

Church Street, Edgartown Public Review

JULY 30, 2020

VIA ZOOM

Electrification: the Future of Island Public Transportation



Reliable, Efficient and Clean 2017 – 2025

- ▶ Focus on Service Reliability
 - ▶ Emissions standards impacting reliability of diesel vehicles
 - ▶ Electric buses will improve reliability
 - ▶ Lower maintenance and fuel costs
 - ▶ Resiliency when the power goes out
- ▶ Improved Rider Experience & Community Benefits
 - ▶ Zero operating emissions
 - ▶ Energy to power buses from locally generated solar
 - ▶ Quieter
 - ▶ Increased rider comfort and conveniences
 - ▶ Rider perceptions essential to successful transit

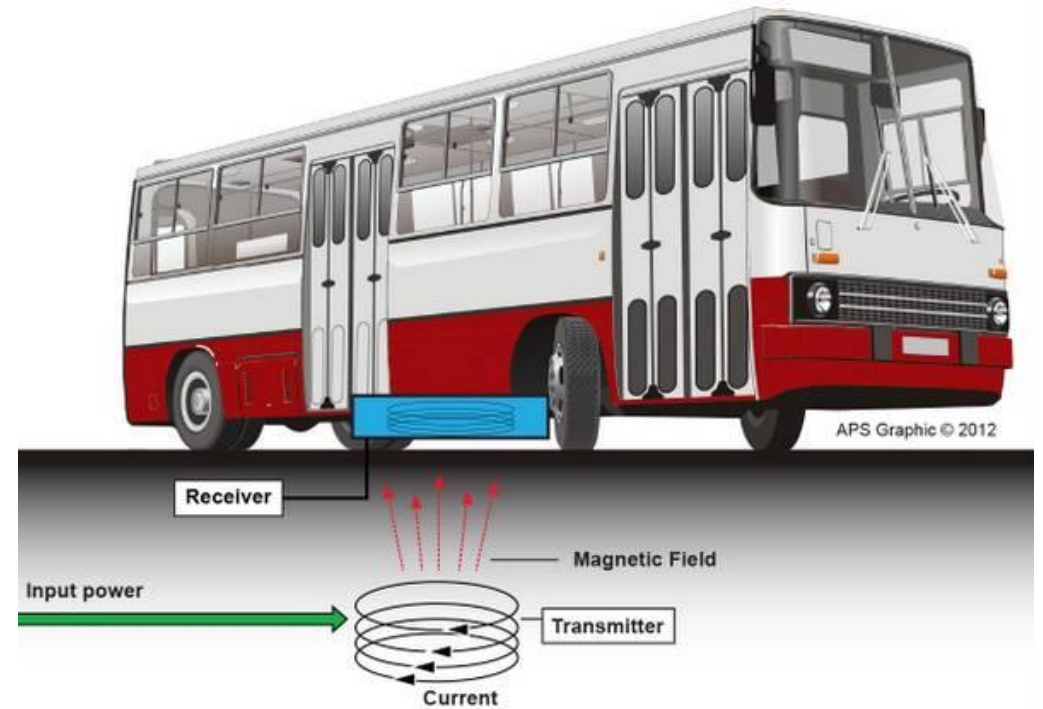


VTA's Vision Future of Island Public Transit

- ▶ All Electric Transit Vehicles
 - ▶ Buses, vans and service vehicles
- ▶ Charging Infrastructure
 - ▶ Plug-in vehicle chargers at VTA Base
 - ▶ In-ground on route inductive charging
- ▶ Photovoltaic (PV) Solar – construction to begin Sept 2020
 - ▶ Generate energy for system
 - ▶ Installed at VTA Operations Center
- ▶ Energy Storage Systems
 - ▶ Back-up source of power
 - ▶ Makes grid connection optional



In-Route Charging: An Integral Part of the Plan



Why it's Necessary

- ▶ Maintain service operations
 - ▶ VTA service demands require on-route fast charging
 - ▶ PV will power chargers when there's a power outage (at VTA base)
- ▶ Cost Savings
 - ▶ Maximizes investment in electric vehicles, increases time in service
 - ▶ Allows for more flexible management of fuel costs
 - ▶ Battery Storage will curb demand charges
- ▶ Less Rider Inconvenience
 - ▶ Allows buses to stay in service on route longer without having to detour to charge

Facts

- ▶ Transit operations on Church St. will remain the same
- ▶ Buses will not be charging overnight on Church St.
- ▶ Current diesel fleet is 30, 35 & 40 feet long and 96" or 102" wide - VTA electric buses will never exceed these dimensions
- ▶ Twelve electric buses in current fleet
- ▶ Emissions from inductive charging are less than:
 - ▶ Home and business electronic security systems
 - ▶ Induction cooktops
 - ▶ Transformers on the electrical grid
- ▶ Chargers are compliant with International Commission on Non-Ionizing Radiation (ICNIRP)
 - ▶ ICNIRP emissions levels are exceeded ONLY within 18" of the pads
- ▶ Emissions from inductive charging are less than:
 - ▶ Home and business electronic security systems
 - ▶ Induction cooktops
 - ▶ Transformers on the electrical grid

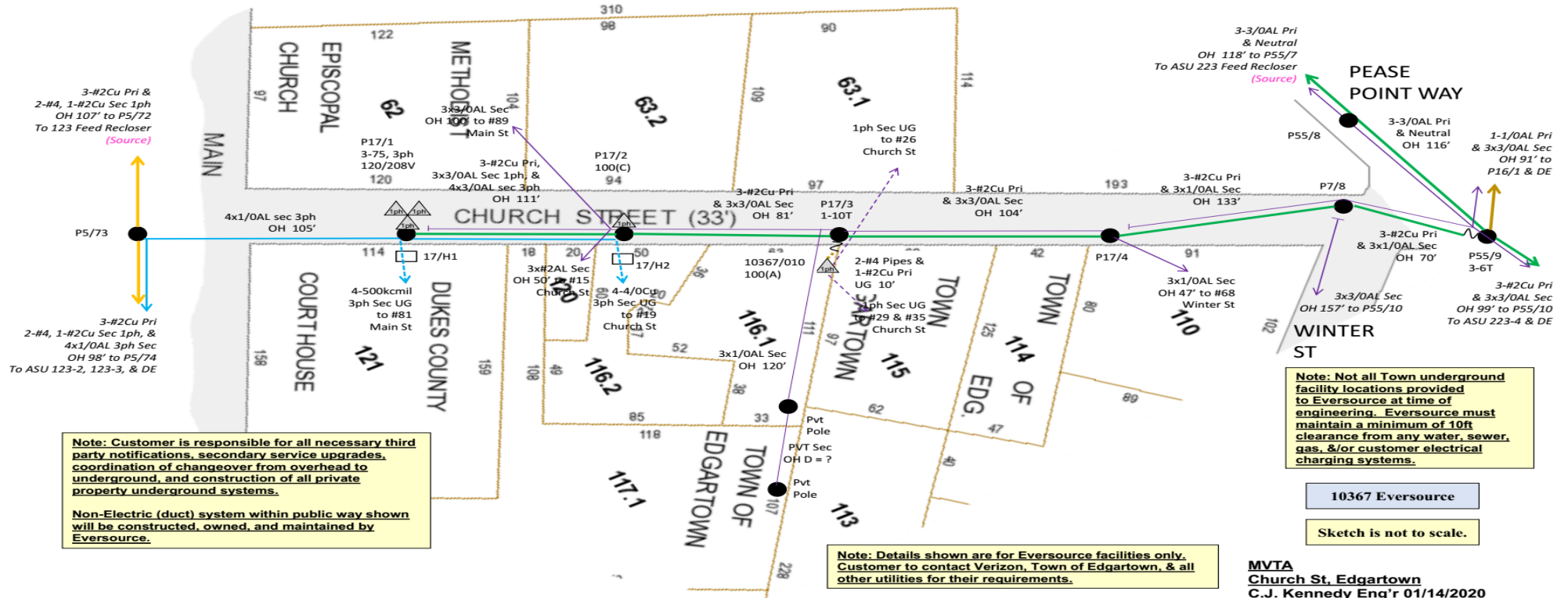
Overhead Vs. Inductive Charging



Existing Conditions, Electrical

EVERSOURCE

WO #02372201
Existing Conditions
Circuit 4-75-223, 22.8/13.2kV
& 4-75-123, 8.32/4.8kV

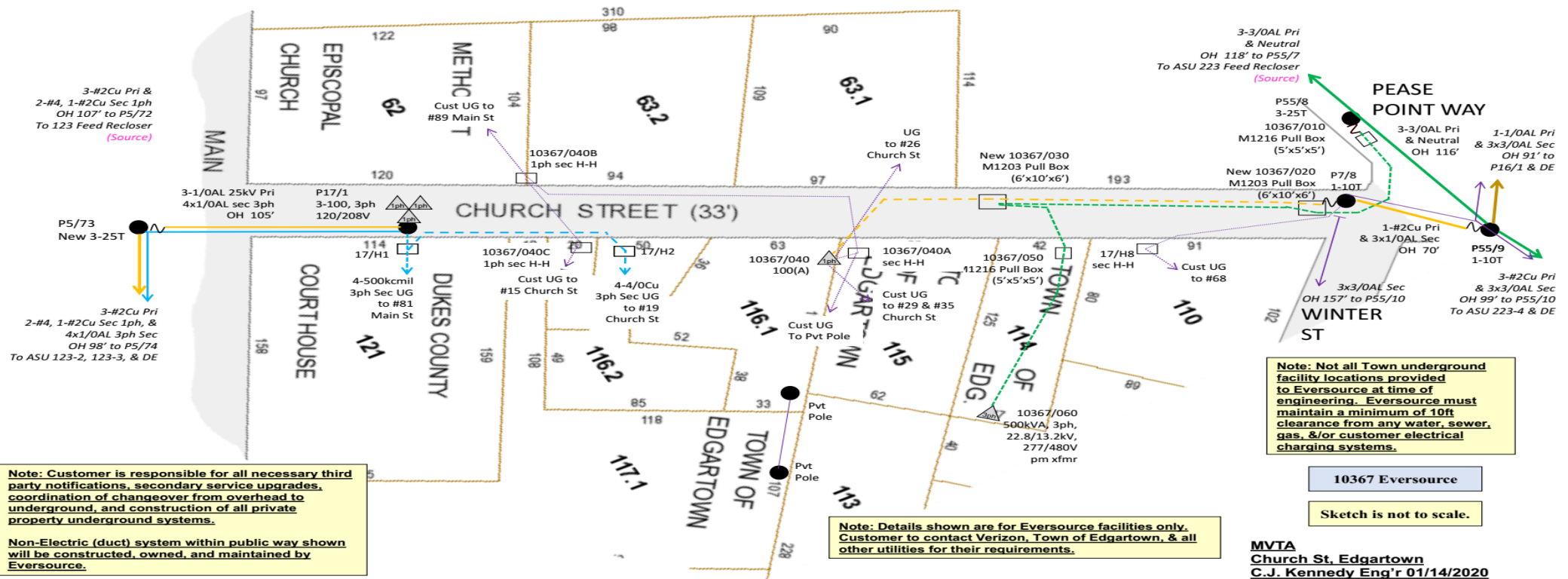


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 Page 1 of 5

Electrical Conditions Upon Project Completion

EVERSOURCE

WO #02372201
Conditions Upon Project Completion
Circuit 4-75-223, 22.8/13.2kV
& 4-75-123, 8.32/4.8kV



Note: Customer is responsible for all necessary third party notifications, secondary service upgrades, coordination of changeover from overhead to underground, and construction of all private property underground systems.

Non-Electric (duct) system within public way shown will be constructed, owned, and maintained by Eversource.

Note: Details shown are for Eversource facilities only. Customer to contact Verizon, Town of Edgartown, & all other utilities for their requirements.

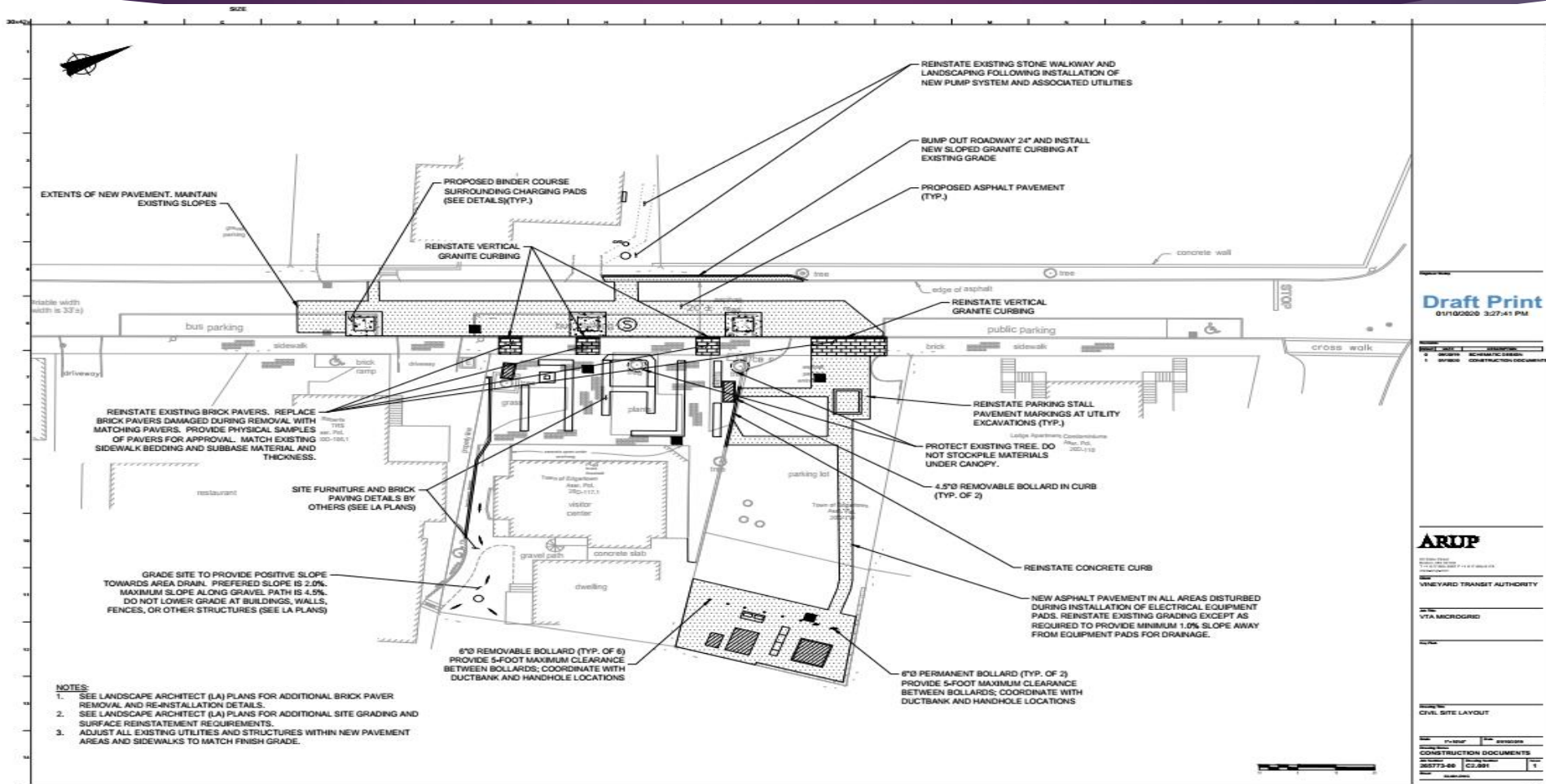
Note: Not all Town underground facility locations provided to Eversource at time of engineering. Eversource must maintain a minimum of 10ft clearance from any water, sewer, gas, &/or customer electrical charging systems.

10367 Eversource

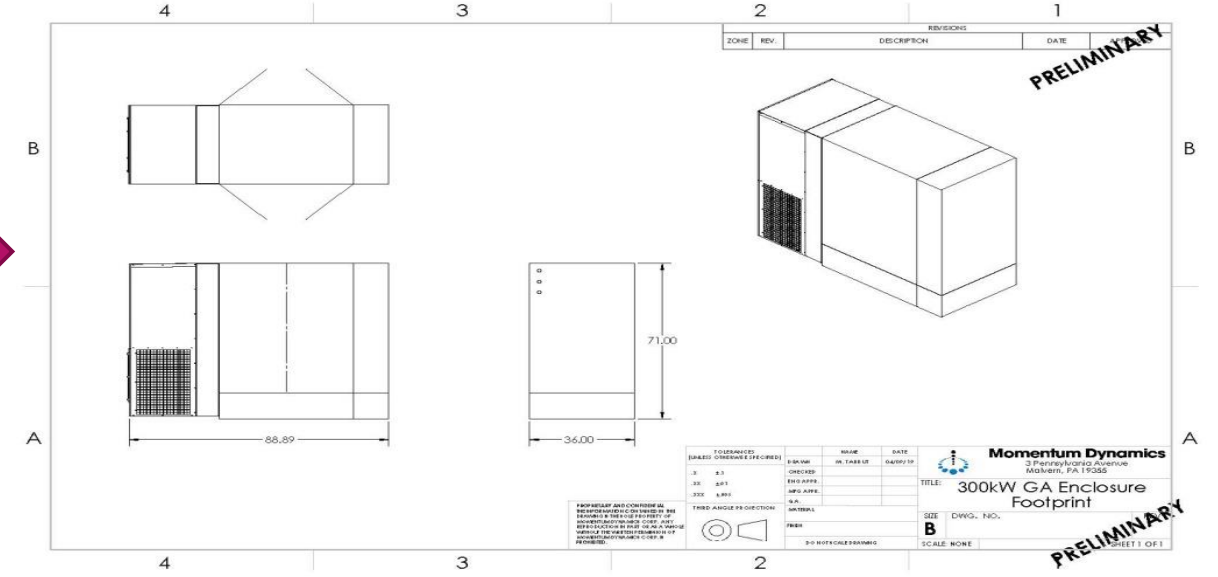
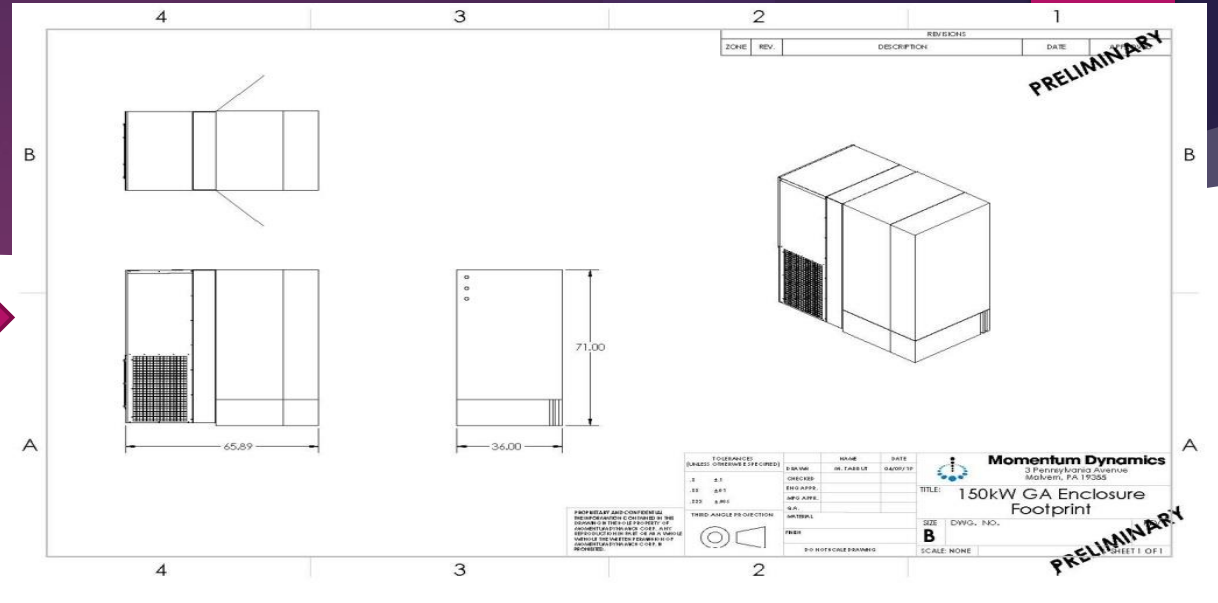
Sketch is not to scale.

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Page 5 of 5

Civil Drawing - Draft



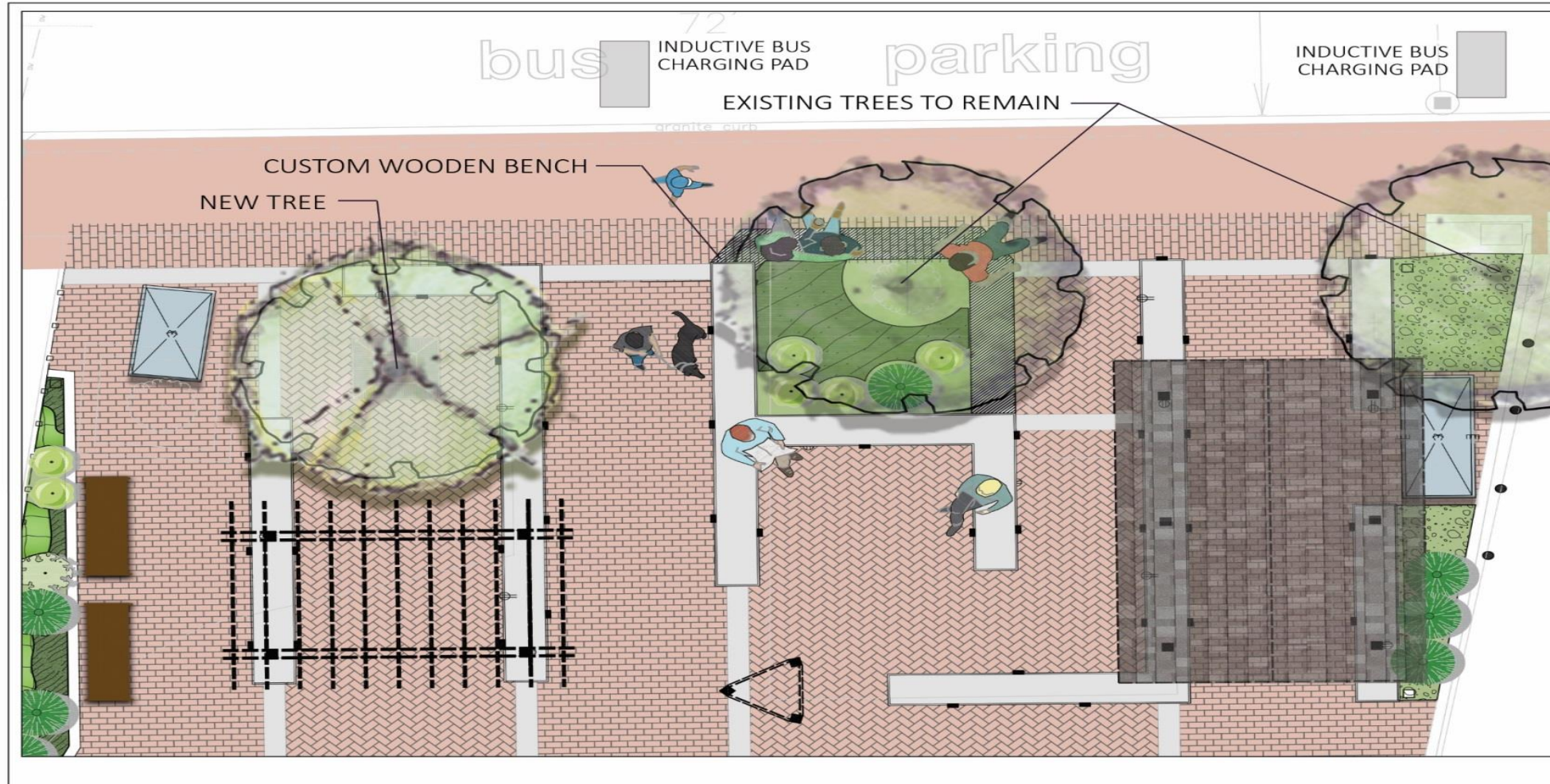
Edgartown Visitors Center – Electrical Cabinets



Edgartown Visitors Center - Existing



Edgartown Visitors Center – Proposed Change – Overhead view



Revised Concept

Scale: 1"=5'
Date: 01/07/2020

B+T Drawing No. 304300001E-001
B+T Project No. 3043.00

Church Street Bus Stop
Vineyard Transit Authority

North Arrow



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Edgartown Visitors Center – Improvements

Existing Trees to Remain



London Plane

Linden

New Tree
6" diameter
London Plane

29 Church St – Edgartown Visitors Center – Site Improvements

- BRICK PAVERS
- GRANITE PAVERS
- BRICK SEAT WALLS WITH DOWN LIGHTING & GRANITE TOPS
- WOOD PERGOLA
- WOOD COVERED SEATING AREA, SHELTER FOR BUS RIDERS
- LIGHT POSTS TO MATCH EXISTING ONES ALONG CHURCH ST
- WATER REFILL STATION
- NEW SHADE TREES
- NEW FENCE
- LANDSCAPING ALONG PROPERTY LINE & UNDER LINDEN
- WOODEN TREE BENCH, REMOVABLE

Additional Resources

TCRP 219: Guidebook for Deploying Zero Emissions Transit Buses

<https://viriciti.com/blog/electric-bus-range-influence/>