# Revision Log- NAVFAC NW Niagara 4 Requirements

| Revision # | Date | Revisions |
|---|---|---|
| 2 | 10/25/2019 | |
| 3 | 12/5/2019 | Station turnover, Floor plan icon header hyperlink, Alarms set up, Px view standard naming, History Capacity, Relations hyperlinks |
| 3a | 12/27/2019 | Edited for style, grammar, and contractual language (CI Mech Engr)<br>Added Appendix A. |
| 3b | 1/22/2019 | Spectrum Bindings, station naming, command failure alarms, Hierarchy *Main* button add, and changes to Alarms in Hierarchy as well. |
| 4 | 05/06/2020 | Ready for public publication. (Deleted all Appendices) |
| 4a | 05/07/2020 | Add RGS 25 10 10.00 24 Appendices to this document; deleted separate RGS Appendices document. |
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## Appendices

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|---|---|
| A | UMCS Pre-Functional and Functional Performance Test Checklists |
| B | Supervisory Controller Installation Code |
| C | Trending & Alarm Requirements |
| D | NAVFAC NW UMCS IA Addendum |
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# NAVFAC NW Niagara 4 Requirements

## 1. GENERAL

A. The requirements included in this document were developed for use in the NAVFAC NW Area of Responsibility by controls integrators performing work on Niagara Framework Supervisory Gateways, commonly called “JACE”. NAVFAC NW created this requirements document to demonstrate the graphical user interface requirements (GUI) in written form, but has also created a detailed graphics templates (Px Graphic, after this called “NAVFAC NW Px Template”) for use by controls integrators. Contact NAVFAC NW CIO1 for the most recent examples.

B. All graphics and programming shall conform to this NAVFAC NW Niagara 4 Requirements document.
   1. NAVFAC NW CIO1 shall provide to integrators a sample NAVFAC NW Px Template and database structure. Integrators are expected to comply with these requirements as they promote a consistent GUI for all systems in the NW Utility Monitoring and Control System N4 network.
      a. NAVFAC NW PX Template files are dynamic and include programming code embedded in the graphics. Contractor may not modify embedded programming code, variable ORD schemes, color schemes, spectrum binding weighting values, BQL queries, etc., in graphics, unless approved by NAVFAC NW CIO1.
      b. Screen captures of example NAVFAC Standard Graphics are depicted in this document.
   2. Each graphic page (essentially the entire graphics station copy) shall be submitted for review and requires approval by NAVFAC NW CIO1. See Part 1 Submittals of 25 10 10.00 24 *Utilities Monitoring and Control System Head-End Integration (NAVFAC NW)*.

C. All graphics shall be rendered as N4 HTML 5 views. Any graphic page that depends on JAVA-based animated widgets or in any way depends on any browser-side-applet shall not be acceptable.

D. Vendor names, logos, hyperlinks to vendor site, or other vendor identification or promotion, are prohibited within the Supervisory Gateway.

E. All graphic pages must automatically resize to fit within small resolution windows. Any graphic page with widgets that do not resize shall not be acceptable.
   1. Note: Some N4 HTML 5 graphics features are still in development by Tridium. To fully meet the project scope of work, graphics for this project may require Contractor modifications to graphics during the warranty period, upon release of future Niagara builds by Tridium. Notify NAVFAC NW CIO1 in the graphics submittal of the need to modify the graphics during the warranty period.

F. Text fields, column header labels, button labels, etc. shall be a text string. Mapping text strings from Niagara objects is acceptable.

G. Provide consistency in measurement units.

H. Graphics for identical mechanical systems shall utilize relative ORD’s to minimize number of graphics. Graphics for identical mechanical systems that utilize absolute ORD’s are prohibited.

I. Only NAVFAC NW approved modules are permitted to reside in the Supervisory Gateway.
   1. Contractors may use other non-approved modules as “tools” to assist in the creation of the database if there are no dependencies to the modules left in the database. The custom module “tools” must be removed prior to final station installation and submittal.
   2. Contact NAVFAC NW CIO1 for current list of approved Niagara 4 modules (“Niagar4 modules.xlsx”).

J. Point naming shall comply with the NAVFAC NW Point Naming standard.
   1. Contact NAVFAC NW CIO1 for current point naming standard.

K. All overrides are globally limited to a maximum of 8 hours

# 2 GRAPHICS

## I. GRAPHIC GENERATION

A. Each graphic shall be visually appealing and intuitive and conform to the requirements detailed in this document.

B. Each graphic shall include all control points, devices and user adjustable setpoints/parameters associated with each system as needed to properly control and monitor systems. All points, as specified in the project's points list table, shall be displayed and adjustable in graphics.

C. A Header PxInclude file shall appear on every graphic page for all facilities, infrastructure, or systems in the entire project. For efficiency of graphics maintenance, all links, labels, etc., shall be edited from only one instance of header. Except for Building Name and Graphic Page Descriptor, the header and each of the link buttons should appear the same on every graphics page. There shall be only one graphic header file used as a "PX Include file" on all graphics required for the project.

D. User adjustable set points, displayed on any graphic page, shall be located at the lower portion of the graphic page under the standard label "Settings". All settings shall be arranged neatly in aligned rows and columns. All related settings such as reset set point parameters shall be arranged together into organized rows and columns, in an intuitive arrangement.

E. Utilize the Niagara Hierarchy service to generate a Hierarchal navigation tree to navigate between graphic pages.

F. Graphic Pages Required.
   1. At a minimum, the following graphic pages shall be included as part of the project.
      a. Building/Facility/Utility Home
      b. Floor Plans, if a building
      c. Alarm Page
      d. History Chart Page
      e. Status Page contains two reports;
         1). "Down" Controllers (Devices)
         2). "Overridden" Points
      f. Schedule Report
      g. Additional Reports may be required by specific project.
      h. Help page
   2. Additional graphic pages may be required for a specific project.

G. Operator specific password access protection shall be provided for each Supervisor Gateway to allow the NAVFAC NW administrator to limit access to point control, display and data base manipulation capabilities as deemed appropriate for each user, based upon an assigned password. There shall be 6 access levels as defined below.
   1. Super User – No restriction.
   2. Administrator – Full WebUI and Workbench access to Station database, History database, files and all Services.
   3. Engineer - WebUI and Workbench access to Station database, files and the following Services; Platform, program, alarm, VykonPro, Hierarchy, Tag Dictionary, History and Template. Can force clear alarms.
   4. Contractor - WebUI and Workbench access to Station database, files and the following Services; Platform, program, alarm, VykonPro, Hierarchy, Tag Dictionary, History and Template.
   5. Facility / Utility Tech – WebUI access only. View all graphics, can override points, can adjust Set points, can adjust Engineering Set Points, can change schedules, can acknowledge alarms.

6. Facility / Utility Operator – WebUI access only. View all graphics, can override points, can adjust Set points, can change schedules, can acknowledge alarms.

## II. COMMON DETAILS FOR ALL GRAPHIC PAGES

A. Standard colors and dimensions
   1. All Graphic pages;
      a. The dimensions of the graphic page shall be 1500 pixels wide and 900 pixels high.
      b. The background color of graphic pages shall be “silver”.
      c. All images to represent mechanical systems shall come from the Niagara “KitPxGraphics” module. Additional graphic images may be required for a specific project and must be approve by NAVFAC NW CIO1.
      d. Hydronic piping sizes;
         1). All straight runs of piping are to be used from the “SmallPiping” folders.
         2). All pipe fitting images (elbows, tees etc.) are to be used from the “LargePiping” folders.
         3). All pipe fitting images shall appear aligned with the piping.
      e. Hydronic piping colors;
         1). Heating water supply: ***/hws/*** (red in appearance)
         2). Heating water return: ***/condensate/ *** (orange in appearance)
         3). Steam supply: ***/chwr/*** (dark blue in appearance)
         4). Steam return: ***/condensate/ *** (orange in appearance)
         5). Chilled water supply: ***/chwr/*** (dark blue in appearance)
         6). Chilled water return: ***/chws/*** (light blue in appearance)
         7). Condenser water supply: ***/steam/ *** (yellow in appearance)
         8). Condenser water return: ***/condensate/ *** (orange in appearance)
      f. Overlapping pipes;
         1). When two pipes of the same color intersect, one of the pipes shall separate in length to prevent false indication of a “4-way cross”.
         2). When two pipes of different color intersect, they may overlap without modification.
      g. Bound Labels used for point display and labeling shall be 81 pixels wide and 21 pixels high.
      h. The Font used for point BoundLabels text shall be “black” “14.0pt Arial” unless otherwise stated.
      i. The Font used for graphic page title BoundLabels text shall be “black” “18pt Arial”.
      j. Point descriptor BoundLabels shall not have borders.
      k. Point BoundLabels containing data shall use a “1.0 solid black” border.
      l. Background colors shall be used in BoundLabels to distinguish the following point types;
         1). ReadOnly points shall use;
            a). Background color: “white” (hex- #ffffffff)
            b). Foreground color: ‘black” (hex- #ff000000)
         2). Writable points shall use:
            a). Background color: “darkGrey” (hex- #ffa9a9a9)
            b). Foreground color: ‘black” (hex- #ff000000)
         3). Effective Setpoint shall use;
            a). Background color: “powderBlue” (hex- #ffb0e0e6)
            b). Foreground color: ‘black” (hex- #ff000000)
         4). Room Temperature spectrum bindings animation on Floor Plan graphics is as follows;
            a). The background color shall increase brightness of “cornflowerBlue” (hex- #ff6495ed) with greater deviation below effective heating setpoint.

b). Background color shall be Mid color: “white” (hex- #ffffffff) when the space temperature is between the heating and cooling setpoint.

c). The background color shall increase brightness of High color: “orangeRed” (hex- #ffff4500) with greater deviation above effective cooling setpoint.

d). Extent fixed to: “10”.

e). If there is no setpoints for the spectrum binding, the range of the high setpoint will be 75 °F and the low setpoint will be 65 °F.

5). Supervisory Gateway location ID descriptors;

a). Normal: cornflowerBlue

b). Alarm: Blinking orangeRed

m. Background colors shall also be utilized to indicate point status (Alarm, Down, Overridden, Fault, etc.) using the Niagara 4 default colors.

n. Decimal precision. Unless indicated otherwise, point values shall use the following decimal precision.

1). Temperatures (°F) and temperature setpoints: 1 decimal place.

2). Flow Air (CFM) and Water (gal/min) and airflow setpoints: no decimal places.

3). Percent (%): no decimal places

4). Pressure (in/wc) and duct static pressure setpoints: 1 decimal places.

5). Pressure (in/wc) and building static pressure setpoints: 2 decimal places.

6). Air and Water pressure (psi) and setpoints: 1 decimal place

7). Humidity (%RH) and humidity setpoints: 1 decimal place.

8). Enthalpy (btu/lb): 1 decimal place.

9). Concentration (ppm): no decimal places

10). Frequency (Hz): no decimal places

11). Time: Hours (hr), Minutes (min), Seconds (s), Days (day), Weeks (wk), Months (mo), Years (yr): no decimal places

## III. STATION SUBMITTALS

A. Part 1 Submittals of 25 10 10.00 24 *Utilities Monitoring and Control System Head-End Integration (NAVFAC NW)* requires the controls integrator to submit a review (SD-02 “Graphics”) and final (SD-11 “Final Supervisory Controller Station”) station copy to NAVFAC NW.

B. When sending the station to NAVFAC NW for review, send the station to the attention of CIO1.
   a. Due to the Navy’s email filter, all *.zip files will be deleted from incoming emails. Instead, change the “*.zip” file extension to “*.abc” prior to sending.

C. Set usernames and passwords on submitted stations to:

Passphrase: P@ssphra5e

Username: NAVFAC

Password: N@vfac1000UMCS!

D. Station Naming BNxxxxJ1:
   1. BN: Base name (see Appendix B for list of two character codes for each installation in NAVFAC NW region.)
   2. xxxx: Building Number
      a. If building is less than 4 digits add a 0 in place of the missing digit. I.e. 0123 or 0012.
   3. J1: JACE number
      a. Number indicates JACE number in the building. If one JACE is in the building, BNxxxxJ1. If there is a second JACE in a build, one will be named BNxxxxJ1 and the seconded BNxxxxJ2.

b. If there is multiple buildings in one JACE's station. J1 is on back of the building that physically holds the JACE and the building without a JACE in it but is on the JACE station does not.
   i. Building 1234 has the physical JACE so it is named "BA1234J1".
   ii. Building 4321 is programmed through the JACE in 1234 so it does not have a physical JACE in side of it so it is named "BA4321" on the station.

## IV. Header details

A. The dimensions of the Header graphic shall be 1500 pixels wide and 60 pixels high.

B. The background color shall be "dimGrey" (hex- #ff696969).

C. The Building Name title BoundLabel font shall be "bold 24.0pt Arial".

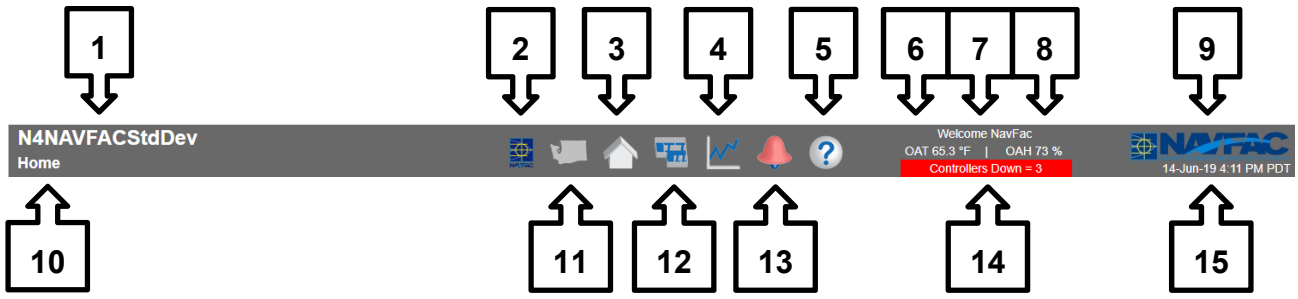
D. The Building Name title BoundLabel foreground color shall be; "white" (hex- #ffffffff)

E. The Graphic Page Descriptor BoundLabel foreground shall be "bold 18.0pt Arial".

F. The font used for the "Logged-in user", "Outside Air Temp", "Outside Air Humidity" and "Station Date and Time" Bound Labels shall be; "14.0pt Arial", and the text color shall be; "white" (hex- #ffffffff).

G. The "Controllers Down" Bound Label foreground color shall be "white" (hex- #ffffffff). The background shall be animated "red" (hex- #ffff0000) when a controller is "down" and display the number of "Down" controllers.

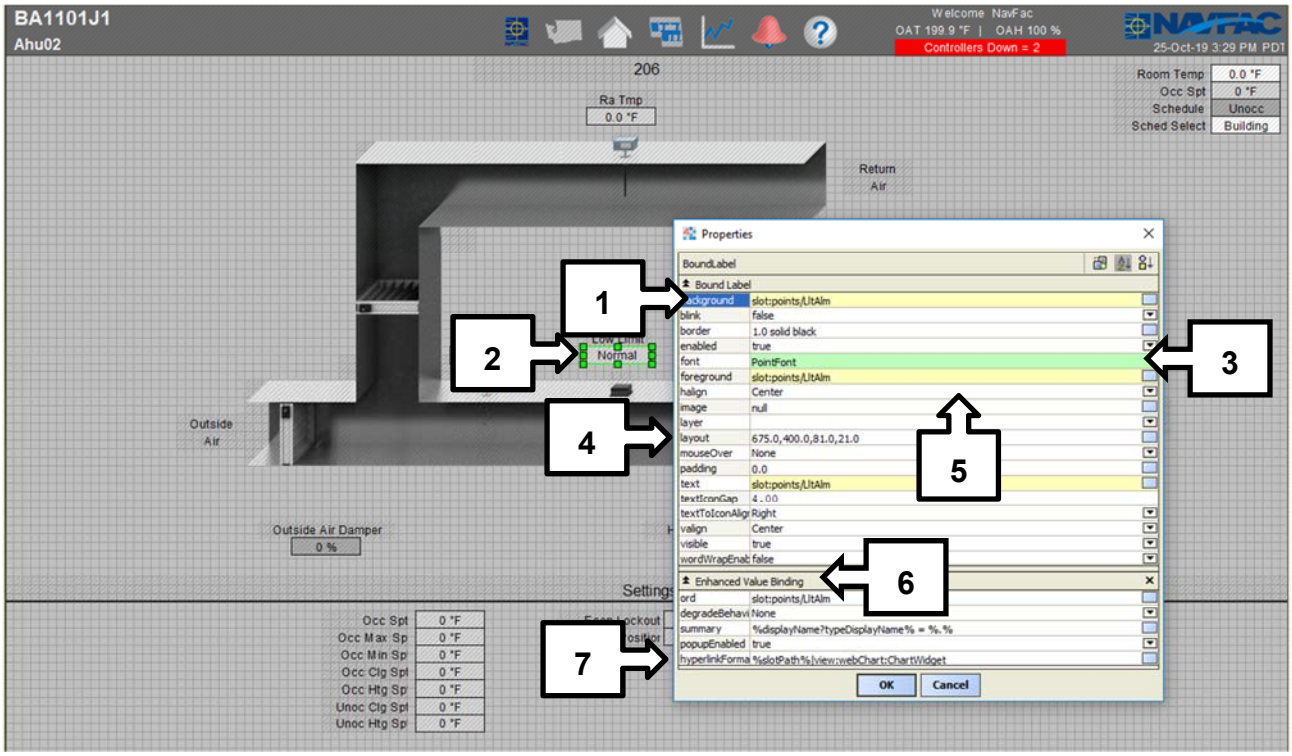
H. Standard Header Example:



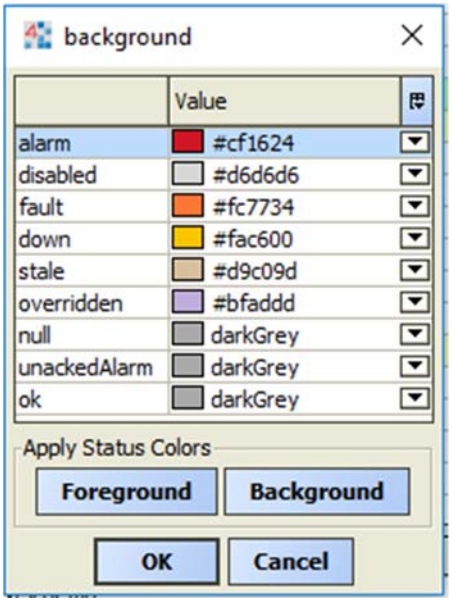

1. Label: Station Name
2. NAVFAC image: Link: NAVFAC Home Page (page located on Server)
3. Home Image: Link: Home Page
4. Chart Image: Link: History Chart Builder Page
5. Help Image: Link: Help (legend) Page
6. Label: Outside Air Temperature
7. Label: Logged in Username
8. Label: Outside Air Humidity
9. Image: NAVFAC Logo
10. Label: Graphic Page Name
11. Map Image: Link: Base Main Map (page located on Server)
12. Floor Plan Image: Link: Main Floor Plan Graphic
13. Alarm Image: Animate to show red image when any point is in "alarm". Link: Alarms Page
14. Label: Controllers Down = "#" (display number of "down" controllers); Link: Building Status Report
15. Label: Station Date and Time

## V. BOUND LABEL DETAILS

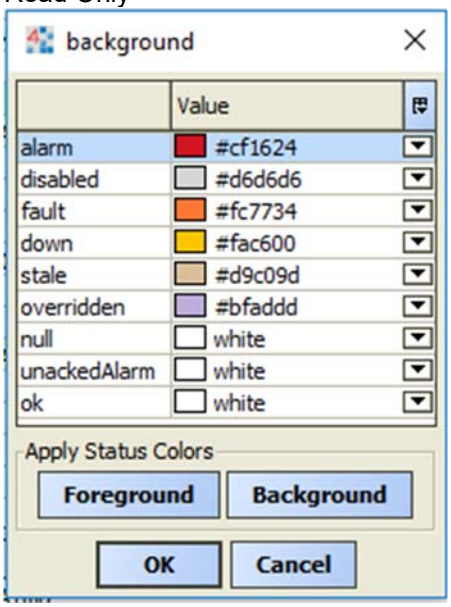
The primary purpose of the bound label is to provide an operator a standard label for simplicity. This is the only label acceptable for all read only, overridable/ settable and effective setpoint graphical points.



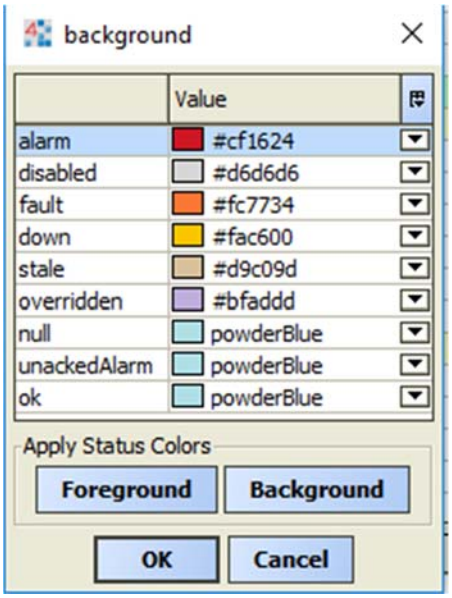

1. Background-
   a. Overridable and Settable:



b. Read Only

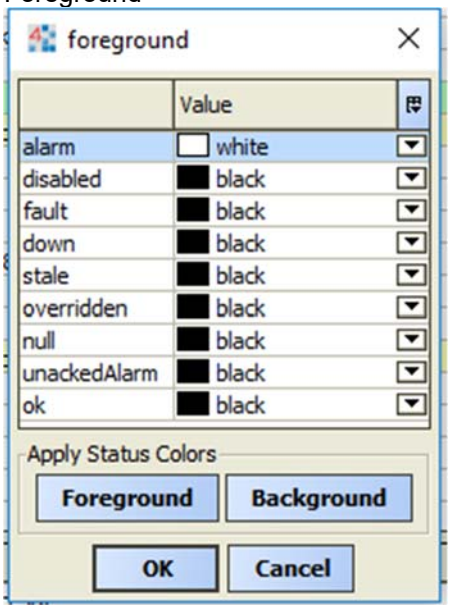



c. Effective Setpoints




2. Bound Label- All graphical block that are display are “BoundLabel” from kitPx.
3. Font- 14.0pt Arial or Linked to Px Properties “PointFont”
4. Layout- Width 81.00 Height 21.00

5. Foreground-

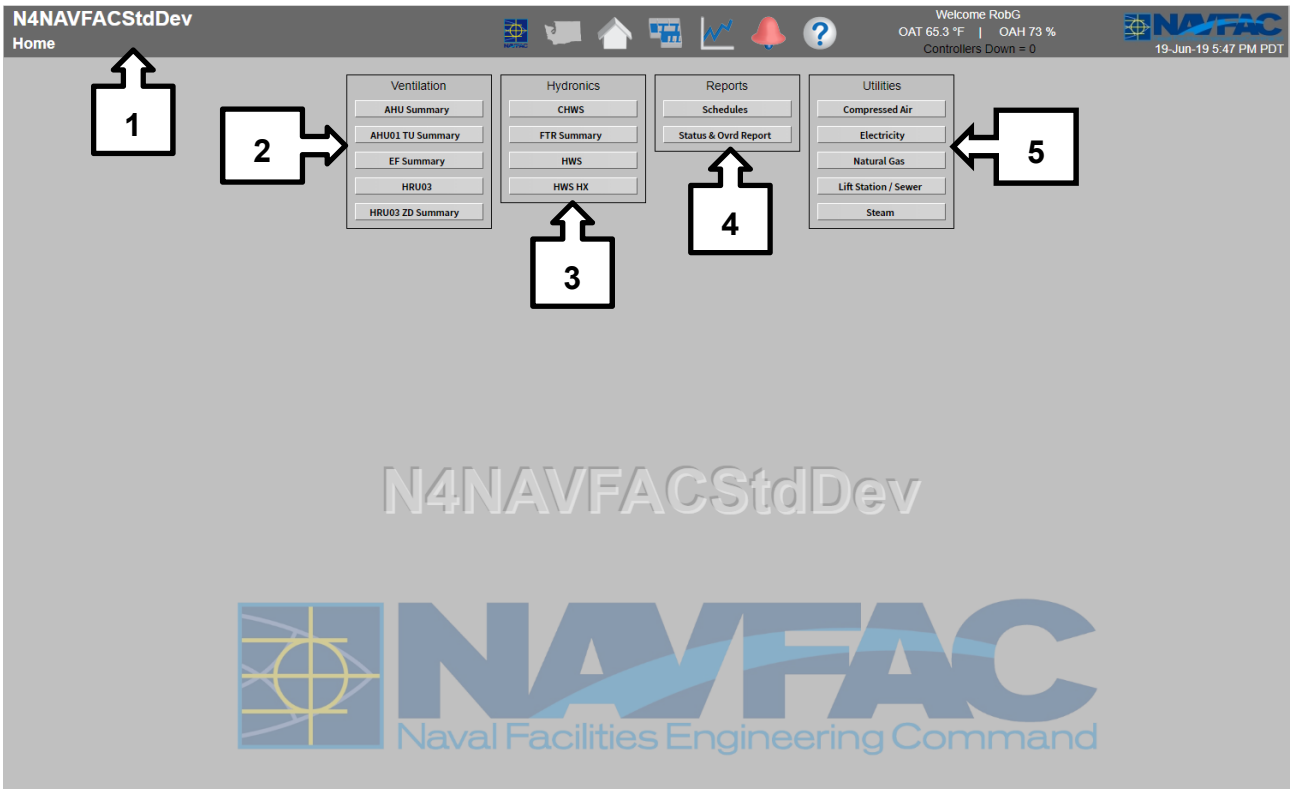



6. Enhanced Value Binding- This is the only label acceptable for all Read Only, Overridable/ Settable and Effective Setpoint graphical points.
7. Hyperlink Format- must be %slotPath%|view:webChart:ChartWidget

## VI. BUILDING Home Page details

A. The primary purpose of the building home page is to provide an Operator one place with organized link buttons to quickly navigate to the status of major equipment in the building and other critical, real-time information. The contents of the home page will vary by building depending on critical systems and mechanical equipment in that building. Typical systems include air handlers; building chilled water; building hot water, equipment summaries as well as Reports, etc.

B. Building Home Page Example:

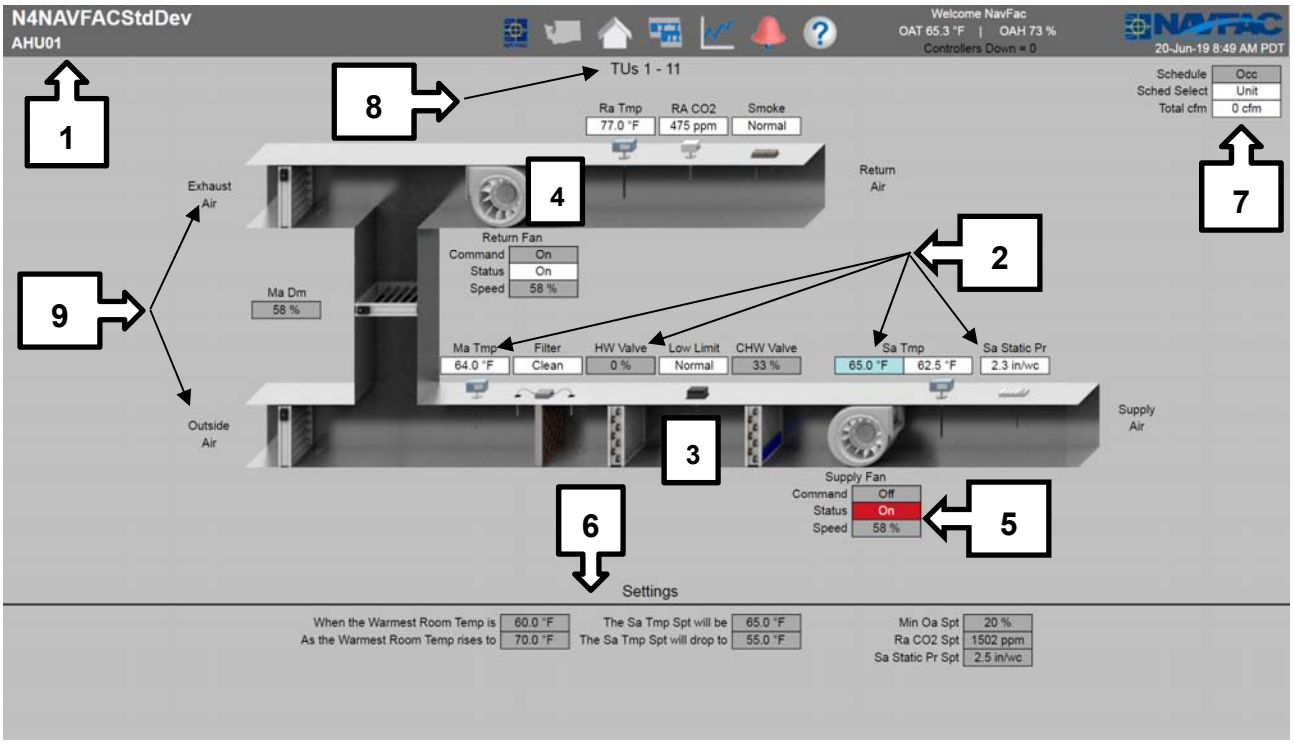



1. Header
2. Ventilation Links: This box contains links to all primary ventilation systems in the building and summary pages of dependent ventilation equipment like VAV boxes. The Links shall be arranged alphabetically from top to bottom.
3. Hydronics Links: This box contains links to all primary hydronic systems in the building and summary pages of dependent hydronic equipment like Fin Tube Radiators. The Links shall be arranged alphabetically from top to bottom.
4. Reports Links: This box contains links to the status & override report and the Schedule report pages. The Links shall be arranged alphabetically from top to bottom. Additional reports may be required for a specific project.
5. Utilities Links: This box contains links to the primary utility systems for the building. The Links shall be arranged alphabetically from top to bottom

## VII. AIR HANDLING UNIT PAGE DETAILS

A. It is not feasible to convey examples of every possible permutation of air handler configuration. Specific details shall be developed on a per-project or per-building basis and must be approved by NAVFAC NW CIO1.

B. Typical VAV Air Handler Graphic Page

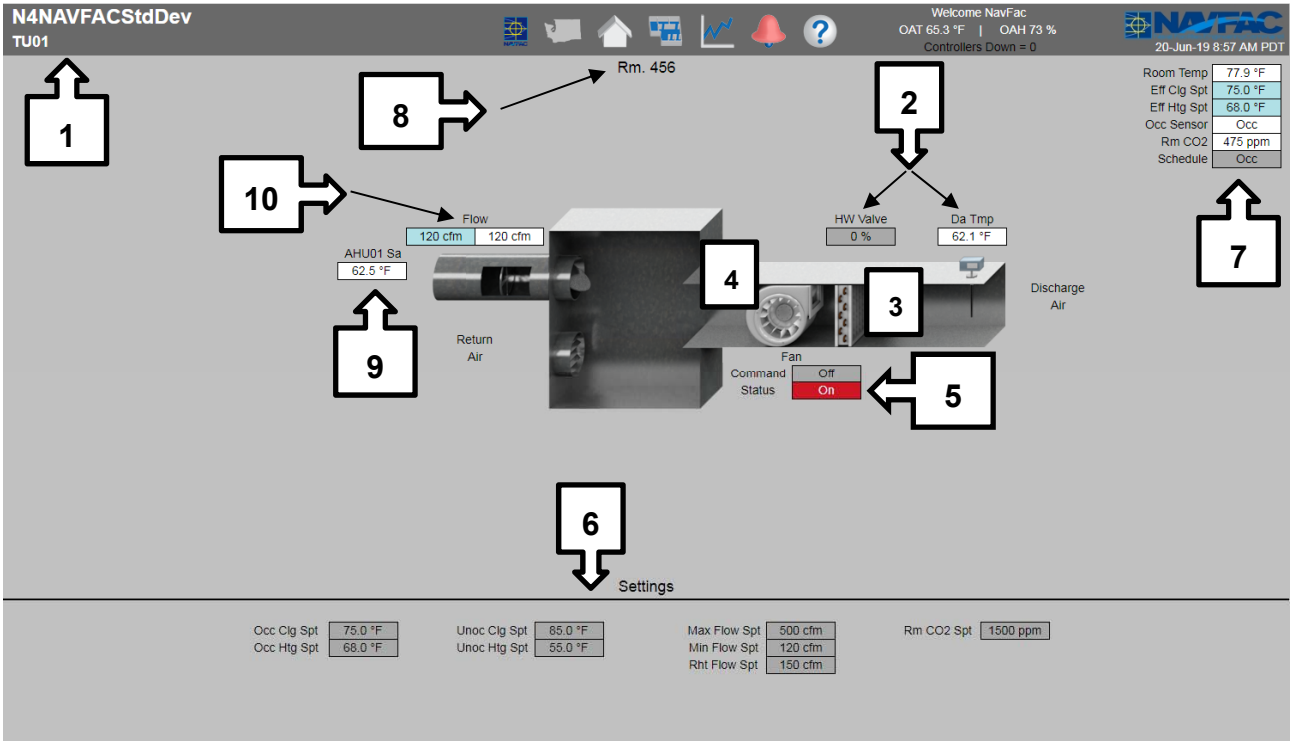



1. Header
2. Labels: Typical Point Value Displays; Link: History Chart
3. Animated Display of HW/CHW Coil Valve Position
4. Animated Display of Fan Status
5. Label: Typical Fan Summary; Links: History Charts
6. Typical Setpoint and Setpoint Reset Summary Located at the lower portion of the page. Right-click to “Set”.
   a. All settings shall be arranged neatly in aligned rows and columns. All related setting such as reset set point parameters shall be arranged together into organized rows and columns, in an intuitive arrangement.
7. Label: Schedule status and roll-up table located in the upper right corner; Links: History Charts. Additional Points as required by project.
8. Label: Dependent equipment served by the AHU.
9. Label: Descriptive text to help indicate AHU mechanical configuration/orientation.

## VIII. VARIABLE AIR VOLUME BOX – WITH REHEAT PAGE DETAILS

A. It is not feasible to convey examples of every possible permutation of VAV box configuration. Specific details shall be developed on a per-project or per-building basis and must be approved by NAVFAC NW CIO1.

B. Example Series Fan Powered Terminal Unit with Reheat Graphic

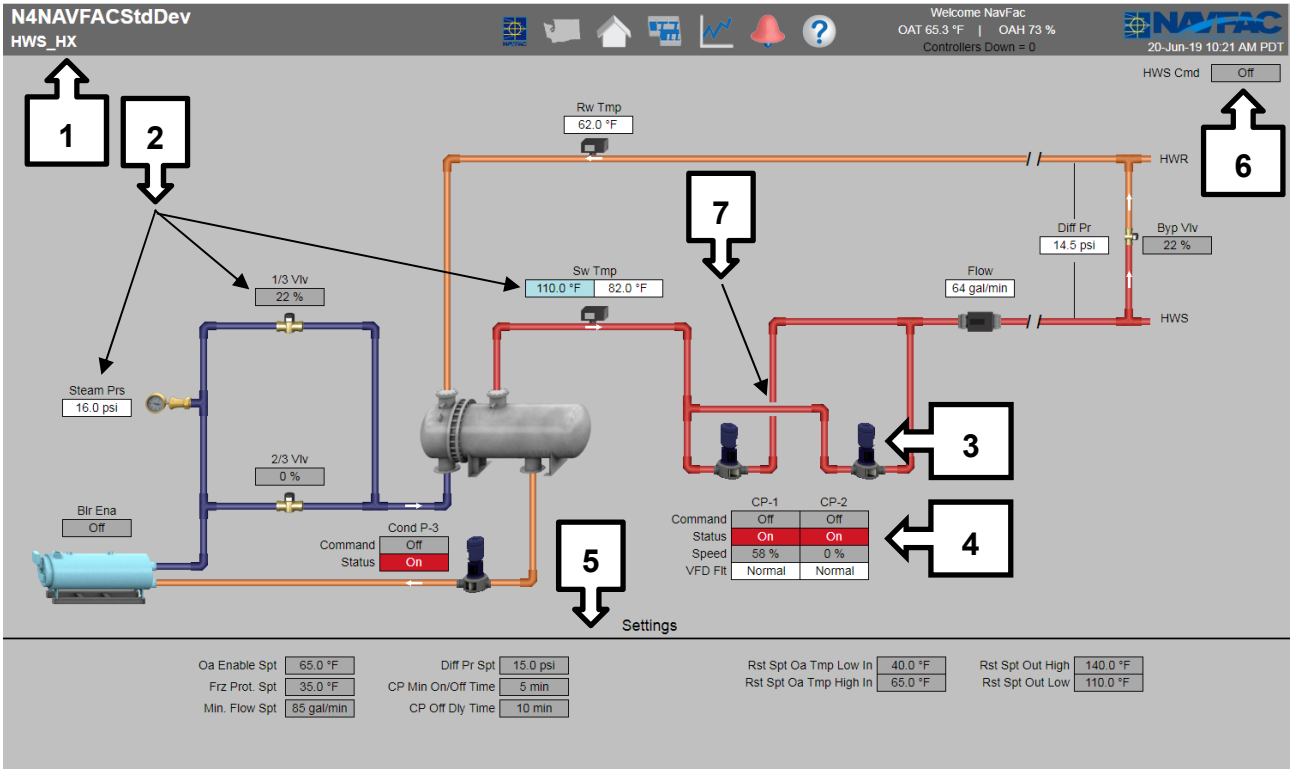



1. Header
2. Labels: Typical Point Value Displays; Link: History Chart
3. Animated Display of HW Coil Valve Position
4. Animated Display of Fan Status
5. Label: Typical Fan Summary; Links: History Charts
6. Typical Setpoint Summary Located at the lower portion of the page
   a. All settings shall be arranged neatly in aligned rows and columns. All related setting such as reset set point parameters shall be arranged together into organized rows and columns, in an intuitive arrangement.
7. Labels: Space Conditions Summary Table and Effective Temperature Setpoints information in the upper right corner; Links: History Charts. Additional Points as required by project.
8. Label: Room number/name that VAV thermostat is physically located in. Right-click to “Set”.
9. Label: Air Handler that serves VAV box and Air Handler Supply Air Temperature; Link: Air Handler that serves VAV box or link to Air handler page
10. Air Flow Status Summary Table; Links: History Charts

## IX. HEATING WATER SYSTEM PAGE DETAILS

A. It is not feasible to convey examples of every possible permutation of Heating Water System configuration. Specific details shall be developed on a per-project or per-building basis and must be approved by NAVFAC NW CIO1.

B. Example Heating Water System Graphic

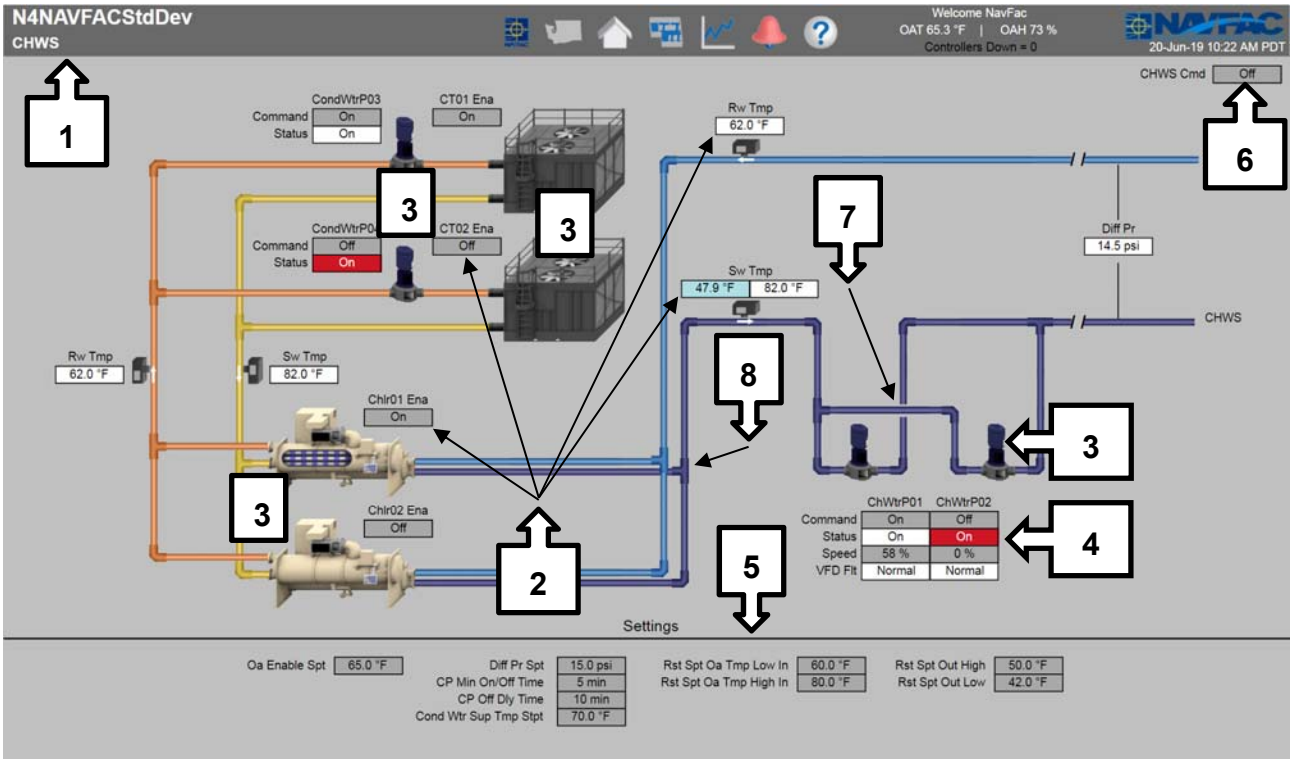



1. Header
2. Labels: Typical Point Value Displays; Link: History Chart
3. Animated Display of HW Pump Status
4. Label: Typical Pump Summary; Links: History Charts
5. Typical Setpoint Summary Located at the lower portion of the page. Right-click to “Set”.
   a. All settings shall be arranged neatly in aligned rows and columns. All related setting such as reset set point parameters shall be arranged together into organized rows and columns, in an intuitive arrangement.
6. Labels: System Conditions information in the upper right corner; Links: History Charts. Additional Points as required by project.
7. Pipe separation when two pipes of the same color intersect.

## X. COOLING WATER SYSTEM

A. It is not feasible to convey examples of every possible permutation of Cooling Water System configuration. Specific details shall be developed on a per-project or per-building basis and must be approved by NAVFAC NW CIO1.

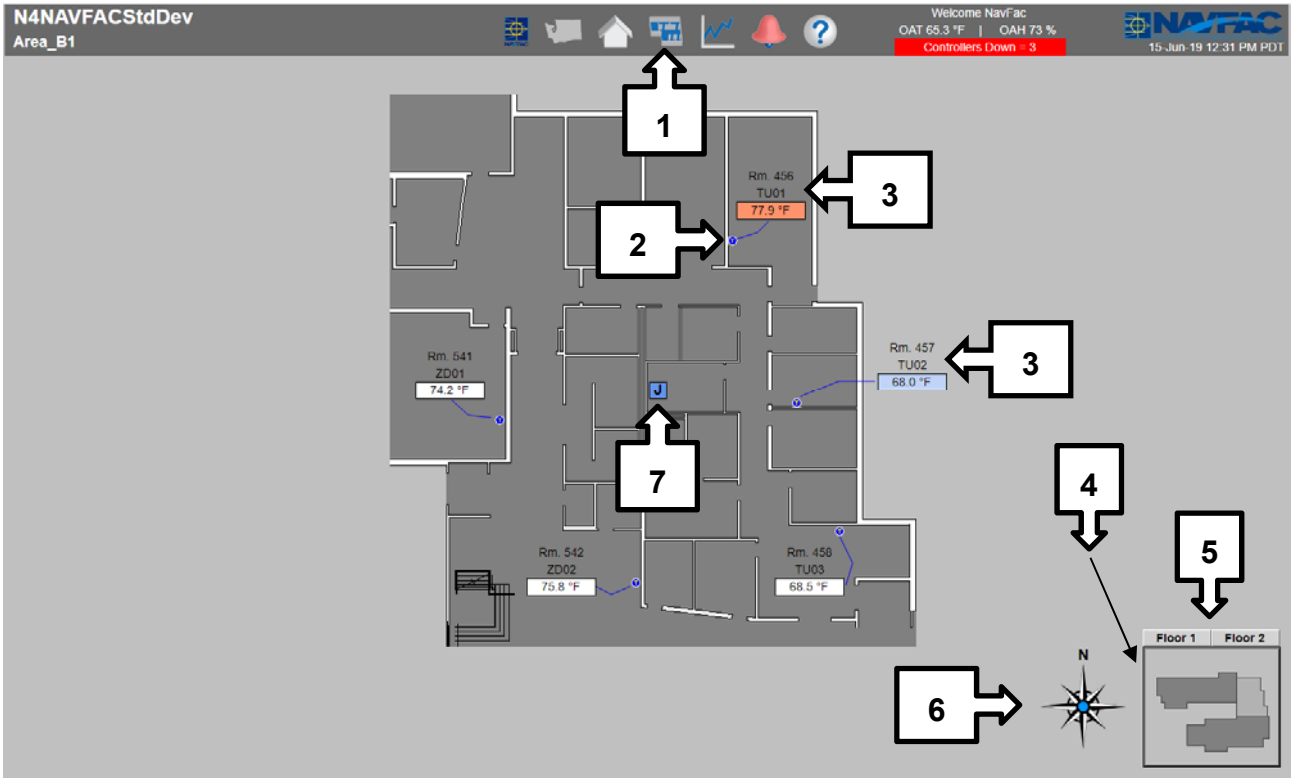
B. Example Cooling Water System Graphic




1. Header
2. Labels: Typical Point Value Displays; Link: History Chart
3. Animated Display of Equipment Status
4. Label: Typical Pump Summary; Links: History Charts
5. Typical Setpoint Summary Located at the lower portion of the page. Right-click to “Set”.
   a. All settings shall be arranged neatly in aligned rows and columns. All related setting such as reset set point parameters shall be arranged together into organized rows and columns, in an intuitive arrangement.
6. Labels: System Conditions information in the upper right corner; Links: History Charts. Additional Points as required by project.
7. Pipe separation when two pipes of the same color intersect.
8. No pipe separation required when two pipes of different color intersect.

## XI. FLOOR PLANFLOOR PLAN PAGE DETAILS

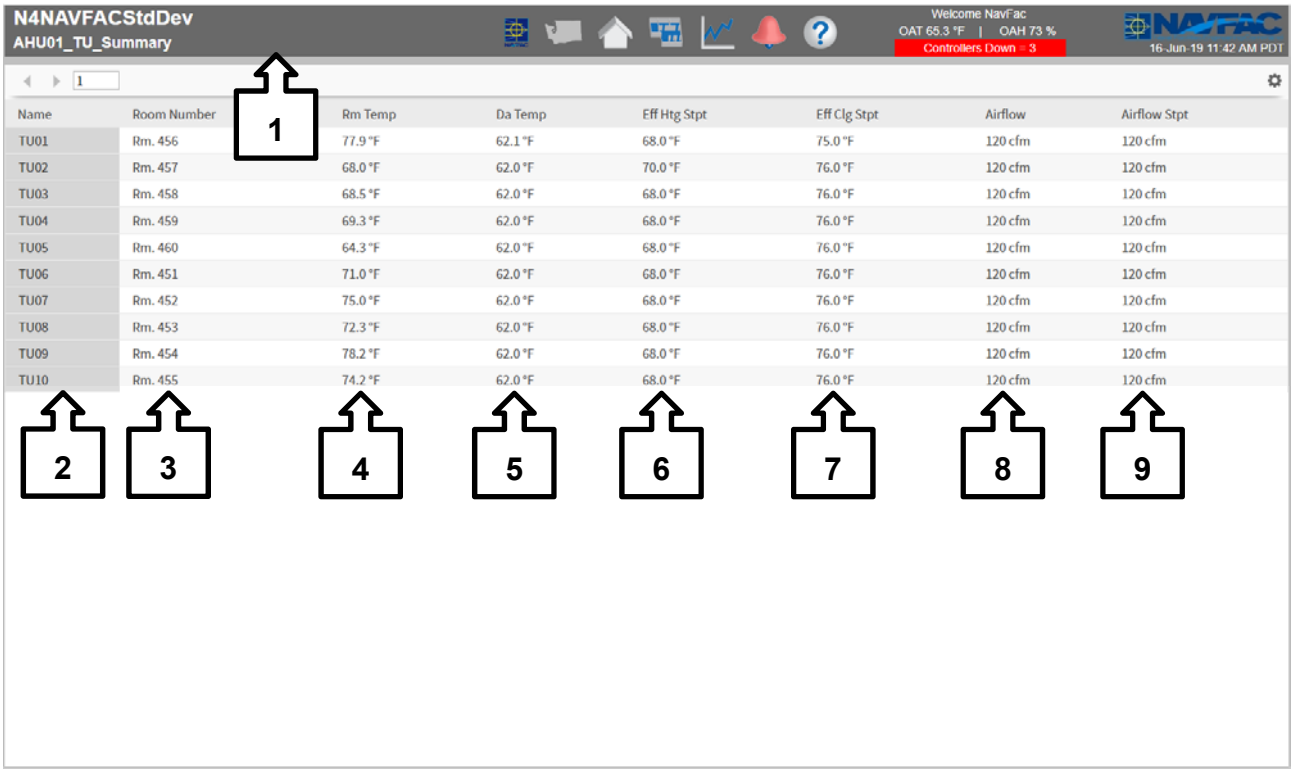
A. Example Floorplan Graphic




1. Floor plan icon header- this is the link to the main floorplan. Main floorplan is the main entry way of the building
2. T-stat location is static but editable from Niagara 4 graphics editor. Including the t-stat location shall not require editing of background image.
3. Equipment level summary table with room number, equipment name and space temperature. This table includes a navigation link to the specific equipment graphic (If point has no graphic, hyperlink to point's history). Typical animated spectrum binding of the space temperature label. The entire summary table shall be a navigation link to the specific equipment graphic. An indication of the air handler serving the piece of equipment shall be presented upon mouse over of the equipment name portion. The summary table shall be located on the floor plan in relation to the physical location of the piece of equipment. Until Tridium fixes the issue with rendering a curved path, a two section, shallow angle line path shall be drawn between the thermostat location and the space temperature label.
4. Key Plan: Key Plan depicts current floor plan section relative to entire floor plan. Key plan dimensions are 161 pixels W X 141 pixels H and placed at X 1330 and Y 750. Lightened Key Plan Section indicates section of floorplan currently viewed. The darkened Key Plan Section(s) indicate additional sections of floorplan on same level. When the curser is placed over any of the dark grey sections, the sections shall highlight and serve as a link to those additional sections of floorplan.
5. When there are multiple building floor levels; buttons to all additional floor levels of the floor plan section shall be placed directly above the key plan, labeled with the floor level and serve as a navigation link to the floor indicated.
6. The Compass Rose image shall be placed at X 1210 and Y 770 on every floor plan graphic. The "N" indication label shall be placed adjacent to the appropriate point of the compass to indicate the orientation of the floor plan as it relates to the direction "north".
7. JACE location label: This label is placed in relation to the physical location of the JACE. The label is animated to change the background color from cornflowerBlue to orangeRed and blink when the JACE panel door tamper switch alarm is activated.

## XII. VAV SUMMARY TABLE

A. Example VAV Overview Page (one page per air handling unit not to exceed 20 units per page).

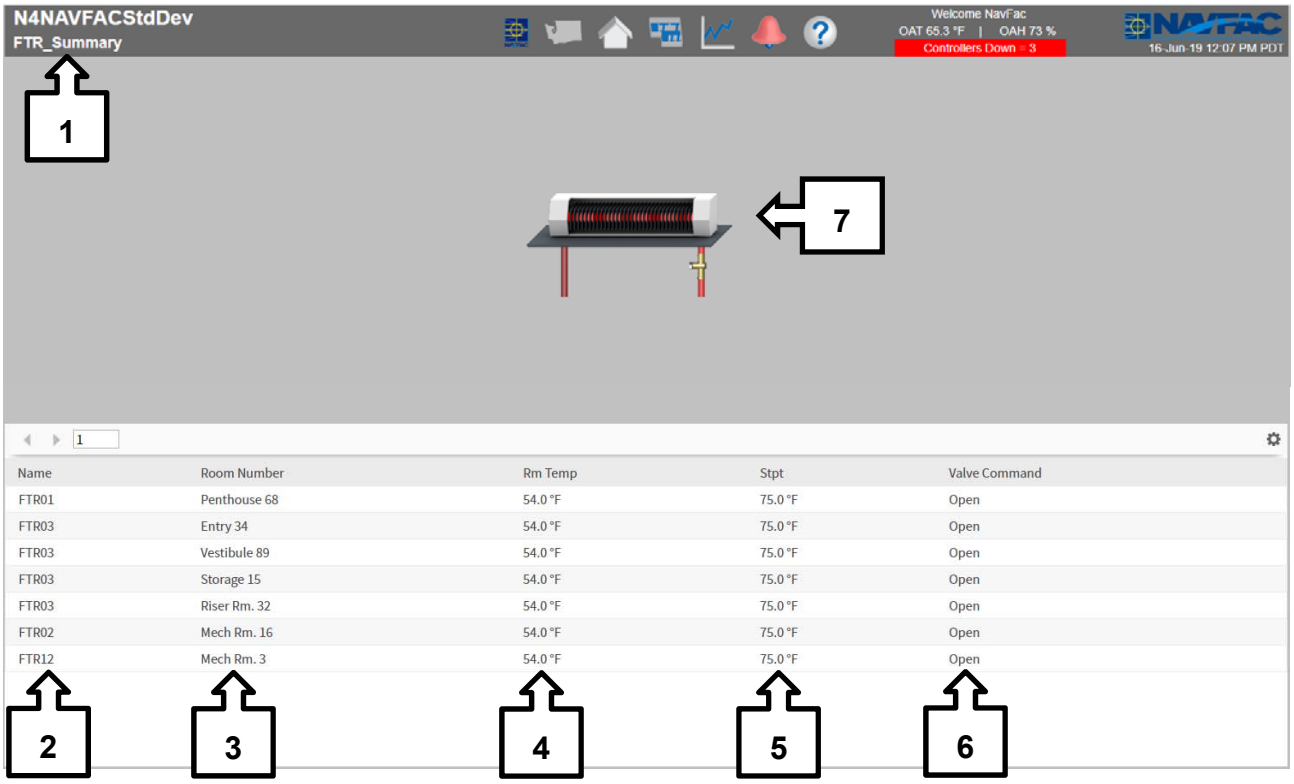



1. Header
2. Column Label: Name; Cell Contents: Equipment ID; Link: Specific equipment graphic
3. Column Label: Room Number; Cell Contents: Room number that Equipment thermostat is physically located in; Link: Specific Equipment graphic; Right click to “Set”
4. Column Label: Rm Temp; Cell Contents: Space Temperature; Link: Specific Equipment graphic
5. Column Label: Da Temp; Cell Contents: Discharge Air Temperature; Link: Specific Equipment graphic
6. Column Label: Eff Htg Stpt; Cell Contents: Effective Heating Setpoint; Link: Specific Equipment graphic
7. Column Label: Eff Clg Stpt; Cell Contents: Effective Cooling Setpoint; Link: Specific Equipment graphic
8. Column Label: Air Flow; Cell Contents: Air Flow (CFM); Link: Specific Equipment graphic
9. Column Label: Air Flow Stpt; Cell Contents: Air Flow Setpoint (CFM); Link: Specific Equipment graphic

## XIII.SMALL EQUIPMENT SUMMARYSMALL EQUIPMENT SUMMARY PAGE DETAILS

A. A summary report may be may be used for FTRs, UHs, and CUHs in place of individual graphics when it has five or fewer points and there are five or more units in total. Prior approval from NAVFAC NW CIO1 is required for systems not listed. (Not to exceed 20 units per page.)

B. Example Fin Tube Radiator (FTR) Summary Graphic

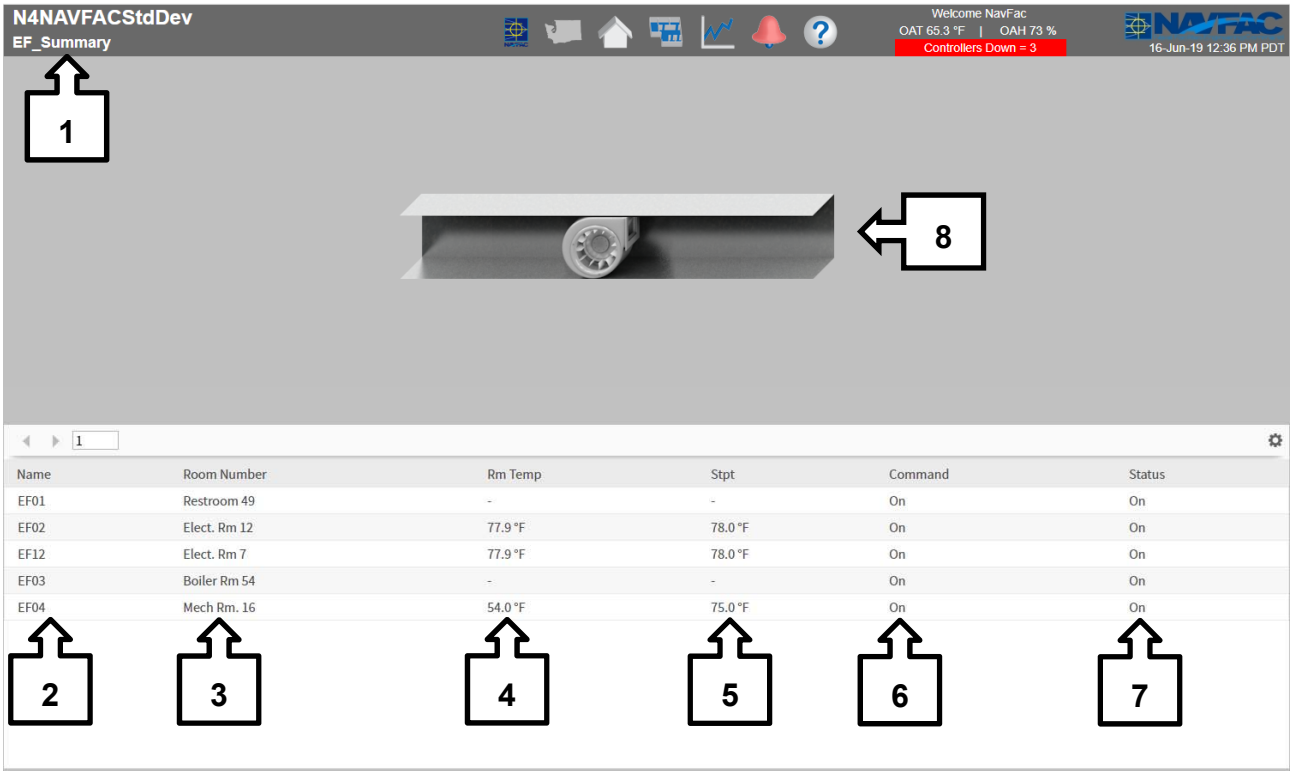



1. Header
2. Column Label: Name; Cell Contents: Equipment ID
3. Column Label: Room Number; Cell Contents: Room number that Equipment thermostat is physically located in; Right-click to “Set”
4. Column Label: Rm Temp; Cell Contents: Space Temperature
5. Column Label: Stpt; Cell Contents: Setpoint
6. Column Label: Valve Command; Cell Contents: Valve Position Command; Right-click to “Override”
7. Graphical representation of the physical equipment

## XIV. EXHAUST FAN SUMMARY TABLE PAGE DETAILS

A. A summary report may be may be used in place of individual graphics when the controlled piece of equipment has five or fewer points and there are five or more in total. (Not to exceed 20 fans per page.)

B. Example Exhaust Fan (EF) Summary Graphic

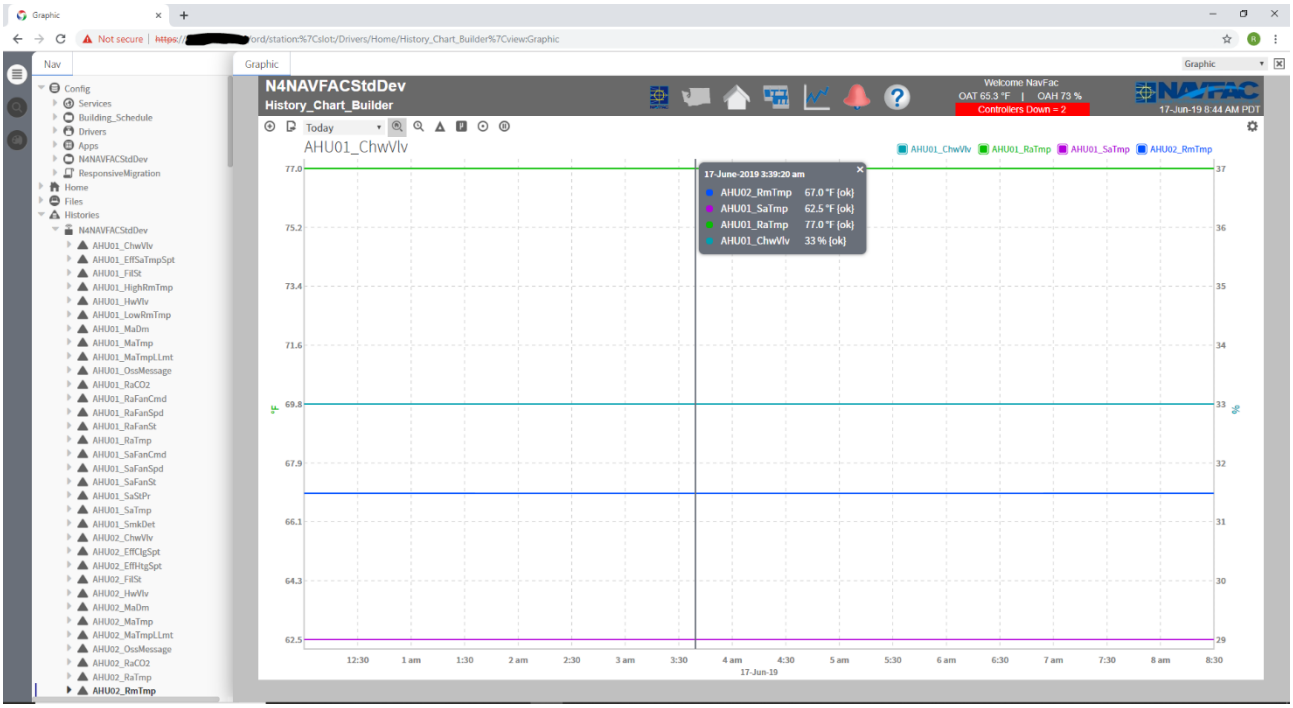



1. Header
2. Column Label: Name; Cell Contents: Equipment ID
3. Column Label: Room Number; Cell Contents: Room number that Equipment thermostat is physically located in; Right-click to “Set”
4. Column Label: Rm Temp; Cell Contents: Space Temperature (Contains “-“ if point doesn’t exist.)
5. Column Label: Stpt; Cell Contents: Setpoint (Contains “-“ if point doesn’t exist.)
6. Column Label: Command; Cell Contents: Fan Command; Right-click to “Override”
7. Column Label: Status; Cell Contents: Fan Status; (Contains “-“ if point doesn’t exist.)
8. Graphical representation of the physical equipment

## XV.VIEW HISTORICAL DATAVIEW HISTORICAL DATA

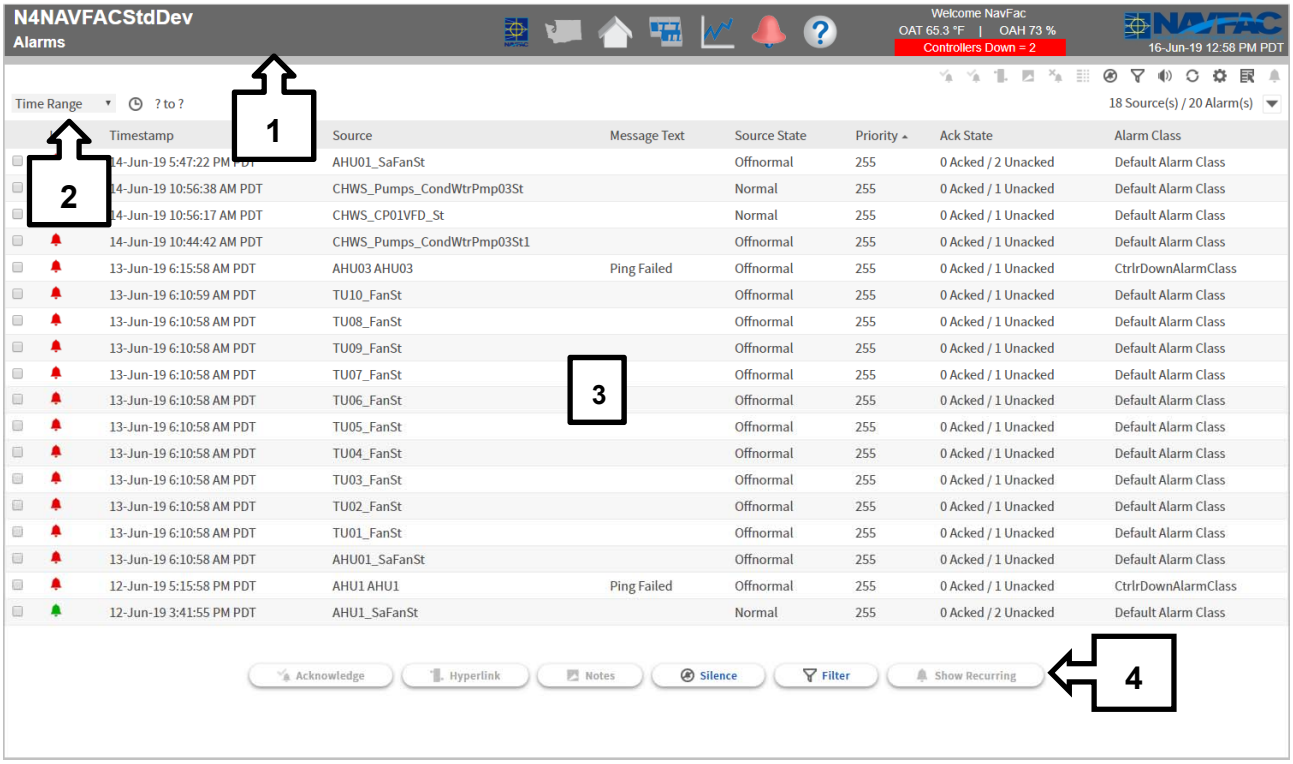
A. The Chart Image Header Button will navigate to the Building History Chart Builder Page

B. Expand the Navigation tree and navigate to the “Histories” database to drag-and-drop histories onto the History Viewer.



## XVI. Alarm PAGE DETAILS

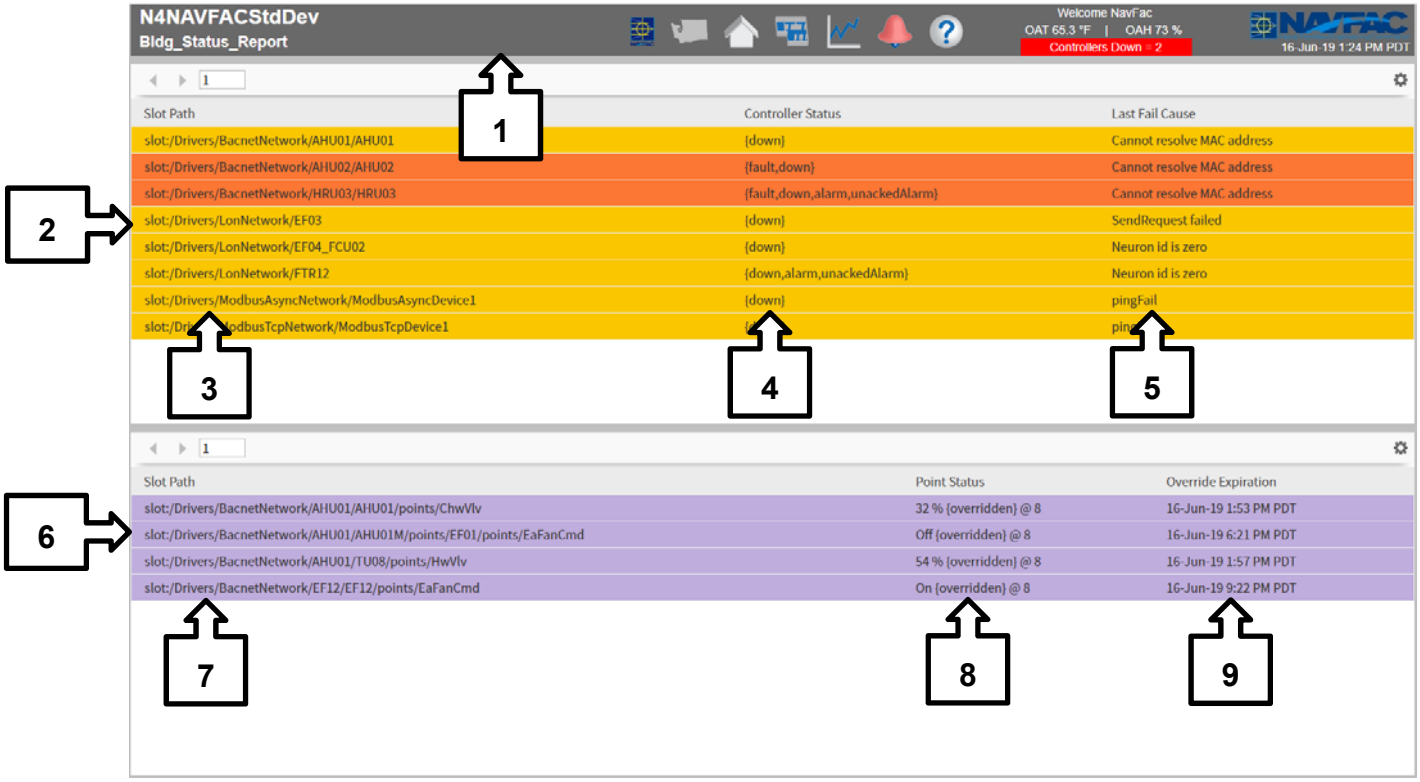
A. Example of Alarm Page- Standard General Alarms included but are not limited to command failure alarms, filter, points with the name of alarm or shutdown included in the name. See Appendix C for standard list of regional alarms. See section of this document titled “Alarm Extension Config Standard” for more information about alarm requirements.




1. Header
2. Desired Time Range
3. Alarm records via alarm service console recipient
4. Buttons for Alarm Acknowledge, etc. (Native Niagara Alarm Console buttons)

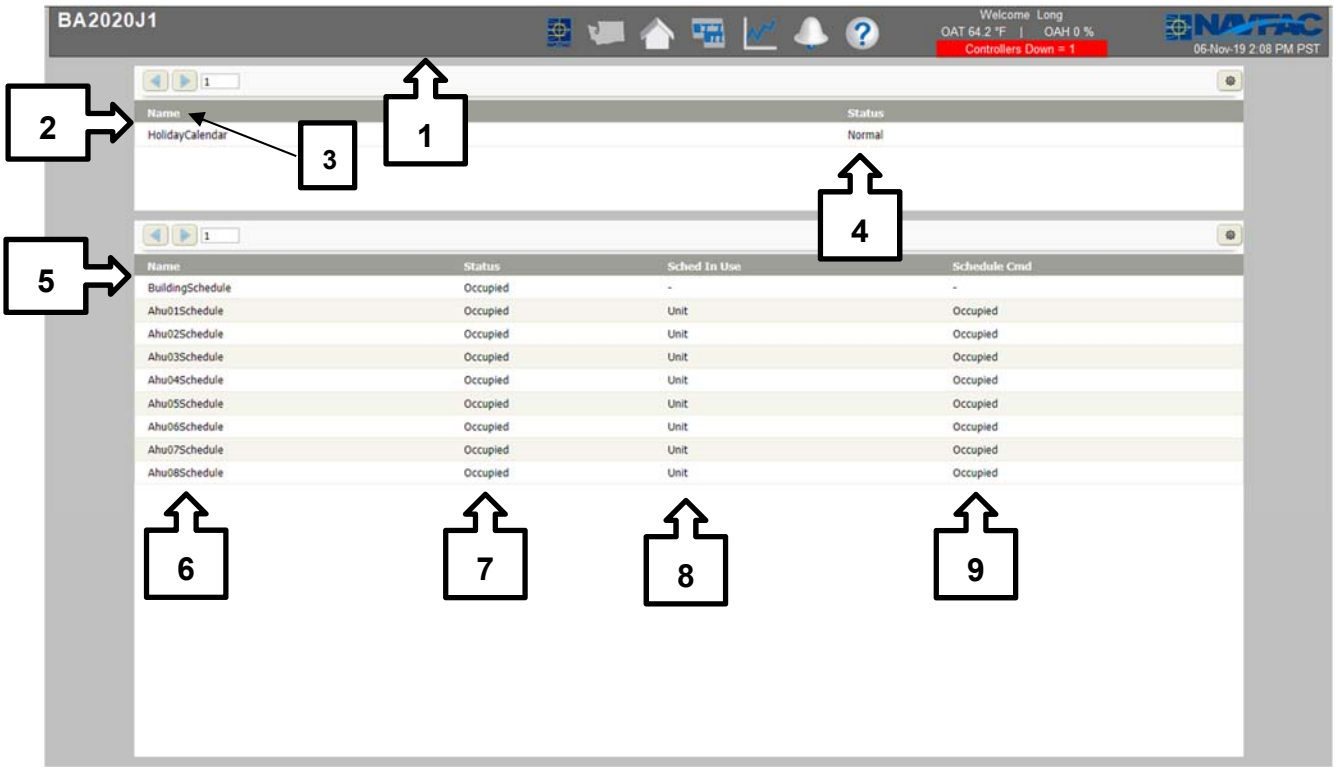
## XVII. REPORTS

A. Example Building Status Report




1. Header
2. Controller down Grid
3. Column Label: Slot Path; Cell Contents: Location of Controller in the database; Right-Click to “Ping” Controller
4. Column Label: Controller Status; Cell Contents: Status property of the Controller; Right-Click to “Ping” Controller
5. Column Label: Last Fail Cause; Cell Contents: Last Fail Cause property of the controller; Right-Click to “Ping” Controller
6. Overridden points Grid
7. Column Label: Slot Path; Cell Contents: Location of Point in the database; Right-Click to “Auto” the point
8. Column Label: Point Status; Cell Contents: Overridden condition of the point; Right-Click to “Auto” the point
9. Column Label: Override Expiration; Cell Contents: Date and time the override will expire; Right-Click to “Auto” the point

10. Example Schedule Report

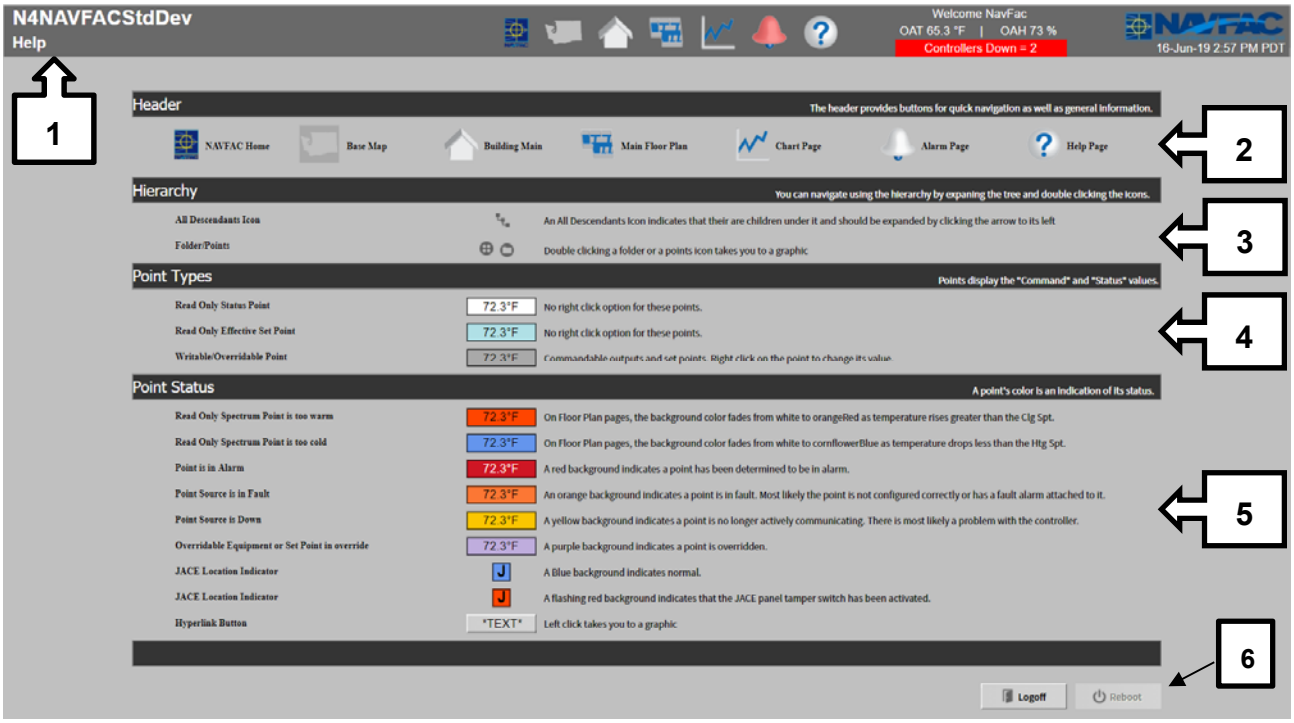



11. Header
12. Calendar Grid
13. Column Label: Name; Content: Calendar Object Name; Link: Calendar Scheduler
14. Column Label: Status; Content: Calendar Object Output; Link: Calendar Scheduler. Facet- Holiday/ Normal. Hyperlink going to each individual scheduler.
15. Schedule Grid
16. Column Label: Name; Content: Schedule Object Name; Link: Weekly Scheduler BuildingSchedule at the top of the grid. Hyperlink going to each individual scheduler.
17. Column Label: Status; Content: Schedule Object Output; Link: Weekly Scheduler. Facet- Occupied/Unoccupied
18. Column Label: Cell Sched In Use; Content: Selected Schedule for the Equipment; Right-Click to “Set” Facet- Unit/ Building
19. Column Label: Schedule Cmd; Content: Schedule Command to Equipment; Link: Weekly Scheduler Facet- Occupied/Unoccupied

## XVII. HELP PAGE

B. The Help page serves to be a 'Legend" for the different visual and functional differences between the various points referenced within Graphic pages.

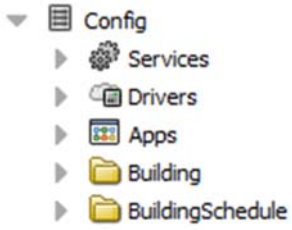
C. Template Help Page



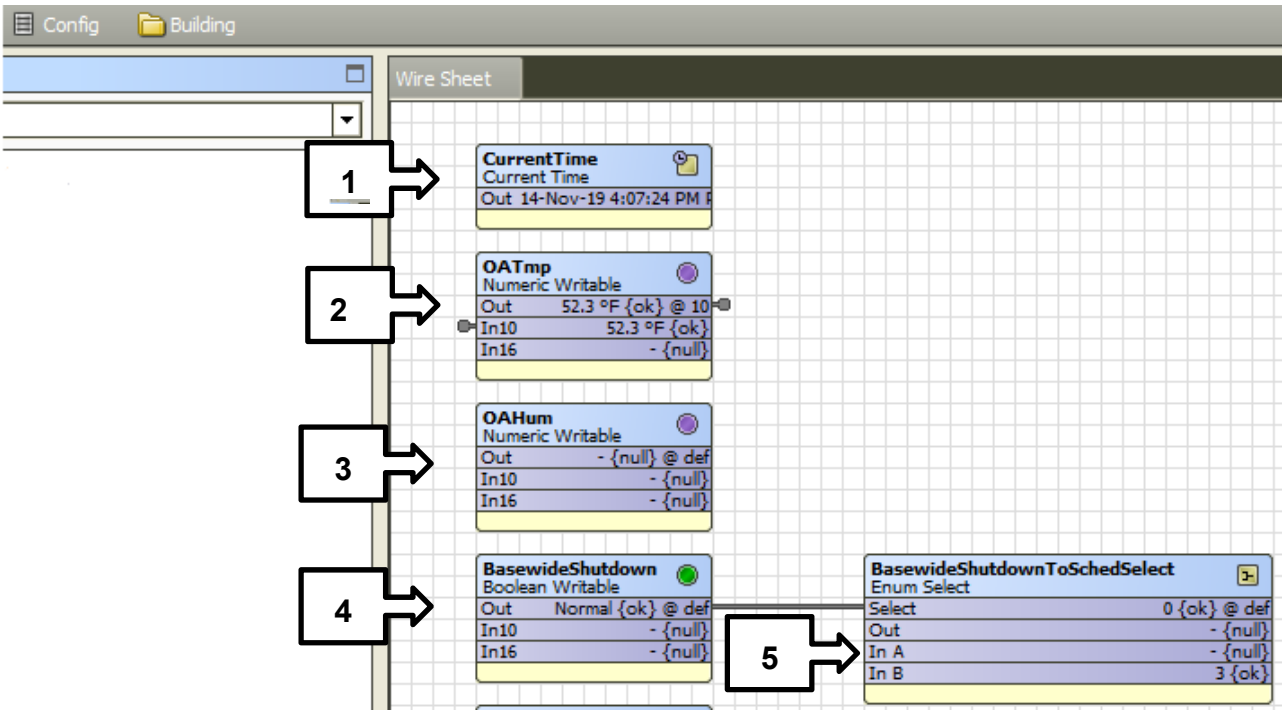

1. Header
2. Header contents descriptors
3. Hierarchy Icon descriptors
4. NAVFAC approved Point type color standard descriptors
5. Niagara default point status color descriptors
   a. Standard Niagara default colors to represent the various status conditions
   b. JACE location ID color descriptors
   c. Navigation Button descriptor
6. Logoff and Reboot Buttons:

## 3. DATABASE STRUCTURE CONFIGURATION REQUIREMENTS

A. Config Order
In order:
   a. Services
   b. Drivers
   c. Apps
   d. Building
   e. BuildingSchedule

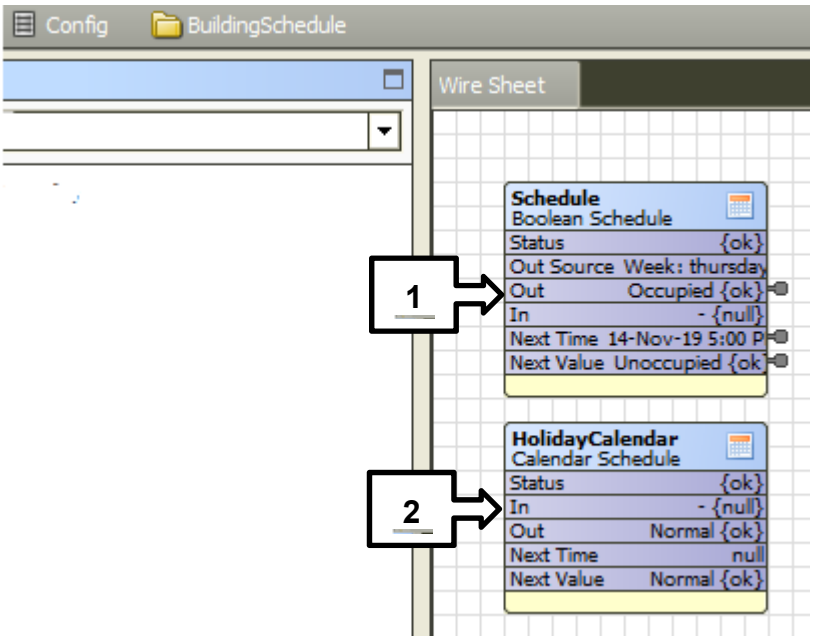


Building Folder- This is where all the global points are located




1- CurrentTime
2- OATmp- fallback to null if not linked
3- OAHum- fallback to null if not linked
4- BasewideShutdown- fallback to Normal/false
5- BasewideShutdownToSchedSelect- linked to BasewideShutdown to Select and all SchedSelects In10. SchedSelects should be in every unit schedule.

BuildingSchedule- This is the Holiday and Building schedule is held.

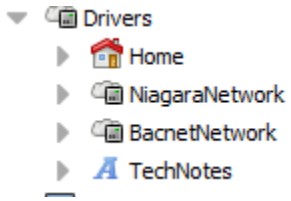



1- Building Schedule- Is named “Schedule”. The Out, Next Time and Next Value are all linked to the unit schedule logic. The building schedule also references the HolidayCalendar.

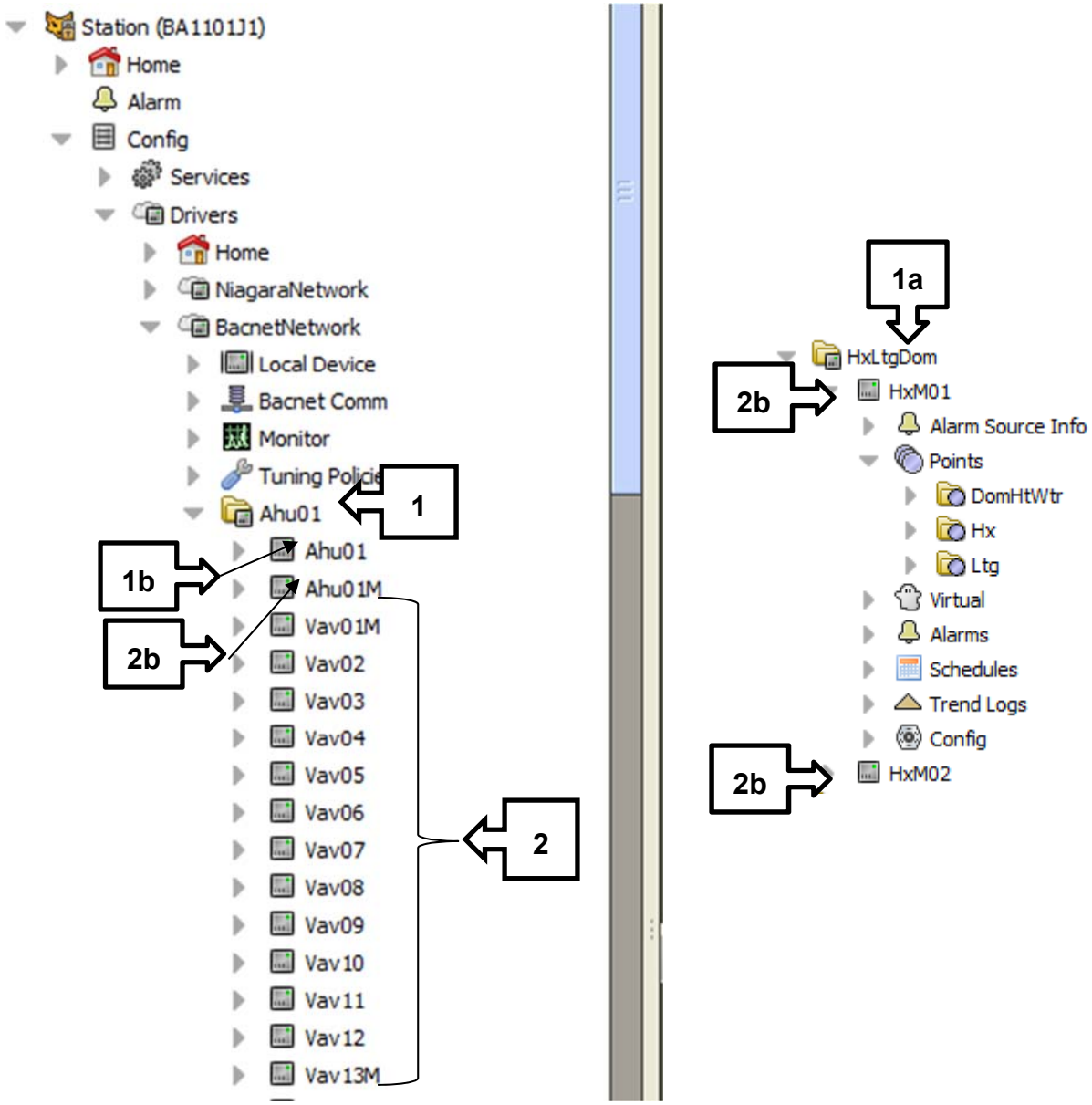
2- Building Holiday Schedule- Must be named “HolidayCalendar” and facets are trueText=Holiday,falseText=Normal.

B. Drivers Order

a. Home
b. NiagaraNetwork
c. Networks (Bacnet, LON, Modbus, DNP3, IEC61850 etc.)
d. TechNotes




C. The structure of the database and naming standards are key to many of the built-in automatic functions of graphics, reports and history naming. The following structure must be followed;



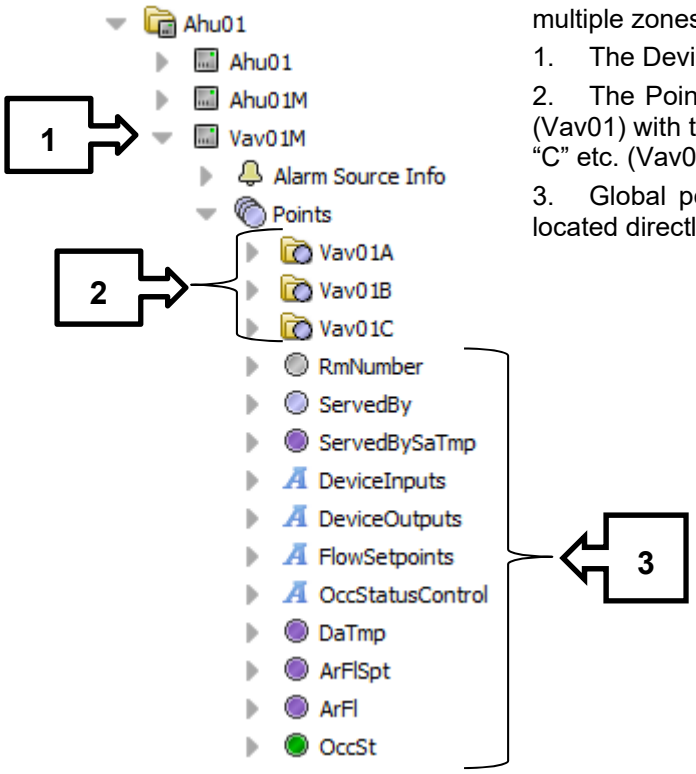

1. All controllers/devices must reside in a “Device Folder”.
   a. With the exception to Multi Zone Units (i.e. Ahu1). With controllers with multiple units on one controller the “Device Folder” must be named all units under the “Device Folder”. The length on folder name shall not exceed up to four of the most important units.

b. All equipment graphic page “views” shall be added to the device object. The name of the Px View must be named “Graphic”.

2. Associated equipment must all reside within the same folder

a. All controller/devices names must be unique within the database.

b. Equipment that requires more than one controller or has multiple units in one controller will have the additional controller name appended with “M” for “Misc” or “Multiple”. If there are more than one additional controller then number them as follows; ***M01, ***M02 etc.”.

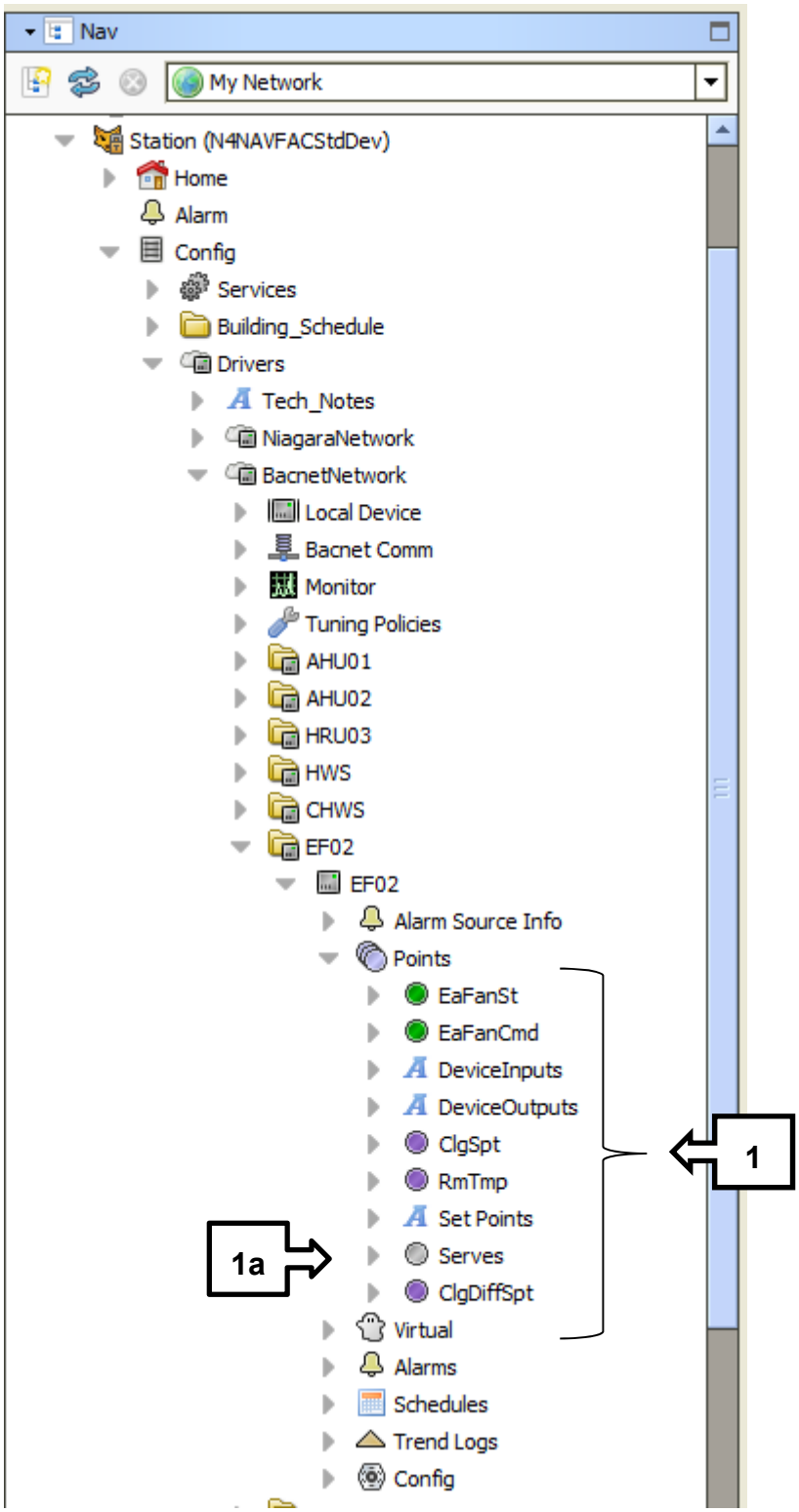



D. Zone Tree Structure- This is for a unit that has multiple zones being controlled from one controller.

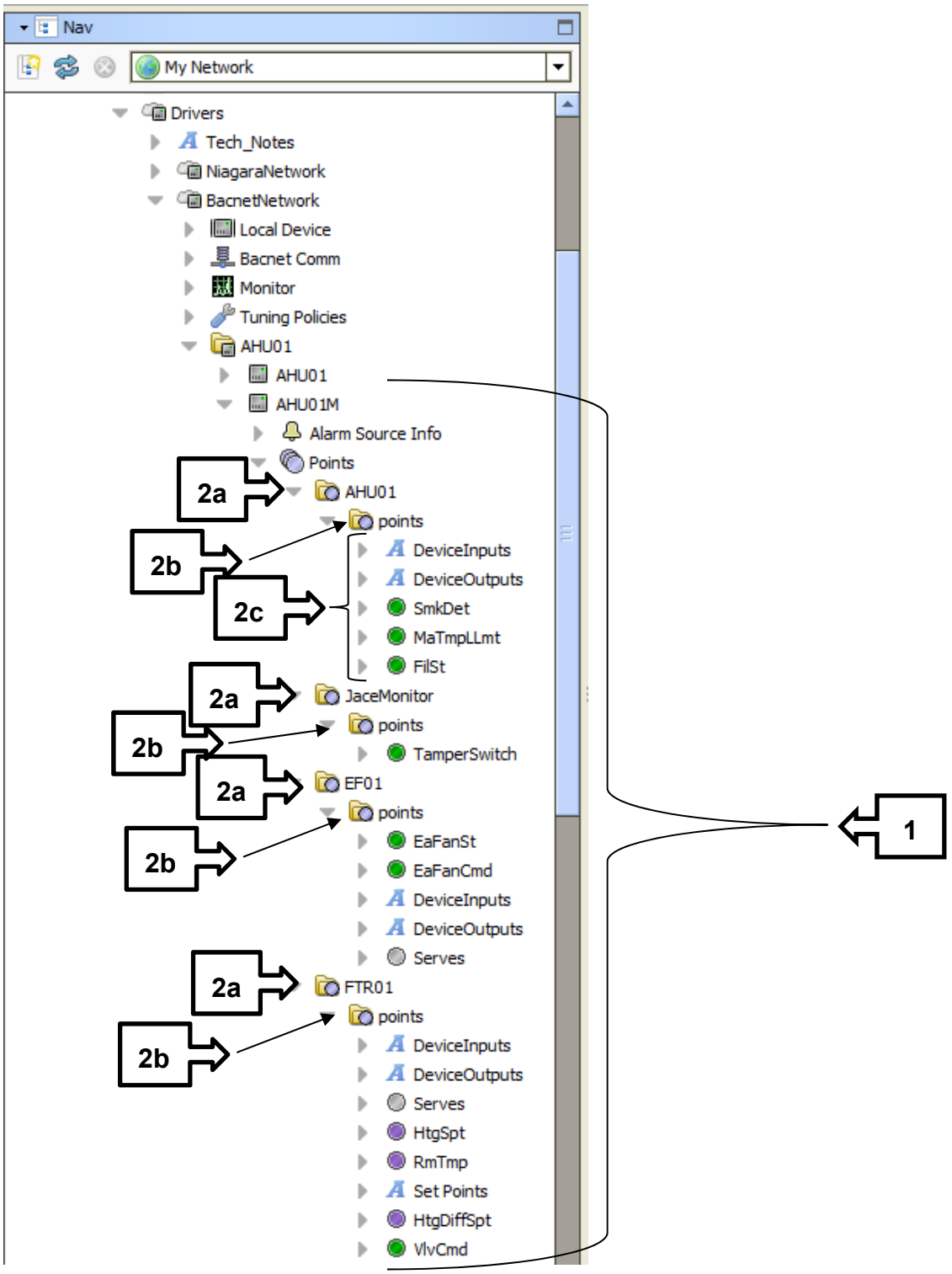
1. The Device need to have “M” for “Multiple” units

2. The Point folders are named after the main device (Vav01) with the addition “A” for the first zone then “B” to “C” etc. (Vav01A, Vav01B, Vav01C etc)

3. Global points shared amongst the Vav zones are located directly in the Points of the Device.




1. Dedicated equipment controllers do not require point folders to organize their points.
   a. All equipment point folders must contain a stringWritable named “Serves” used to indicate the room number that is referenced on graphic pages and summary tables or subordinate equipment such as VAVs.

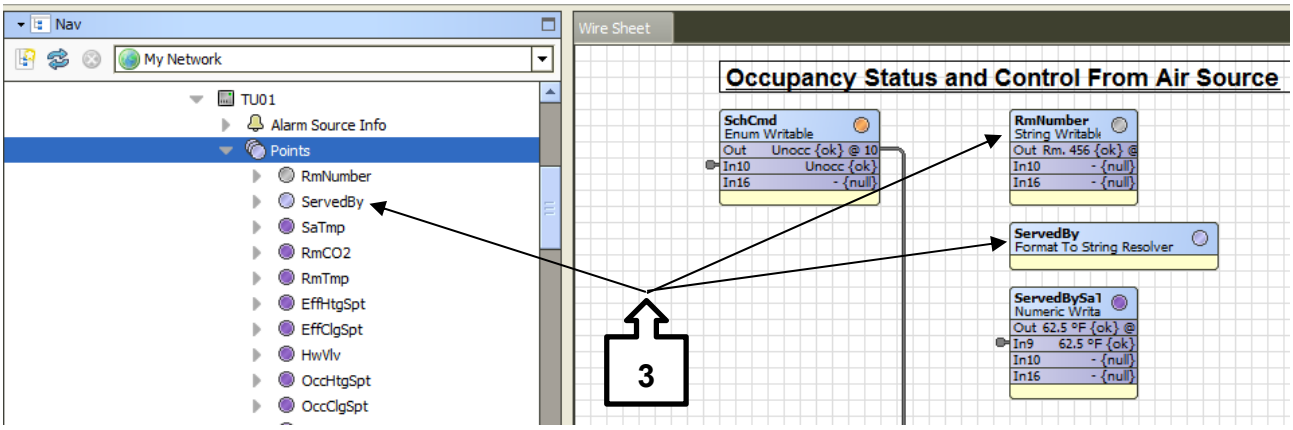


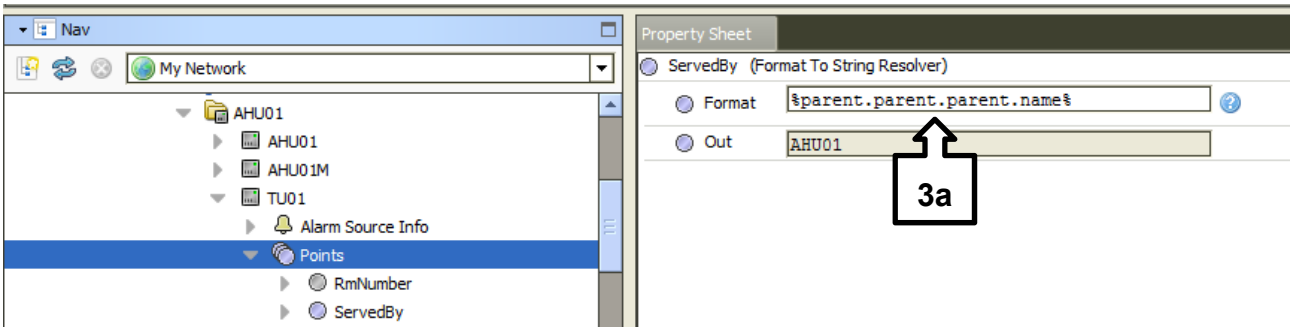

1. Controllers that contain points from multiple pieces of equipment must have a point folder named for each piece of equipment to organize their points.
2. To keep the history naming method consistent with dedicated equipment controllers, Multi-equipment controllers require an additional point folder named “points” to contain the points.
   a. The equipment name point folder (If this is the main unit folder, this where you put the Px View for the unit and name it “Graphic”)
   b. The equipment point folder

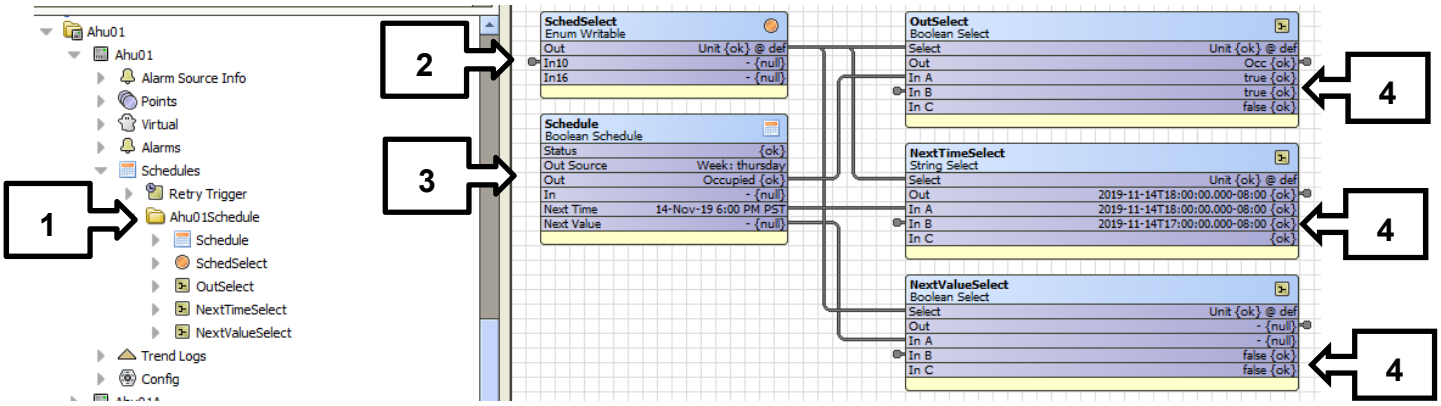
c. No “Serves” stringWritable required when it is not the primary controller for a piece of equipment.

3. All subordinate equipment such as VAVs or Zone dampers must have a Format To String Resolver named “ServedBy” to indicate the supportive equipment and a String Writable named “RmNumber” used to indicate the room number in graphic pages.

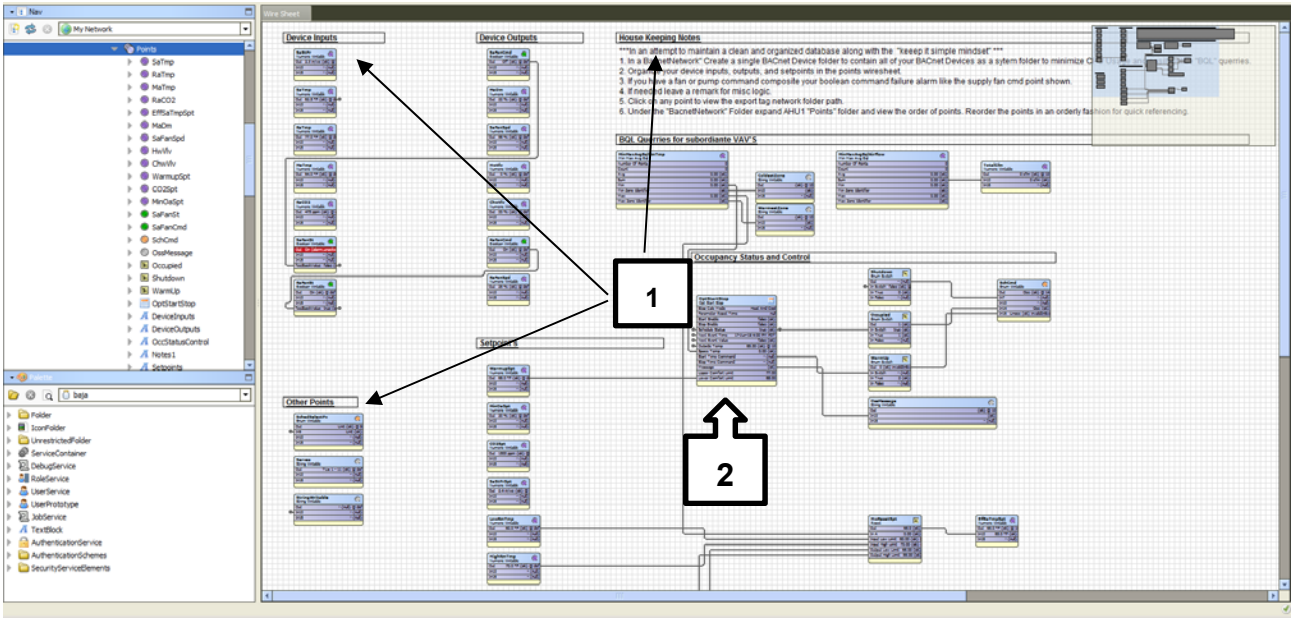
   a. The “Format” property of the Format To String Resolver shall be set to “%parent.parent.parent.name%” to capture the name of the supportive equipment that is use for reference on graphic pages and hyperlinks.



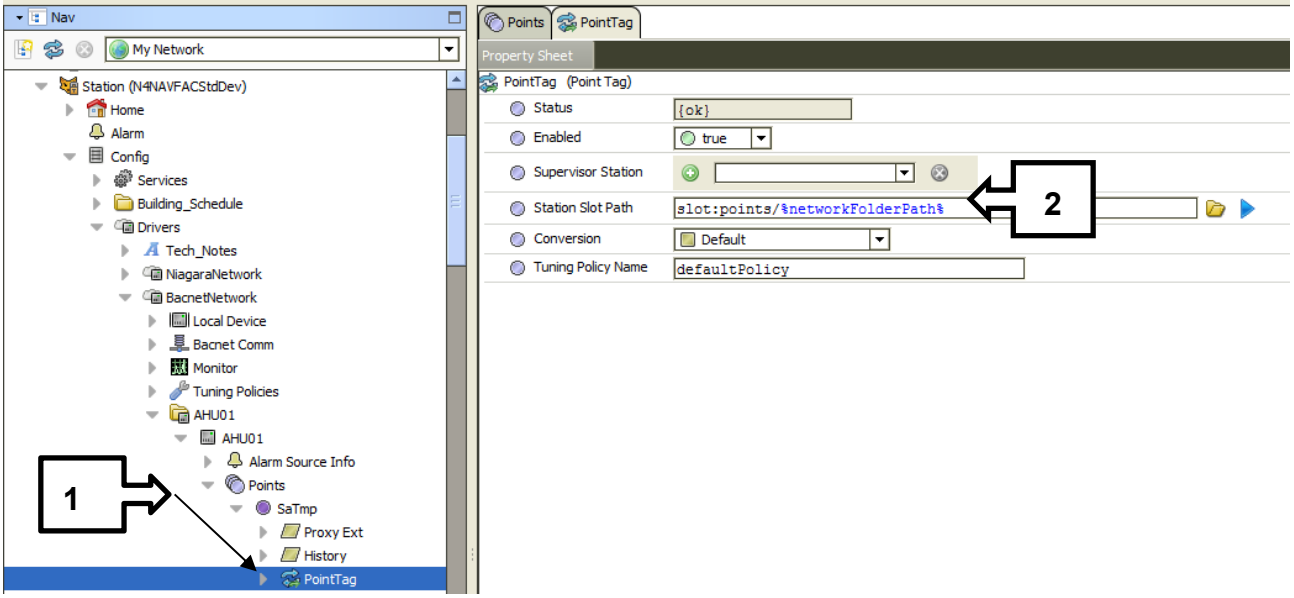




1. Schedule Folder- under the “Schedules” folded under the device. The folder named after the unit it is linked to follow by Schedule i.e. “Ahu01Schedule”.
2. SchedSelect- This is block has its In10 linked to the BasewideShutdownToSchedSelect located in “Building” folder. Facet is Unit=1, Building=2, Base=3.
3. Schedule Block- Must be named Schedule
4. Selects- InA linked to unit schedule. InB linked to building schedule. Out linked to unit OSS block

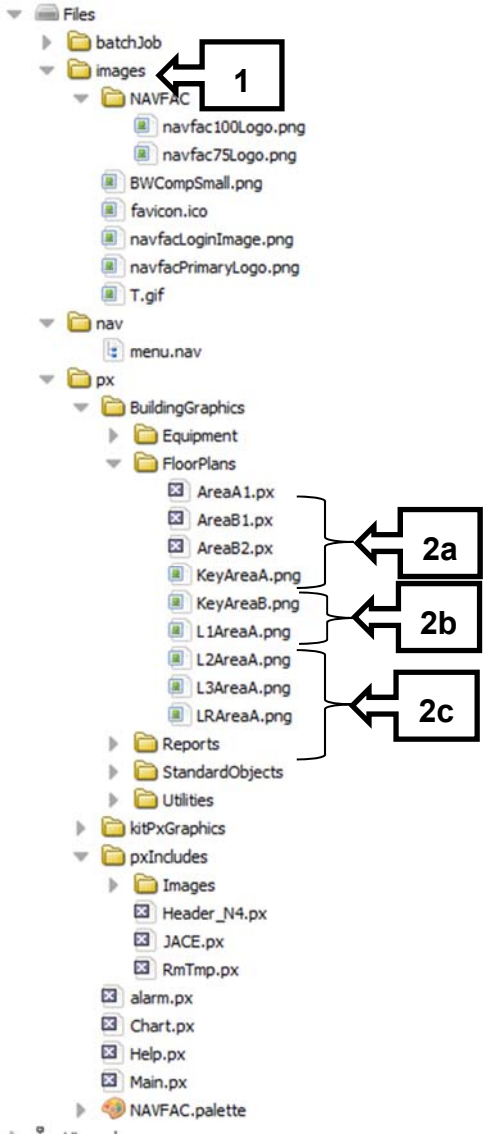



1. Wire sheets shall be neat and orderly with text blocks to describe the contents of the folder like point types and programming sequences. All objects shall be given a descriptive name.
2. Unit Schedule- are in all units that require a schedule and are linked to Vykon optimized start stop (OSS) and the building schedule.



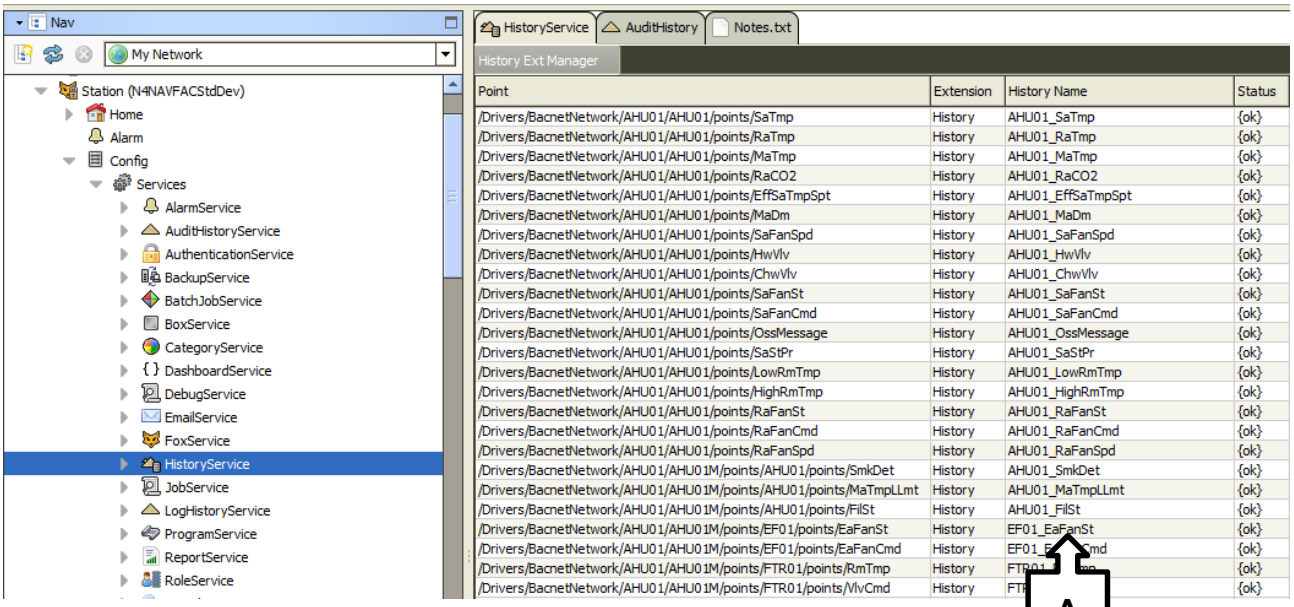

1. All points that are used in a graphic page or have a history extension also must contain a exportTag/pointTag.
2. The “Station slot Path” property of the pointTag shall be set as indicated.

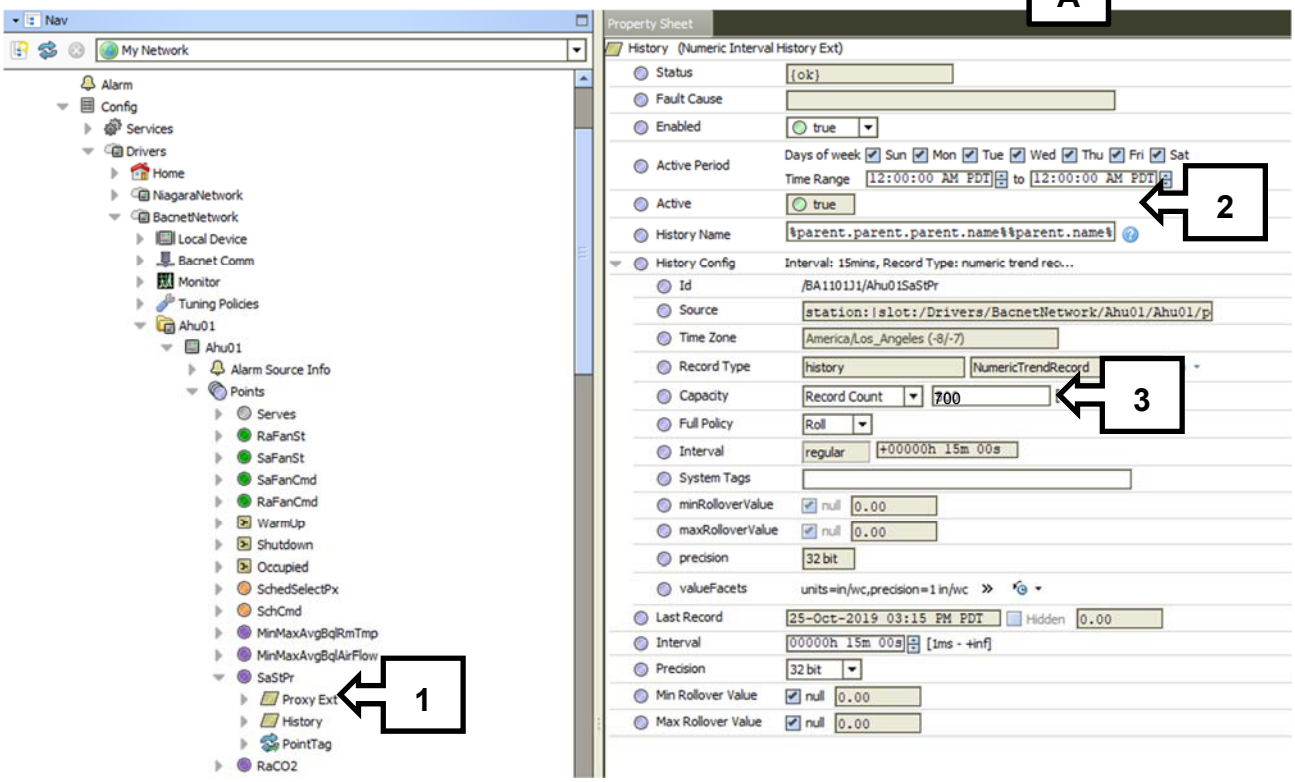
E. File Tree- This is the file tree design. This will be no more added folders then in the NAVFAC standard station. NAVFAC naming applies in file tree and no underscores in files names (unless it is a native Niagara folder or file).
   1. All main folders are lowered cased. Main folders are as follows. batchJobs, Images, nav, and px.
   2. In FloorPlans folder pxs are named AreaA1.
      a. “A” is the section on a level. A= section 1, B= section 2, C, D, etc. “1” is Floor 1. “1”= floor one, “2”= floor two, “R”= Roof and “B”= basement.
      b. KeyArea images- these are the key plans for floorplans using the same naming as pxs. So A= section 1, B= section 2, C, D, etc. “1” is Floor 1. “1”= floor one, “2”= floor two, “R”= Roof and “B”=as basement.
      c. L*Area* images- these are the floor plans for floorplan pxs using the same naming as pxs. So A= section 1, B= section 2, C, D, etc. “1” is Floor 1. “1”= floor one, “2”= floor two, “R”= Roof and “B”= basement.



## 4. HISTORY EXTENSION CONFIGURATION REQUIREMENTS

A. Consistent history naming conventions must be followed. Every history name must begin with the Equipment name and be followed by the point name.




1. All History extensions shall be named to “History”.
2. The approved method to accomplish this is as follows; Every “History Name” property shall be set to “%parent.parent.parent.name%%parent.name%”.

B. Point Type History configurations;

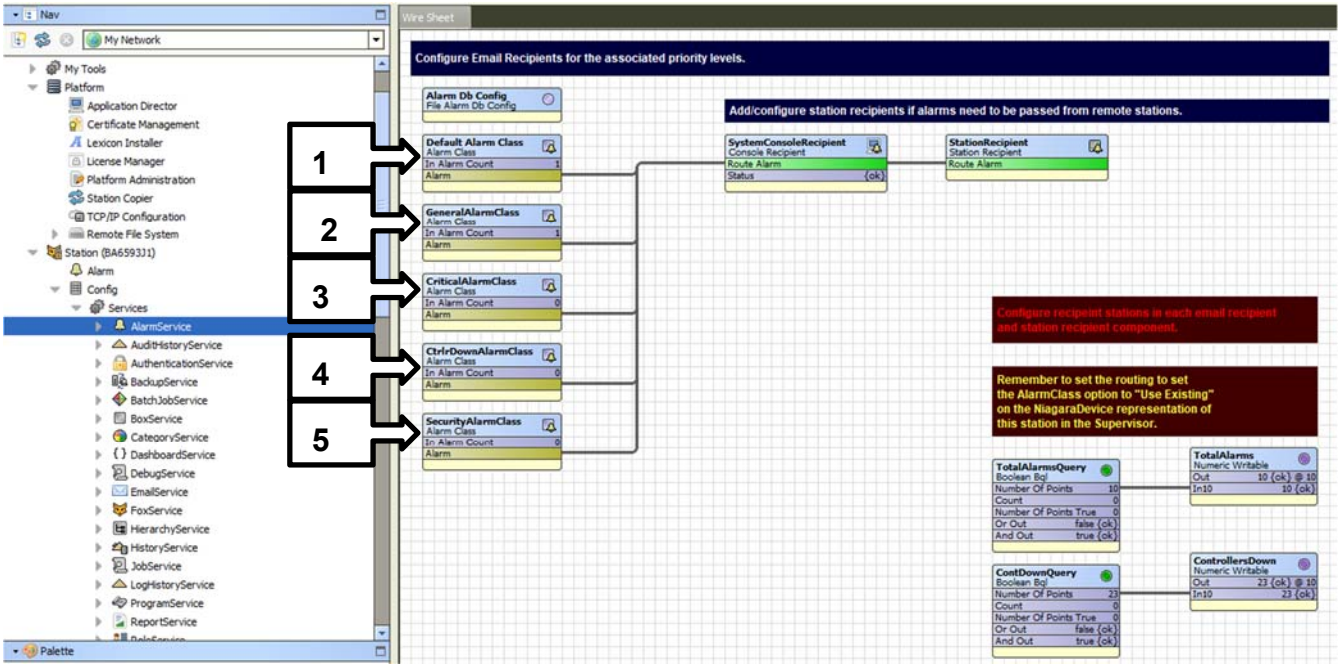
| Point type | History Type | Capacity |
|---|---|---|
| Boolean Command | COV | Record Count 700 |
| Boolean Status | COV | Record Count 700 |
| Numeric Command | 15 Minute Interval | Record Count 700 |
| Numeric Status | 15 Minute Interval | Record Count 700 |
| Numeric Effective Set Point | COV | Record Count 700 |
| Enumerated Command | COV | Record Count 700 |
| Enumerated Status | COV | Record Count 700 |
| String Status | COV | Record Count 700 |

1. These configurations should allow for 1.5 weeks of point history to be stored in the JACE.

## 5. ALARM EXTENSION CONFIG STANDARD

A. The station contains 5 alarm classes; The AlarmService wiresheet shall only have the following objects:

- Default Alarm Class
- GeneralAlarmClass
- CriticalAlarmClass
- CtrlrDownAlarmClass
- SecurityAlarmClass
- SystemConsoleRecipient
- StantionRecipient (Set to “nia01”)
- TotalAlarmsQuery
- TotalAlarms
- ContDownQuery
- ControllersDown




All alarms should be set to the following (All Command Failure Alarms most be placed and displayed on the status not the command):

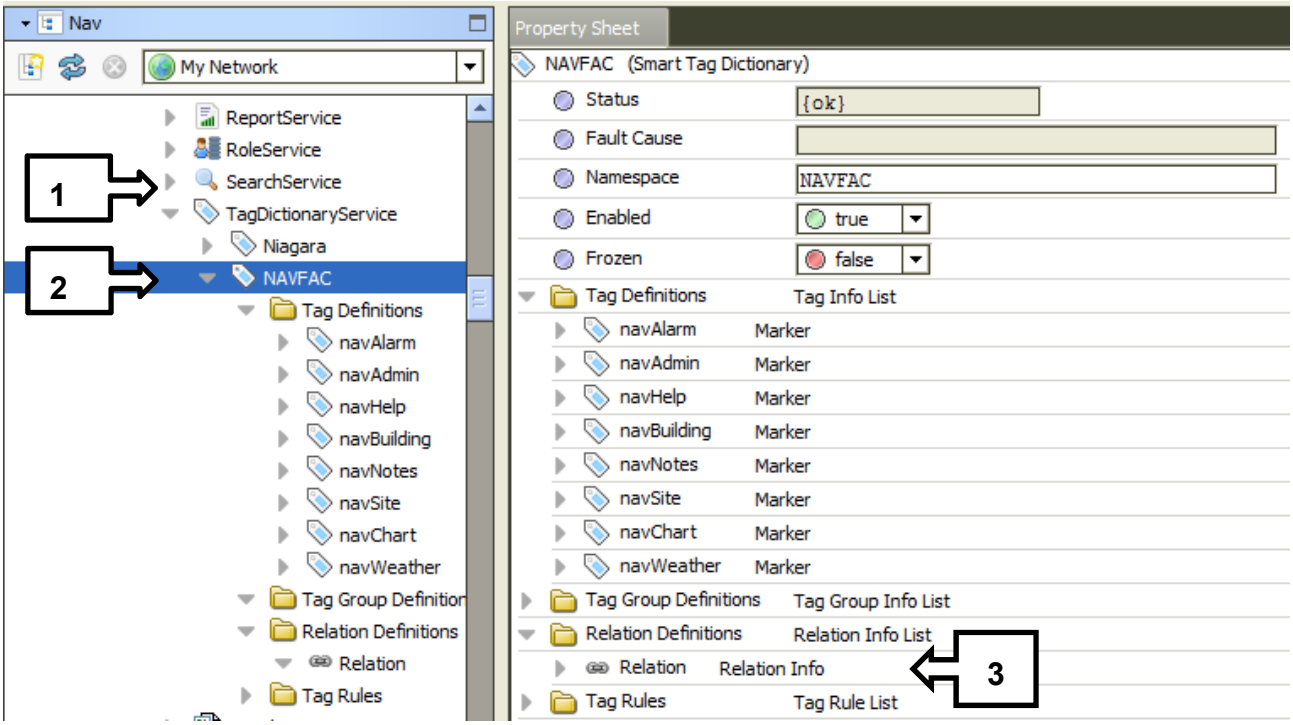
- Source Name- %parent.parent.parent.name%%parent.name%

- Source Name (For CtrlrDownAlarmClass )- %parent.parent.name% Controller
- To Fault Text- %alarmData.sourceName% Is In Fault !!!
- To Offnormal Text- %alarmData.sourceName% Is In Alarm !!!
- To Normal Text- %alarmData.sourceName% Returned To Normal

1. Default Alarm Class (Niagara default) shall not be used for any alarm point.
2. GeneralAlarmClass, priority 255, 5 minute delay hyperlinked to unit graphic.
   a. Any point indicated as “Alarm” or “Shutdown” and Command Failure Alarms.
3. CriticalAlarmClass, priority 1, 1 minute delay hyperlinked to unit graphic.
   a. Specified by Government representative
4. CtrlrDownAlarmClass, priority 30, 15 minute delay hyperlinked to Bldg Status Report graphic.
   a. Controller not communicating to the JACE
5. SecurityAlarmClass, priority 20, 5 minute delay hyperlinked to main graphic.
   a. Specified by Government representative

## 6. TAGNAME DICTIONARY, THE HEIRARCHY CONFIGURATION, AND RELATIONS

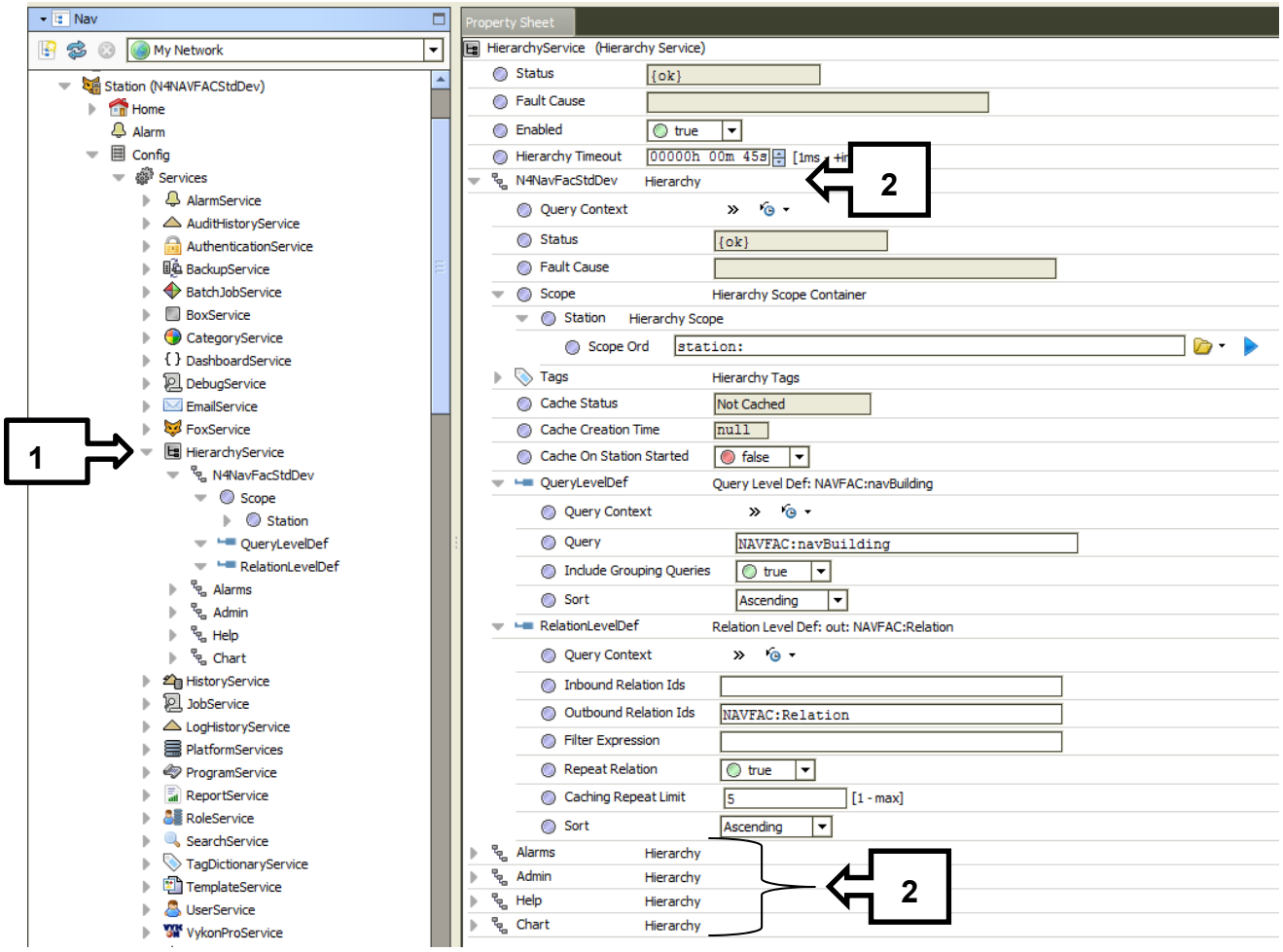
A. The NAVFAC Tag Dictionary



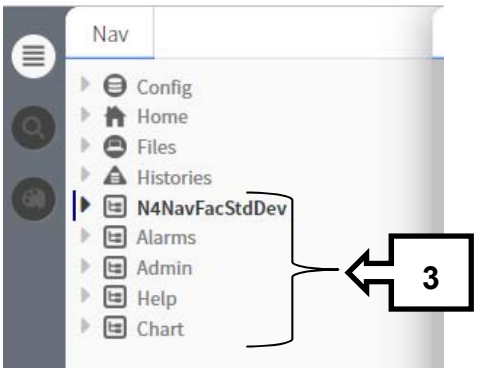

1. The NAVFAC Tag Dictionary is located within the TagDictionaryService in the template station. This is a Niagara 4 *Smart Tag Dictionary* that contains the Tag Definitions, Relation Definitions, and Tag Rules that will assist the contractor with the implementation of metadata tags which that NAVFAC requires for their buildings. These tags will be used with the HierarcyService at the building level to create the foundation of a Hierarchal navigation tree.
2. Each individual Tag Dictionary has its own Namespace – the unique identifier that you can use to identify tags within a specific Tag Dictionary – NAVFAC’s is “NAVFAC”.
3. NAVFAC Relation Definition named “Relation” used to relate components for navigation purposes.
4. ***The NAVFAC Tag Dictionary is also governed by a revision level – a string property named “rev” exists at the root level of the Dictionary that identifies the revision of the Dictionary. This revision number directly corresponds to the revision of the Object Naming and Tags

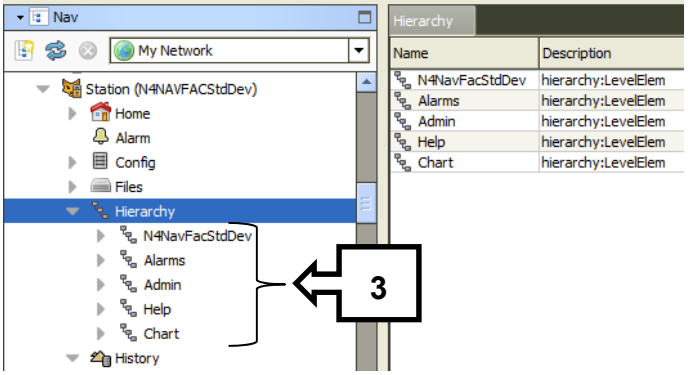
spreadsheet. The latest revision of the Dictionary is contained within the template station. Contractors are required to use the latest revision level of Stanford Tag Dictionary at the time of their installation. (can we implement this slot?)***

**7.** The Hierarchy configuration

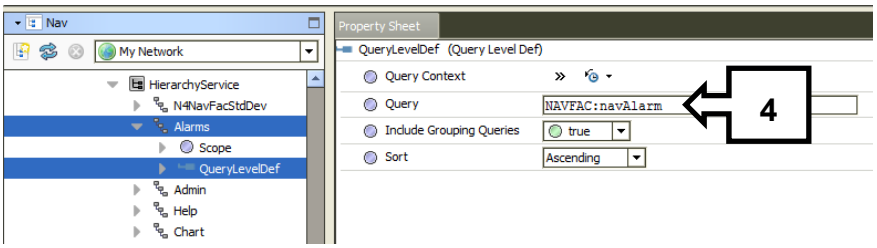



1. The HierarchyService is used to define the Hierarchies and configure tag queries and relation levels that build the Navigation Tree for each Hierarchy.
2. The template station has the standard NAVFAC Hierarchies already configured to query the NAVFAC tags and Relations.



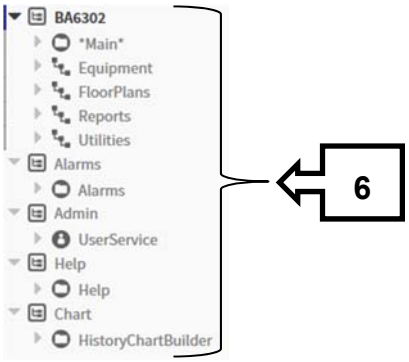




3. These five Hierarchies are seen in the “Nav” bar when using a web browser and Workbench as allowed by the user “Role” configuration. Expanding any of these items will identify components that are tagged with matching criteria contained in the query of the individual Hierarchy.

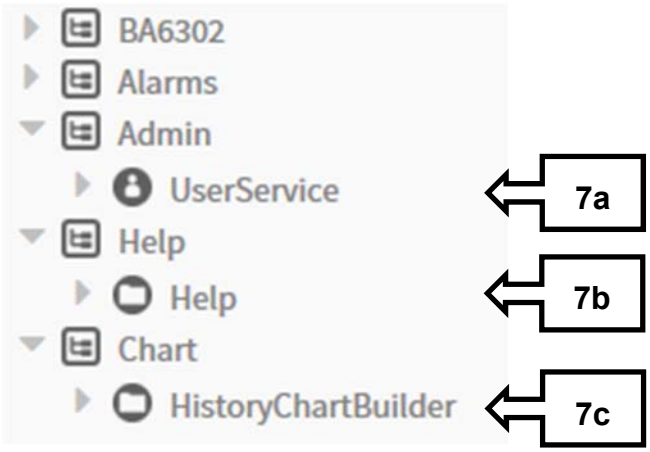



4. Here we see that the “Alarms” Hierarchy contains a query for items tagged “NAVFAC:navAlarm”.


5. A database search for that tag finds that tag in these three components.




6. This is the result as seen in the web browser and Workbench.

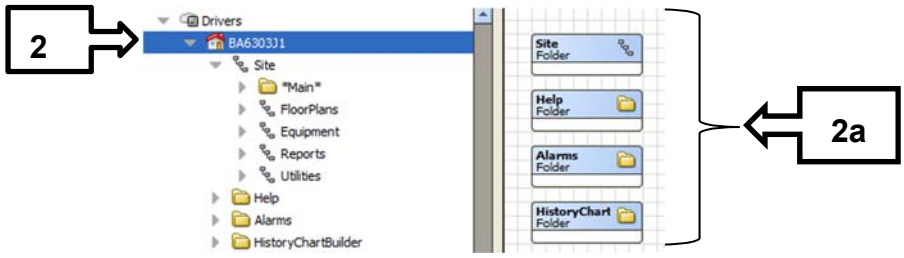



7. Similar queries are configured in the template station for the other Hierarchies and the results as seen in a web browser;
   a. The “Admin” Hierarchy has a query for “NAVFAC:navAdmin”
   b. The “Help” Hierarchy has a query for “NAVFAC:navHelp”
   c. The “Chart” Hierarchy has a query for “NAVFAC:navChart”

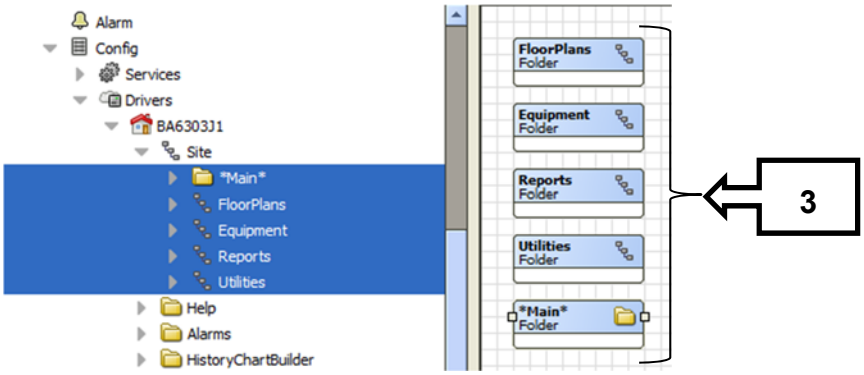
B. Relations

1. Relations are a type of link that are used to link between components in the database to show how the certain components are related to one another. These “Relation” links are manually

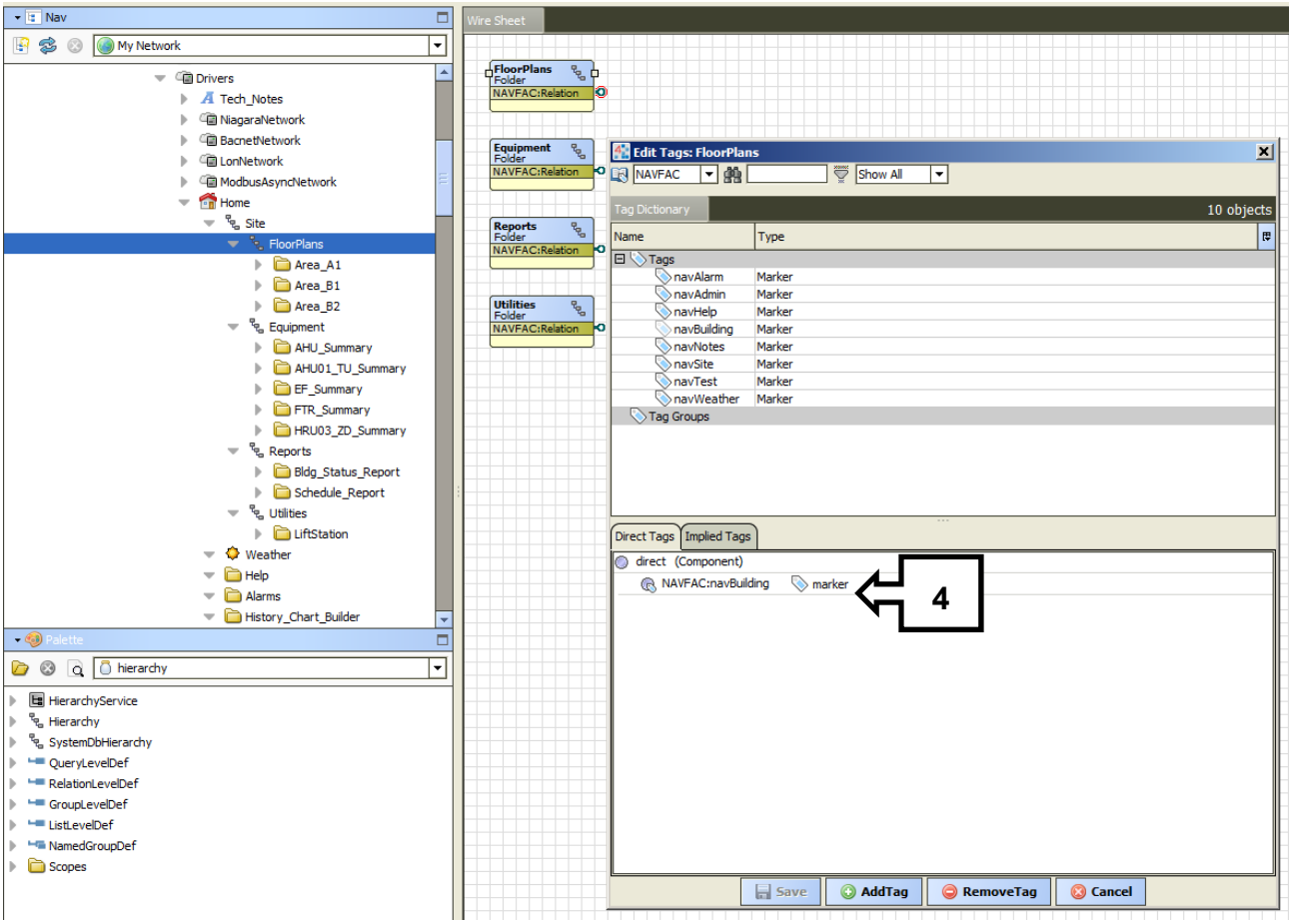
created by the programmer to build the navigation for the building specific mechanical systems, floor plan graphics, reports and Utilities.



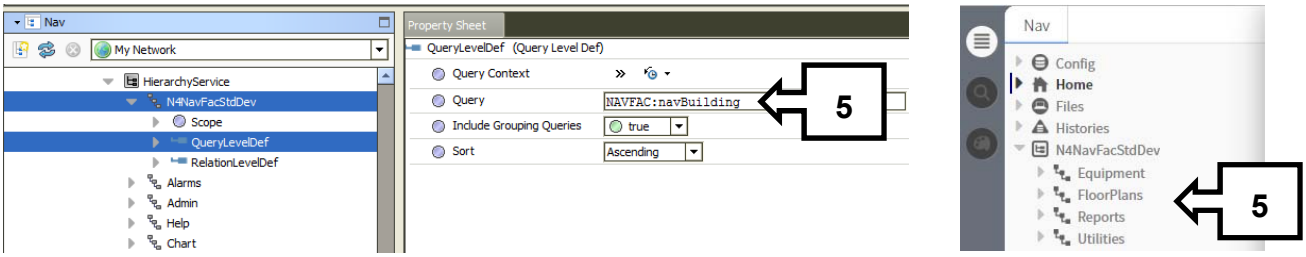

2. The template station has a group of folders located in the “Drivers” folder that are tagged and/or have relations which are also used to configure the Hierarchy tree. The root folder is named “Home”.
   a. Sub-folders of the “Home” folder are; “Site”, “Help”, “Alarms” and “HistoryChartBuilder”. The “Site” folder is not “tagged”, but the other folders are tagged as follows;
      1). The “Site” folder is not tagged
      2). The “Help” folder is tagged with “NAVFAC:navHelp”
      3). The “Alarms” Folder is tagged with “NAVFAC:navAlarms”
      4). The “HistoryChartBuilder” folder is tagged with “NAVFAC:navChart”



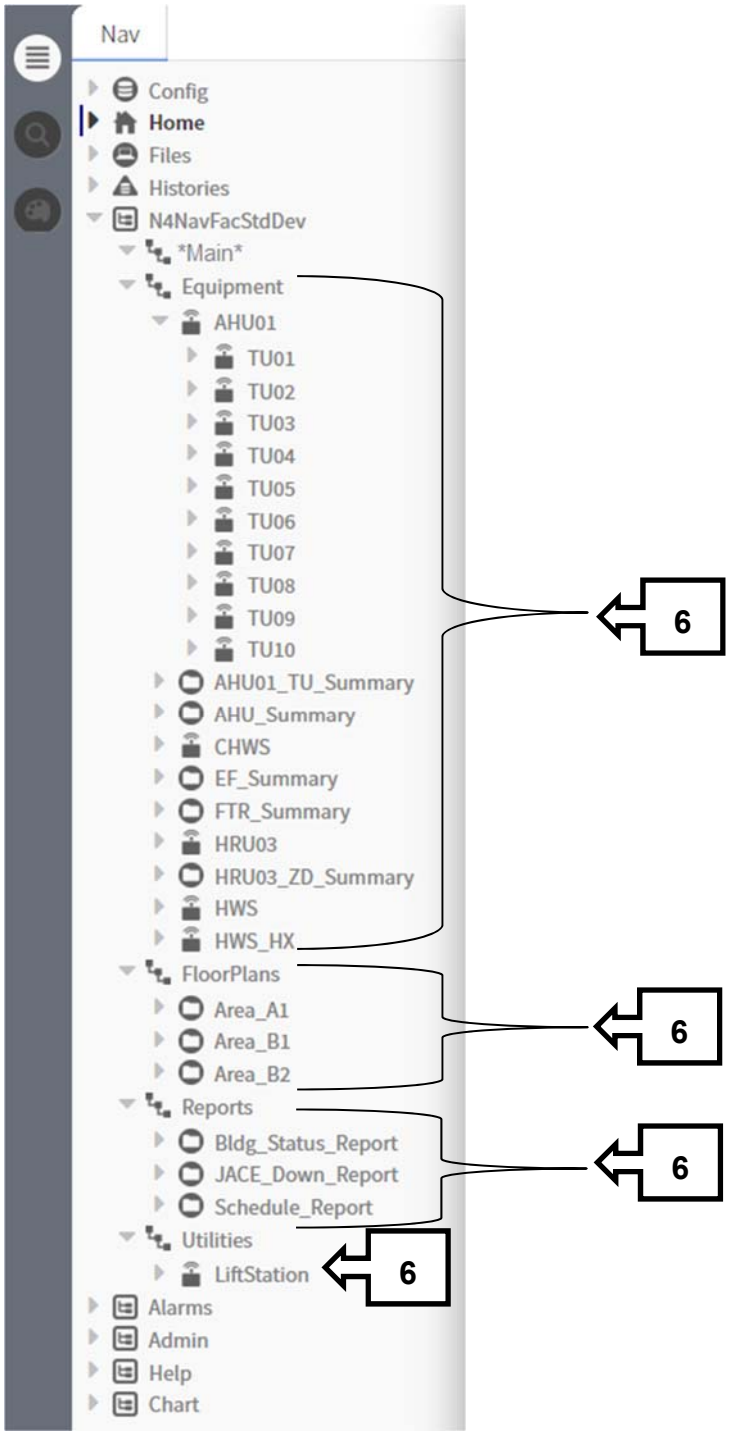

3. The “Site” folder contains four main building sub-folders;
   a. *Main* - Px View graphic hyperlink going to the Main Page.
      1). The “*” are added to push the “Main” to the top of the hierarchy.
      2). *Main* folder is used when there are multiple buildings in one JACE. If there is only one building in the JACE the “Home” button will suffice.
   b. Floor Plans
   c. Equipment
   d. Reports
   e. Utilities




4. Each of these sub-folders are tagged with a NAVFAC:navBuilding tag. (This image only shows the “FloorPlans” folder tags, but the other folders are exactly the same.)

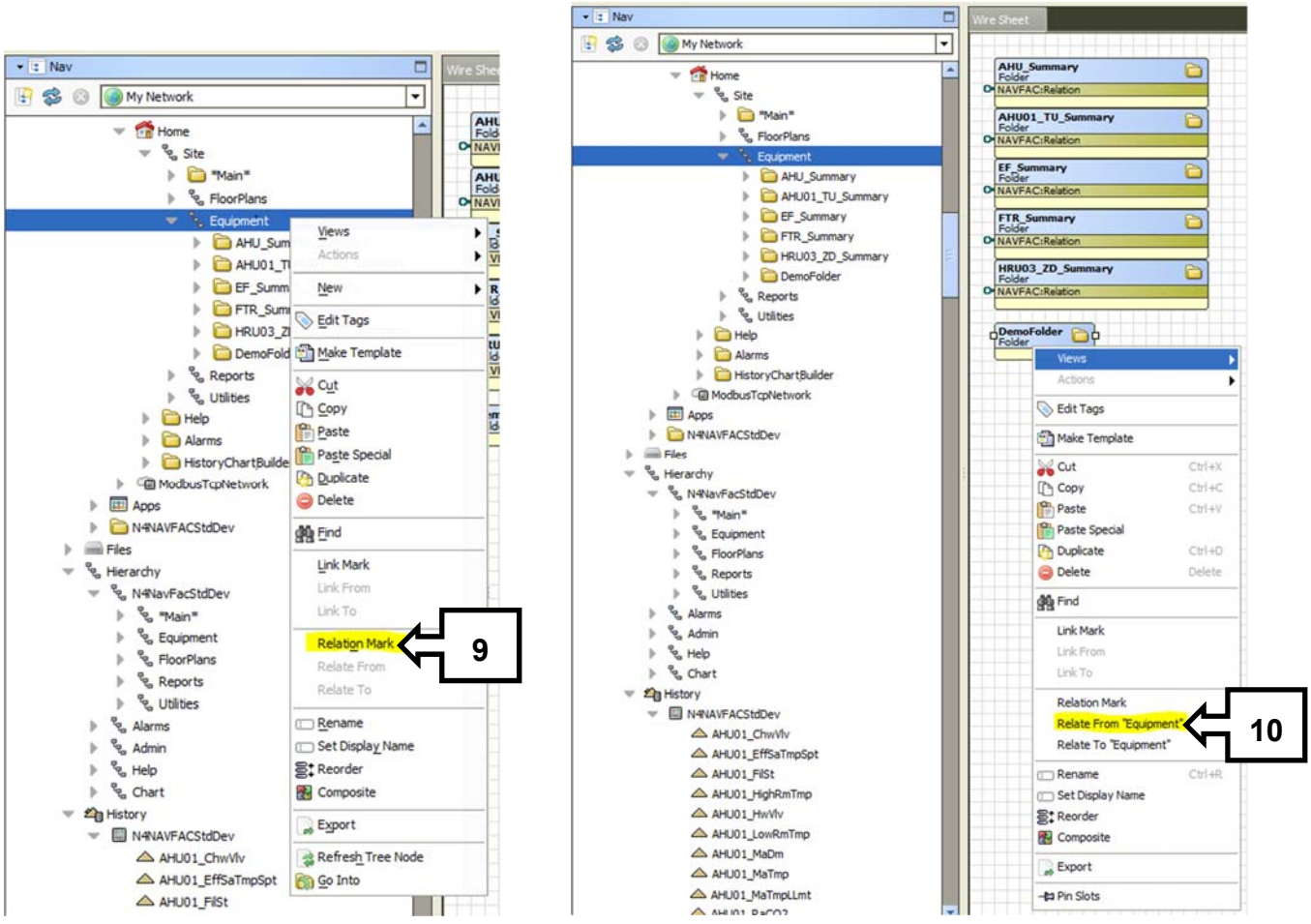



5. The Hierarchy for the building finds the folders with the NAVFAC:navBuilding tags and displays them under that folder.

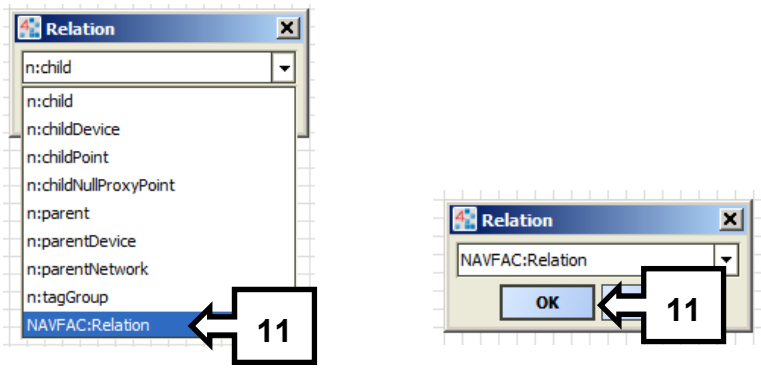



6. However, the folders below each of the four main folders are displayed because of the relation links that were created.

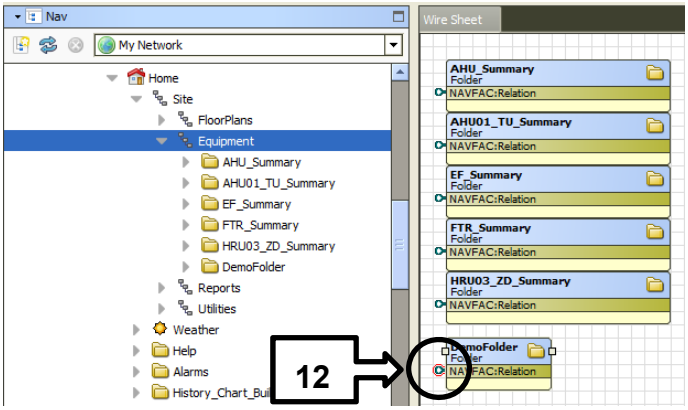

7. Folders are added under any of the main folders. These are organized by each type of system and group of equipment, floor plan graphic grouping and main report options. In this image we see systems in the template station.
8. Each of these folders has a “Relation” link to the parent folder.

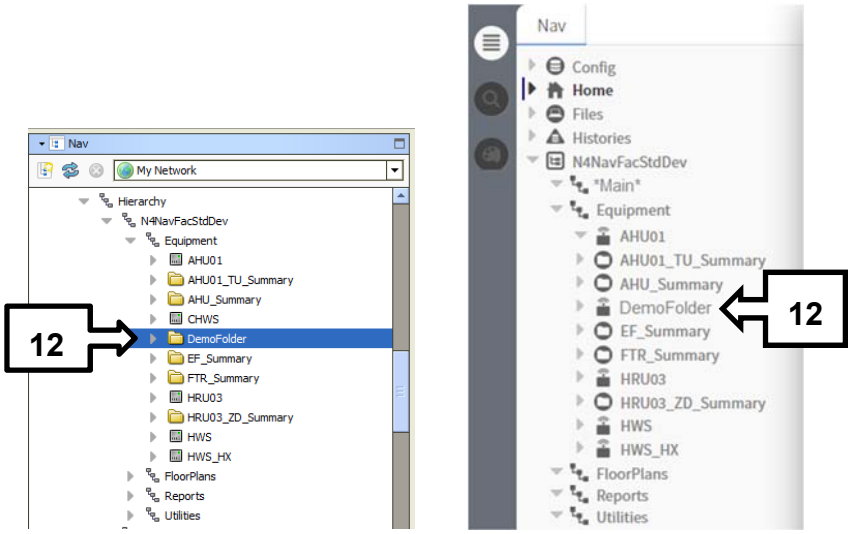



9. To create a relation link, you right click on the folder that you want to contain the content and select “Relation Mark”.
10. Then you right click on the folder that you want to “relate” to that folder and select “Relate From (*your folder name here*)”

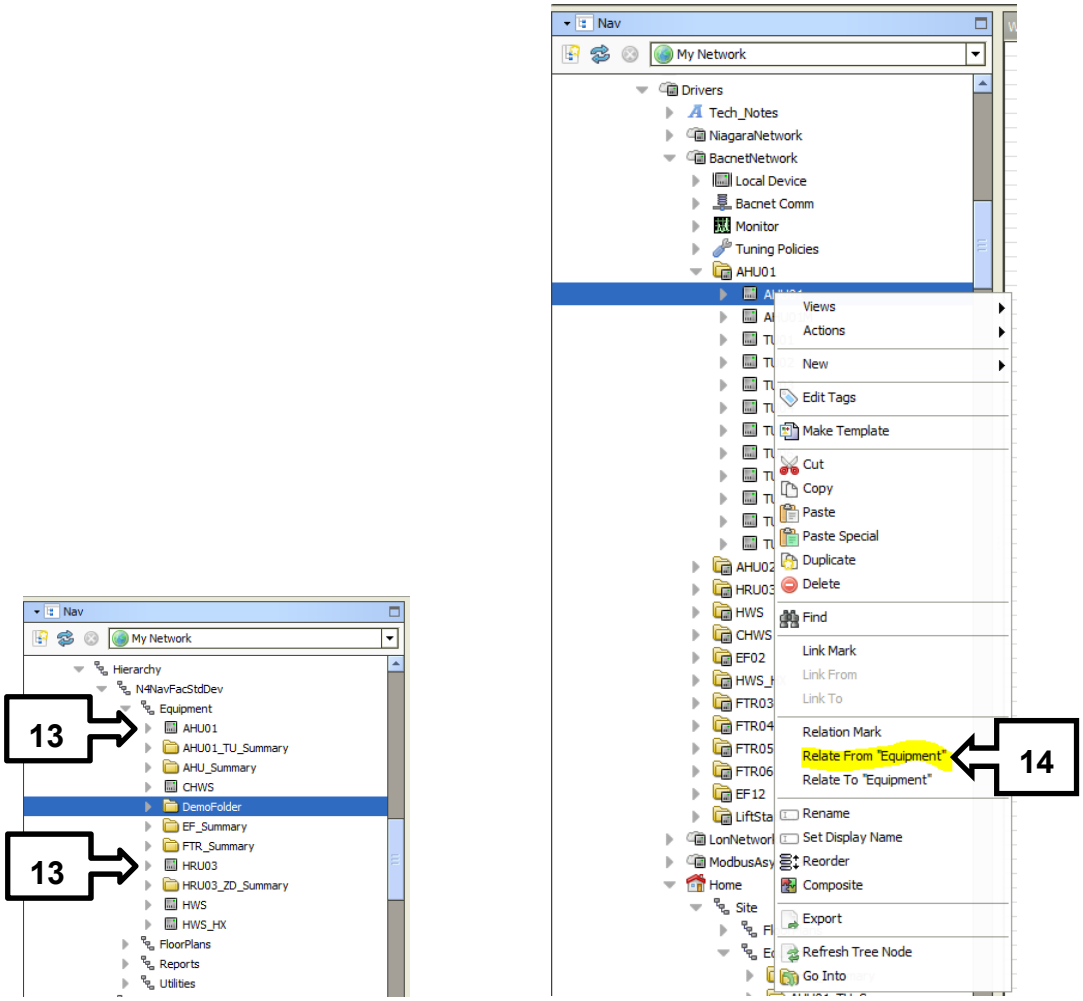



11. Then select the “NAVFAC:Relation” and click “OK”.

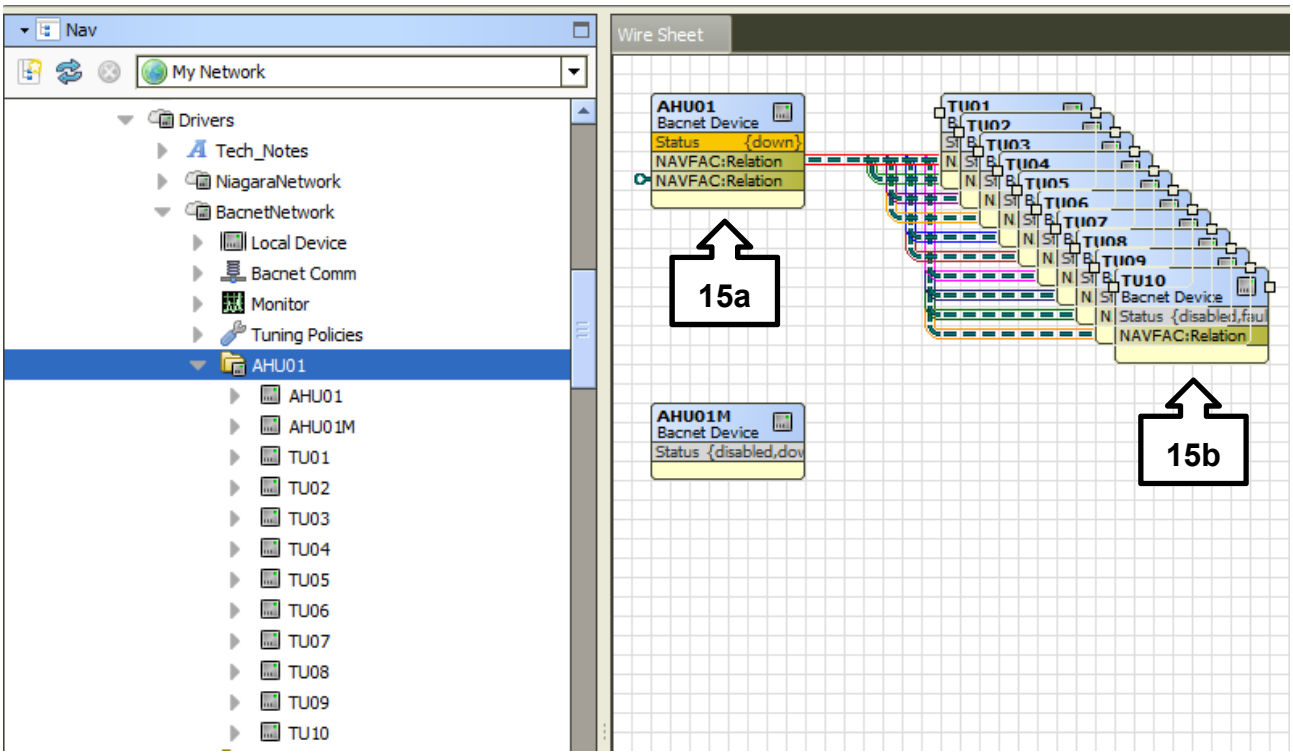


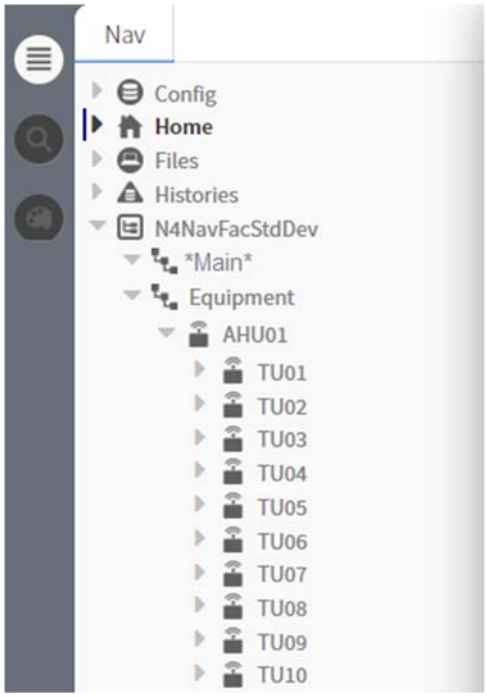

12. You will see your new “Relation link” on the left side of the folder and you should see the results in the Hierarchy trees in Workbench and the web browser.




13. The devices listed in the Equipment folder are done the much the same way.
14. “Relation Mark” your “Equipment” folder. Then right click on your device object that has the graphic view and select “Relate From Equipment”.




15. Sub devices (such as VAVs) can also be related to “Device” objects in the same way.
    a. Right click the device object and select “Relation Mark”.
    b. Then select all of the VAVs that you want to relate to the AHU, right click on the group of VAVs and select “Relate To AHU” to relate them all at once.




This presents all of the selected VAV’s under the air handler that serves them.

**END**

# APPENDICES A – D

Version 4.0a Issued: May 07, 2020

All changes in this version are marked \4.0\.../4.0/

**Revision Log:**

| Appendix Changed | Date/Version | Description |
|---|---|---|
| (throughout) | APRIL 2018 | General: "CS" (Industrial Control System) changed to "UMCS" (Control System) to align with NAVFAC nomenclature used enterprise-wide. |
| A | NOVEMBER 2018 | • Added note that all FPT shall be done through Windows Explorer and not programming software.Added VFD common ground inspection. |
| B | NOVEMBER 2018 | • Added requirement for graphics to be stored/located on the supervisory controller/Niagara Framework Supervisory Gateway.<br>• Added requirement to prevent stale values from displaying by requiring the use of direct proxy points. |
| D | NOVEMBER 2018 | • Added Manchester to naming convention list. |
| B, C, D, E, F, and G | MAY 2020<br><br>Version 4.0 | • Deleted prior Appendices:Graphical User Interface Standard RequirementsGraphical Page Content ExamplesRevised prior Appendix E "Point Naming Conventions" to Appendix B "Supervisory Controller Naming Convention"Revised prior Appendix F "Trending and Alarm Requirements" to to Appendix C "Alarm Requirements"Renamed prior Appendix G "NAVFAC NW UMCS IA Addendum" to Appendix D. |

Appendices Table of Contents:

# APPENDIX A:
# Pre-Functional and Functional Performance Test Checklists

## UMCS Pre-Functional Tests

| Item To Check: | Was It Compliant? Y/N | Was it left Compliant? Y/N |
|---|---|---|
| Was the “DB loss” test run on the fiber acceptable? | | |
| Verify all trend and histories meet approved naming conventions. | | |
| \3.2\Are the VFD’s associated with a single system trunk or communication segment on a common ground?/3.2/ | | |

## UMCS Functional Performance Tests

Note: All FPT shall be done via Windows Explorer.

| Item To Check: | Was It Compliant? Y/N | Was it left Compliant? Y/N |
|---|---|---|
| Does the intrusion alarm generate an alarm on the alarm portal? | | |
| Verify alarm source name nomenclature is correct and that the hyperlink ord is for the correct alarmed component. | | |
| Generate a different alarm: Did it display on the alarm portal? | | |
| Is this building or facility on the base or installation graphic? | | |
| Is the building’s supervisory controller communicating across the network? | | |
| Do the graphics display correctly at the central operator workstation? | | |
| Run a diagnostic review of the facility via Skyspark. Did it find data? | | |
| Is the facility’s data stored in the archive server? | | |
| | | |

\4.0\~~APPENDIX B: Graphical User Interface Standard Requirements~~/4.0/

\4.0\~~APPENDIX C: Graphical Page Content Examples~~/4.0/

# APPENDIX \4.0\D B: ~~Point Naming Conventions~~
## Supervisory Gateway Installation Code/4.0/

The following codes are used in the Niagara Framework Supervisory Gateway station name to designate the installation location. See "*NAVFAC NW Niagara 4 Requirements*" document, paragraph 2.III.d for the rest of the station naming convention.

| Installation - Long Name | Installation – 2 Characters for Station Name |
|---|---|
| Naval Base Kitsap - Bangor | BA |
| Dabob Bay Range Complex - Bolton Peninsula | DB |
| Bremerton Railroad | BX |
| Camp McKean Recreation Area | CK |
| Camp Wesley Harris | CW |
| Naval Magazine Indian Island | IN |
| Naval Air Station Whidbey Island - Dugualla Bay | WD |
| Blyn Lookout, WA | BL |
| USCG AS Port Angeles - Ediz Hook | EZ |
| Gold Mountain, WA | AU |
| Naval Base Kitsap - Jackson Park & Naval Hospital Bremerton | JP |
| Naval Radio Station Jim Creek | JC |
| Kalaloch Ranger Station - Quinault Underwater Tracking Range | KA |
| Naval Base Kitsap - Keyport | KY |
| Naval Air Station Whidbey Island - Lake Hancock | WL |
| Naval Base Kitsap - Manchester Fuel Depot | MA |
| Smokey Point Fleet and Family Support Complex | SP |
| Naval Air Station Whidbey Island - Ault Field | WA |
| Naval Base Kitsap - Bremerton | BR |
| Navy Operational Support Center - Spokane, WA | SW |
| Naval Station Everett | EV |
| Dabob Bay Range Complex - Octopus Mountain | DO |
| Navy Outlying Field Coupeville | CV |
| Pacific Beach Resort and Conference Center | PB |
| Pacific Beach Resort and Conference Center - Site 2 | PC |
| Pacific Beach Resort and Conference Center - Site 3 | PD |
| Naval Base Kitsap - Bremerton - Park Avenue Garage | BG |
| Seattle Pier 91 Annex | PA |
| Dabob Bay Range Complex - Pulali Point | DP |
| Naval Air Station Whidbey Island - Racon Hill | WR |
| Naval Air Station Whidbey Island - Seaplane Base | WS |
| Naval Base Kitsap - Puget Sound Naval Shipyard | PS |
| Dabob Bay Range Complex - Sylopash Point | DS |
| Dabob Bay Range Complex - Toandos Peninsula | DT |
| Dabob Bay Range Complex - Whitney Point | DW |
| Dabob Bay Range Complex - Zelatched Point | DZ |

## Trending Requirements

| Point | Trend Type | Trend Interval |
|---|---|---|
| RTAC Synchrophasors – all phases | Interval | 1 hour |
| RTAC Synchrophasors – frequency | Interval | 1 hour |
| RTAC Synchrophasors – power factor | Interval | 1 hour |
| I/O Synchrophasors – circuit breaker status | COV (note 1) | n/a |
| I/O Synchrophasors – circuit breaker truck-operated | COV (note 1) | n/a |
| | | |

Legend:

- COV: Change of Value
- n/a: Not applicable

Notes:

1. Record value at least once every 24 hours even if no change of value.

## Alarm Requirements

\4.0\See Section “Alarm Extension Config Standard” for more information about alarm processing. NAVFAC NW has established four levels of alarm:

- General, Critical, Controller Down, and Security./4.0/

| **Point** | **Type** | **Condition** | **Delay** | \4.0**Class** |
|---|---|---|---|---|
| Equipment Status (fan, boiler, pump, single unit) | COV | Status and Command Differ | 30 seconds | Critical |
| Valve or Damper Status | COV | Status and Command Differ | 30 seconds | Critical |
| Space Temperature (normal spaces) | Floating | Greater than 2 deg F above or below setpoint. | 30 minutes | General |
| Space Temperature (critical spaces for temperature control) | Floating | Greater than 2 deg F above or below setpoint. | 5 minutes | Critical |
| Discharge Air Temperature (DAT) for DAT-controlled equipment | Floating | Greater than 2 deg F above or below setpoint. | 15 minutes | General |
| Discharge Air Temperature for space temperature controlled equipment | Fixed | Greater than 100 deg F or less than 50 deg F | 5 minutes | Critical |
| Mixed Air Temperature | Fixed | Less than 45 deg F | 5 minutes | Critical |
| CO2 | Fixed | Greater than 1200 parts per million | 15 minutes | General |
| Relative Humidity (%) | Fixed | Greater than 65% or less than 30% | 30 minutes | General |
| Discharge Duct Static Pressure | Floating | Greater or less than 0.2 in. w.g. from setpoint | 5 minutes | General |
| Building Static Pressure | Floating | Greater or less than 0.02 in. w.g. from setpoint | 5 minutes | General |
| Differential pressure (fluid) | Floating | Greater or less than 5 psi from setpoint | 10 minutes | General |
| Filter Status (pressure switch) | | Pressure Switch active | 30 seconds | General |
| Smoke Detector/Fire Alarm Control Panel | COV | Detector Active | 0 seconds | Critical |
| Electrical substation relays | COV | Alarm contact active | 0 seconds | Critical |
| Locked Enclosure | COV (to open) | Alarm activation | 0 seconds | Critical/4.0/ |

# NAVFAC NW UMCS IA Addendum

In addition to the mandated annual DISA Information Assurance training, the following regulations will apply to all NAVFAC NW Utility Monitoring and Control Systems (UMCS) Users.

1. The use of USB thumb drives, memory sticks and camera flash memory is prohibited from being connected to any government system.

2. Non-government computers are prohibited from being connected to the NAVFAC NW UMCS network.

3. All users shall log in to an UMCS government network with a domain account; with the exception of the system administrator who may use a local administrator account to perform duties as needed.

4. Government laptops may be moved between Navy government installations in the Northwest region but may not be taken to any other location.

5. Government UMCS computers may not be connected to any other network except for NAVFAC NW UMCS.

6. No UMCS government computer is to be connected to the internet.

7. No UMCS government computer may be modified without written consent of NAVFAC NW CIO. This includes installation of software.

8. No security measures may be bypassed or deactivated.

Note: Violation of this agreement will result in user account being deactivated.

_____

User Printed Name

_____ _____

User Signature Date