



ERIE COUNTY WATER AUTHORITY
INTEROFFICE MEMORANDUM

September 11, 2018

To: Terrence D. McCracken, Secretary to the Authority
From: Russell J. Stoll, Executive Engineer *R. Stoll*
Subject: National Grid Substation Replacement at ECWA Service Center
ECWA Project No. 201800181

National Grid is proposing to replace their electrical substation located at ECWA Service Center. This substation is located inside the security fence in an existing easement adjacent to the truck/vehicle entrance alongside the building (see attached Figure 1). The existing easement is 45ft x 28ft and the replacement substation, if completed at this location, will fit the existing space. It is the opinion of the engineering staff that this is the preferred location for the substation. Alternative locations will require additional space as codes have changed requiring a larger area for the equipment. In addition, an alternative site will require an easement that does not currently exist.

The current substation is adjacent to other electrical equipment including the Service Center generator, transformer and switch gear. Replacing the electrical equipment in the current location will result in existing electrical equipment be clustered in the same general area. The supporting technical memorandum from Scott A. Aiple describes these considerations in more detail.

The current substation is proposed for replacement by National Grid because it has utility poles that are in poor condition and misaligned. These poles with equipment mounted on them deflect in normal wind condition. In addition, the electrical equipment is in aging and poor condition, and in need of upgrading. The upgrade/replacement costs will be the responsibility of National Grid.

RJS:jmf
Attachments
cc: L.Kowalski
M.Haendiges
S.Aiple
SCWA-639-1801

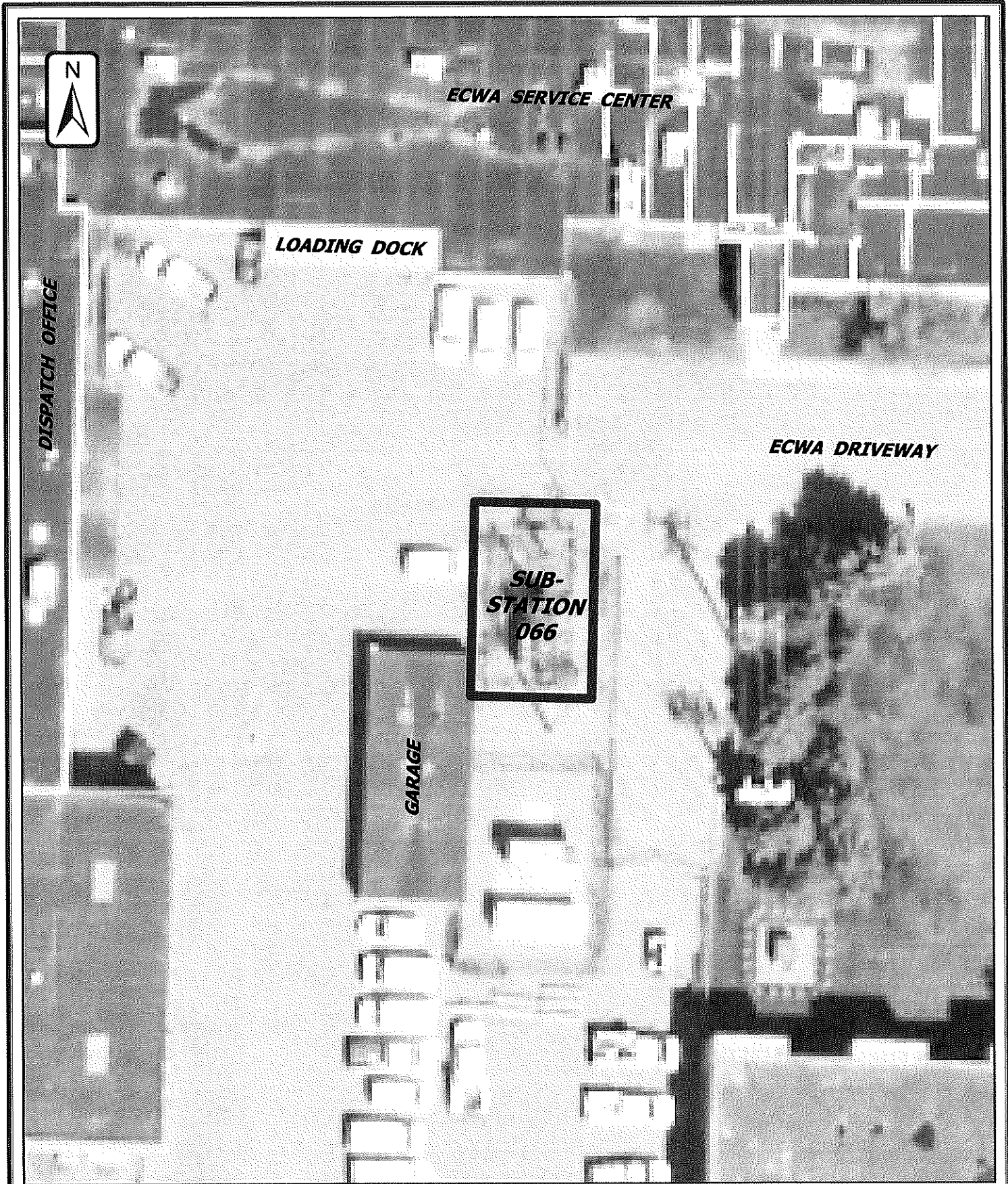


Figure 1

**Location Of Existing National Grid
Substation 066**

September 12, 2018
Scale: 1"=30'





ERIE COUNTY WATER AUTHORITY

INTEROFFICE MEMORANDUM

August 16, 2018

To: Russell J. Stoll, Executive Engineer
From: Scott A. Aiple, Electrical Engineer
Subject: National Grid Station 66 Replacement
ECWA Project No. 201800181

SAA

National Grid is proposing to replace their electrical substation (Station 66) located on ECWA property at the Service Center. The current National Grid design standards for a substation of this type and rating will require a larger footprint than the area of the existing Station 66 (45 feet x 28 feet). A re-build of Station 66 would be permitted on the existing footprint because this would be "grandfathered" under current National Grid regulations.

As such, National Grid has proposed three possible locations for the proposed substation as follows:

- Existing location outside ECWA East Security Fence – Exhibit A & Photograph 1
- Median area in the Service Center North Parking Lot – Exhibit B
- North-West Corner of Service Center Property – Exhibit C

After reviewing these options with Len Kowalski and Mike Haendiges, we recommend that National Grid re-construct the proposed substation in the existing location. Our recommendation is based on the following:

- There is an easement for the existing National Grid Station 66; any alternate location will require a new easement.
- The existing Station 66 is located outside the ECWA Security Fence.
- The existing Station 66 is visible from ECWA Dispatch, allowing monitoring of activity at this site.
- The existing Station 66 has available area on the West side of the existing easement, allowing National Grid space for construction with minimal impact to ECWA operations.
- The existing Station 66 is located adjacent to the ECWA Substation/Generator, providing infrastructure synergy between the two substations. This results in the reduction of the number of utility poles and space required to serve both substations.
- The proposed alternate location in the ECWA North parking lot (Exhibit B) would limit real estate available to increase future parking capacity.
- Construction activity for the proposed alternate location in the ECWA North parking lot would disrupt available parking for ECWA employees and could create a safety hazard.
- The proposed alternate location in the North-West corner of the ECWA property (Exhibit C) would limit real estate available for ECWA Line Crew activities.
- Construction activity for the proposed alternate location in the North-West corner of the ECWA property would disrupt available area for Line Crew activities and could create a safety hazard.
- The proposed alternate location in the North-West corner of the ECWA property would be located inside the ECWA Security Fence, presenting possible security and access issues.

SAA:jmf
Attachments
cc: L.Kowalski
M.Haendiges
SCWA-639-1801

EXHIBIT A

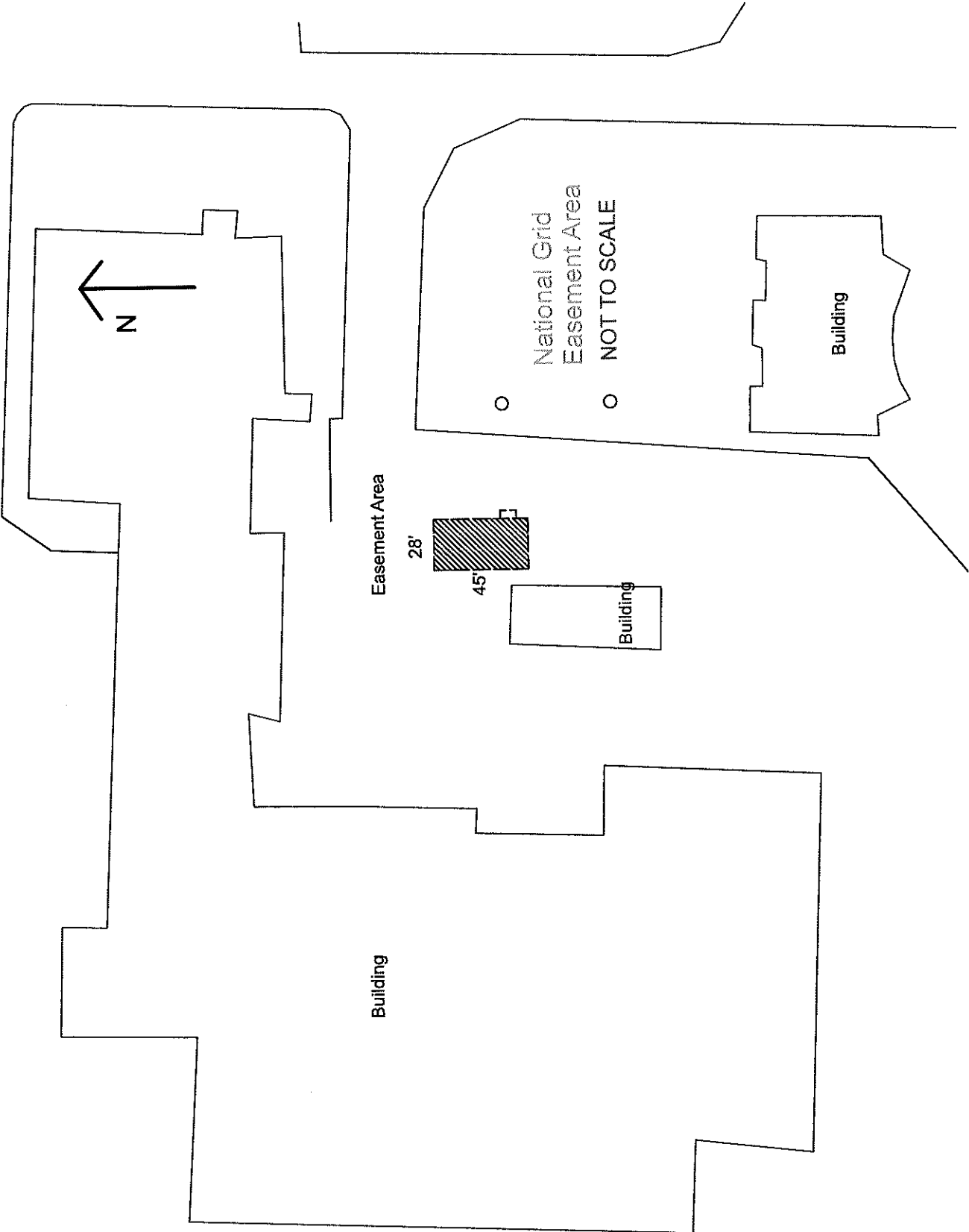
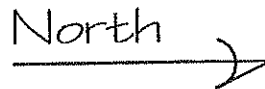
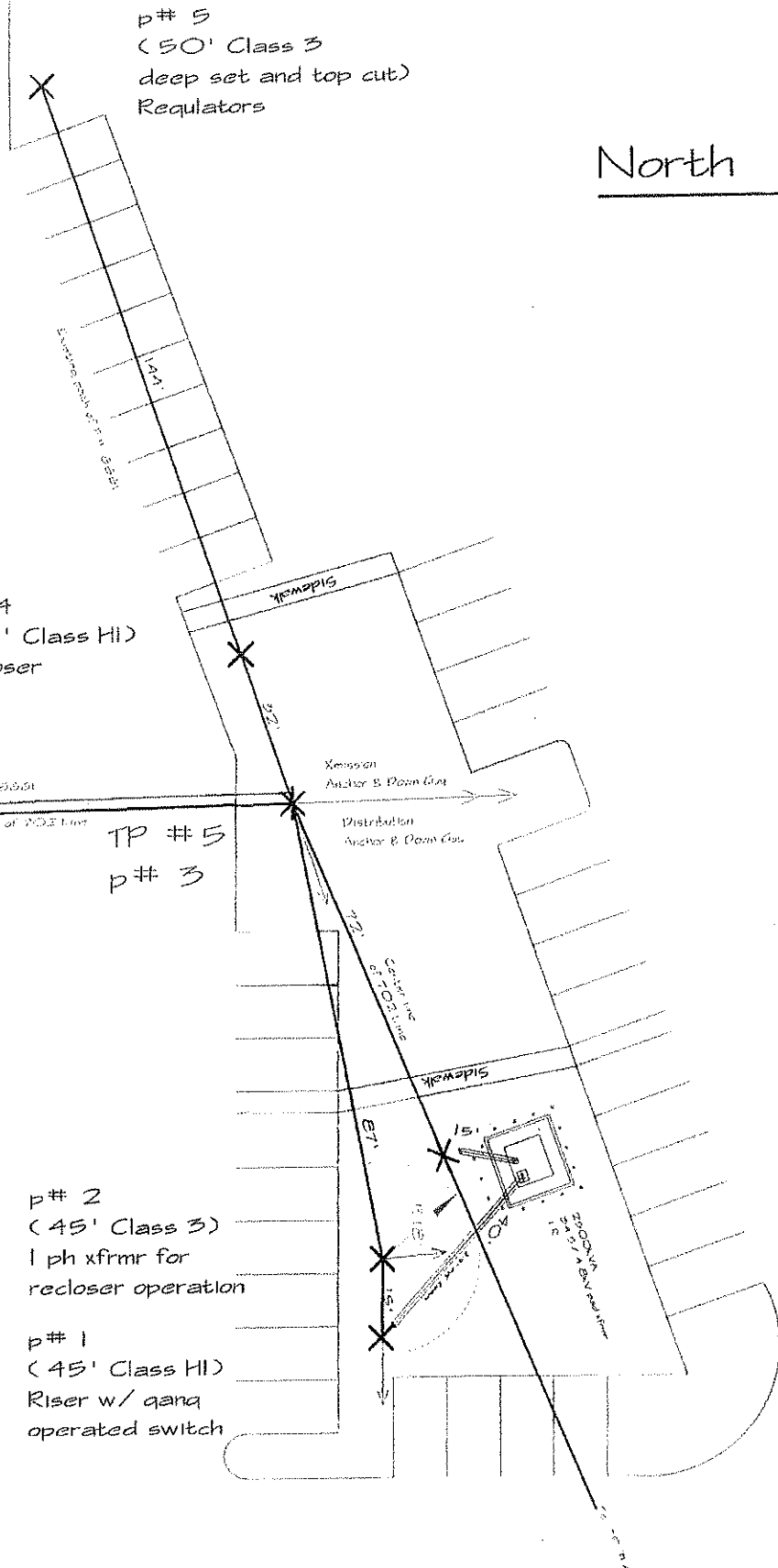


EXHIBIT B



Green - Existing
 Blue - Install
 Red - Remove



p# 5
 (50' Class 3
 deep set and top cut)
 Regulators

p# 4
 (45' Class HI)
 Recloser

TP #5
 p# 3

p# 2
 (45' Class 3)
 1 ph xfrmr for
 recloser operation

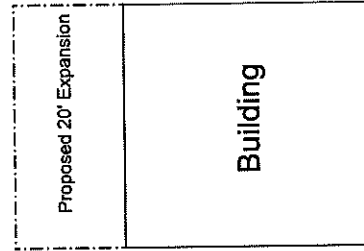
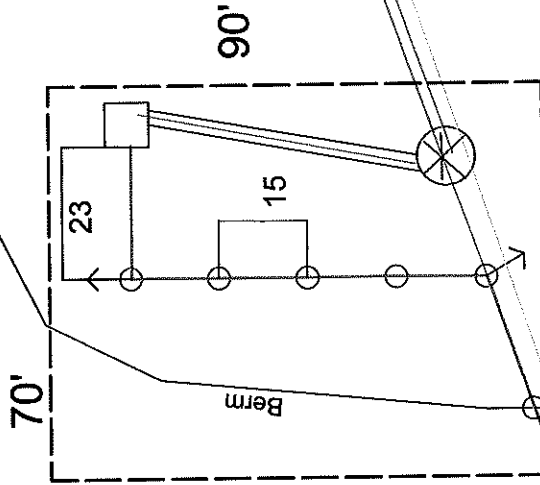
p# 1
 (45' Class HI)
 Riser w/ gang
 operated switch

Relocate facilities @ Station 66
 ECWA, 3030 Union Rd
 23578855 CNW075
 Dwnr: P Williams, March, 2017

EXHIBIT C



Easement Area Distance to Existing Bldg: 45'
Easement Area Distance to Proposed Addition: 25'



National Grid
Proposal #2
NW Corner V2
NOT TO SCALE

PHOTOGRAPH 1

