Equipment Information

- Enclosure
  - Need a Dead Front Panel (something like SCE-DF7260 from Saginaw matched to enclosure size)
  - Estimated 72″ Hx36″ Wx24″ D
  - Laptop Shelf
  - Drain
  - Breather
  - Fan package
  - Grills package
  - N4X Rain Hood
- SPD
  - Going to use DS42S-120/G, should be an approved equal for spec
- Control Relays
  - General Relays - Harmony RXM Series

Voltage	DPDT	3PDT	4PDT
24VDC	RXM2AB2BD	RXM3AB2BD	RXM4AB2BD
120VAC	RXM2AB2F7	RXM3AB2F7	RXM4AB2F7

  - Timing Relay - 9050 JCK Plug-in Timers
    - 0-60 second adjustable time delay

Voltage	On-Delay	Off-Delay
120VAC	9050JCK13V20	9050JCK23V20

- Panel Light
  - Panel door light switch
  - 24VDC
  - 400 lumens
  - Going with Jasco 26741
    - Does this come with a switch to be door activated? Talk to Mike about how this usually works

Heater with Thermostat

- Going to use same touch safe heater as the RVSS panel, going to ultimately depend on the size of the enclosure

- Maintenance Outlet
  - Simplex Receptacle (only type mentioned in the spec)
  - 120V GFCI
  - AB 1492-REC15G or approved equal
    - Going to submit for an approved equal. This is a duplex receptacle, so I am going to submit a duplex receptacle even though spec says simplex
  - Going to try this Hubbel GFRST15W
- PLC
  - Modicon M340H PLC Controller - BMXP342020H

  - PLC Power Supply - BMXCPS3500H
  - PLC Chassis - BMXXBP1200H
  - Programming License - CEXSPUCZSGPAZZ
  - Spart Parts:
    - 1 power supply
- PLC I/O
  - Digital Input Module - BMXDAI1614H
    - With BMXFTB4000 terminal block.
  - Digital Output Module - BMXDRA0815H
    - With BMXFTB2000 terminal block
  - Analog Input Module - BMXAMI081H
    - With BMXFTB2800 terminal block
  - Analog Output Module - BMXAMO0410H
    - With BMXFTB2000 terminal block
  - Should be enough modules to support all necessary IO and 20% spare for each IO type
    - DI - 30 digital inputs $*$ 20% spare $=$ 36 digital inputs $\rightarrow \lceil \frac{36}{16} \rceil = 3$ digital input cards
    - DO - $\lceil 4$ digital outputs $*$ 20% spare$\rceil = 5$ digital outputs $\rightarrow \lceil \frac{5}{8} \rceil = 1$ digital output cards
    - AI - $\lceil 4$ analog inputs $*$ 20% spare$\rceil = 5$ analog inputs $\rightarrow \lceil \frac{5}{8} \rceil = 1$ analog input cards
    - AO - No analog outputs but need to include at least one type of that module
  - Spart Parts:
    - 1 of each module
- Panel Intrusion Switch
  - Need to talk to Mike about this
- Alarm Test Button
  - Pushbutton

Component	Model
Pushbutton Head	9001SKR1B
NO Contact	9001KA2
NC Contact	9001KA3

- 24V Power Supplies and Redundancy Module
  - Redundancy Module 2320157
  - Power Supply 2866776
- Cellular Modem
  - Actual modem provided by others?
  - Polyphaser Coaxial RF Surge Protector - IS-50NX-C2
    - Shown on Contract Drawing I-6
  - Antenna
    - Ventev T09060O10006HM
  - Cable
    - CommScope LDF4-50A
  - SMA Jumper Cable

    - Ventenv LMR195NMSM-6
- Network Switch
  - ~~Moxa EDS-408A Series~~
    - Not sure where I saw this, because I can't find it in spec, but takeoff shows a Moxa EDS series switch
  - Moxa EDS series switch or approved equal requirement shown on Contract Drawing I-6
    - Going with Moxa EDS-205
  - Switch should be unmanaged
  - Should have enough ports for all required connections, +20% spare
    - Cellular modem (x1)
    - OIT (x1)
    - PLC (x1)
    - Heat Trace Controller (x1)
    - $4 \text{ required connections} + (4 * 20\% \text{ spare}) = \lceil 4.8 \rceil \rightarrow \text{at least } 5 \text{ ports on switch}$
- OIT
  - HMIDT752 display
  - HMIG2U base unit
  - VJDBTPRO3P Software License
- Digital Recorder
  - E+H RSG35-1C84/0
    - Part No. RSG35-B2A+C1
      - Includes 71187780 memory card. Might not need to get this from E+H, but I'll include it for now
- Level Display
  - RIA452-C211A11A
- ISB/ISR
  - Phoenix Contact MACX series