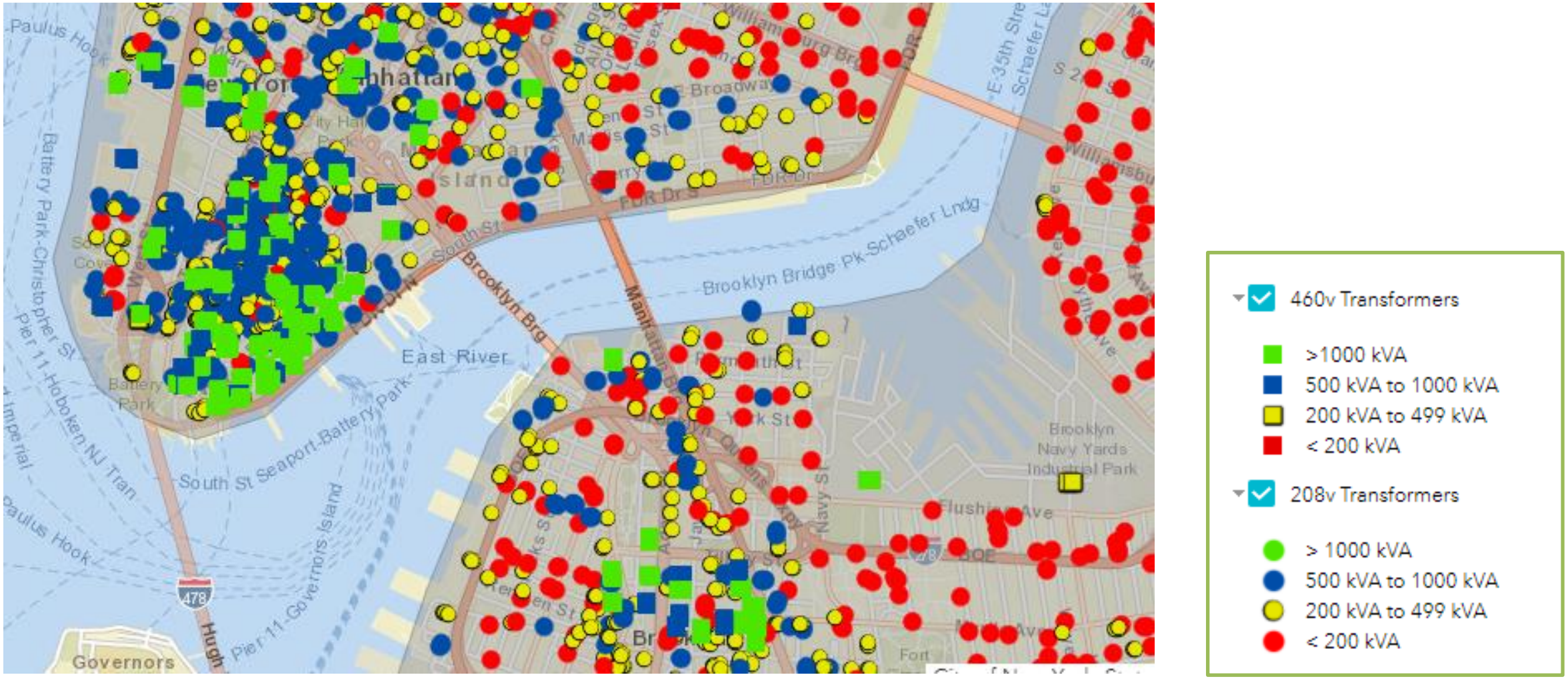
DCFC Plug Operating Requirements	• DCFC plugs **must be operational 95 percent of the time** (annually) • DCFC charging **stations must be operational 99 percent of the time (annually),** with a minimum of 50 percent of the plugs considered to be “up” at all times
Operation Period	• All charging stations in the EV Make-Ready Program must **operate for a minimum of five years**
Ownership Changes	• **Ownership of EV charging stations may change** or stations may be upgraded during the five year term, as long as the number of plugs and the capacity of the station does not decrease, and the site continues to meet all performance and reporting obligations of the Program

The EV MRP has a five-year quarterly reporting requirement

Aggregated data will be shared with the Joint Utilities and Department of Public Service

Data Type	Plug and Charging Session	Financial Information	Utility Energy and Billing
Who Provides Data	Participant to 3rd-party consultant	Participant to 3rd-party consultant	Utility
Data Requirements	• the number of sessions daily • start and stop times of each charge • the amount of time each vehicle is plugged in per session • peak kW per charging session • kWh per charging session • plug outage information	• infrastructure and equipment costs • fee structure (e.g., cost per kWh, cost per session • charging revenues derived • operating costs, which should separate energy-related costs and non-energy related costs	Utility system and billing information for each EV charging station, including: • 15-minute interval data • load profiles for charging stations for the top ten annual demand days • utility bills, which should differentiate by delivery service-related costs and energy-related costs

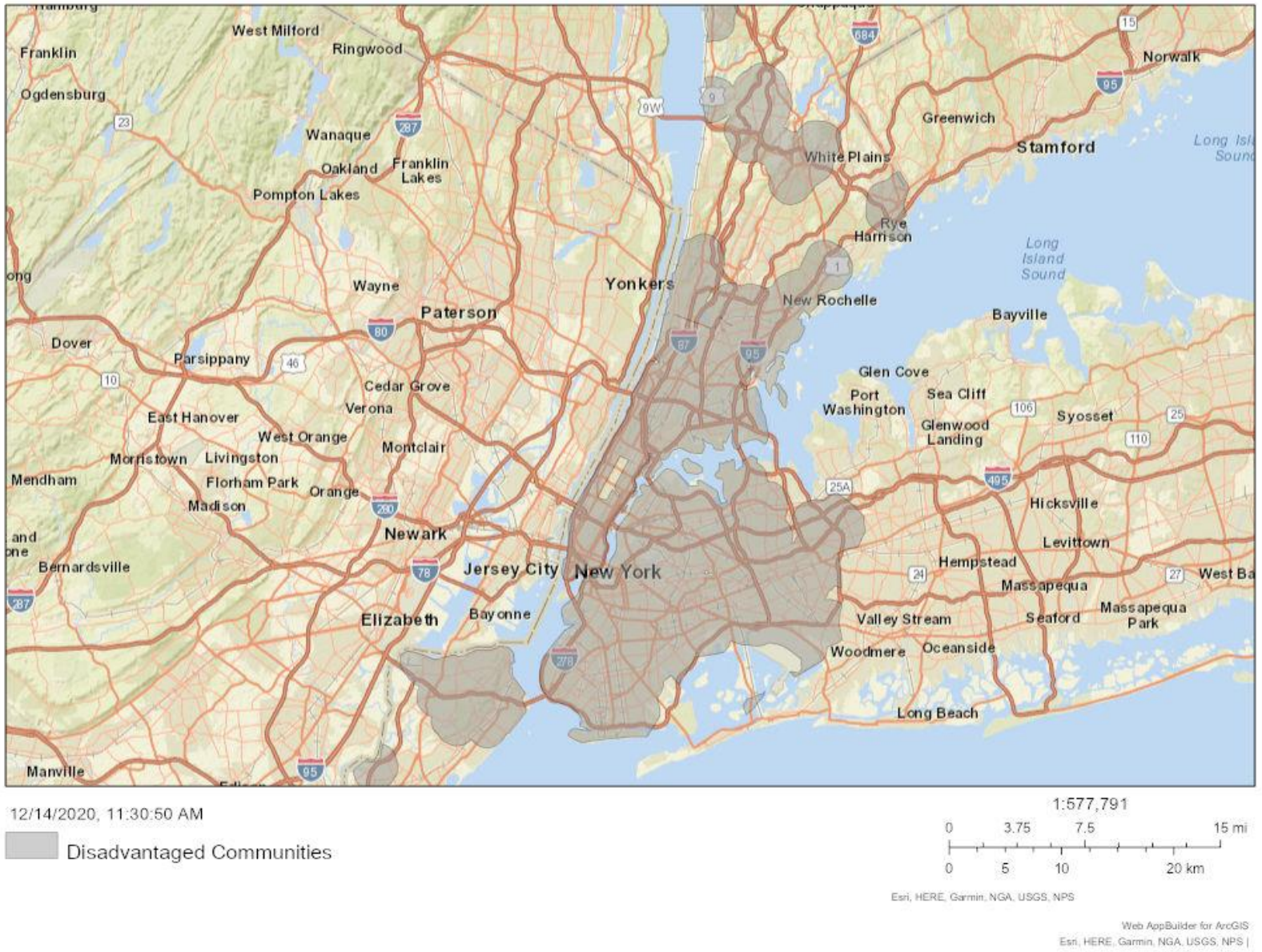
Participant Support Tools: EV load capacity maps show network transformer capacity and voltage



Participant Support Tools: EV capacity maps also show areas within 1 mile of a Disadvantaged Community

Disadvantaged communities include areas with low- and moderate-income residents and environmental justice areas.

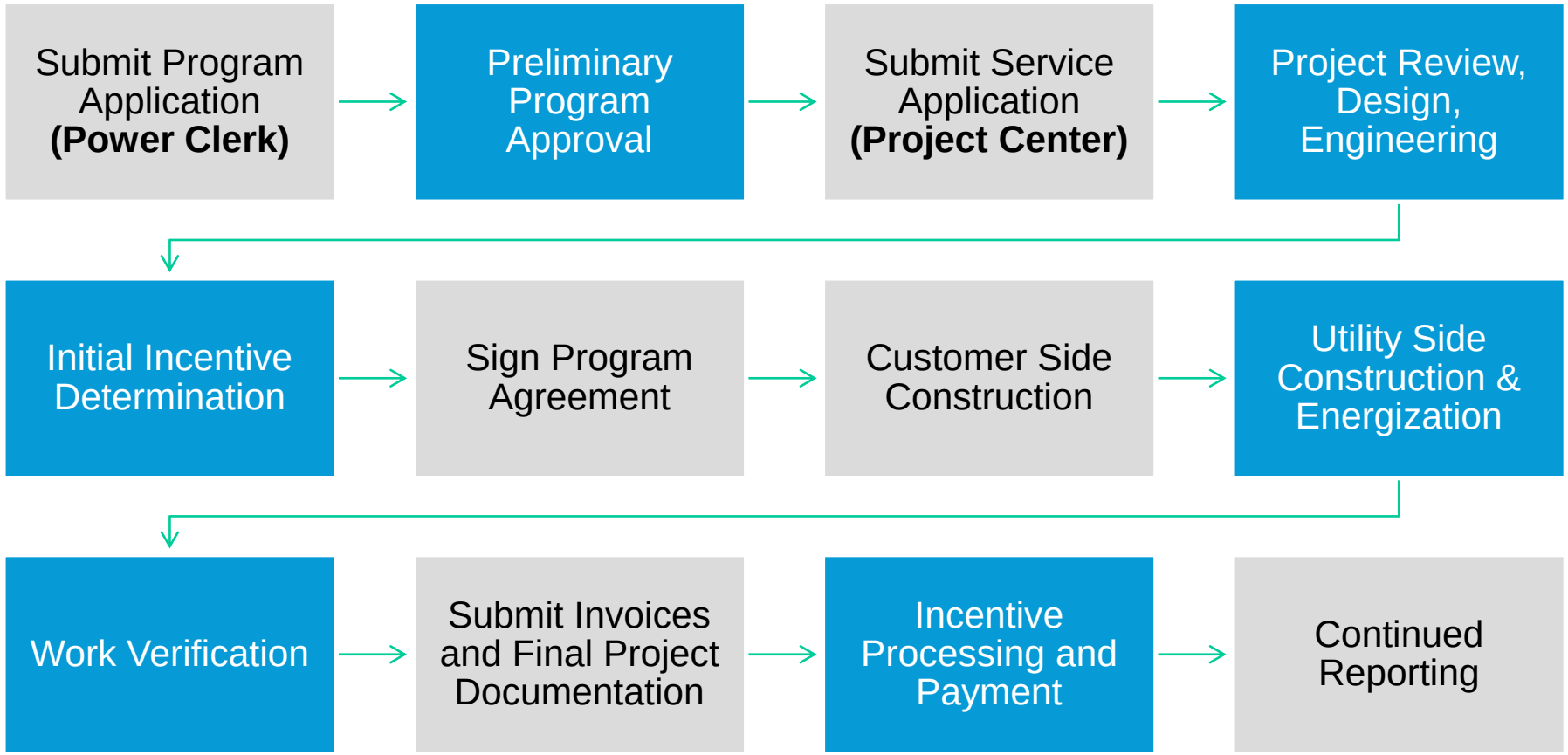
ConEdison EV Capacity Map



Make ready Incentives can be layered with other NY State incentive offerings

L2 Charger Incentive	• ***NYSERDA ChargeReady program: $4,000 L2 incentive***
Public DCFC Operating Incentives	• ***Con Edison Business Incentive Rate discounts*** • ***Con Edison Annual Per-Plug Incentive***
Off-Peak Charging Incentive Program	• ***Con Edison SmartCharge New York managed charging program***

The initial phase of the program has a two-step application process



Responsible Party

Con Edison Team

Participant

Top 10 questions about the Make-Ready Program

1. How long will it take to get my eligibility letter? Less than two weeks.
2. How long will it take to get my service ruling? In approximately thirty days.
3. Are design, permitting, and project management costs included in Make-Ready? Yes.
4. Are bollards included? No.
5. My station is in a pay-for-parking garage that lets EVs in at no charge. What incentive tier does this qualify for? Up to 90%.
6. Can I have a site with both L2s and DCFCs? Yes.
7. I am an approved contractor. Do each of my sub-contractors have to be approved? No.
8. If my site has parking dedicated for visitors, is that considered public? No.
9. If I have valet parking, is that considered public? If it is a free service, yes.
10. It looks like my site might be in a disadvantaged community, but it's hard to tell. How do I check? You can do an address search on our EV load capacity maps.

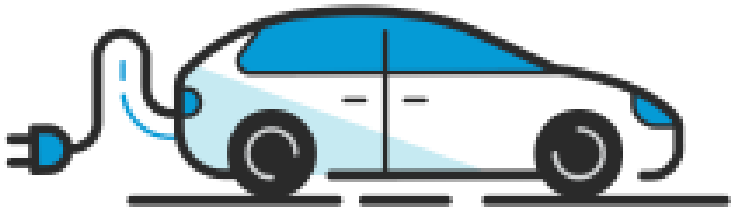
Program Resources

Make Ready Program Website

- Program application
- Participant guide
- Approved contractor list
- Approved contractor application
- Capacity and Disadvantaged Community area maps

EV Team

- EVMRP@coned.com



Electric Vehicle Make-Ready Program

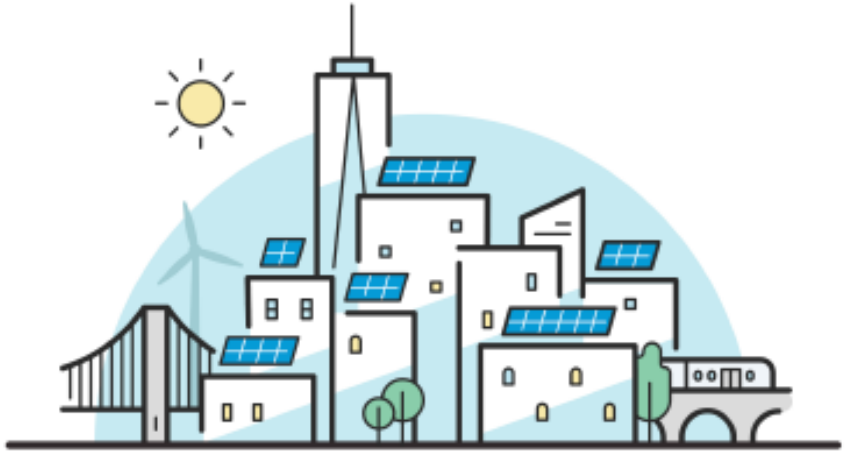
Reduce the upfront costs of installing charging stations for light-duty electric vehicles.

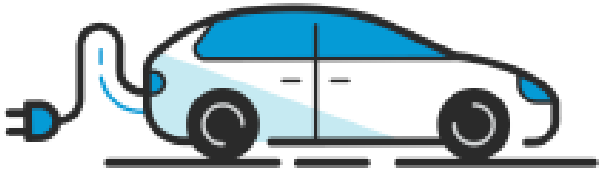
LEARN MORE

Questions?

EV Installation Process

Distributed Energy
Services





Energy Services Team Introductions

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Customer
Project
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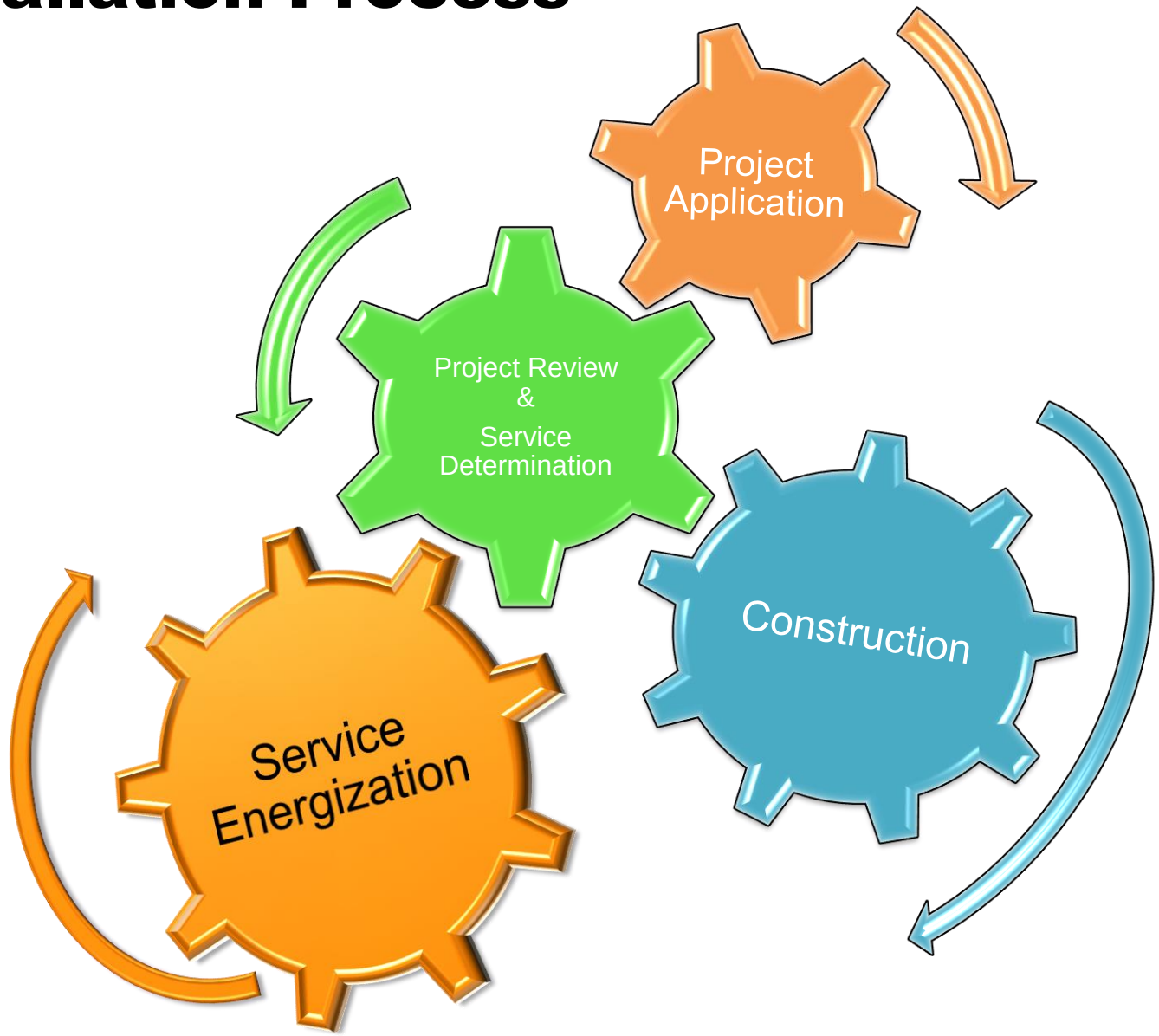
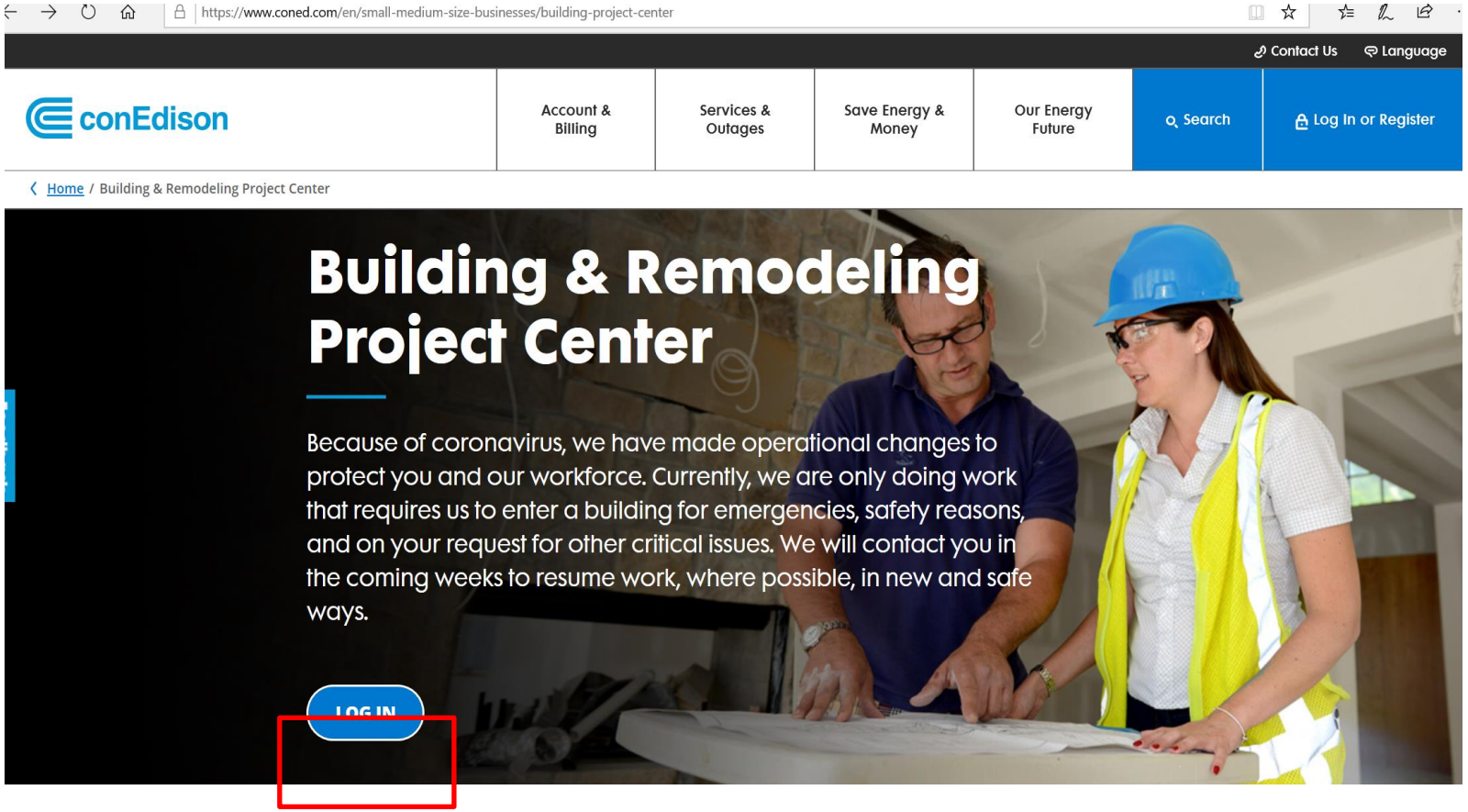
EV Installation Process

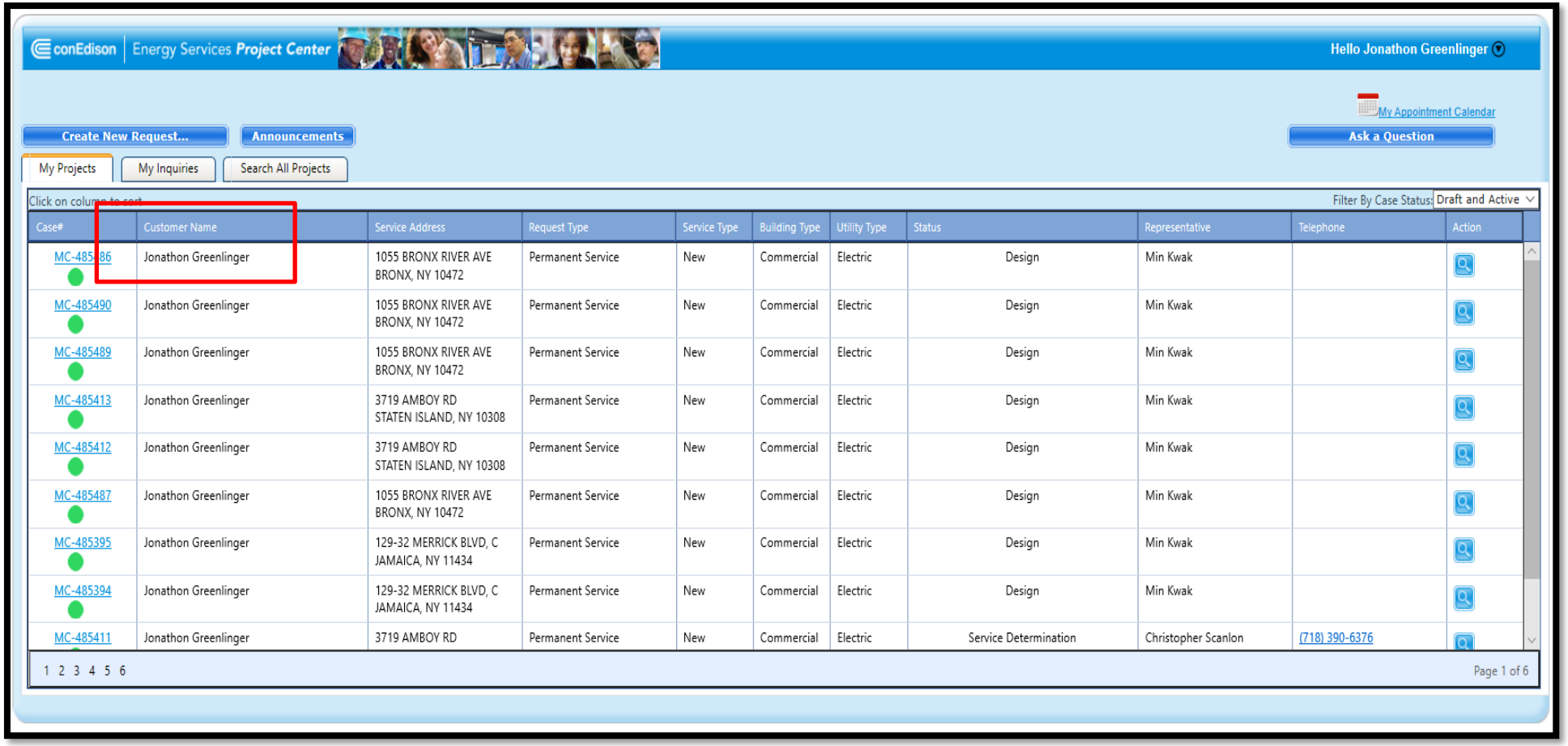


Project Application:

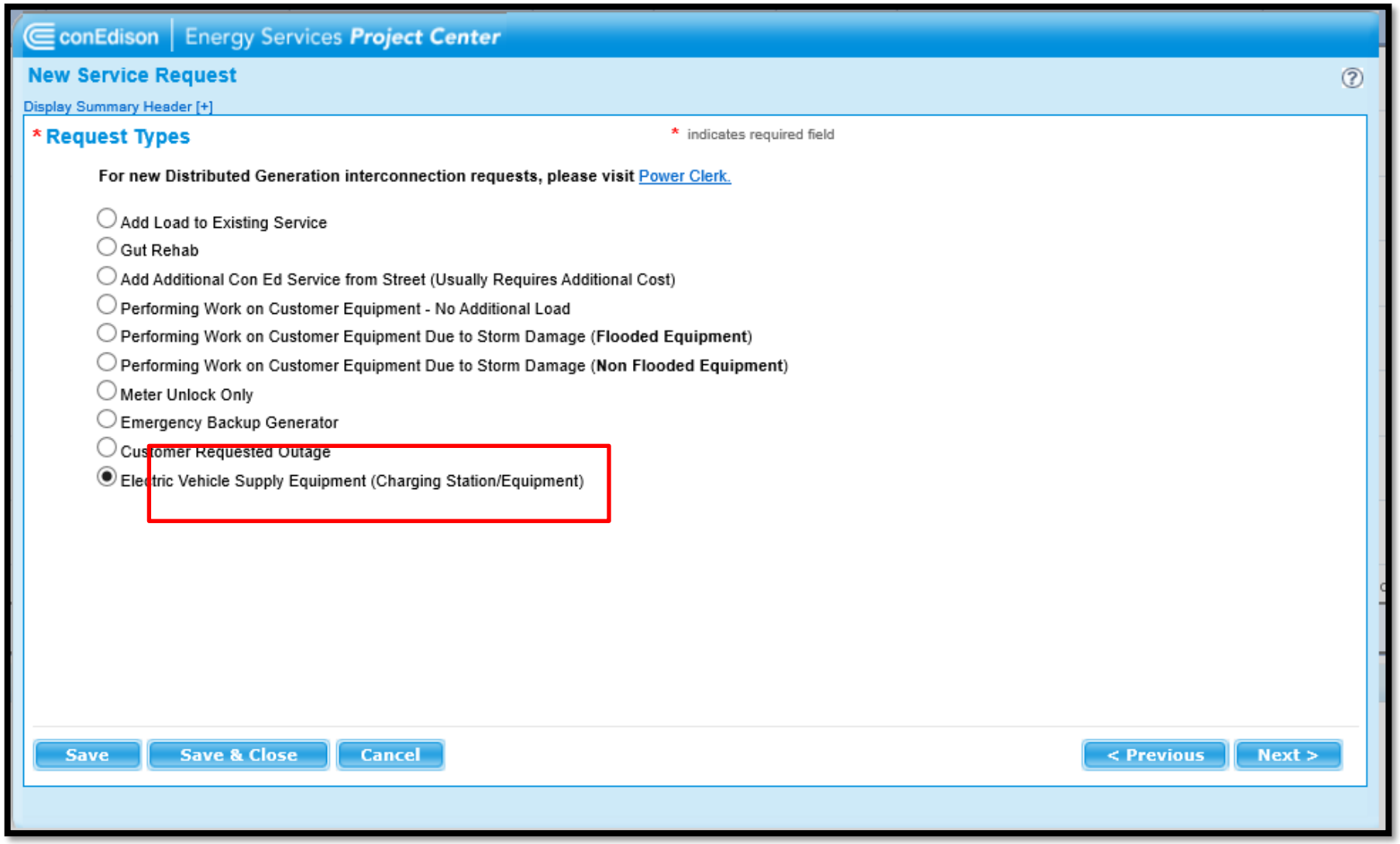
Apply EV Make Ready Program via Power Clerk
Apply Service Request via Project Center



Create New Service Request



Electric Vehicle Charging Station Equipment



Additional Documents:

- Make Ready Program Application Review Letter
- Letter of Authorization
- Site Plan
- One Line Diagram
- Load Letter
- EV Charging Station Equipment Cut Sheet

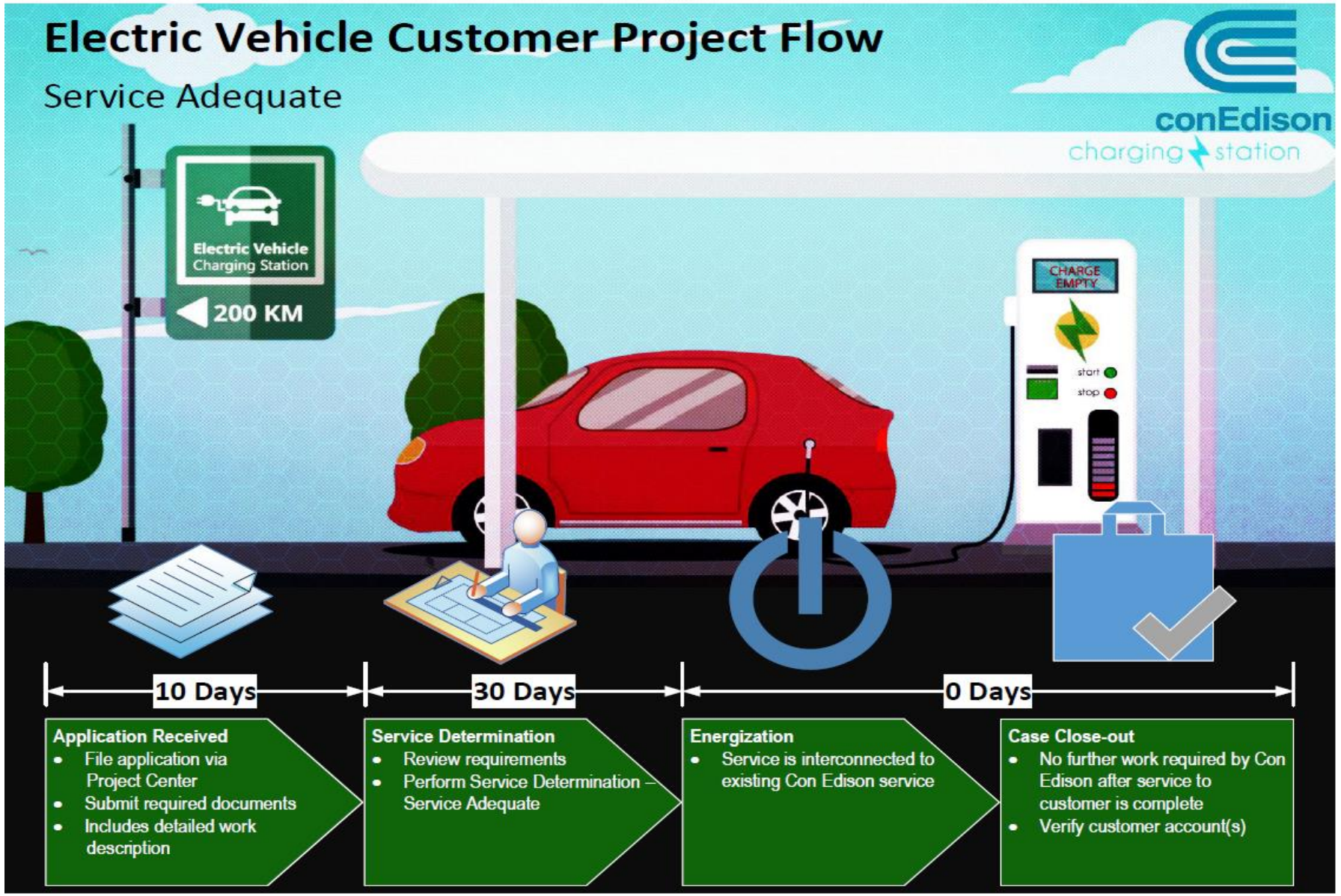
Project Review and Service Determination

Energy Services reviews the Service Request
Engineering performs the Service Determination study

- Existing Service Adequate, No Additional Work
- Existing Service Adequate, Request Additional Meters
- Existing Service Adequate, Request a New POE
- Service Not Adequate:
  - Reinforce Existing Service
  - Request New Service

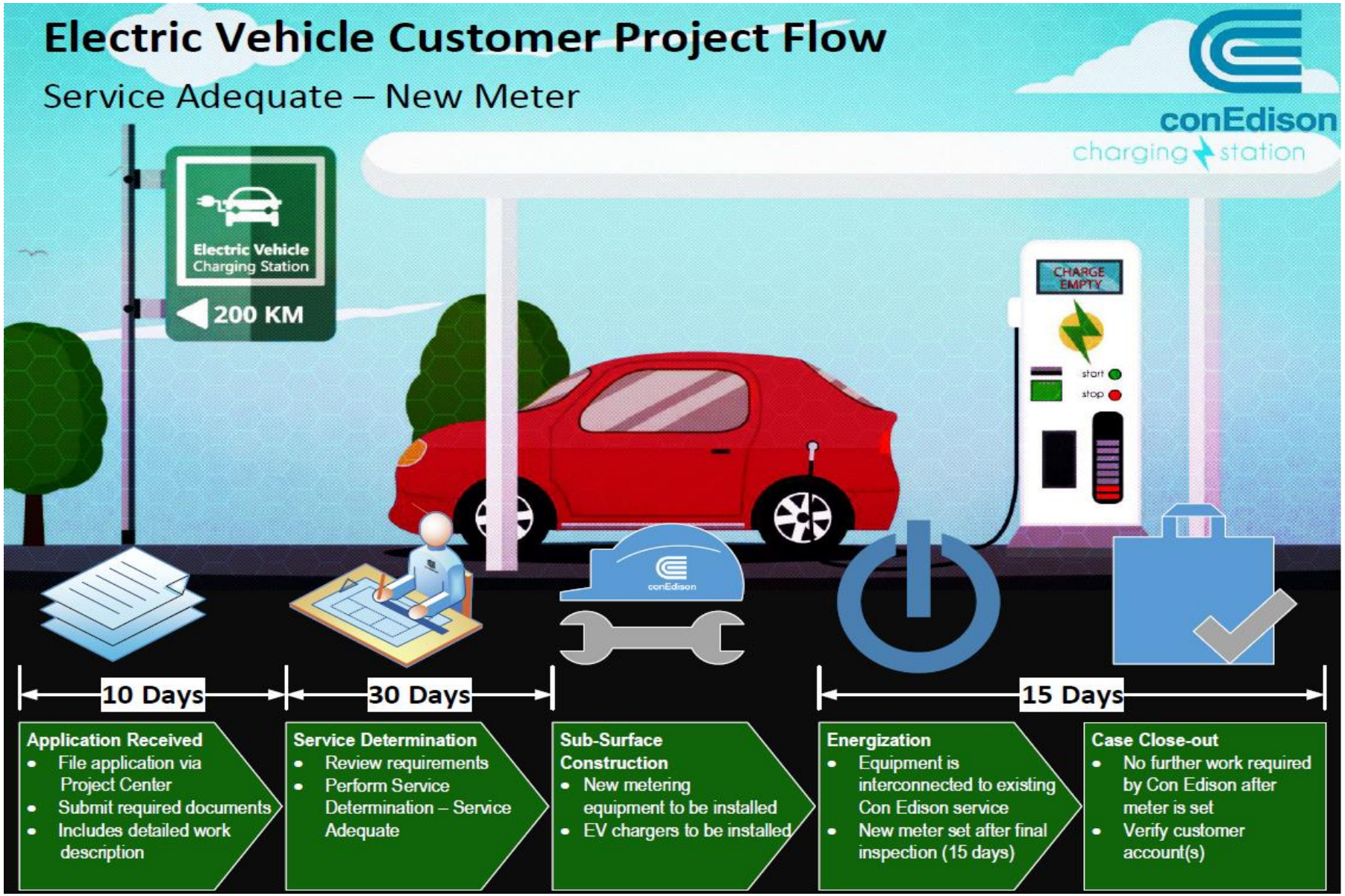
Electric Vehicle Customer Project Flow

Service Adequate



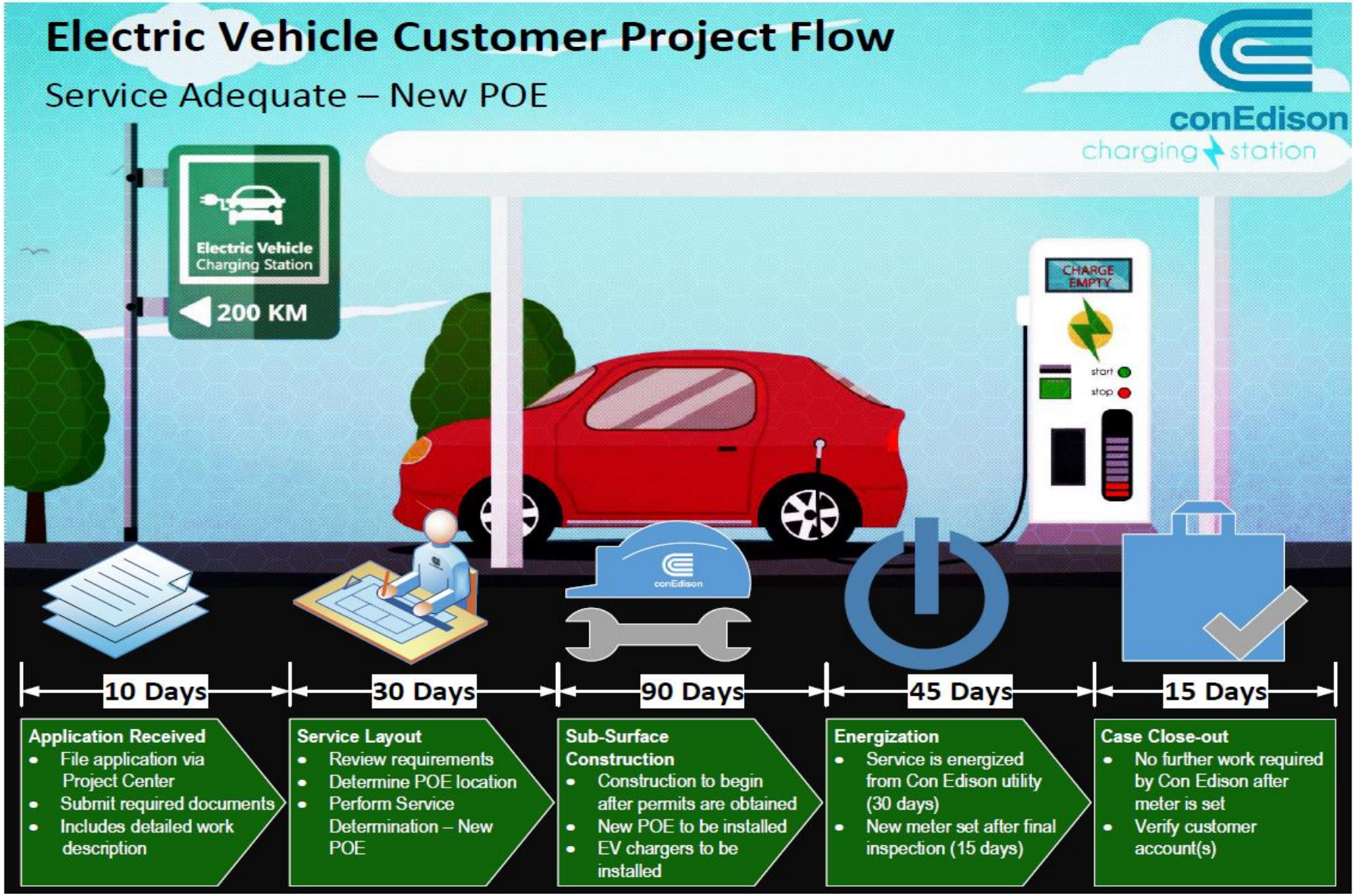
Electric Vehicle Customer Project Flow

Service Adequate – New Meter



Electric Vehicle Customer Project Flow

Service Adequate – New POE



Application Received
- File application via Project Center
- Submit required documents
- Includes detailed work description

Service Layout
- Review requirements
- Determine POE location
- Perform Service Determination – New POE

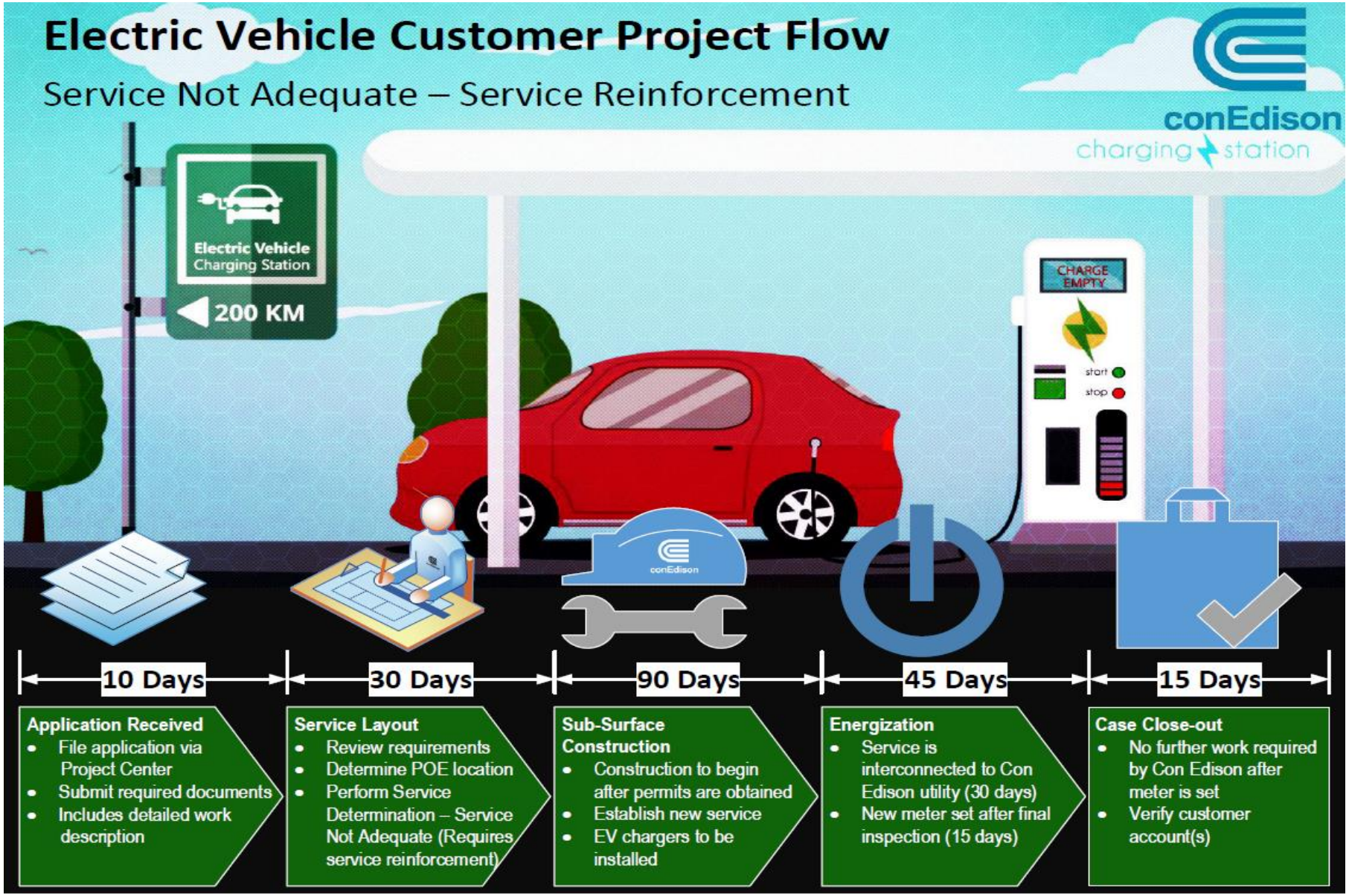
Sub-Surface Construction
- Construction to begin after permits are obtained
- New POE to be installed
- EV chargers to be installed

Energization
- Service is energized from Con Edison utility (30 days)
- New meter set after final inspection (15 days)

Case Close-out
- No further work required by Con Edison after meter is set
- Verify customer account(s)

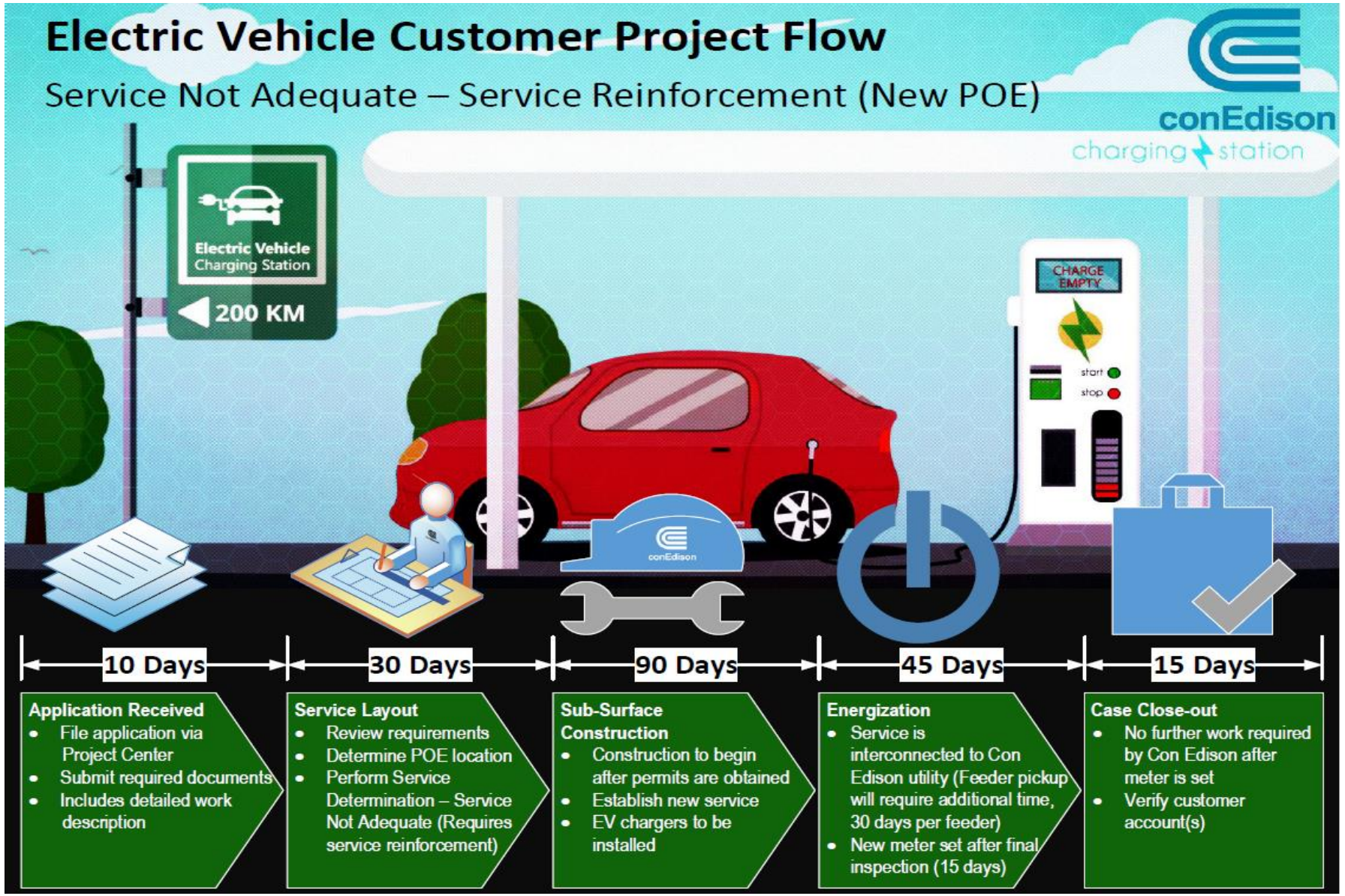
Electric Vehicle Customer Project Flow

Service Not Adequate – Service Reinforcement



Electric Vehicle Customer Project Flow

Service Not Adequate – Service Reinforcement (New POE)



Application Received
- File application via Project Center
- Submit required documents
- Includes detailed work description

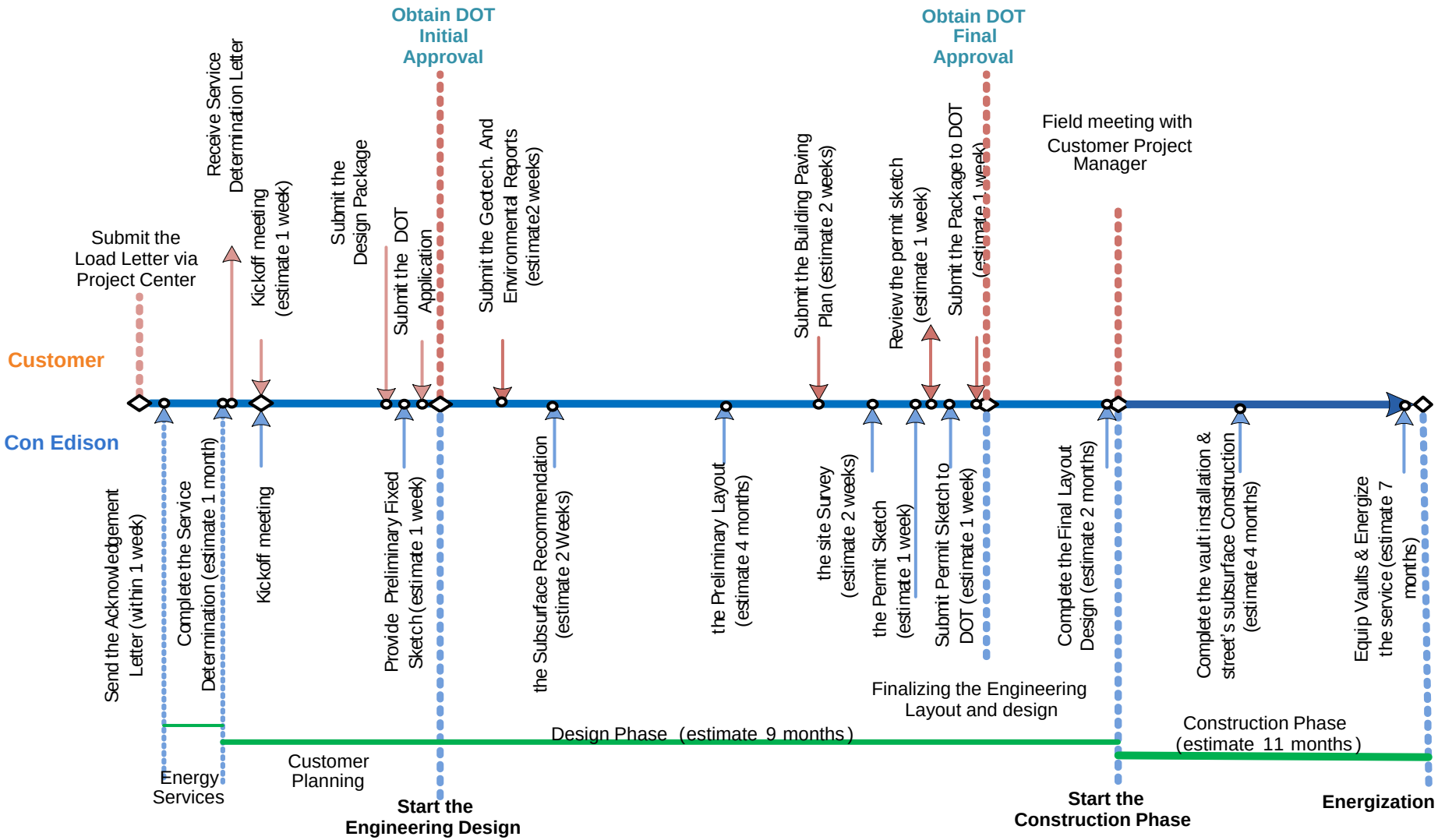
Service Layout
- Review requirements
- Determine POE location
- Perform Service Determination – Service Not Adequate (Requires service reinforcement)

Sub-Surface Construction
- Construction to begin after permits are obtained
- Establish new service
- EV chargers to be installed

Energization
- Service is interconnected to Con Edison utility (Feeder pickup will require additional time, 30 days per feeder)
- New meter set after final inspection (15 days)

Case Close-out
- No further work required by Con Edison after meter is set
- Verify customer account(s)

Time Frame: Transformer Vault installation



Additional considerations

Load requirements

- How much power is needed
- Load is not proportional

Geographic

- Embargos (IE: NYC Holiday embargo)
- Moratoriums (IE: system reliability concerns)
- Construction complications (IE: high traffic areas may prove challenging for permitting)

Environmental

- Existing soil conditions
- Additional permitting requirements

Additional references

Con Edison blue book

- Governs all applicable specifications for service work such as:
  - Property line manhole sizing
  - Metering requirements
  - Service requirements
  - Has a library of specifications for customer use
- https://www.coned.com/-/media/files/coned/documents/small-medium-large-businesses/electricbluebook.pdf?la=en

Con Edison rates and tariffs

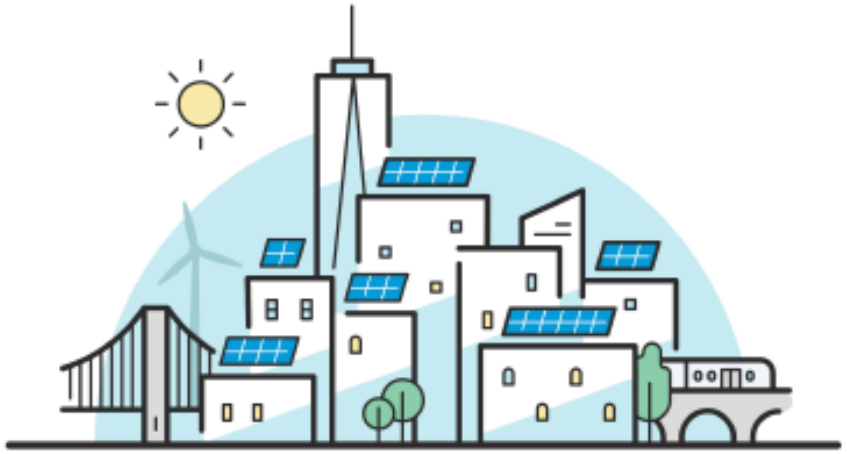
- https://www.coned.com/en/rates-tariffs/rates

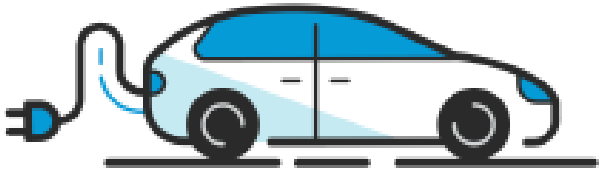
We are always here to help!!!!

Questions?

Engineering Design Criteria

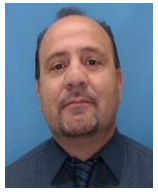
Customer Engineering





Customer Engineering

Rhys dela Cruz
Section Manager
Manhattan Customer
Engineering



Anthony Zappone
Section Manager
Brooklyn/Queens
Customer Engineering

Albert Wang
Manager
Bronx/Westchester
Customer Engineering

Scott MacKenzie
Manager
Staten Island
Engineering

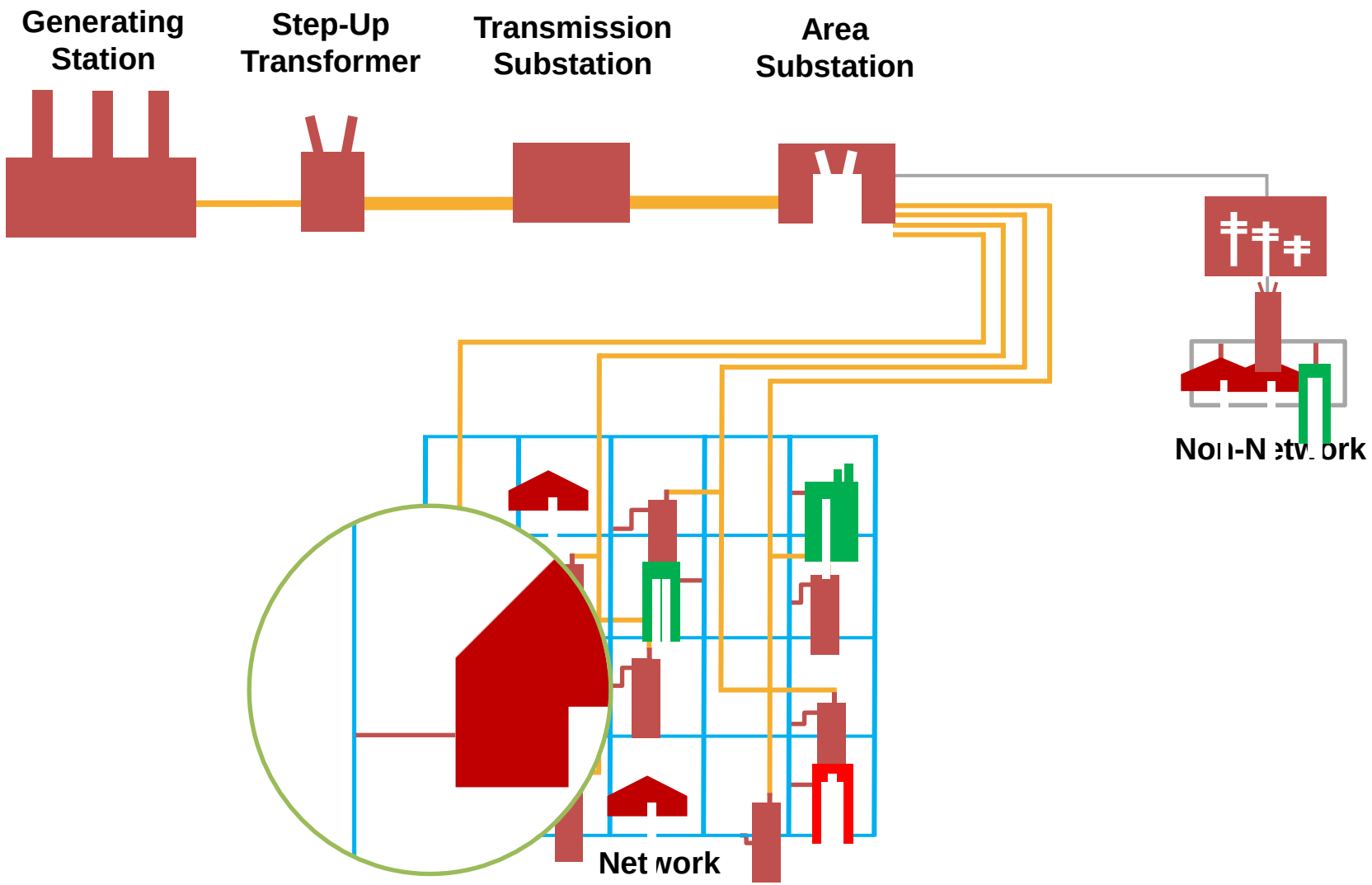
Ken Singh
Engineering
Supervisor

Nelson Lam
Engineering
Supervisor

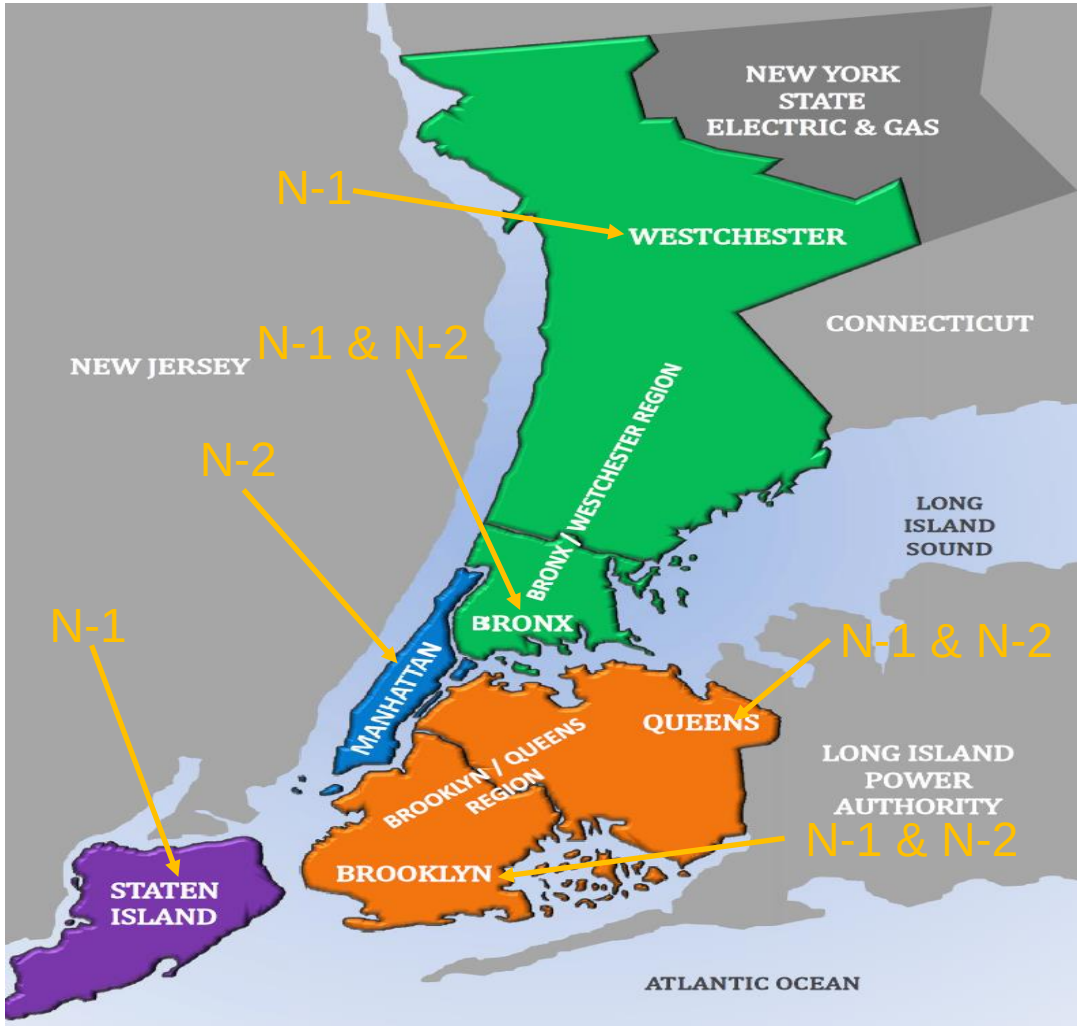
Jing Zheng
Engineering
Supervisor

Cinthia Kane
Engineering
Supervisor

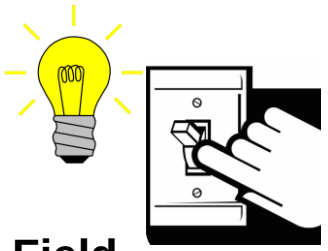
Electric System Overview



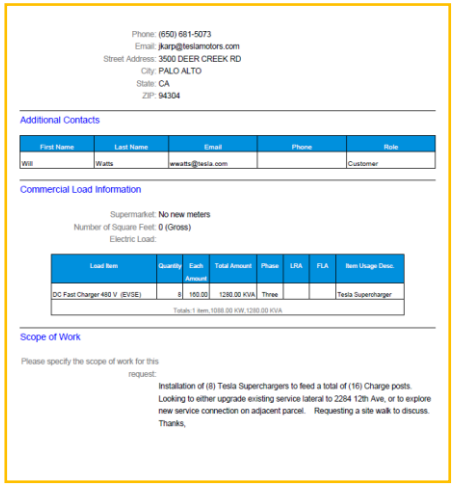
Design Criteria Areas



New Business Process



Service Request → **Rulings** → **Construction Layouts** → **Field Crews**



Phone: (650) 681-5073
Email: jkarp@teslamotors.com
Street Address: 3500 DEER CREEK RD
City: PALO ALTO
State: CA
ZIP: 94304

Additional Contacts

First Name	Last Name	Email	Phone	Role
Will	Watts	wwatts@tesla.com		Customer

Commercial Load Information

Supermarket: No new meters
Number of Square Feet: 0 (Gross)
Electric Load:

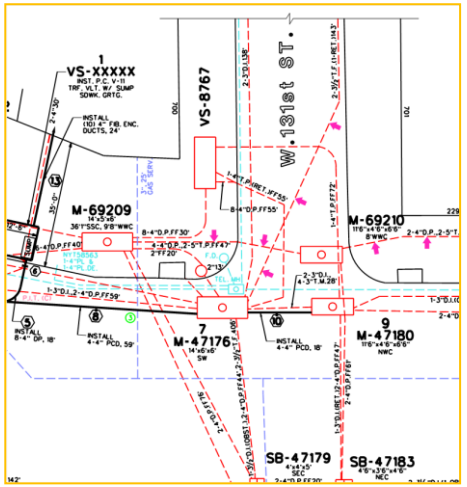
Load Item	Quantity	Each Amount	Total Amount	Phase	LRA	FLA	Item Usage Desc.
DC Fast Charger 480 V (EVSE)	8	160.00	1280.00 KVA	Three			Tesla Supercharger

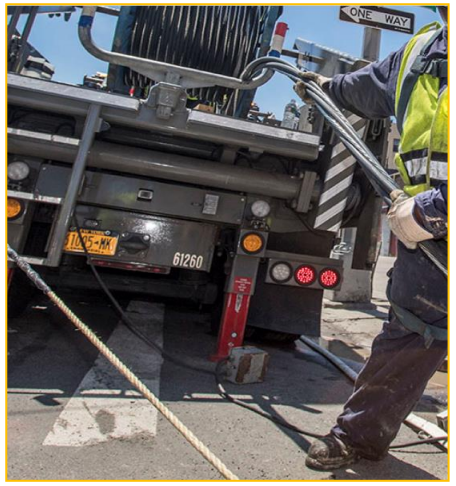
Totals: 1 item, 1088.00 KW, 1280.00 KVA

Scope of Work

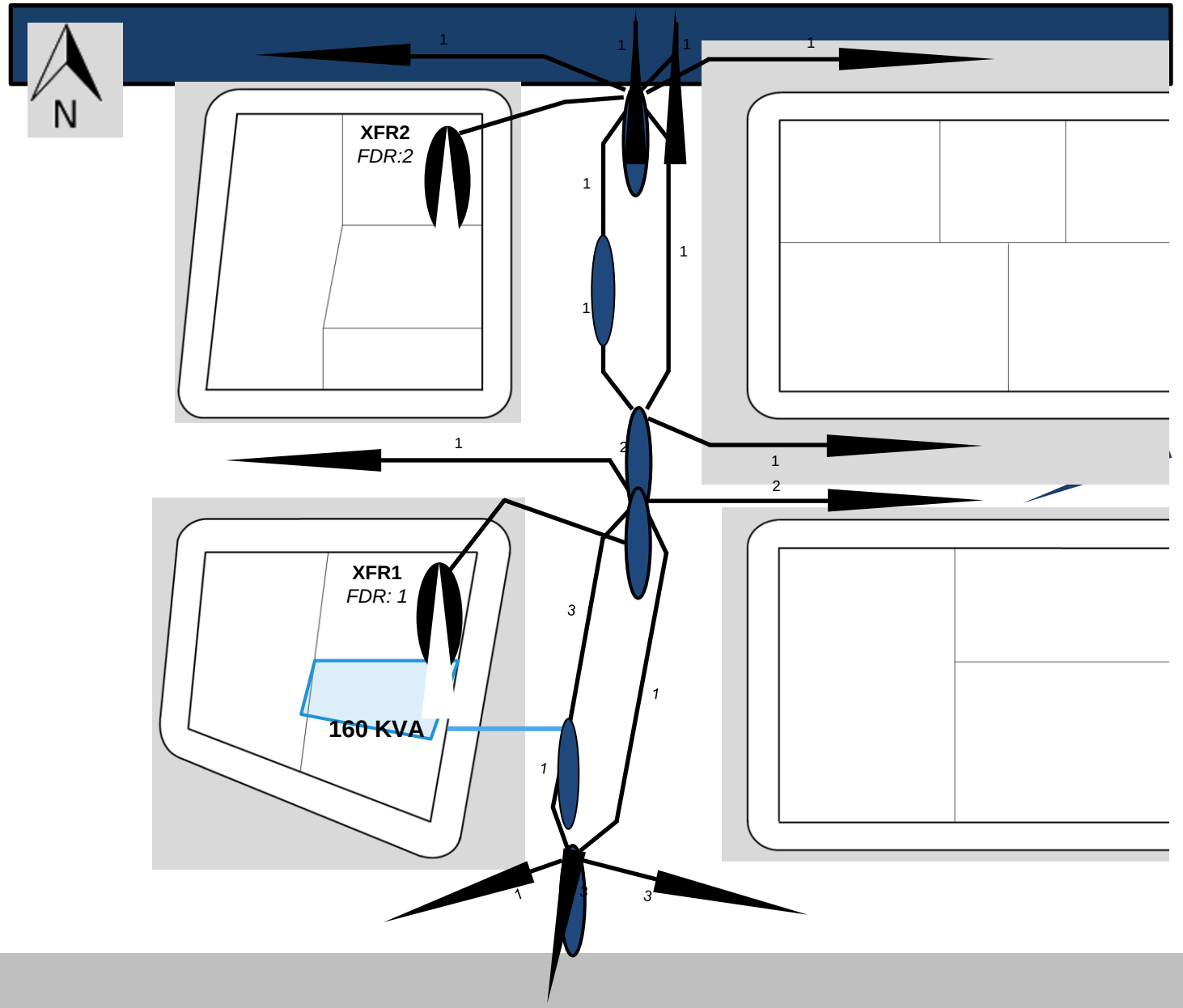
Please specify the scope of work for this request:

Installation of (8) Tesla Superchargers to feed a total of (16) Charge posts. Looking to either upgrade existing service lateral to 2284 12th Ave, or to explore new service connection on adjacent parcel. Requesting a site walk to discuss. Thanks,

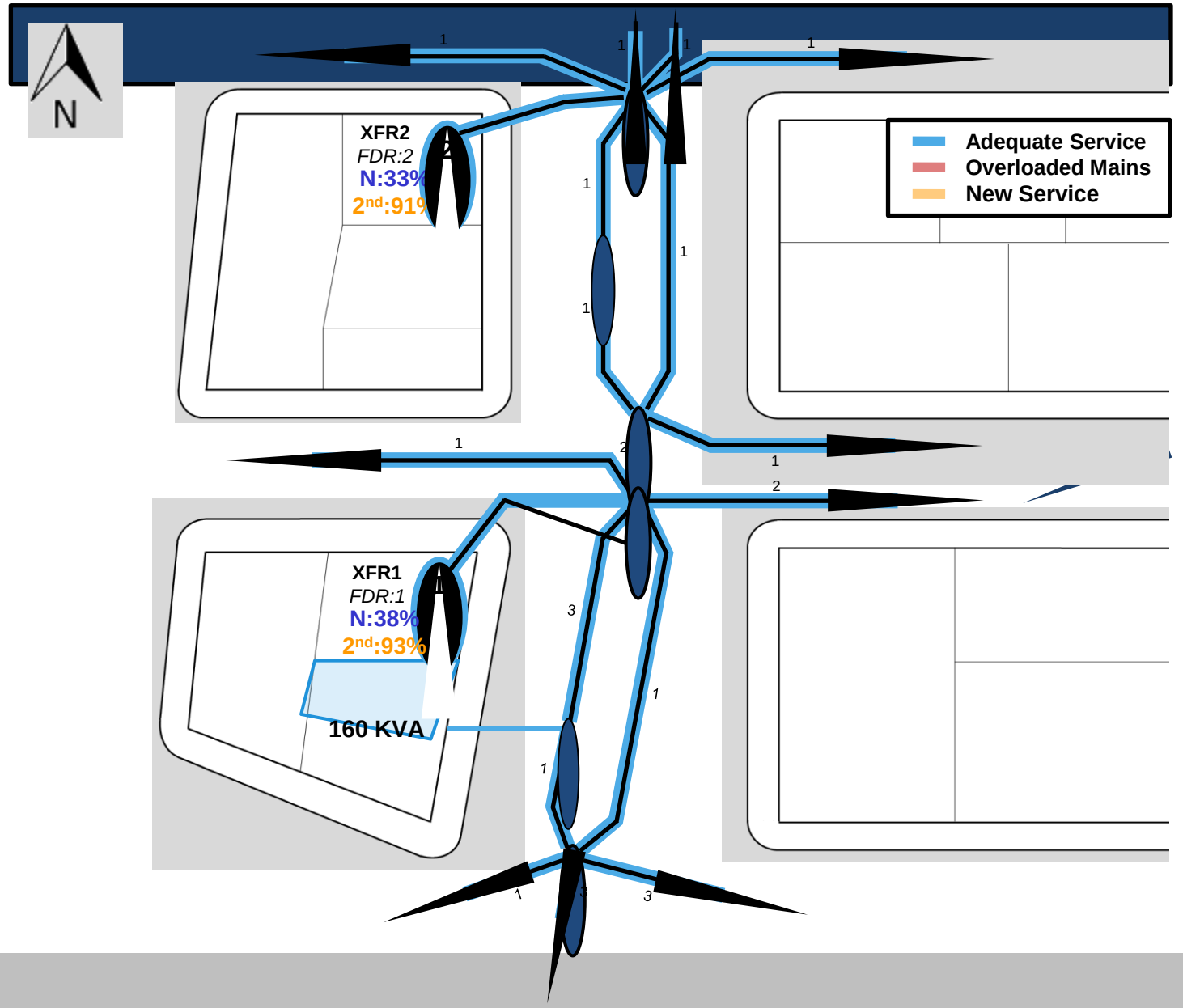




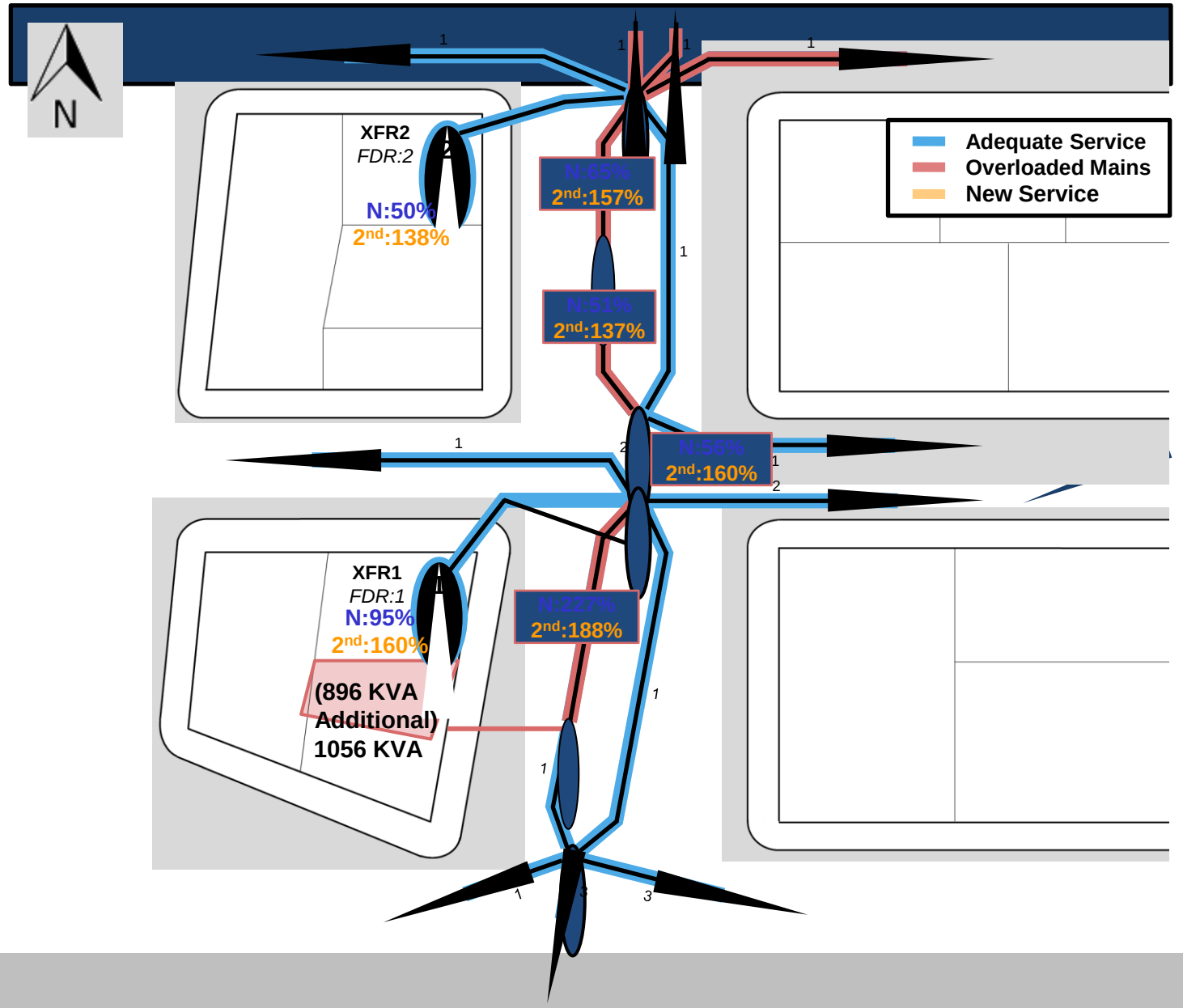
Existing System



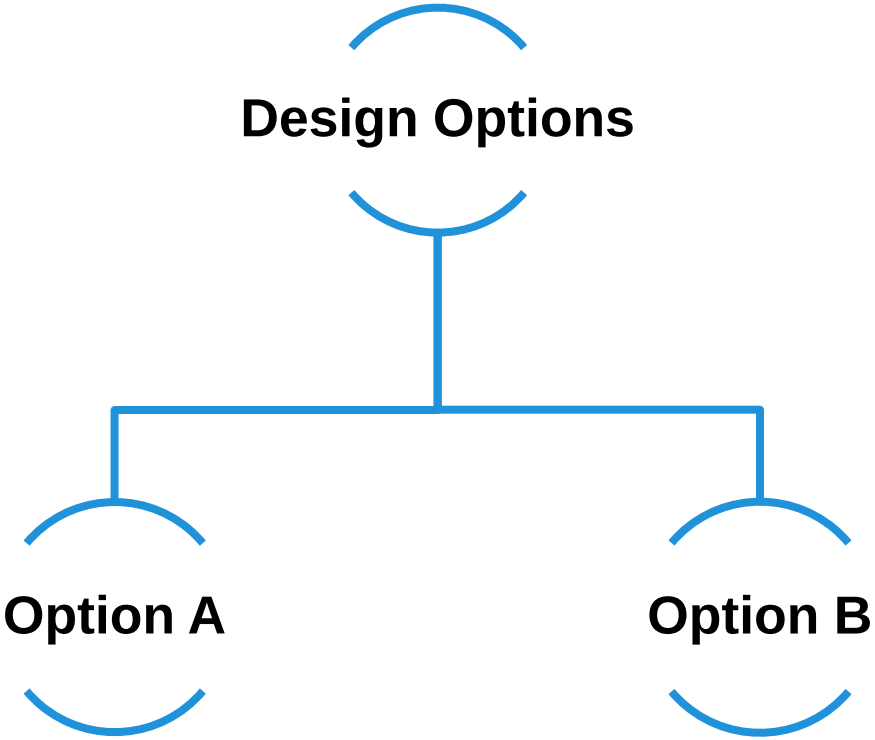
Existing System



Load Added


N
XFR2
FDR:2
N:50%
2nd:138%
N:65%
2nd:157%
N:51%
2nd:137%
N:56%
2nd:160%
XFR1
FDR:1
N:95%
2nd:160%
(896 KVA Additional)
1056 KVA
N:227%
2nd:188%
Adequate Service
Overloaded Mains
New Service

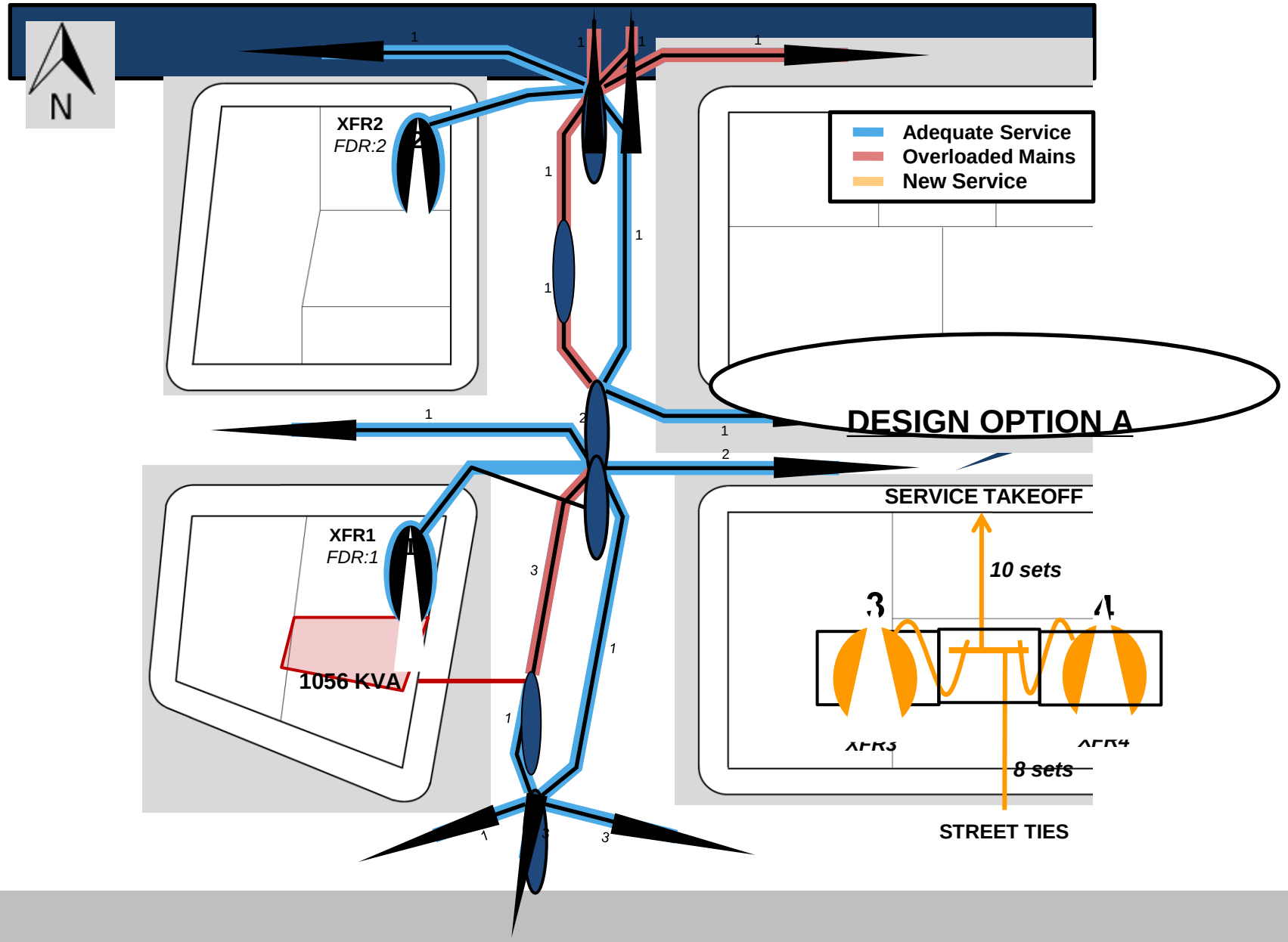
Design Options



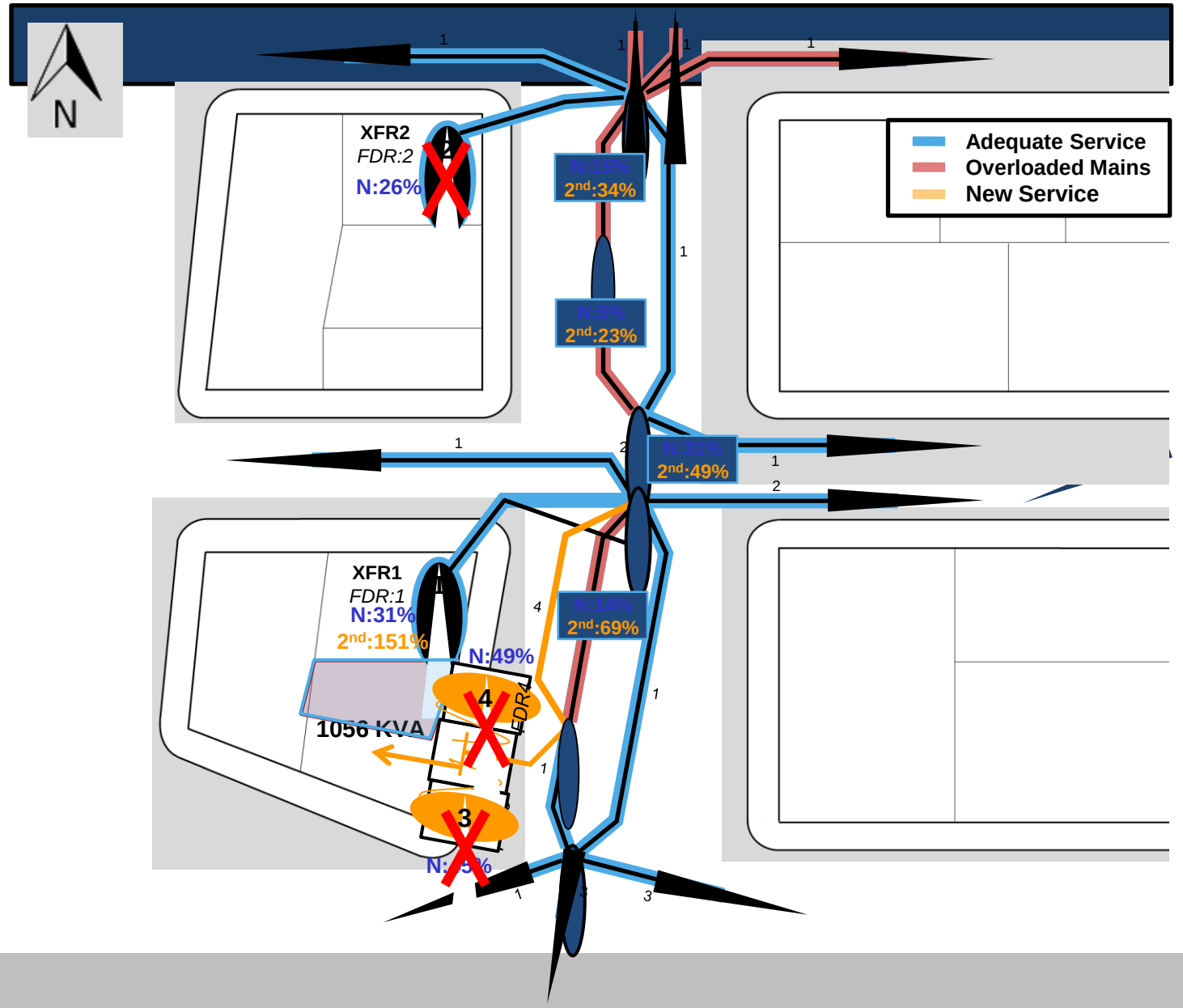
- Two Transformers
- One section of secondary reinforcement

- One Transformer
- Three sections of secondary reinforcement

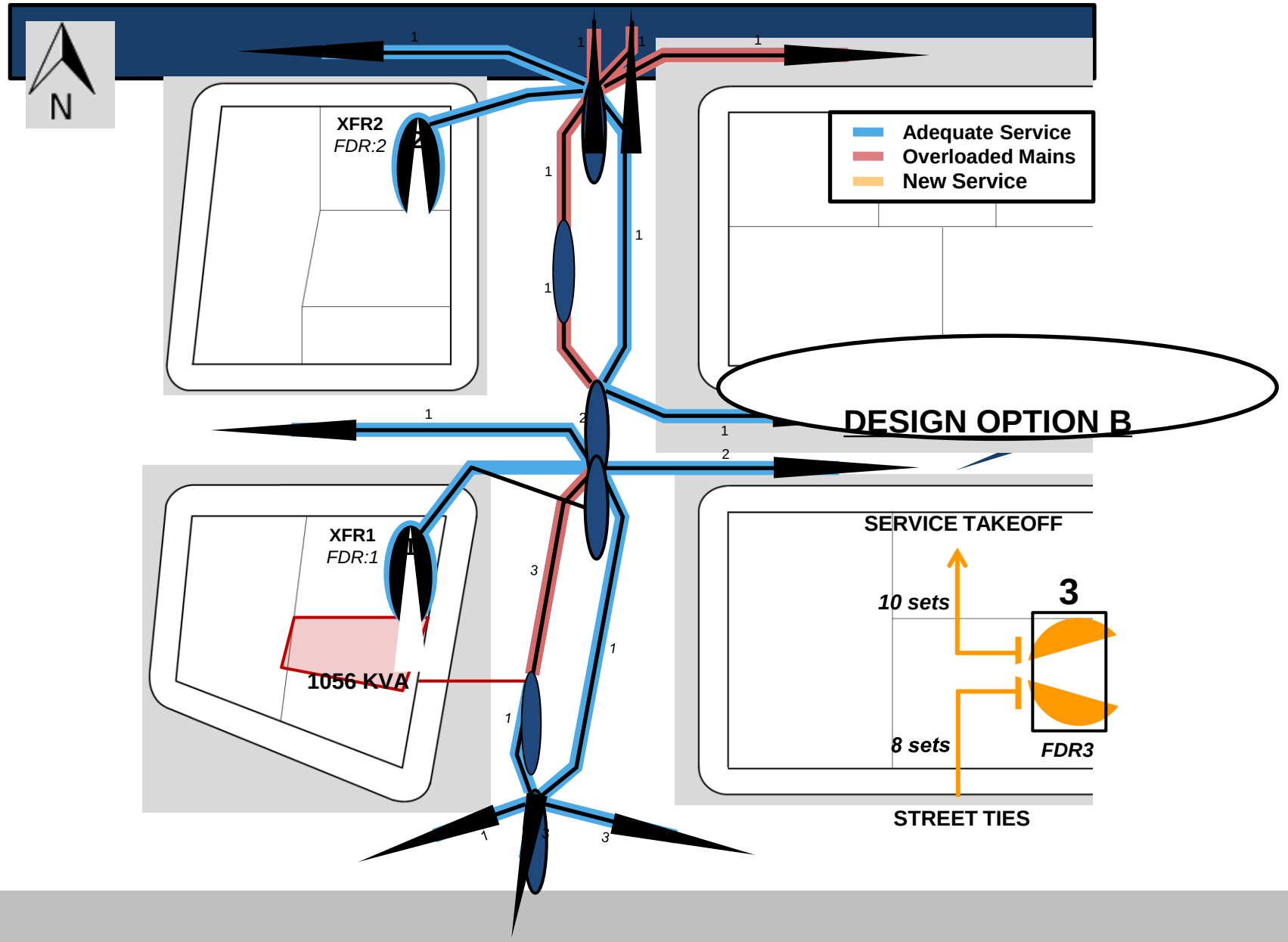
Option A : Two Transformers



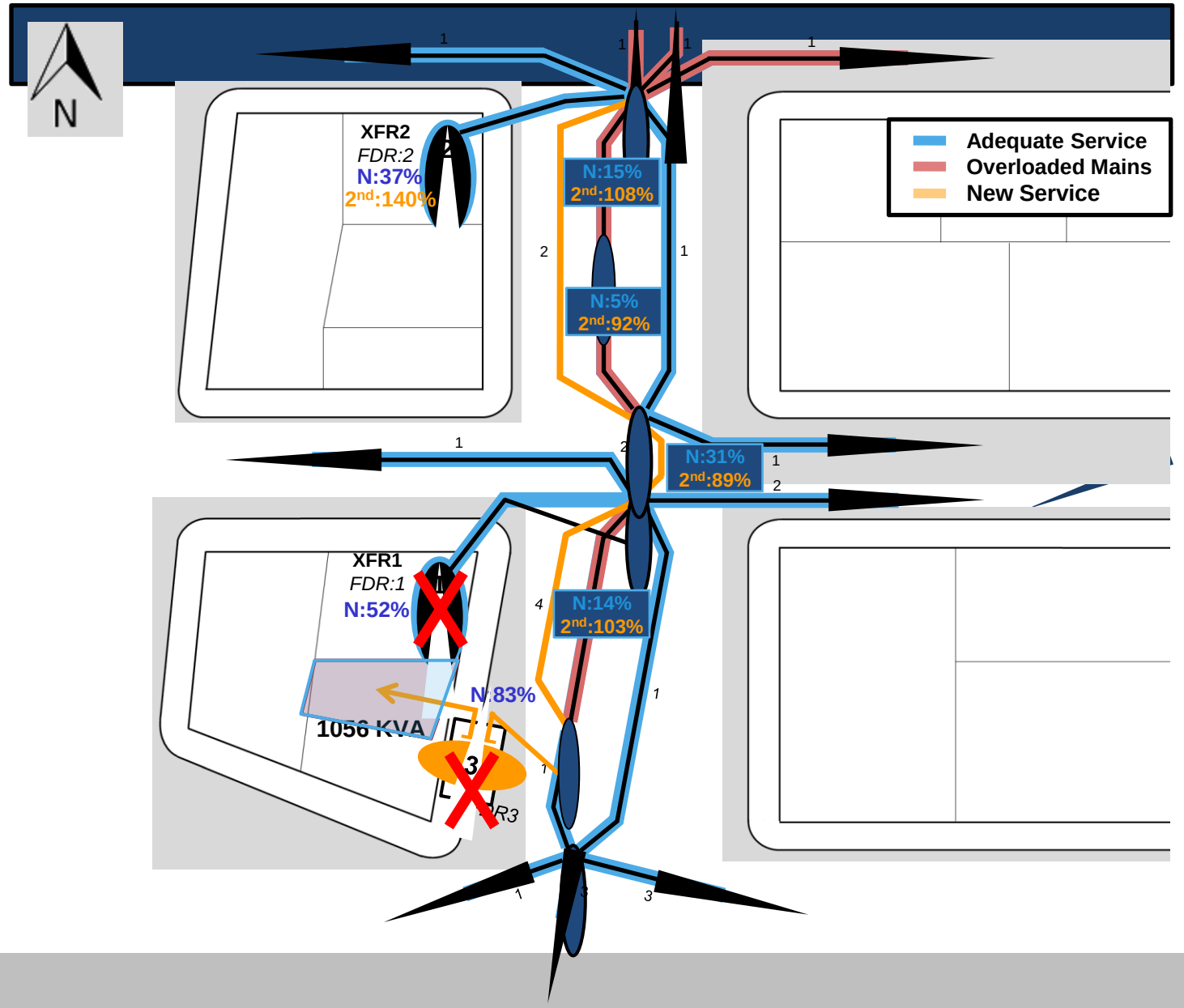
Option A : Two Transformers



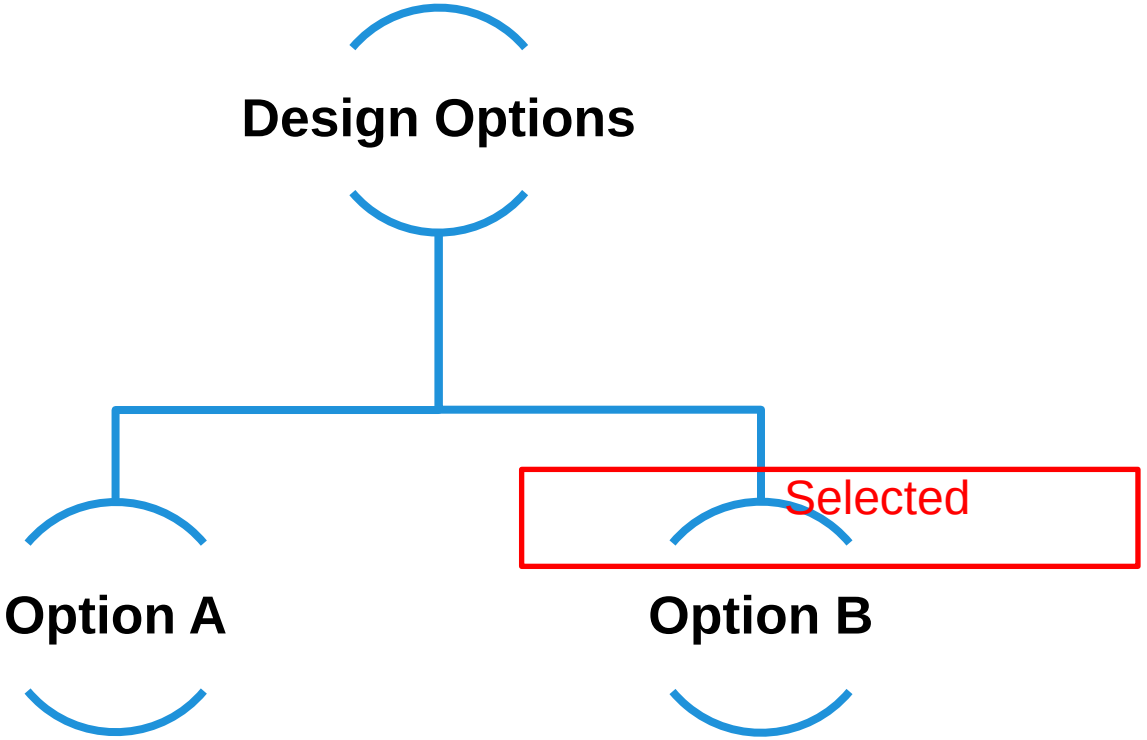
Option B : One Transformer



Option B : One Transformer



Design Options



- Two Transformers
- One section of secondary reinforcement

- One Transformer
- Three sections of secondary reinforcement

Questions?

Thank You!