5 OPERATOR MAINTENANCE

5.1 Preventive Maintenance

The safety precautions described in Section 1.3 apply to the following preventive maintenance procedures. A correctly installed dispenser, given proper preventive maintenance attention, will seldom require emergency service. Perform the following checks on a regular basis:

- Check the dispenser for internal and external leaks regularly. Check nozzles, swivels, hoses, filters, and joints for leaks and wear. Have all defects repaired immediately.
- Do not abuse the hose by trying to stretch it to reach an automobile. This will cause early failure at the couplings.
- Keep the dispenser clean at all times. Use only mild soap and water with a soft cloth. Do not use gasoline or other petroleum-based products to clean the dispenser. Do not use abrasive cleaners on any part of the dispenser. All stainless steel surfaces require polishing with a non-abrasive silicone wax a minimum of three times per year to maintain a bright finish and prevent corrosion. If it is necessary to just wipe off the dispenser, use a damp cloth. See Section 5.3 for additional information on cleaning and corrosion prevention.

NOTE: Do not spray the dispenser with water.

- Before removing the bezel, wipe off any water lying along the top edge of the dispenser so it will not run inside when the bezel is removed.
- If the bezels must be removed during rainy weather, take care to prevent rain from getting inside the dispenser.
- Test the tank for water regularly. Water in petroleum is not only a source of engine trouble but will also cause damage to the dispenser.
- Check the nozzle boot switch operation. If this does not operate easily, too much force may be applied on the switch mechanisms, causing premature failure.
- Periodically check and lubricate all key lock cylinders and locking mechanisms.

5.2 Strainer/Filter

A dirty strainer screen and/or fuel filter will slow down the delivery of product. See Figure 2-3 for location. If the underground installation is new, it may be necessary to replace the filter and clean the strainer screen two or three times during the first few days of operation to remove installation debris and pipe sealant. After this, filter replacement and strainer cleaning should be performed periodically.

⚠ **WARNING**

Before removing the filter and strainer turn the power to the dispenser and submersible pump(s) off and close the emergency shut-off valves on the dispenser being serviced. Failure to do so may result in a hazardous condition that can result in serious injury. Loosen strainer cap or spin-on filter slightly and allow gasoline to drain into a plastic container until pressure is relieved. Return product to the appropriate underground tank.

5.1 Preventive Maintenance, continued

- The fuel filter is removed by unscrewing it (the same way an oil filter is removed from a car engine). Place a container under the filter to catch the product and sediment. To install the new filter, first apply a film of oil to the gasket and hand turn until gasket contacts base, then tighten one half turn. Open the emergency shut-off valve(s), turn the electrical power ON and check for leaks.

- Remove the strainer for cleaning by unscrewing the filter (or cap) and then pulling out the strainer. Place a container under the filter or cap to catch the petroleum and sediment. Wash the screen in gasoline and dislodge lint and other foreign particles with compressed air. Install the clean strainer and a new filter. Open the emergency shut-off valve(s), turn the electrical power ON and check for leaks.

NOTE: Replacement fuel filters must be UL recognized.

5.3 Cleaning And Corrosion Prevention Instructions

To properly care for your dispenser:

Step 1 Wash the dispenser frequently with a non-abrasive cloth and warm water mixed with a mild household cleaner (such as dishwashing liquid). The dispenser should then be wiped down with a clean damp cloth. Do not use a hose to rinse off the dispenser.

NOTE: Do not direct pressurized water (even from a garden hose) at the dispenser. Under no circumstances should power washers be used to clean the dispensers. This can force water into the electronic head and cause damage to the electronic components in the dispenser rendering it inoperative.

Do not use all-purpose cleaners on the surfaces of the dispenser. They may scratch the clear plastic, as well as break down the corrosion resistance of painted and stainless steel surfaces.

NOTE: Do not use gasoline or other petroleum-based products to clean the dispenser.

Step 2 Exposure to contaminants can cause a discoloration of the stainless steel panels (doors, column covers, etc.). If the discoloration persists after washing (as instructed above), the use of an abrasive powder cleaner is very effective in restoring the original shine.

Step 3 Two cleaners in particular are very effective and practical to use: ***Zud Heavy Duty Cleaner*** and ***Bar Keepers Friend***. They can both be found in most hardware/grocery stores. Follow the manufacturers' instructions for use and always rub in the direction of the brush finish to prevent scratching the stainless steel.

Periodic waxing of the dispenser surfaces is essential to maintain the original finish and inhibit corrosion. Stainless steel surfaces should be polished with a non-abrasive silicone wax. Painted surfaces should be waxed with an automotive wax or polish. We recommend that these surfaces be waxed or polished at least three times a year.

5.4 Vapor Recovery

All hoses, nozzles, breakaways, etc., must be CARB certified for use on Wayne vapor recovery dispensers.

5.4.1 Wayne Vac

See Section 2.15 and the Compliance Testing and Preventative Maintenance manual, p/n 917947.

5.4.2 Balance

Tears and slits and the balance nozzle vapor bellows will cause the vapor system to be in non-compliance. Replace or repair the nozzles as necessary.

The bellows face-plate (where nozzle seals on vehicle fuel tank) must make a good seal when inserted into the fuel tank. Damaged or warped faces are not acceptable and will cause the system to be in non-compliance. Replace or repair as necessary.

Wire clamps at top of the bellows may have critical placement to requirement to maintain compliance. If clamp is loose or broken, it must be replaced or repaired according to the nozzle manufacturer instructions.

To ensure on-going compliance of the balance system, once per year checks of the pressure drop and tightness of the system are recommended. These test are discussed in Section 2.14.

5.5 Meter Maintenance Issue

It is recommended that Wayne Fuel Meters be periodically checked for acceptable accuracy based on NCWM Handbook 44 under the General Code, G-UR.4 Maintenance Requirements and Liquid Measuring Device Code, Section 3.30.

If adjustment need to be made, one would follow the prescribed procedure in the service manuals for the respective equipment. All adjustments shall be made in accordance with G-UR.4 Maintenance Requirements of Handbook 44.

APPENDIX A

CAT SELF-TEST PROCEDURE

The following are instructions for testing the CAT (Customer Activated Terminal) on the dispenser.

1. CAT SYSTEM SELF-TEST

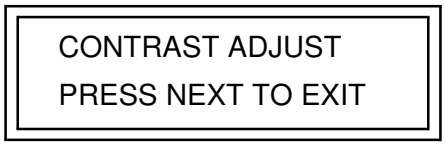
The following paragraphs provide instructions for testing and setting the address of the CAT. During the self-test, the system is designed to pause 25 seconds for a response to self-test prompts. When the 25 second time limit expires, the system automatically advances to either the next self-test or returns to the on-line mode.

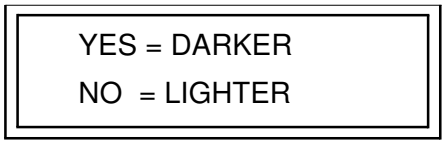
1.1. ENTERING SELF-TEST MODE

Step 1 Power down the CAT.

Step 2 Power up the CAT while holding down any key on the keypad until the alternating message below appears on the display.

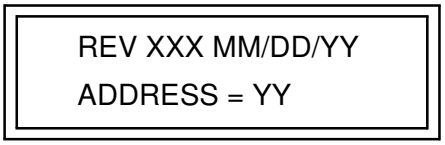
Step 3 Press the indicated key or press ENTER to continue to the next screen prompt.





1.2. SOFTWARE REVISION LEVEL AND DATA LINK ADDRESS

Step 1 Continue holding the key down until the "REV" message below appears on the display, then release. Once the system displays the "REV" message, the module has successfully entered the self-test mode.



The top row of information in the "REV" message display represents the module software revision. The bottom row is the current terminal address for the data link. Data link addresses are assigned to the module using the same number as the fueling point.

Step 2 If the CAT's data link address is correct, press the **ENTER** key. To change the address, enter the correct address number on the keypad and press **ENTER** (if the CAT is equipped with a DES keypad, the keypad revision will be displayed).

1.2 CAT SELF TEST, continued

Step 3 Verify that the Keypad revision and BCB revision levels are displayed on the screen. The BCB revision displayed will be the software revision of the BCB board or the QCAT board whichever applies.

Step 4 Press ENTER to continue.

```
KEYPAD REV __
```

```
BCB REV __
```

1.3. CONFIGURE CARD READER

When the system displays the prompt below, proceed as follows:

```
*CONFIGURE CARD READER
(Y/N)
```

Answering **YES** to the prompt causes the screen to display the prompt below

or

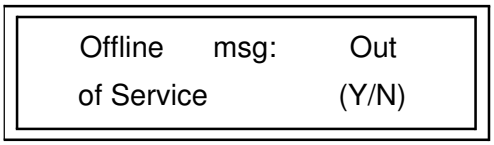
press **NO** on the keypad and the system automatically proceeds to the "Offline msg" prompt.

```
TRACK 1 OR 3
(1/3)
```

To answer the “Track 1 or 3" prompt, perform the following steps:

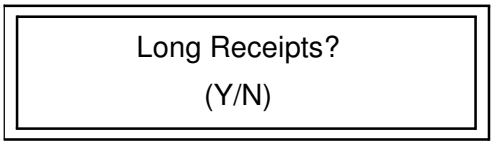
Step 1 Press **1** on the keypad.

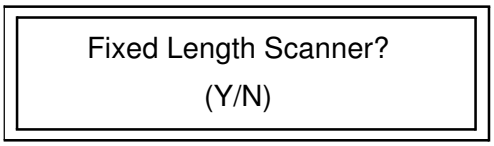
Step 2 Press the **ENTER** key and the following prompt will be displayed.

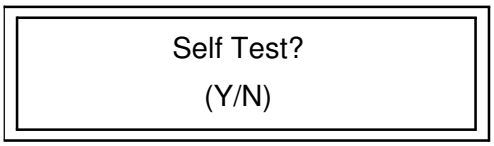


Step 3 Answer **NO** to the above prompt.

Step 4 Answer the following prompts as they appear:

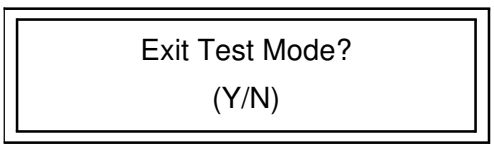






Answering YES to the above prompt will begin the display, printer and card reader self test as discussed on the following pages.

Answering NO to the above prompt will display the Exit Prompt shown below.



Answer YES to the above prompt to exit and return the CAT to normal operation.

Answer NO to the above prompt to return to the beginning of the Self Test mode.

1.4. DISPLAY SELF-TEST

A series of actions appear on the screen for the display self-test. Two rows of black squares followed by numbers and letters scroll from right to left across the screen during the display self-test.

1.5. PRINTER SELF-TEST

The message shown below appears continuously on the display screen during the printer self-test.

The printer self-test performs the following actions in sequence:

1. Advance the paper one half inch.
2. Print CAT information (ROM version, processor type, etc.)
3. Print five rows of characters followed by five more rows of slashes (\ and /).
4. Advance the paper one inch and cut the paper.

Once the paper is cut, the system automatically activates the card reader self-test.

1.6. CARD READER SELF-TEST

Any type of valid credit card can be used for the card reader test. The card reader self-test begins with the screen prompt shown below.

Step 1 Insert the card.
Once the credit card is inserted into the card reader, the CAT computer reads data from the card.

Step 2 Remove the credit card in one smooth continuous motion when the above prompt appears on the display screen.

1.6. CARD READER SELF-TEST, continued

A series of digits appear on lines 1 and 2 of the display screen. This information is the card data.

Step 3 Press the **NEXT** key and continue to the keypad self-test.

If either of the following prompts appear on the display screen, “TRACK READ ERROR” or “CARD READ ERROR”, the credit card is invalid. Depending on the type of invalid credit card, one or two rows of digits may appear on the display screen. To complete the card reader self-test, select a different credit card and repeat procedure. If the error message continues to be displayed, the card reader may need replacing.

1.7. KEYPAD SELF-TEST

Testing the CAT keypad requires the operator to select keys on the keypad and verify the information on the display screen. Refer to the Keypad Test table on the following page.

Complete the following steps to test the keypad.

Step 1 Press a key listed under the column heading Native Mode Key.

Step 2 Verify the two digit number on the display screen with the number listed under the column heading Keypad Coordinate.

The screen does not display a two digit number when the NEXT key is pressed. This key remains functional during the keypad self-test.

Step 3 Repeat Steps 1 and 2 until all of the keys are tested.

Step 4 Press the **NEXT** key to proceed to the memory self-test.

KEYPAD TEST

Native Mode Key	Keypad Coordinate
CLEAR	00
7	01
4	02
1	03
0	10
8	11
5	12
2	13
ENTER	20
9	21
6	22
3	23
CANCEL	30
NO	32
YES	33
NEXT	Proceed to memory test.

1.8. SYSTEM MEMORY SELF-TEST

A successful memory self-test will display the message below.

MEMORY OK

An unsuccessful memory self-test will display one of the following: “BIT 0" through “BIT 7". A BIT error message is an indication of a defective board in the CAT system. An example of a BIT error message that may appear on the display screen is shown below.

BIT 4

1.9. EXIT SELF-TEST MODE

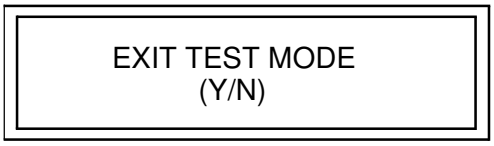
Once the system successfully completes the memory self-test, the exit prompt shown below appears on the screen.

Complete one of the following steps:

Press the **YES** key to exit the self-test mode,

or

Press the **NO** key to begin the self-test mode again.



APPENDIX B

SECTION RESERVED FOR FUTURE USE

APPENDIX C ENGINEERING DRAWINGS

3/Vista models have different base layouts (footprints) than previous Vista models, however, the installation wiring diagrams are the same.

Dispenser drawings appear in this section in the following order:

Model Number	Type	Drawing Number	Description
		1-7196-C	Lifting Instructions
3/V390D, 3/V390D/U	Remote	1-7243-C	Footprint
3/V590D/U, 3/V595D/U	Remote	2-7243-C	Footprint
3/V399D	Remote	3-7243-C	Footprint
3/V490D/U	Remote	4-7243-C	Footprint
3/V387D	Remote	5-7243-C	Footprint
3/V388D, 3/V389D	Remote	6-7243-C	Footprint
3/V580D, 3/V585D	Remote	7-7243-C	Footprint
3/V595D, except D/U	Remote	8-7243-C	Footprint
3/V490D, except D/U	Remote	9-7243-C	Footprint
3/V590D, except D/U	Remote	10-7243-C	Footprint
3/V591D	Remote	11-7243-C	Footprint
3/V590P/U, 3/V595P/U	Suction	9-7193-C	Footprint
3/V390P, 3/V390P/U	Suction	10-7193-C	Footprint
3/V399P	Suction	11-7193-C	Footprint
3/V591P, 3/V595P, except P/U	Suction	12-7193-C	Footprint
3/V387P	Suction	13-7193-C	Footprint
3/V389P	Suction	14-7193-C	Footprint
3/V580P, 3/V585P	Suction	15-7193-C	Footprint
3/V390D, except D/U	Remote	1-7157-C	Wiring Diagram
3/V389D, 3/V399D	Remote	2-7157-C	Wiring Diagram
3/V490D	Remote	3-7157-C	Wiring Diagram
Blenders, except 591D, 595D	Remote	4-7157-C	Wiring Diagram
3/V387D	Remote	5-7157-C	Wiring Diagram
3/V591D, 3/V595D, except D/U	Remote	10-7157-C	Wiring Diagram
3/V390D/U	Remote	13-7157-C	Wiring Diagram
3/V390P	Suction	6-7157-C	Wiring Diagram
3/V389P, 3/V399P	Suction	9-7157-C	Wiring Diagram
3/V590P/U, 3/V595P/U	Suction	19-7157-C	Wiring Diagram
		-7151-C	Typ Disp Site Wiring
		10196-B	Dimensional Drawing

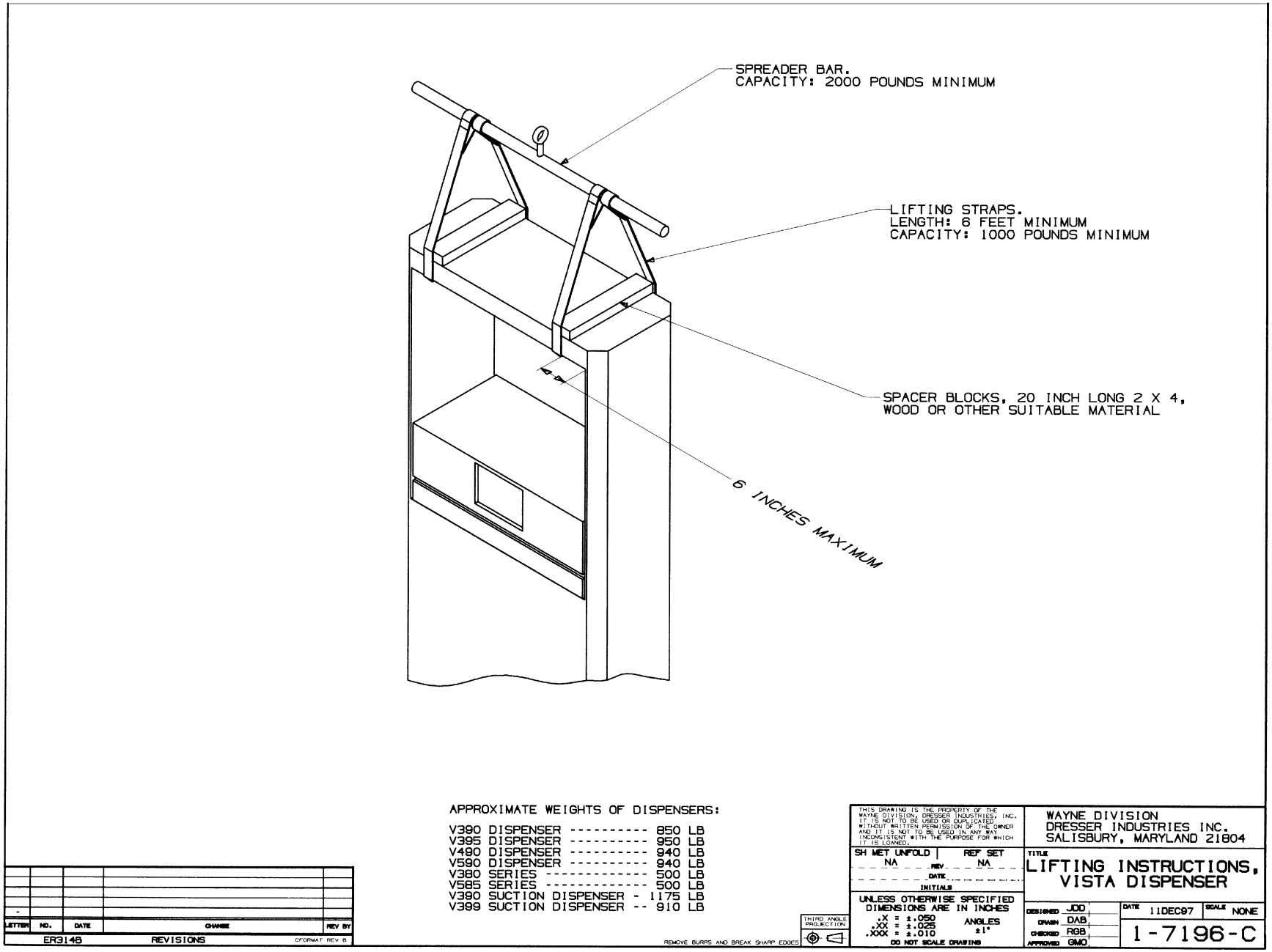
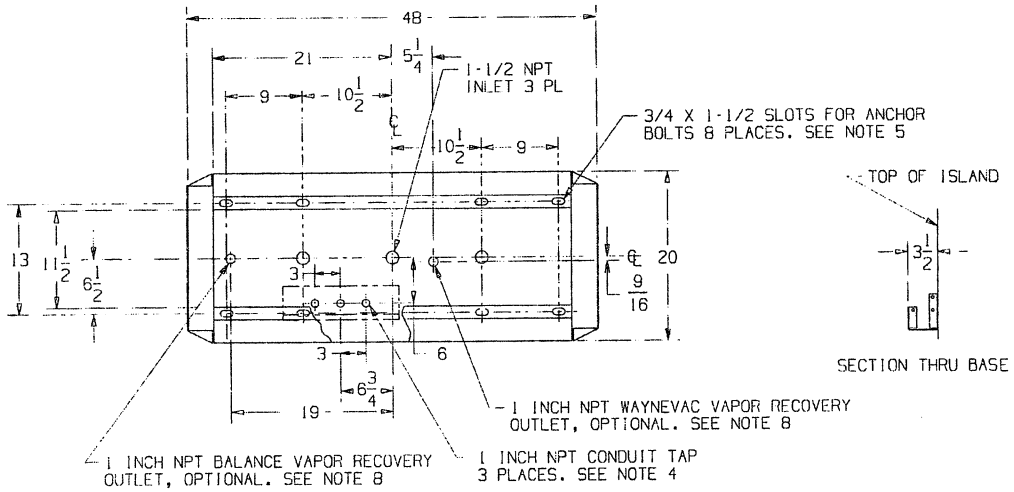


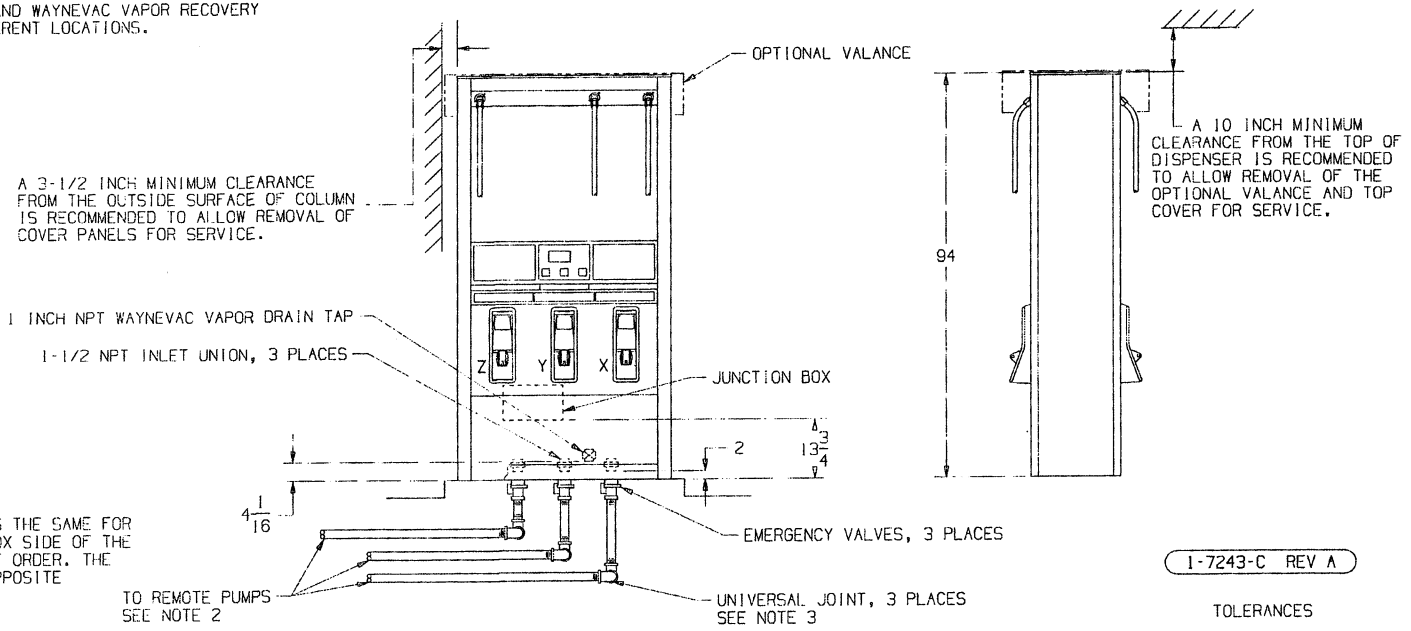
Figure C-1. 1-7196-C Vista Field Lifting Instruction

NOTES:

1. ALL PIPING AND ELECTRICAL INSTALLATIONS MUST CONFORM TO ALL APPLICABLE REGULATIONS INCLUDING NFPA30, FLAMMABLE & COMBUSTIBLE LIQUIDS CODE; NFPA30A, AUTOMOTIVE & MARINE SERVICE STATION CODE; NFPA70, NATIONAL ELECTRICAL CODE. DO NOT "DAISY CHAIN" THE DISPENSER POWER CIRCUIT TO ANY OTHER EQUIPMENT.
2. PIPING FROM TANK TO DISPENSER SHOULD SLOPE UPWARDS TO AVOID AIR OR LIQUID TRAPS.
3. USE UNIVERSAL JOINTS AT DISPENSER TO ALLOW FOR GROUND MOVEMENT.
4. USE ANY OR ALL CONDUIT TAPS SHOWN TO MAKE ELECTRICAL CONNECTIONS TO DISPENSER.
5. FIRMLY MOUNT THE DISPENSER TO THE ISLAND USING THE ANCHOR BOLT LOCATIONS SHOWN.
6. EMERGENCY SHUTOFF VALVES AND BREAKAWAY DEVICES ARE EXAMPLES OF REQUIREMENTS STATED IN THE NFPA30A AUTOMOTIVE & MARINE SERVICE STATION CODE. THESE, AS WELL AS ANY OTHER SAFETY DEVICES REQUIRED BY NFPA30 & 30A, MUST BE INSTALLED AND MAINTAINED PER THE MANUFACTURER'S INSTRUCTIONS.
7. OPTIONAL SPEAKER INSTALLATION WIRING IS LOCATED IN JUNCTION BOX. CONNECT INTERCOM CIRCUIT TO A LISTED CLASS 2 POWERED INTERCOM ONLY WITH 18 GAUGE MINIMUM, AT LEAST 90 DEGREE C, 600 V GAS & OIL RESISTANT UL LISTED WIRE. WIRES BACK TO INTERCOM POWER MUST BE RUN IN SEPARATE DEDICATED LISTED METALLIC CONDUIT.
8. BALANCE VAPOR RECOVERY AND WAYNEVAC VAPOR RECOVERY CONNECTIONS ARE IN DIFFERENT LOCATIONS.



BASE DIMENSIONS



PRODUCT ORIENTATION:

THE NOZZLE PRODUCT ORDER IS THE SAME FOR BOTH SIDES. THE JUNCTION BOX SIDE OF THE DISPENSER MATCHES THE INLET ORDER. THE NON-JUNCTION BOX SIDE IS OPPOSITE THE INLET ORDER.

JUNCTION BOX SIDE
3/V390D SHOWN

1-7243-C REV A

TOLERANCES

± 1/4 INCH

UNLESS OTHERWISE SPECIFIED

Figure C-2. 1-7243-C Installation Instructions - 3/V390D and 3/V390D/U (Remote)

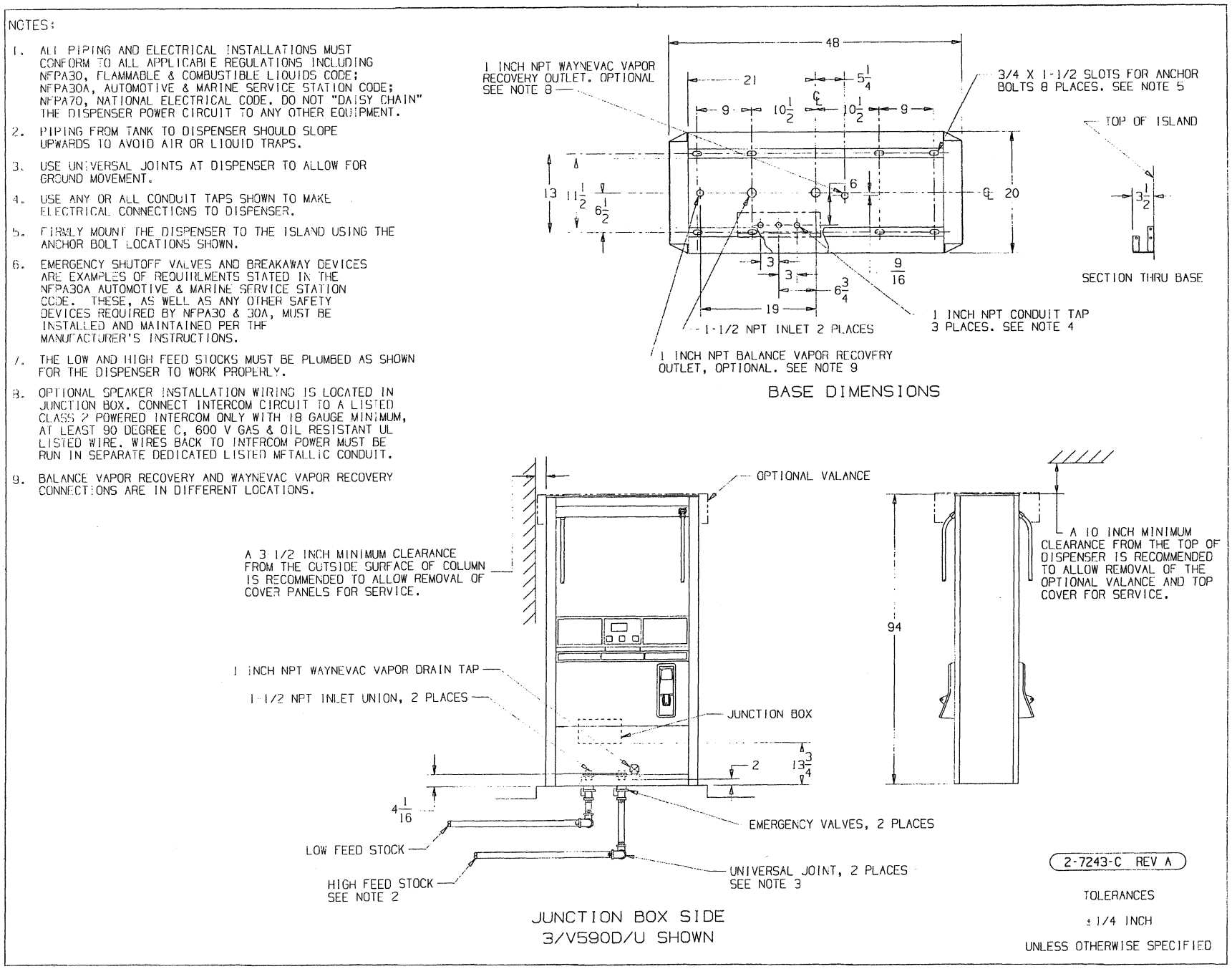
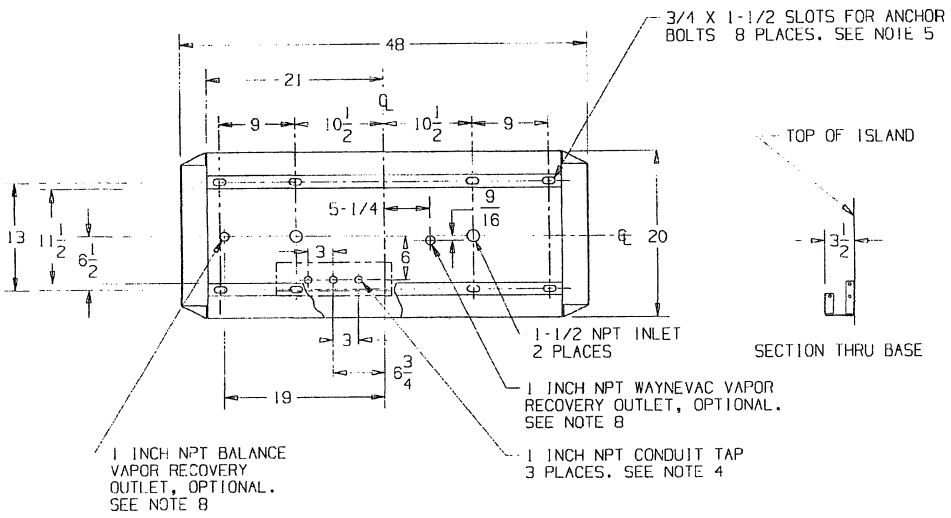


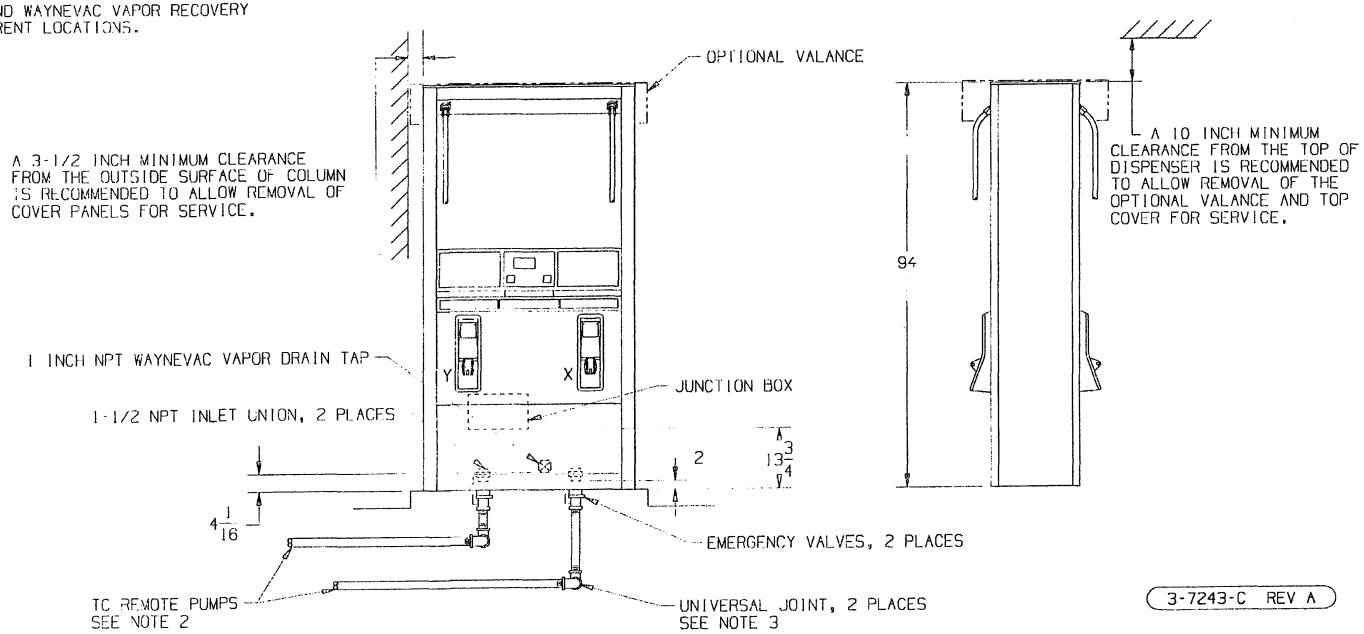
Figure C-3. 2-7243-C Installation Instructions - 3/V590D/U and 3/V595D/U (Remote)

NOTES:

1. ALL PIPING AND ELECTRICAL INSTALLATIONS MUST CONFORM TO ALL APPLICABLE REGULATIONS INCLUDING NFPA30, FLAMMABLE & COMBUSTIBLE LIQUIDS CODE; NFPA30A, AUTOMOTIVE & MARINE SERVICE STATION CODE; NFPA70, NATIONAL ELECTRICAL CODE. DO NOT "DAISY CHAIN" THE DISPENSER POWER CIRCUIT TO ANY OTHER EQUIPMENT.
2. PIPING FROM TANK TO DISPENSER SHOULD SLOPE UPWARDS TO AVOID AIR OR LIQUID TRAPS.
3. USE UNIVERSAL JOINTS AT DISPENSER TO ALLOW FOR GROUND MOVEMENT.
4. USE ANY OR ALL CONDUIT TAPS SHOWN TO MAKE ELECTRICAL CONNECTIONS TO DISPENSER.
5. FIRMLY MOUNT THE DISPENSER TO THE ISLAND USING THE ANCHOR BOLT LOCATIONS SHOWN.
6. EMERGENCY SHUTOFF VALVES AND BREAKAWAY DEVICES ARE EXAMPLES OF REQUIREMENTS STATED IN THE NFPA30A AUTOMOTIVE & MARINE SERVICE STATION CODE. THESE, AS WELL AS ANY OTHER SAFETY DEVICES REQUIRED BY NFPA30 & 30A, MUST BE INSTALLED AND MAINTAINED PER THE MANUFACTURER'S INSTRUCTIONS.
7. OPTIONAL SPEAKER INSTALLATION WIRING IS LOCATED IN JUNCTION BOX. CONNECT INTERCOM CIRCUIT TO A LISTED CLASS 2 POWERED INTERCOM ONLY WITH 18 GAUGE MINIMUM, AT LEAST 90 DEGREE C, 600 V GAS & OIL RESISTANT UL LISTED WIRE. WIRES BACK TO INTERCOM POWER MUST BE RUN IN SEPARATE DEDICATED LISTED METALLIC CONDUIT.
8. BALANCE VAPOR RECOVERY AND WAYNEVAC VAPOR RECOVERY CONNECTIONS ARE IN DIFFERENT LOCATIONS.



BASE DIMENSIONS



JUNCTION BOX SIDE

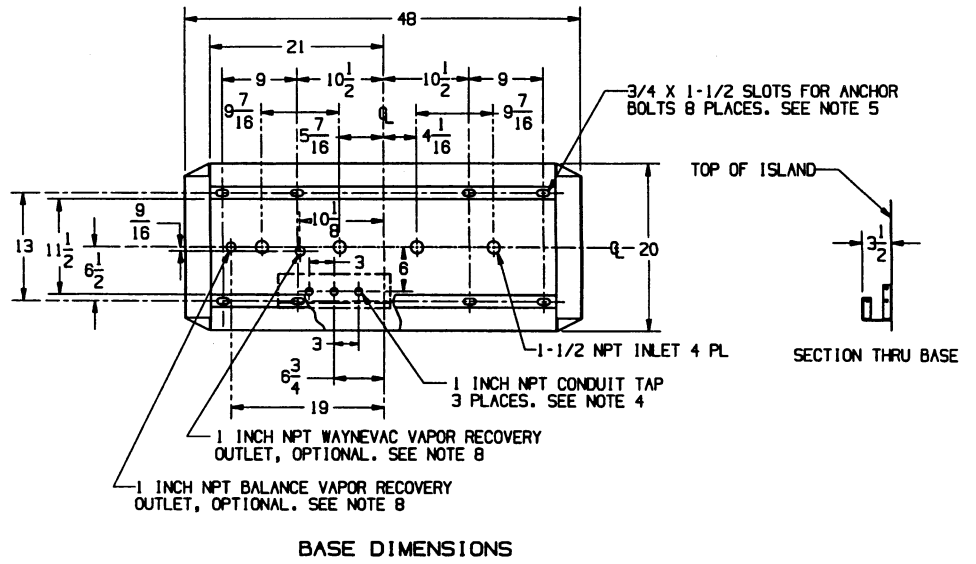
3-7243-C REV A

TOLERANCES
± 1/4 INCH
UNLESS OTHERWISE SPECIFIED

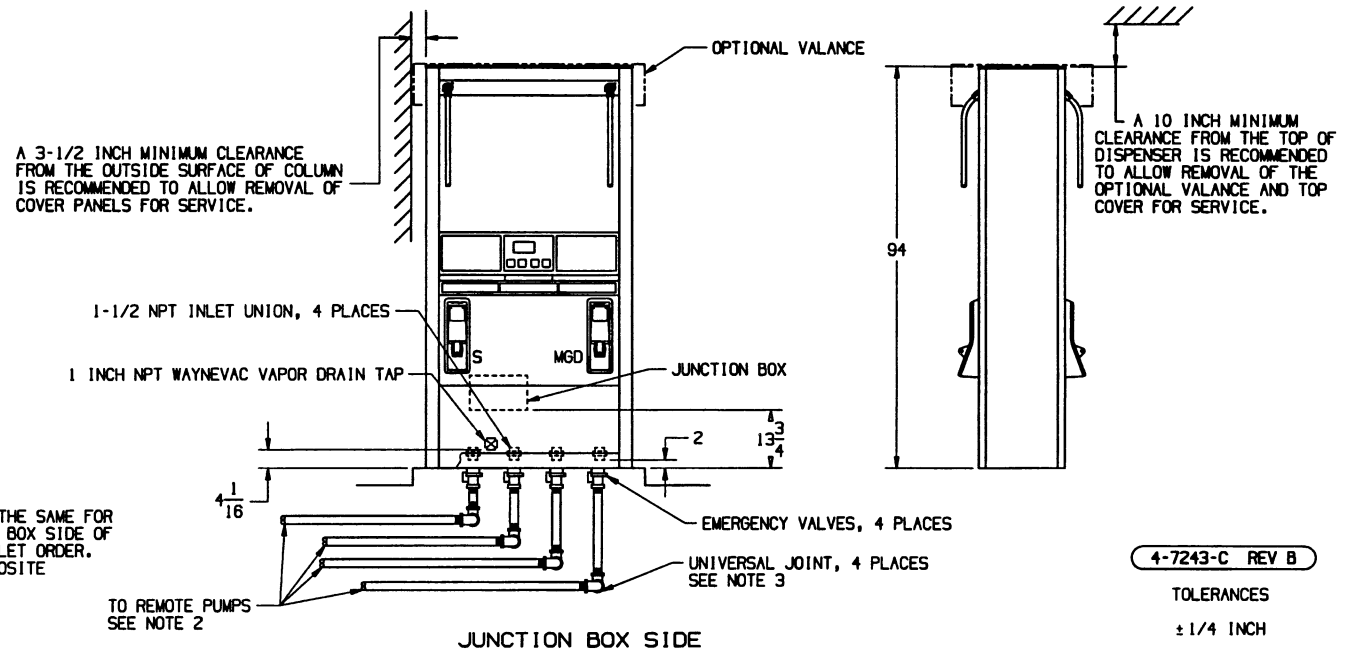
Figure C-4. 3-7243-C Installation Instructions - 3/V399D (Remote)

NOTES:

1. ALL PIPING AND ELECTRICAL INSTALLATIONS MUST CONFORM TO ALL APPLICABLE REGULATIONS INCLUDING NFPA30, FLAMMABLE & COMBUSTIBLE LIQUIDS CODE; NFPA30A, AUTOMOTIVE & MARINE SERVICE STATION CODE; NFPA70, NATIONAL ELECTRICAL CODE. DO NOT "DAISY CHAIN" THE DISPENSER POWER CIRCUIT TO ANY OTHER EQUIPMENT.
2. PIPING FROM TANK TO DISPENSER SHOULD SLOPE UPWARDS TO AVOID AIR OR LIQUID TRAPS.
3. USE UNIVERSAL JOINTS AT DISPENSER TO ALLOW FOR GROUND MOVEMENT.
4. USE ANY OR ALL CONDUIT TAPS SHOWN TO MAKE ELECTRICAL CONNECTIONS TO DISPENSER.
5. FIRMLY MOUNT THE DISPENSER TO THE ISLAND USING THE ANCHOR BOLT LOCATIONS SHOWN.
6. EMERGENCY SHUTOFF VALVES AND BREAKAWAY DEVICES ARE EXAMPLES OF REQUIREMENTS STATED IN THE NFPA30A AUTOMOTIVE & MARINE SERVICE STATION CODE. THESE, AS WELL AS ANY OTHER SAFETY DEVICES REQUIRED BY NFPA30 & 30A, MUST BE INSTALLED AND MAINTAINED PER THE MANUFACTURER'S INSTRUCTIONS.
7. OPTIONAL SPEAKER INSTALLATION WIRING IS LOCATED IN JUNCTION BOX. CONNECT INTERCOM CIRCUIT TO A LISTED CLASS 2 POWERED INTERCOM ONLY WITH 18 GAUGE MINIMUM, AT LEAST 90 DEGREE C, 600 V GAS & OIL RESISTANT UL LISTED WIRE. WIRES BACK TO INTERCOM POWER MUST BE RUN IN SEPARATE DEDICATED LISTED METALLIC CONDUIT.
8. BALANCE VAPOR RECOVERY AND WAYNEVAC VAPOR RECOVERY CONNECTIONS ARE IN DIFFERENT LOCATIONS.



BASE DIMENSIONS



JUNCTION BOX SIDE

PRODUCT ORIENTATION:

THE NOZZLE PRODUCT ORDER IS THE SAME FOR BOTH SIDES. THE NON-JUNCTION BOX SIDE OF THE DISPENSER MATCHES THE INLET ORDER. THE JUNCTION BOX SIDE IS OPPOSITE THE INLET ORDER.

4-7243-C REV B

TOLERANCES

±1/4 INCH

UNLESS OTHERWISE SPECIFIED

Figure C-5. 4-7243-C Installation Instructions - 3/V490D/U (Remote)

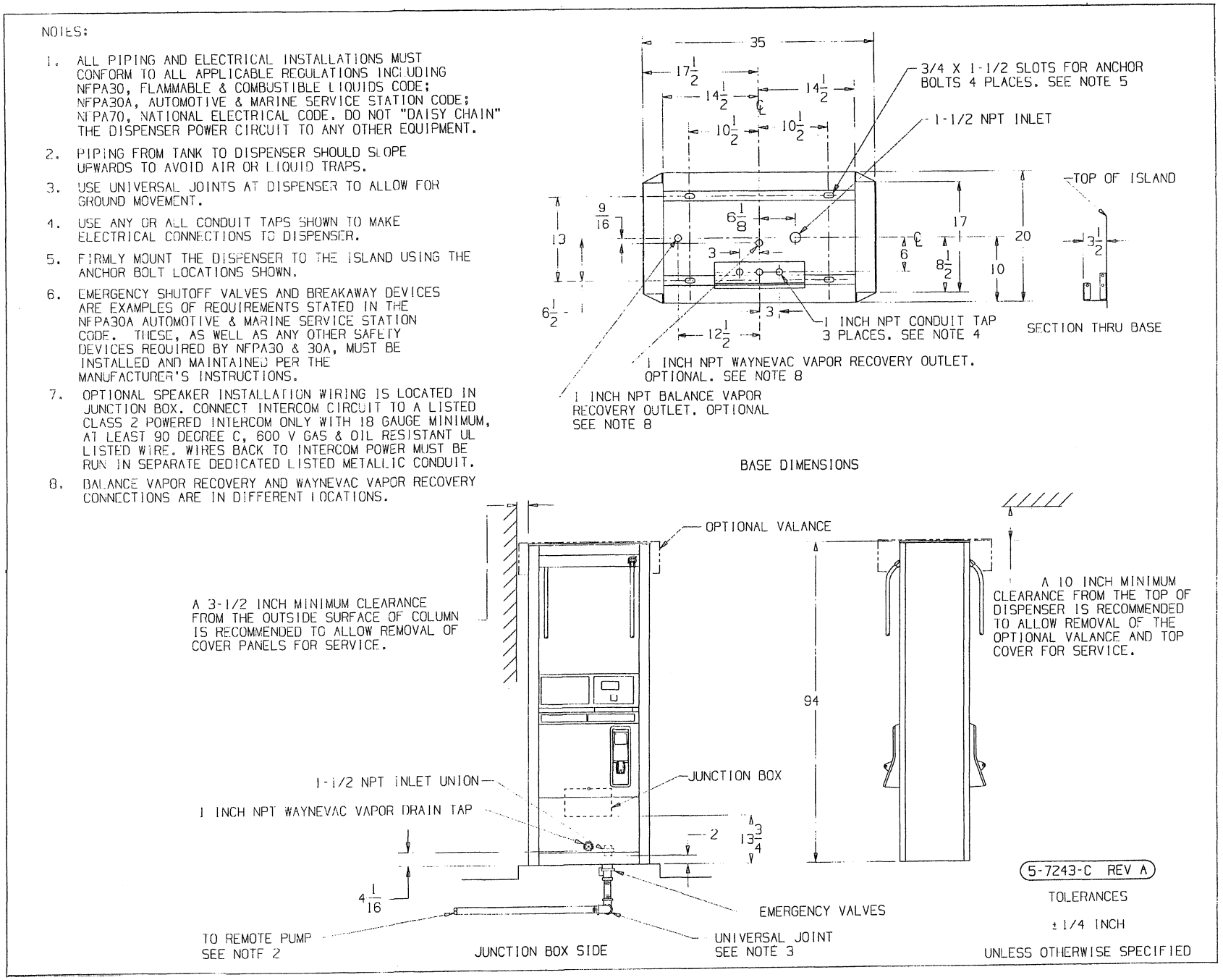


Figure C-6. 5-7243-C Installation Instructions - 3/V387D (Remote)

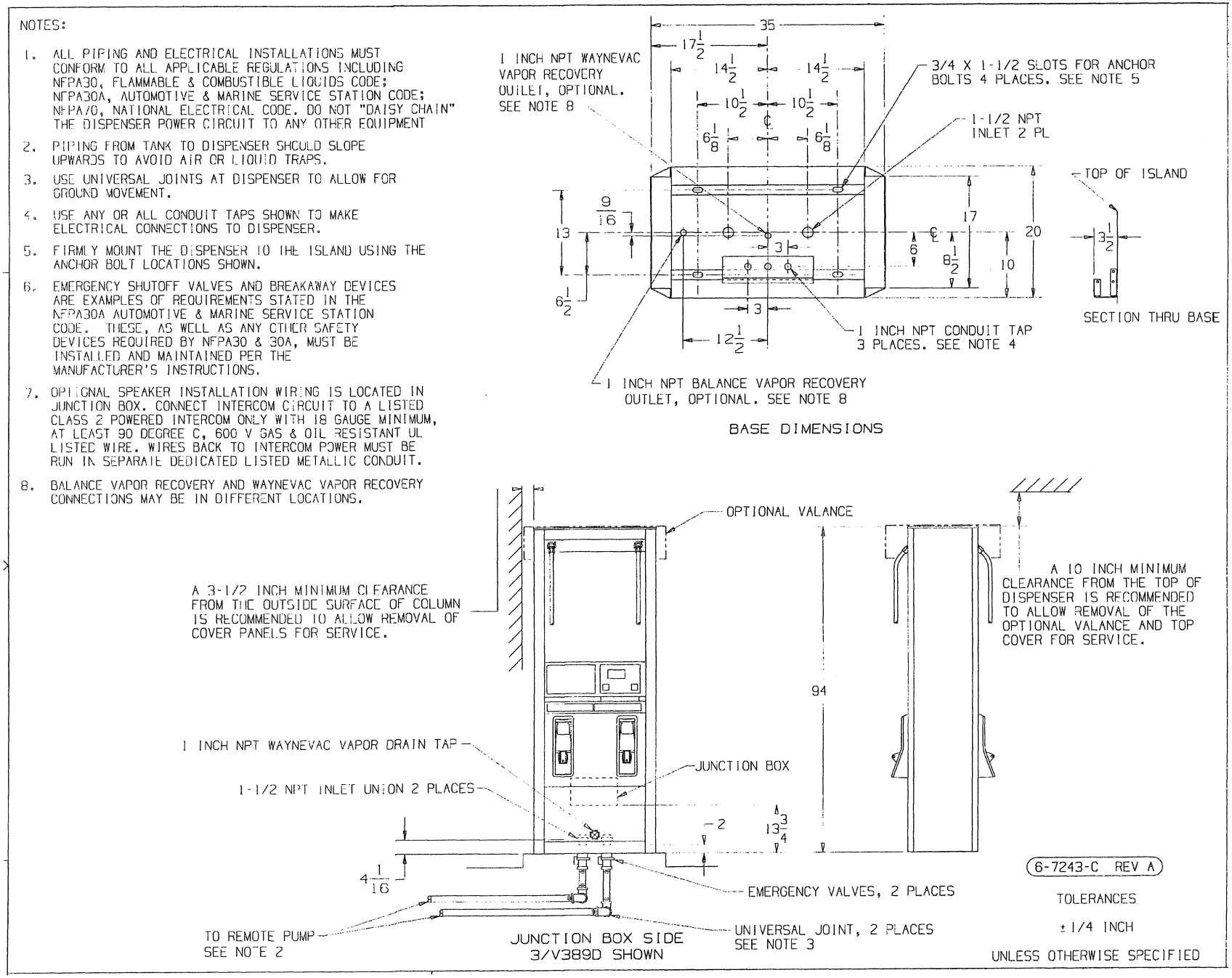


Figure C-7. 6-7243-C Installation Instructions - 3/V388D and 3/V389D (Remote)

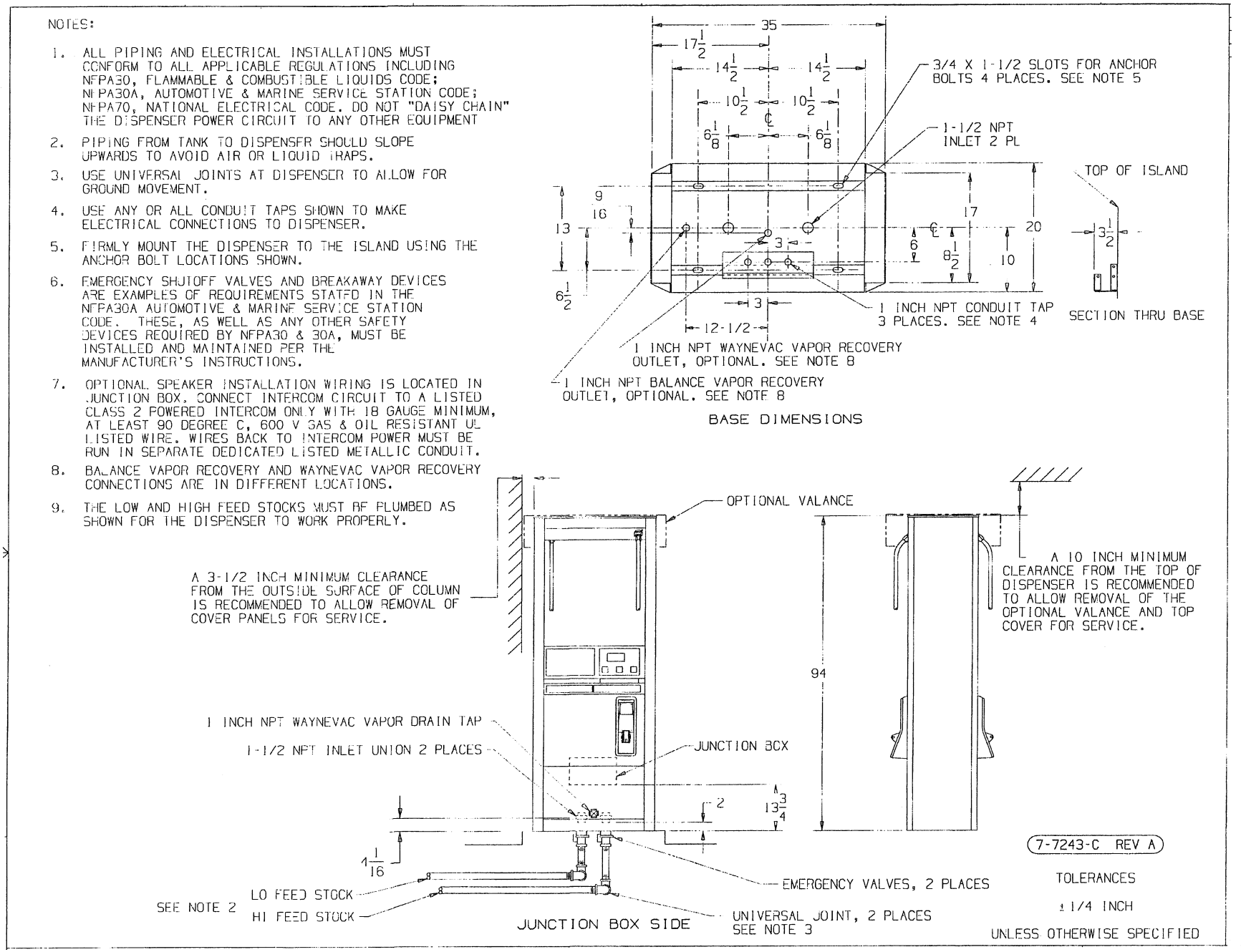


Figure C-8. 7-7243-C Installation Instructions - 3/V580D and 3/V585D (Remote)

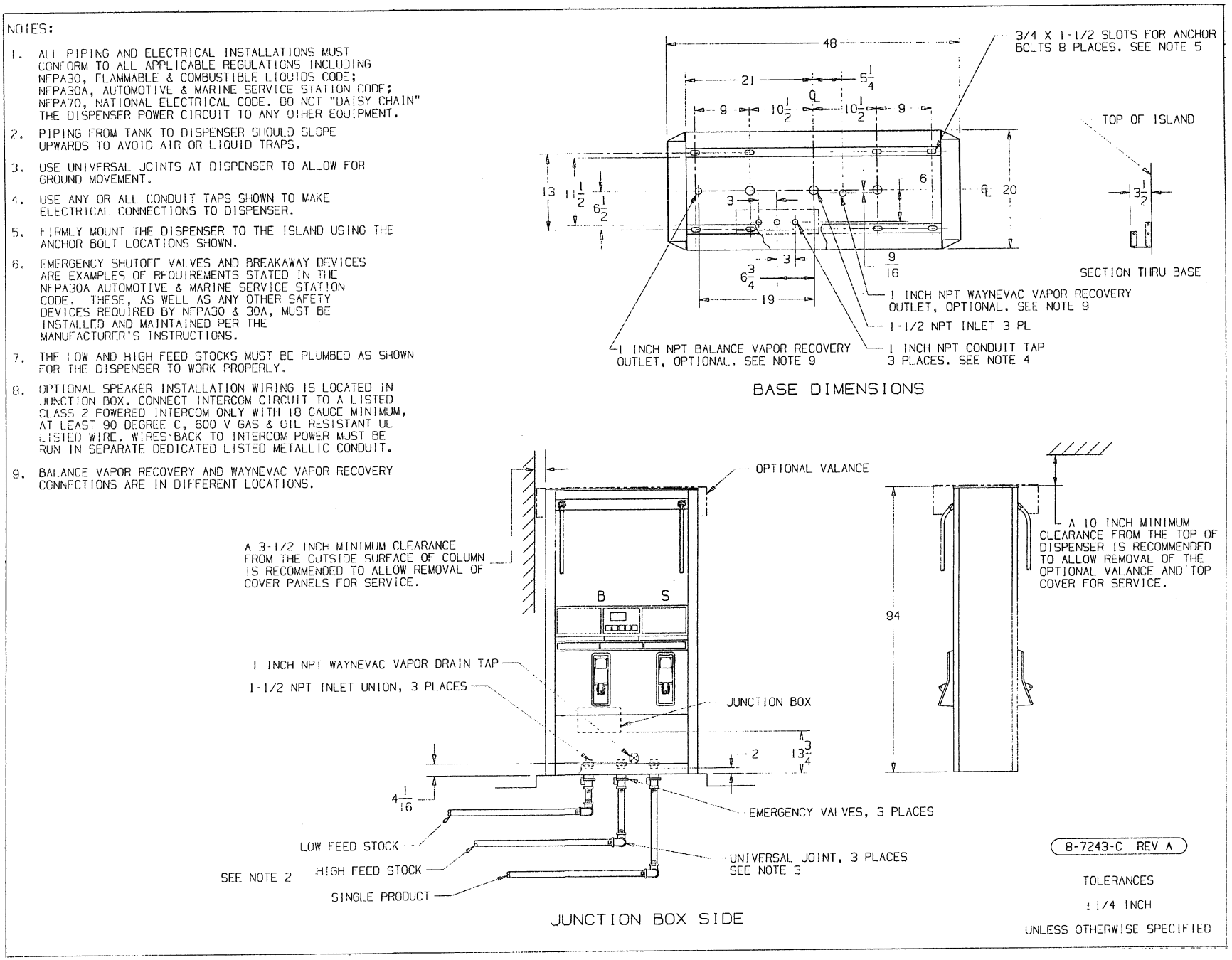


Figure C-9. 8-7243-C Installation Instructions - 3/V595D (Remote) - Except 3/V595D/U See 2-7243-C

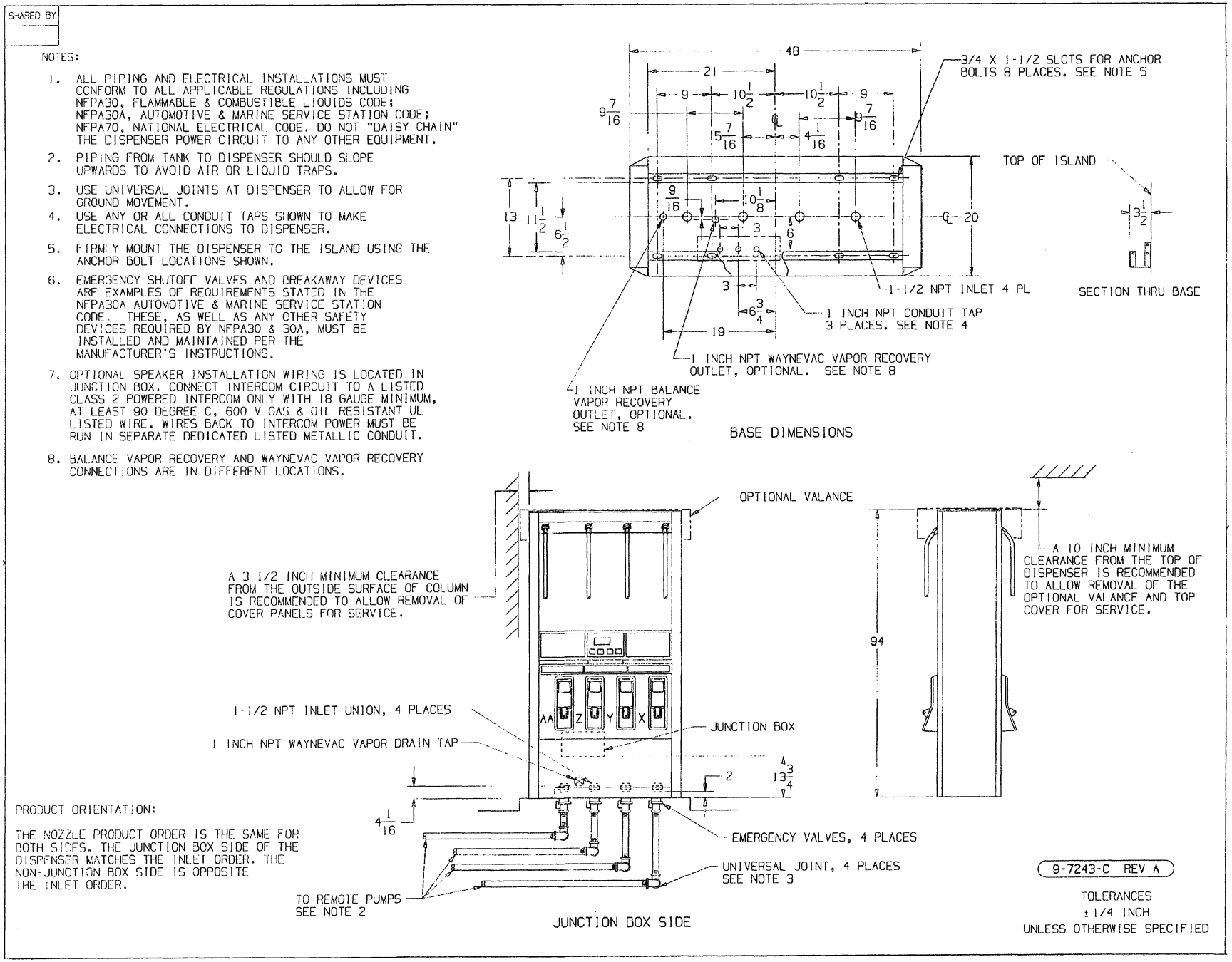


Figure C-10. 9-7243-C Installation Instructions - 3/V490D (Remote) - Except 3/V490D/U See 4-7243-C

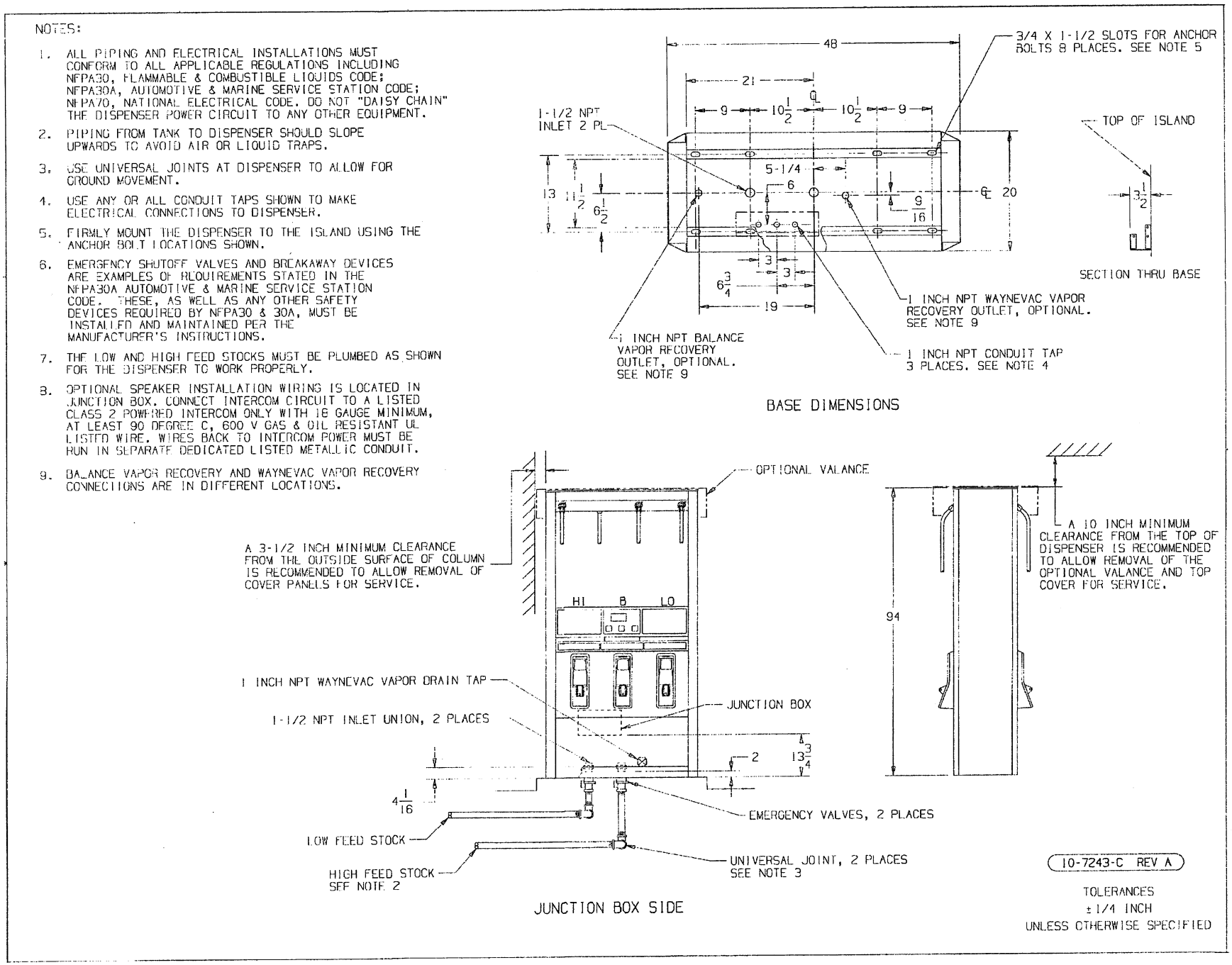
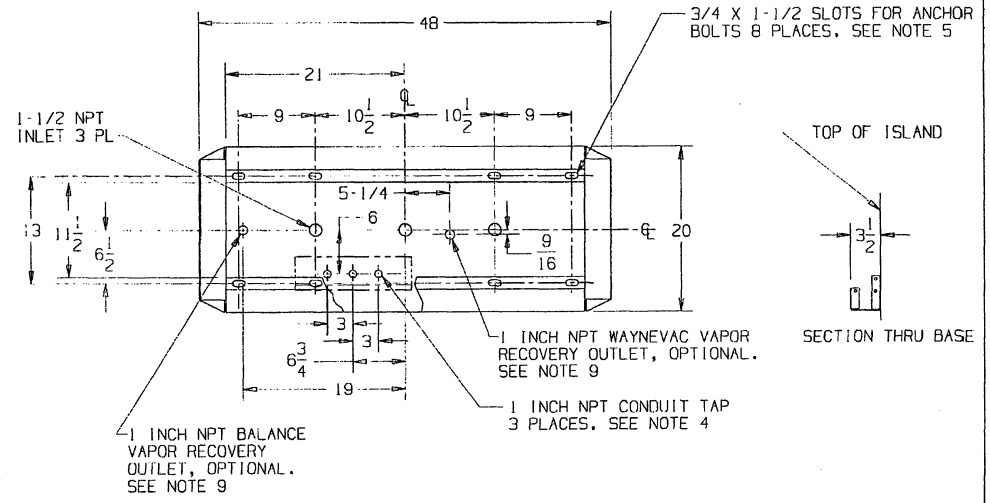


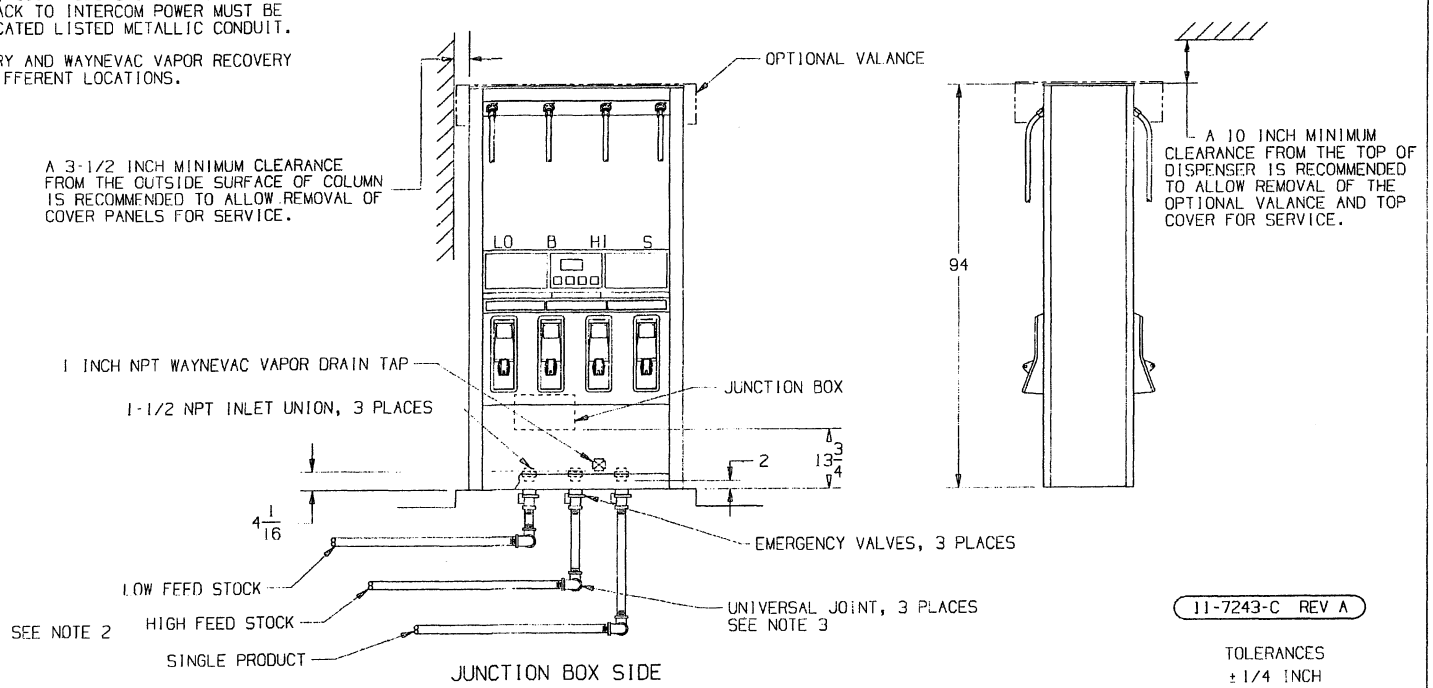
Figure C-11. 10-7243-C Installation Instructions - 3/V590D (Remote) - Except 3/V590D/U See 2-7243-C

NOTES:

1. ALL PIPING AND ELECTRICAL INSTALLATIONS MUST CONFORM TO ALL APPLICABLE REGULATIONS INCLUDING NFPA30, FLAMMABLE & COMBUSTIBLE LIQUIDS CODE; NFPA30A, AUTOMOTIVE & MARINE SERVICE STATION CODE; NFPA70, NATIONAL ELECTRICAL CODE. DO NOT "DAISY CHAIN" THE DISPENSER POWER CIRCUIT TO ANY OTHER EQUIPMENT.
2. PIPING FROM TANK TO DISPENSER SHOULD SLOPE UPWARDS TO AVOID AIR OR LIQUID TRAPS.
3. USE UNIVERSAL JOINTS AT DISPENSER TO ALLOW FOR GROUND MOVEMENT.
4. USE ANY OR ALL CONDUIT TAPS SHOWN TO MAKE ELECTRICAL CONNECTIONS TO DISPENSER.
5. FIRMLY MOUNT THE DISPENSER TO THE ISLAND USING THE ANCHOR BOLT LOCATIONS SHOWN.
6. EMERGENCY SHUTOFF VALVES AND BREAKAWAY DEVICES ARE EXAMPLES OF REQUIREMENTS STATED IN THE NFPA30A AUTOMOTIVE & MARINE SERVICE STATION CODE. THESE, AS WELL AS ANY OTHER SAFETY DEVICES REQUIRED BY NFPA30 & 30A, MUST BE INSTALLED AND MAINTAINED PER THE MANUFACTURER'S INSTRUCTIONS.
7. THE LOW AND HIGH FEED STOCKS MUST BE PLUMBED AS SHOWN FOR THE DISPENSER TO WORK PROPERLY.
8. OPTIONAL SPEAKER INSTALLATION WIRING IS LOCATED IN JUNCTION BOX. CONNECT INTERCOM CIRCUIT TO A LISTED CLASS 2 POWERED INTERCOM ONLY WITH 18 GAUGE MINIMUM, AT LEAST 90 DEGREE C, 600 V GAS & OIL RESISTANT UL LISTED WIRE. WIRES BACK TO INTERCOM POWER MUST BE RUN IN SEPARATE DEDICATED LISTED METALLIC CONDUIT.
9. BALANCE VAPOR RECOVERY AND WAYNEVAC VAPOR RECOVERY CONNECTIONS ARE IN DIFFERENT LOCATIONS.



BASE DIMENSIONS



JUNCTION BOX SIDE

11-7243-C REV A

TOLERANCES
± 1/4 INCH
UNLESS OTHERWISE SPECIFIED

Figure C-12. 11-7243-C Installation Instructions - 3/V591D (Remote)

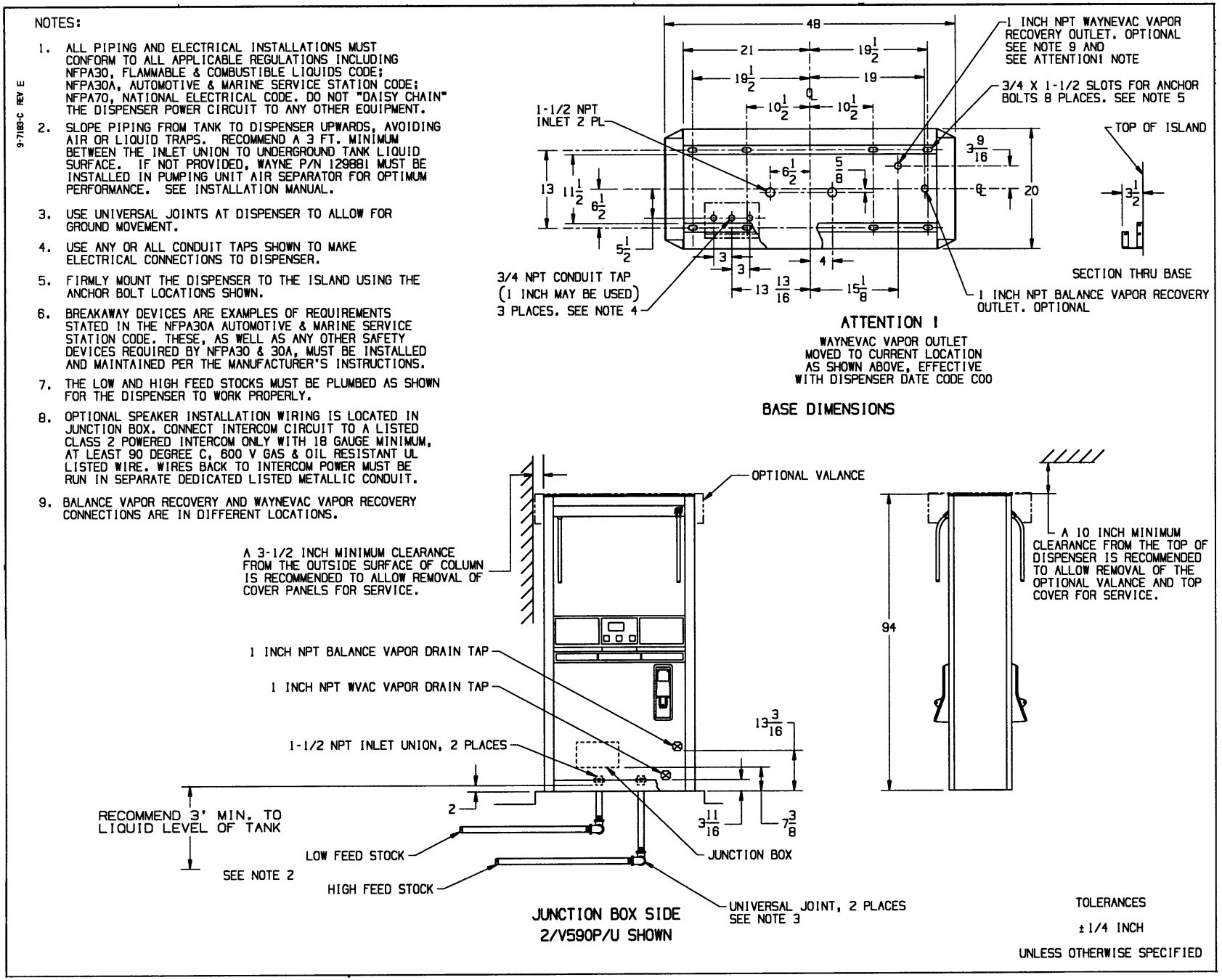


Figure C-13. 9-7193-C Installation Instructions - 3/V590P/U and 3/V595P/U (Suction)

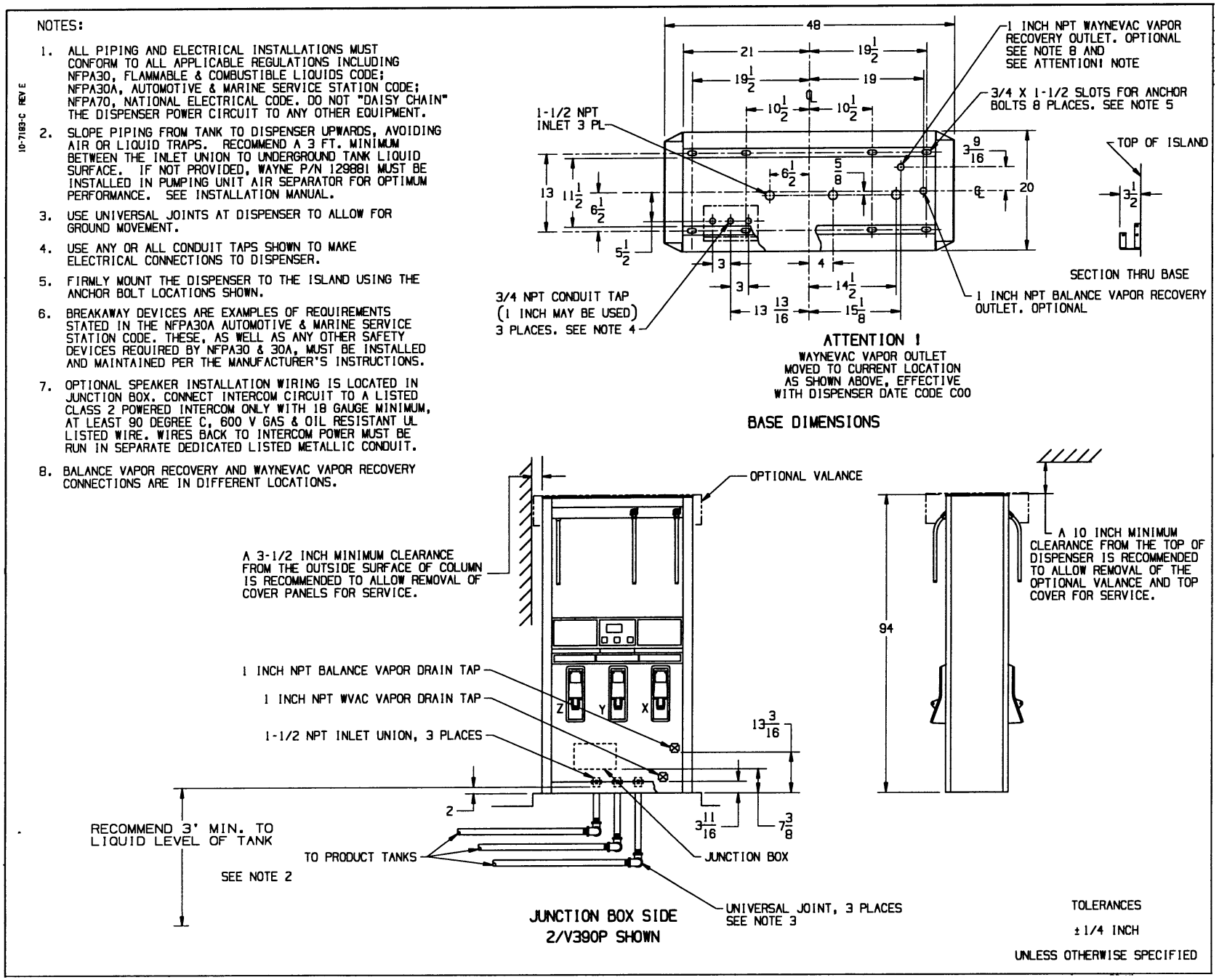


Figure C-14. 10-7193-C Installation Instructions - 3/V390P and 3/V390P/U (Suction)

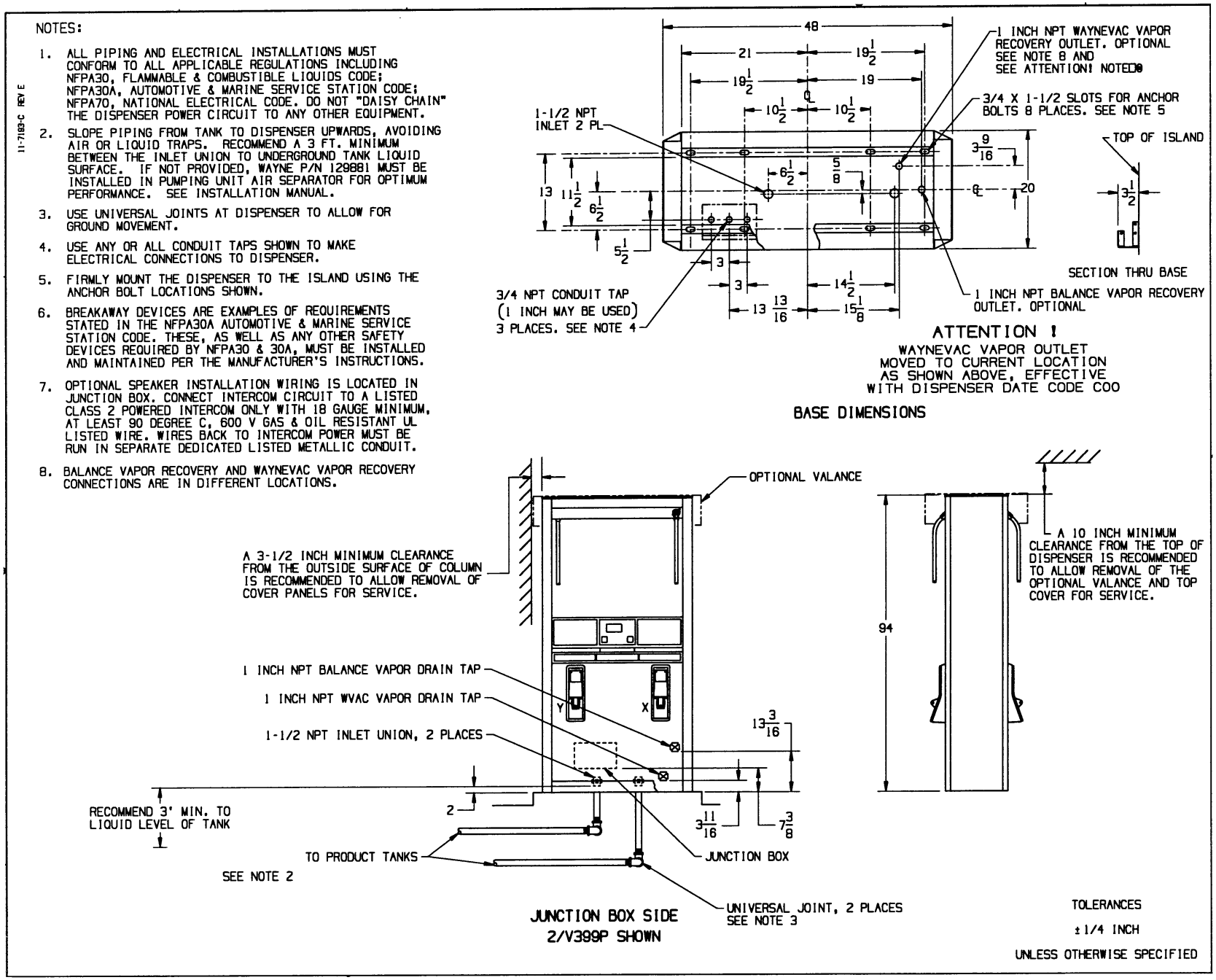


Figure C-15. 11-7193-C Installation Instructions - 3/V399P (Suction)

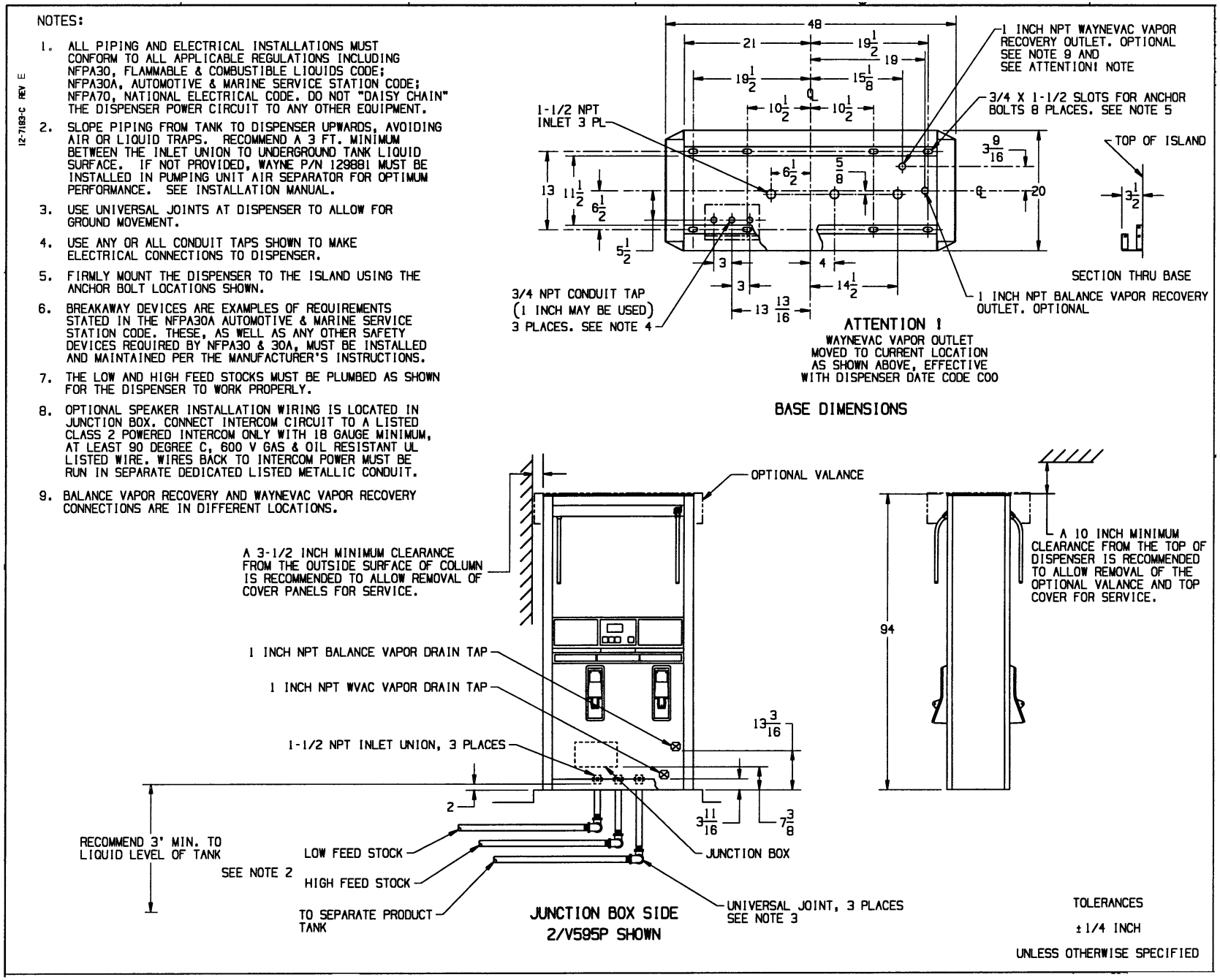


Figure C-16. 12-7193-C Installation Instructions - 3/V591P and 3/V595P (Suction) - Except 3/V595P/U See 9-7193-C

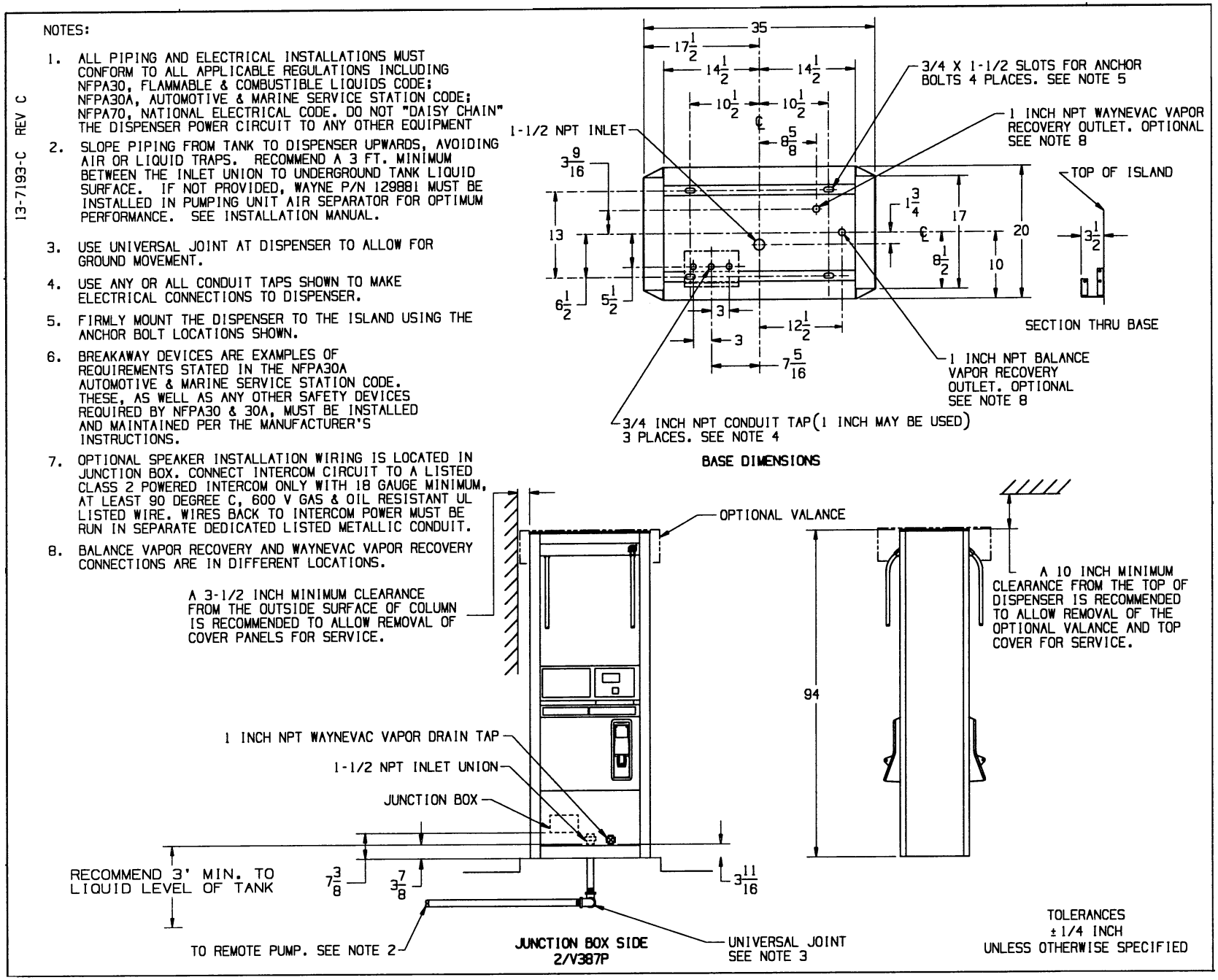


Figure C-17. 13-7193-C Installation Instructions - 3/V387P (Suction)

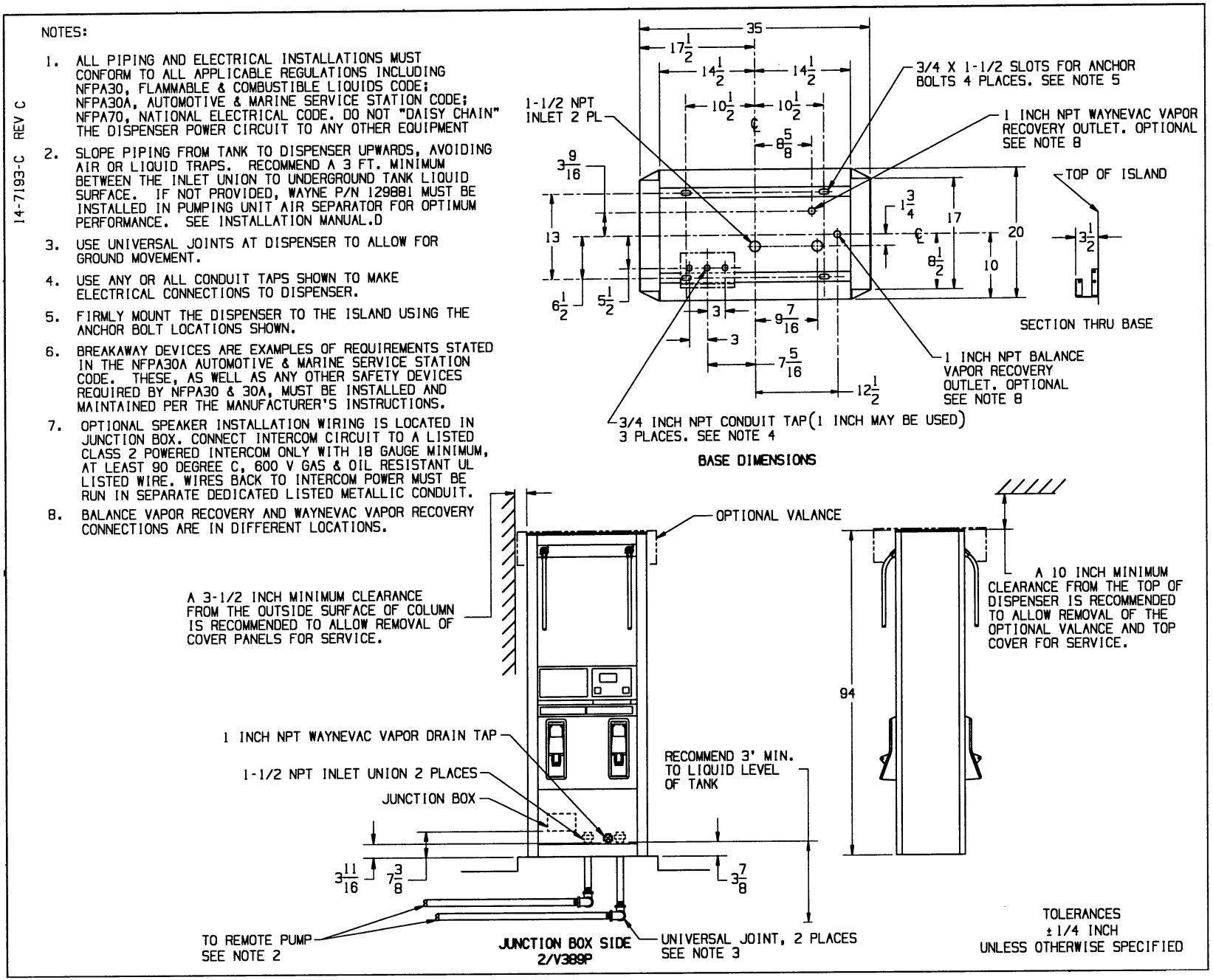


Figure C-18. 14-7193-C Installation Instructions - 3/V389P (Suction)

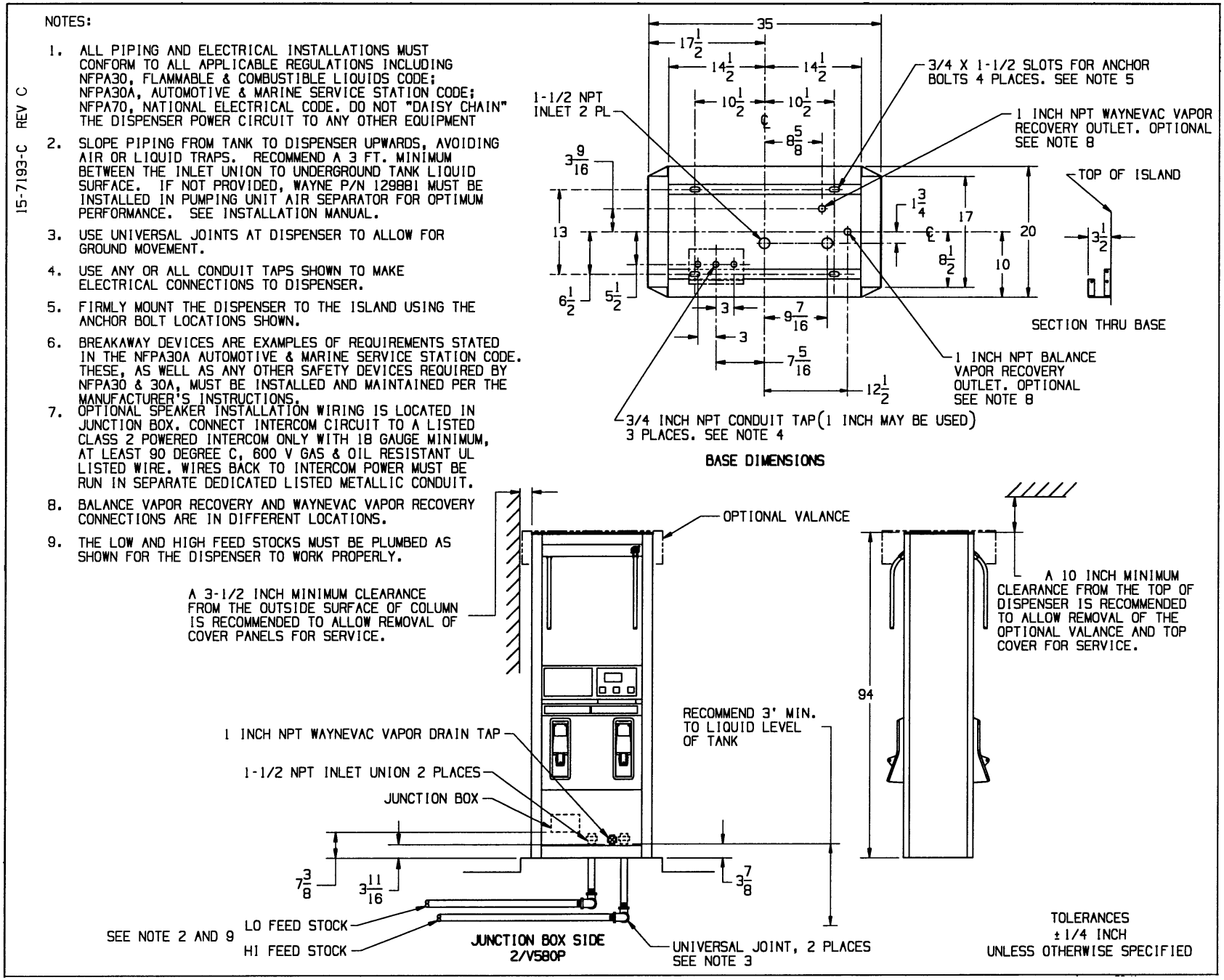


Figure C-19. 15-7193-C Installation Instructions - 3/V580P and 3/V585P (Suction)

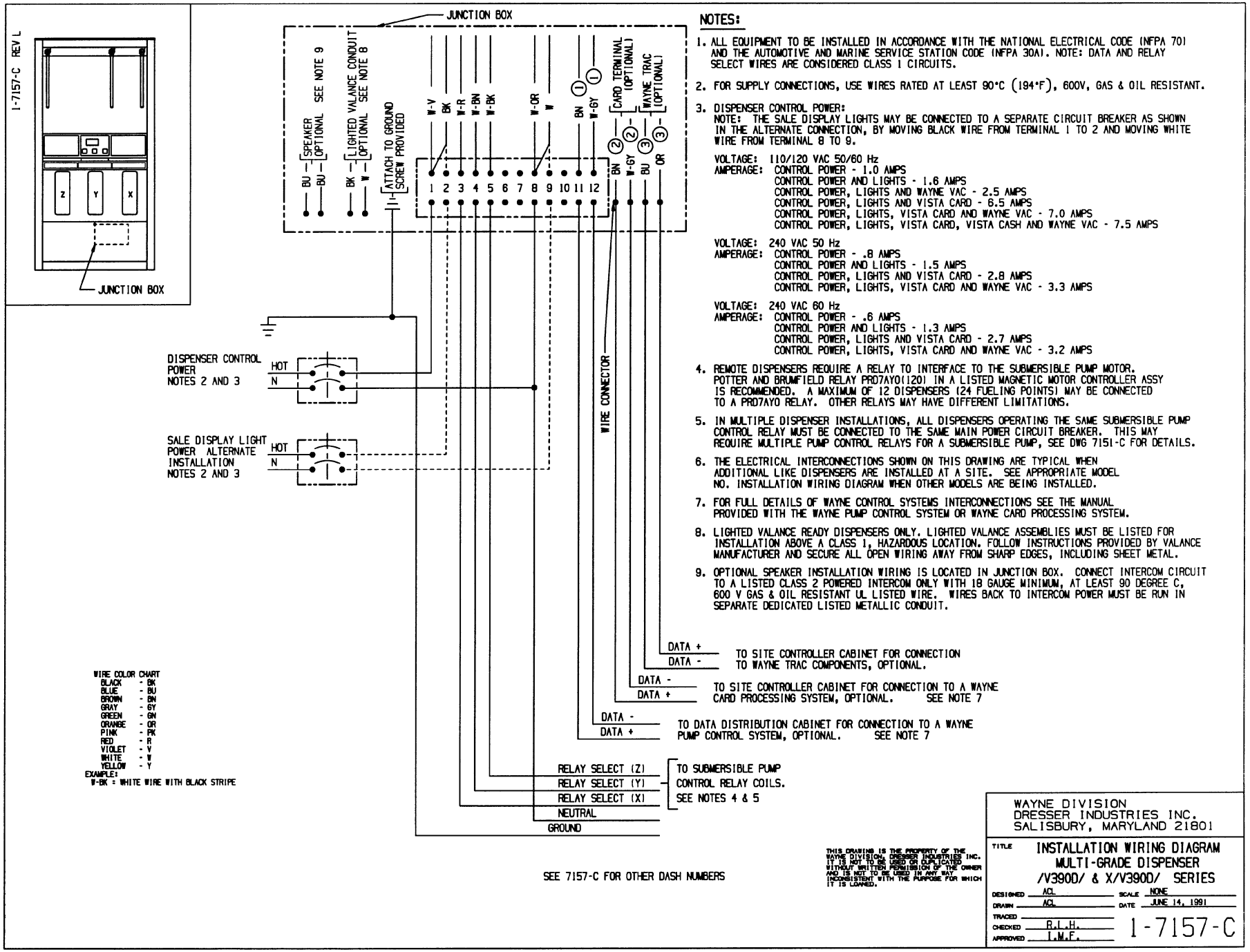


Figure C-20. 1-7157-C Installation Wiring - 3/V390D (Remote) - Except 3/V390D/U See 13-7157-C

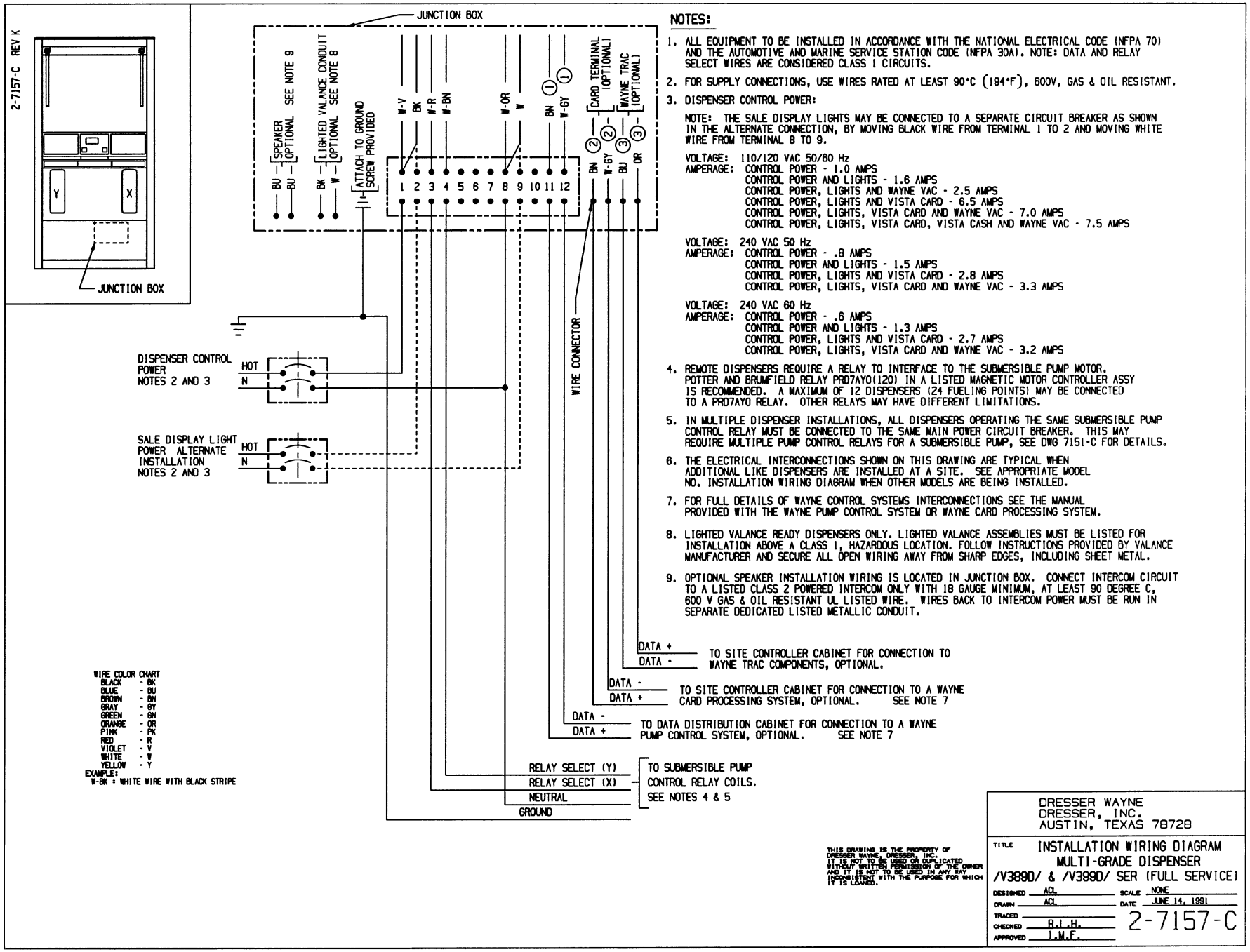


Figure C-21. 2-7157-C Installation Wiring - 3/V389D and 3/V399D (Remote)

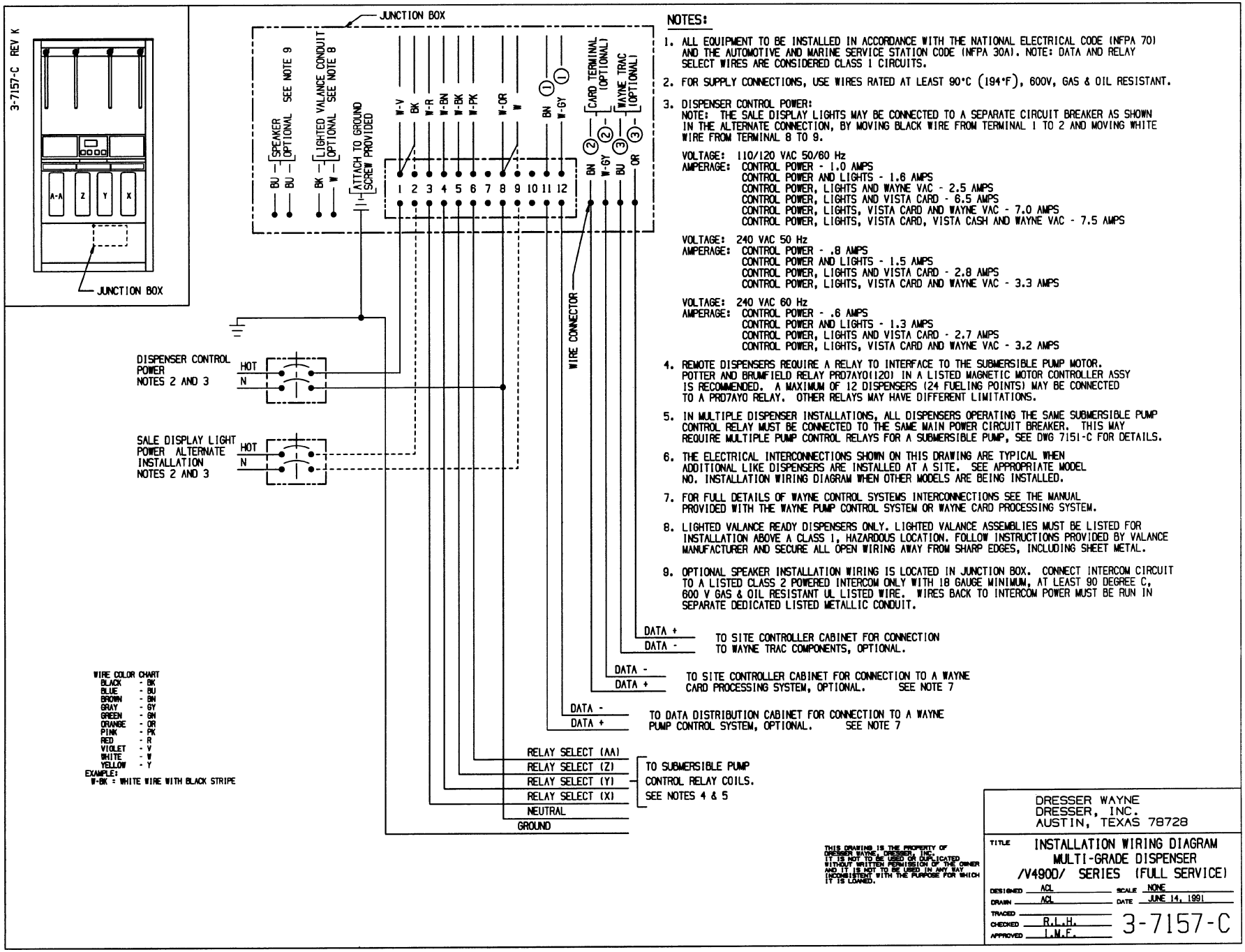


Figure C-22. 3-7157-C Installation Wiring - 3/V490D (Remote)

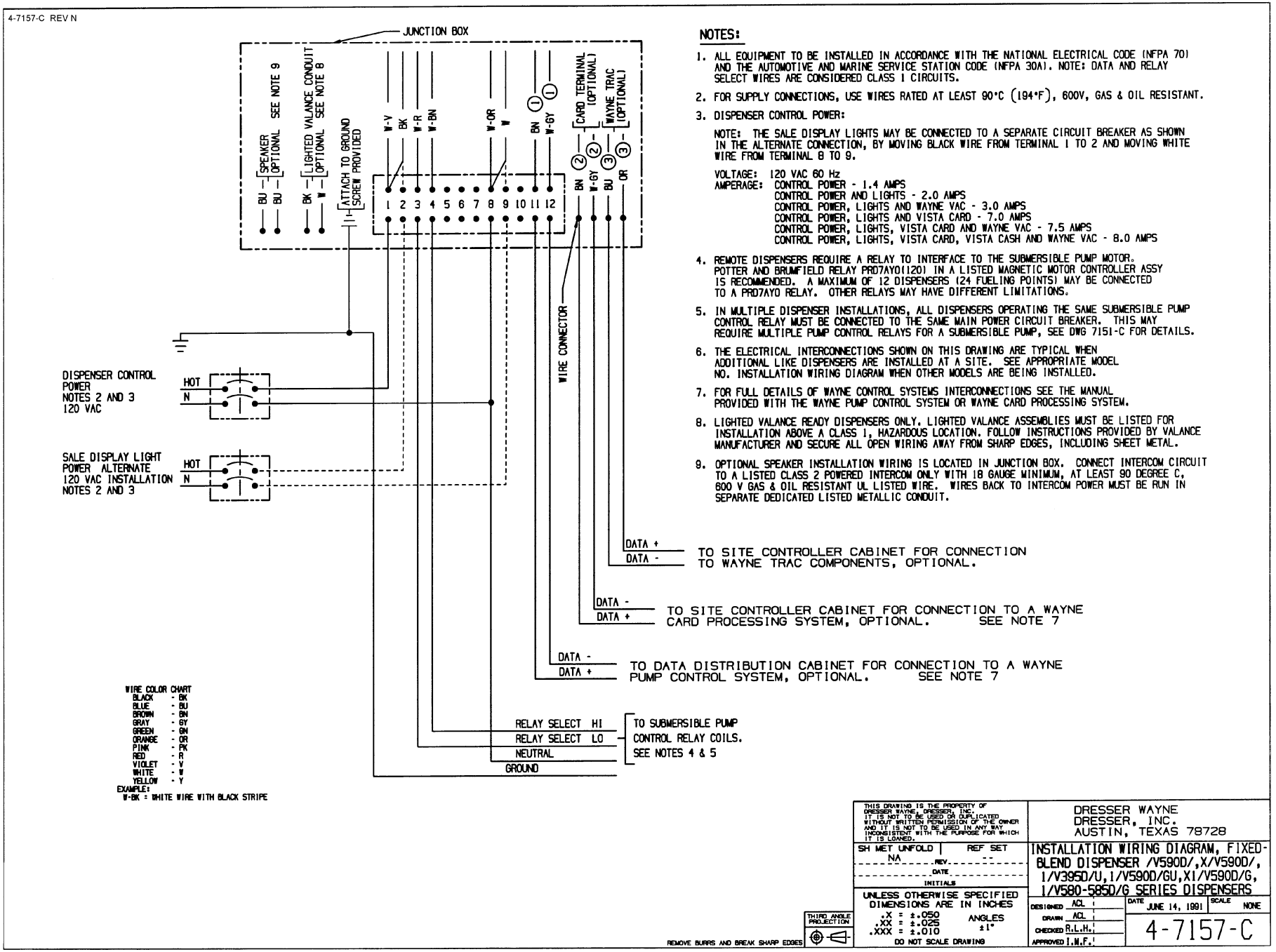


Figure C-23. 4-7157-C Installation Wiring - All Remote Blender Models - Except 3/V591D and 3/V595D See 10-7157-C.

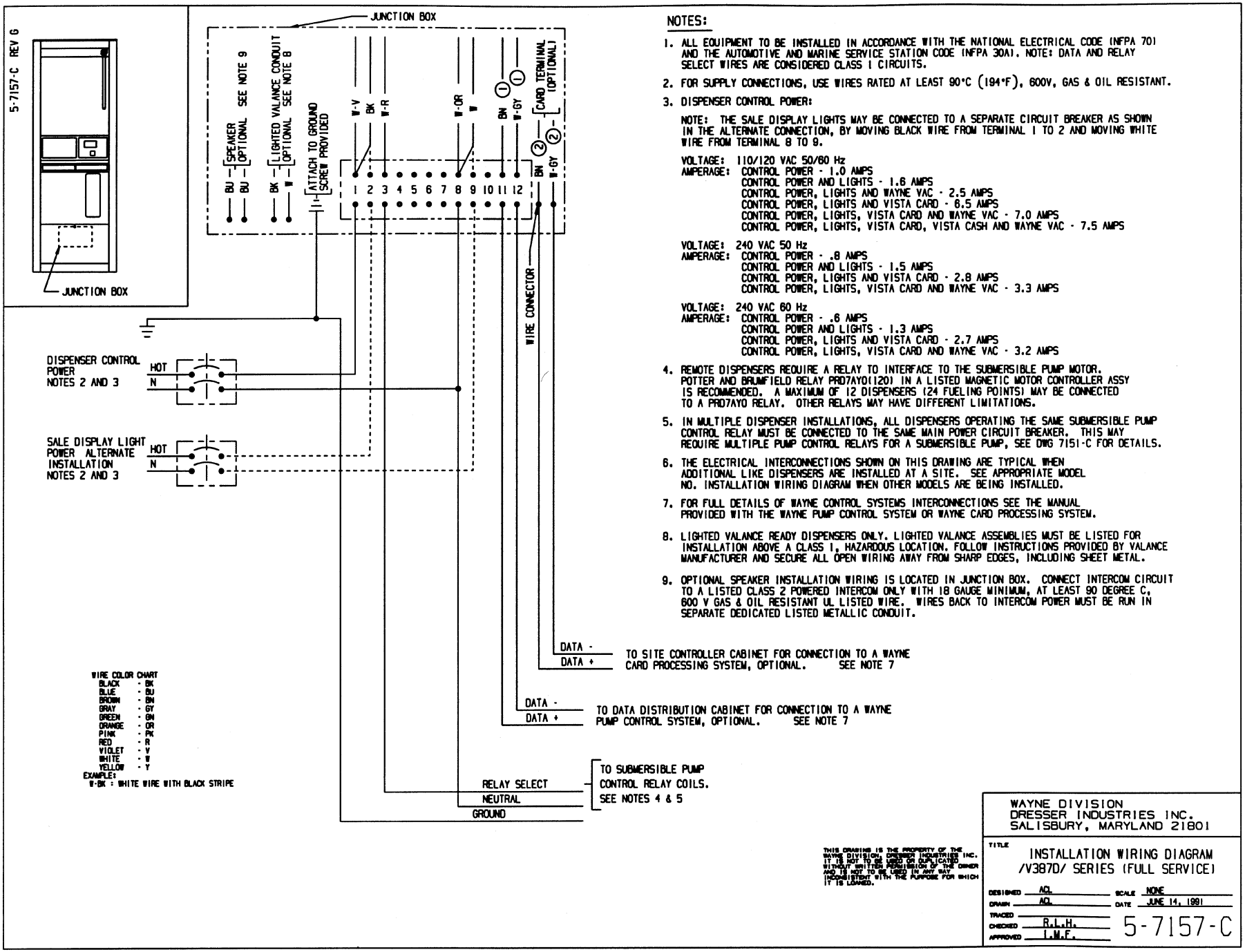


Figure C-24. 5-7157-C Installation Wiring - 3/V387D (Remote).

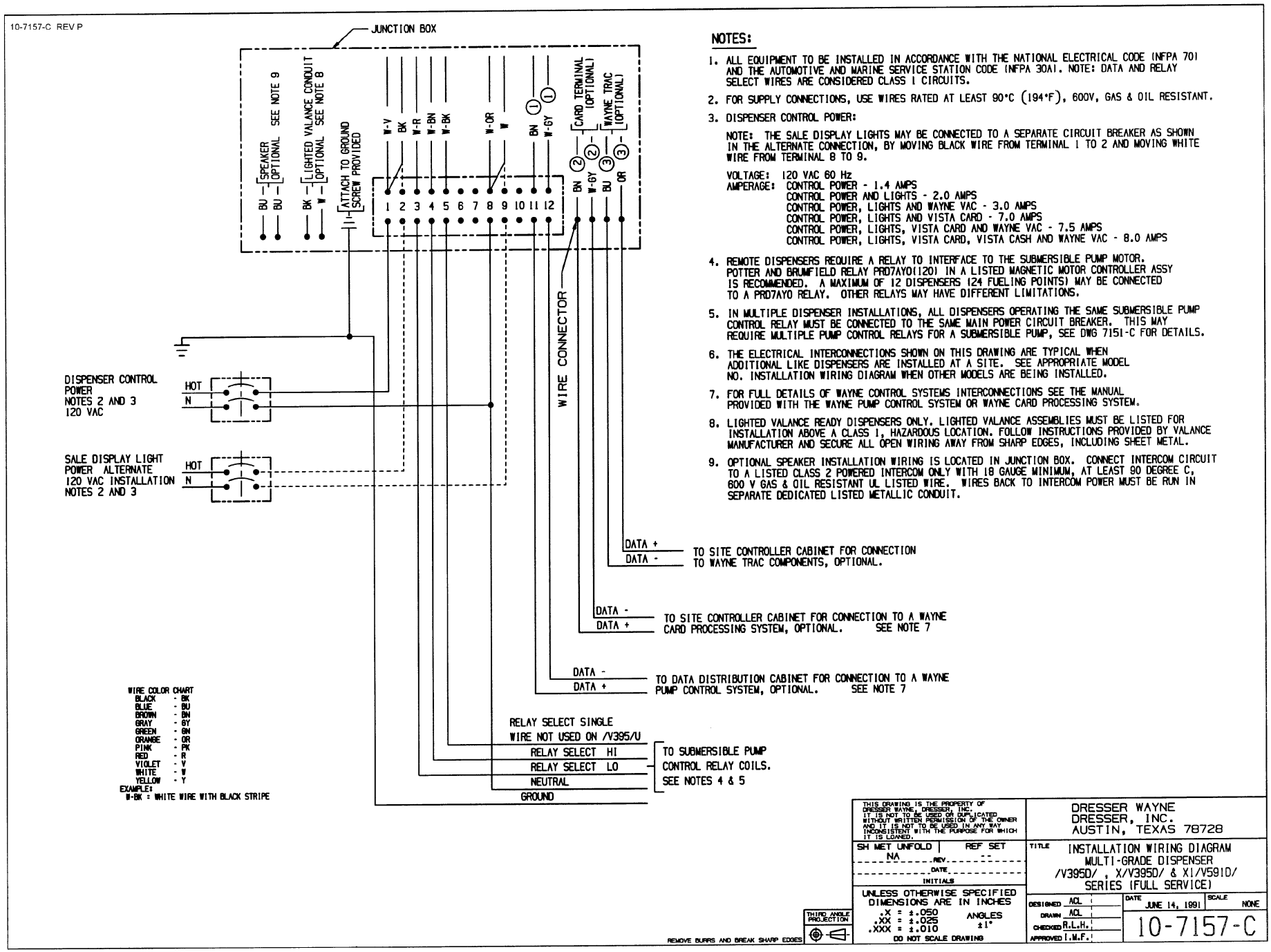


Figure C-25. 10-7157-C Installation Wiring - 3/V591D and 3/V595D (Remote) - Except 3/V595D/U See 4-7157-C

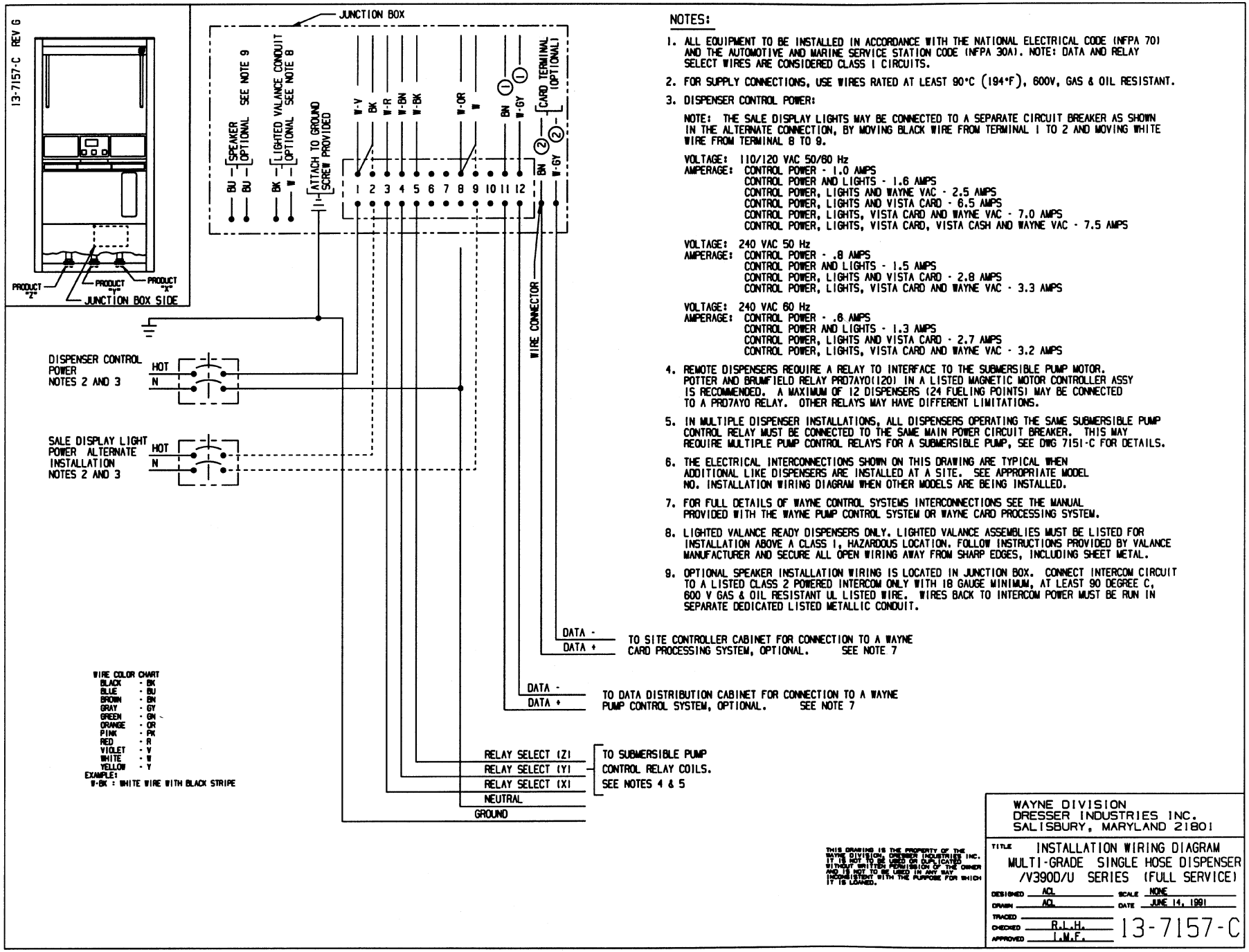


Figure C-26. 13-7157-C Installation Wiring - 3/V390D/U (Remote)

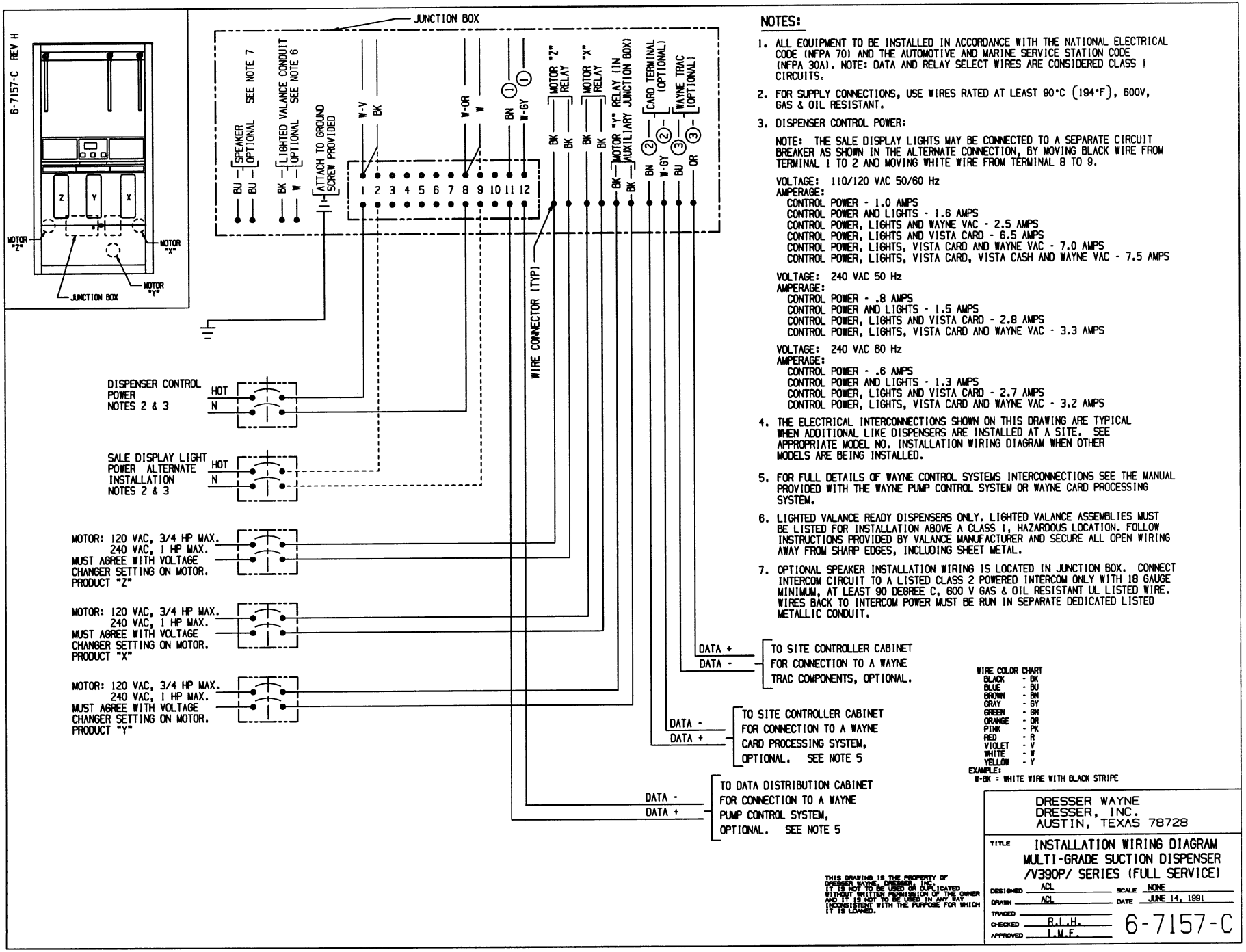


Figure C-27. 6-7157-C Installation Wiring - 3/V390P (Suction).

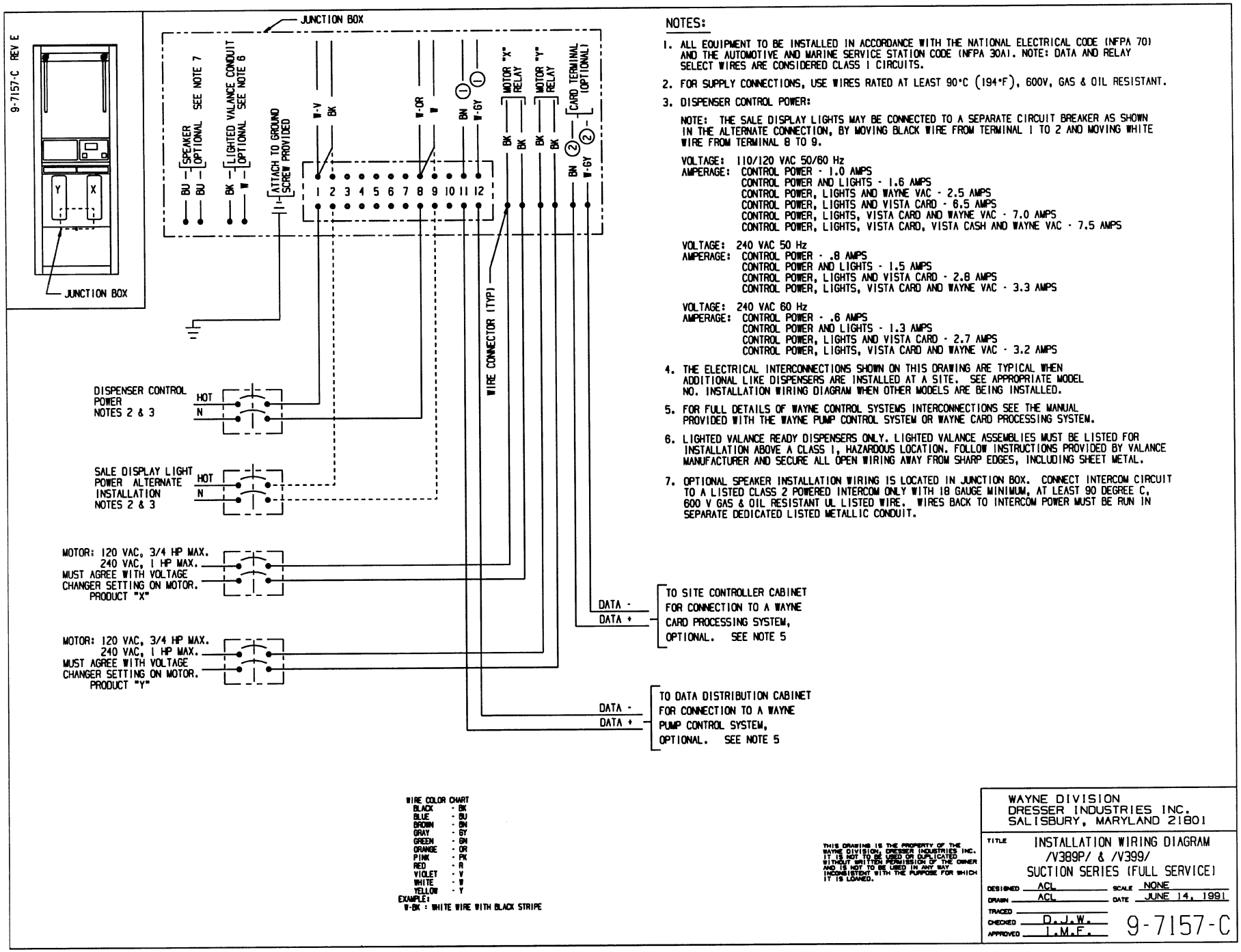


Figure C-28. 9-7157-C Installation Wiring - 3/V389P and 3/V399P (Suction).

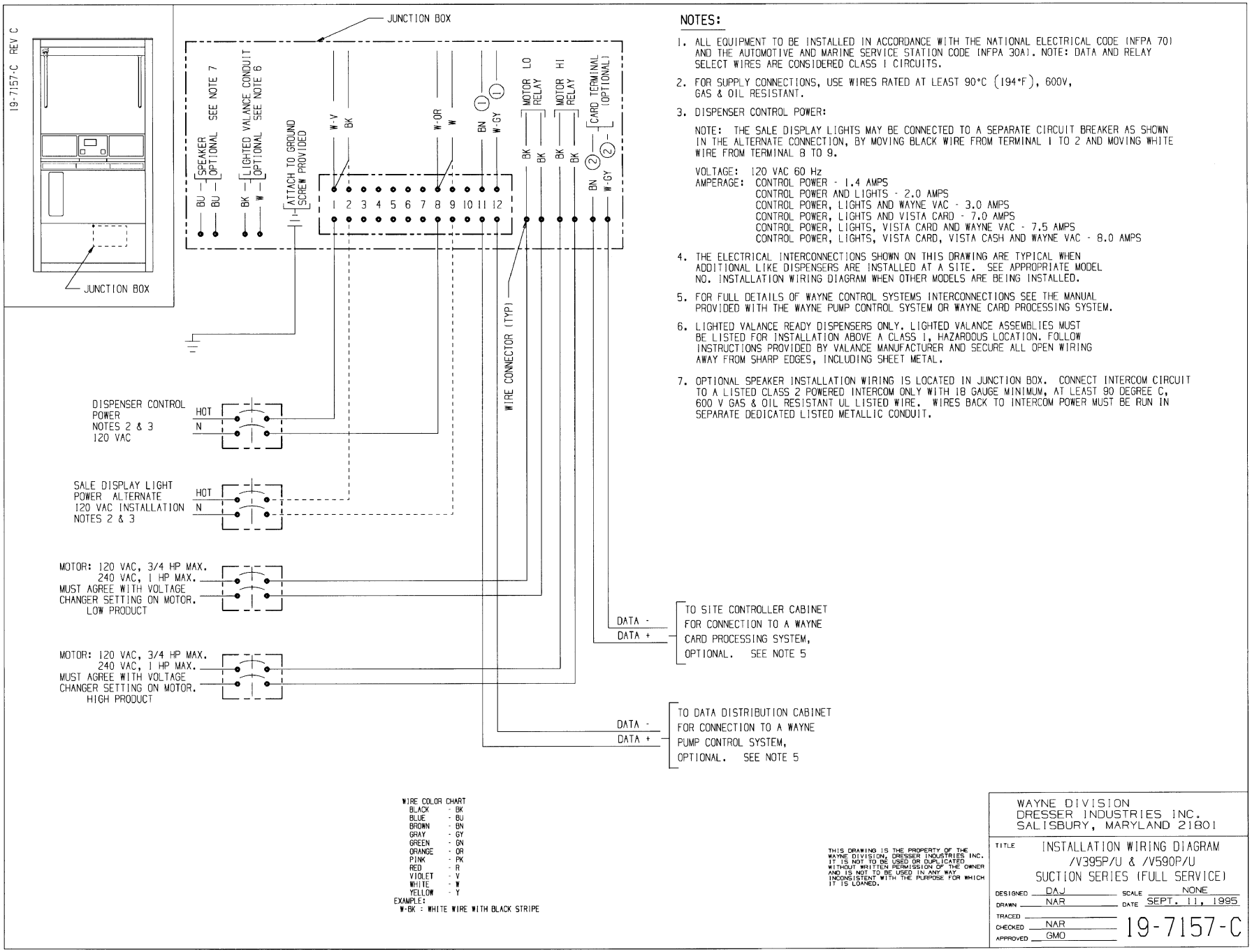
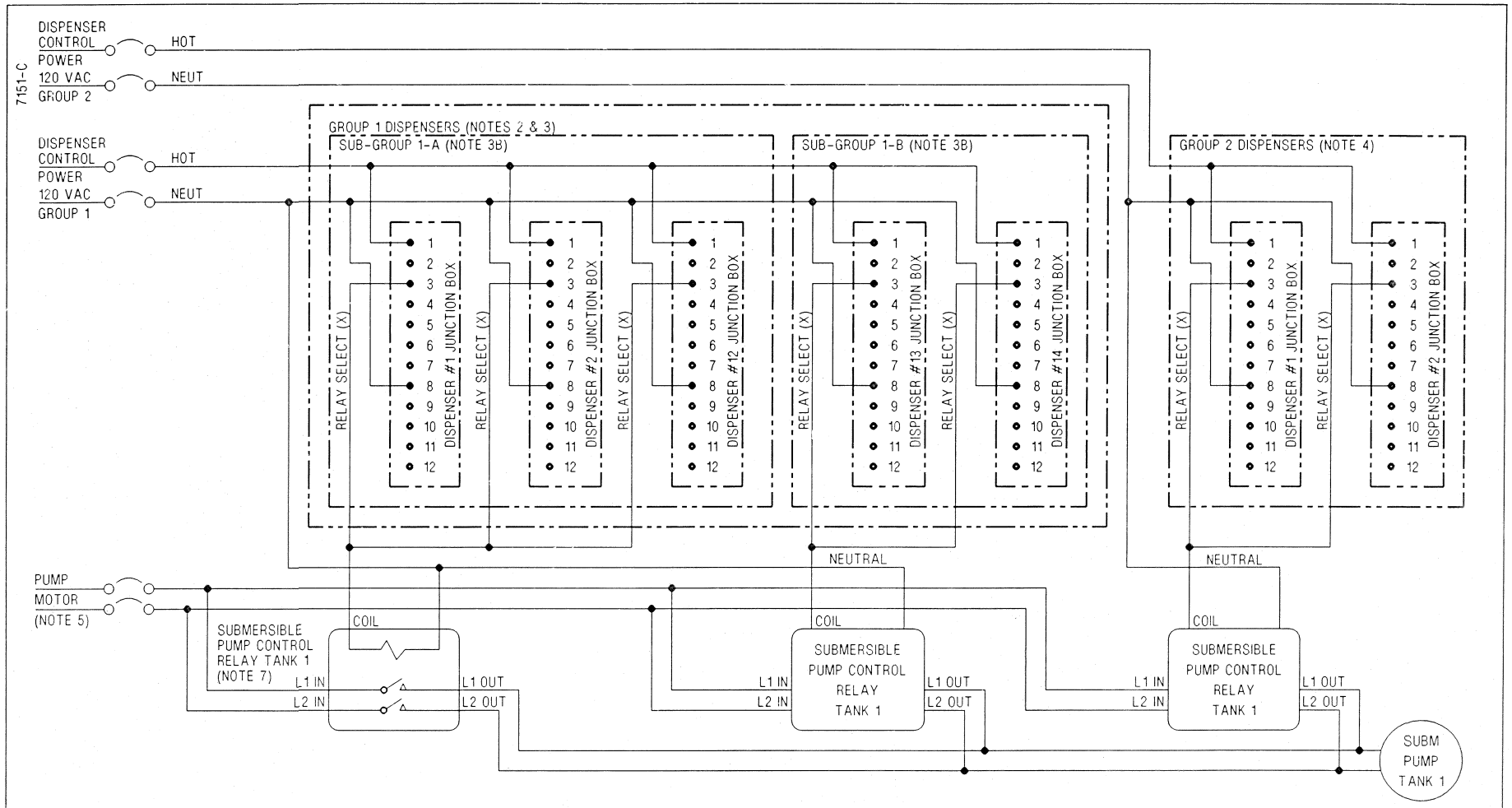


Figure C-29. 19-7157-C Installation Wiring - 3/V590P/U and 3/V595P/U (Suction)



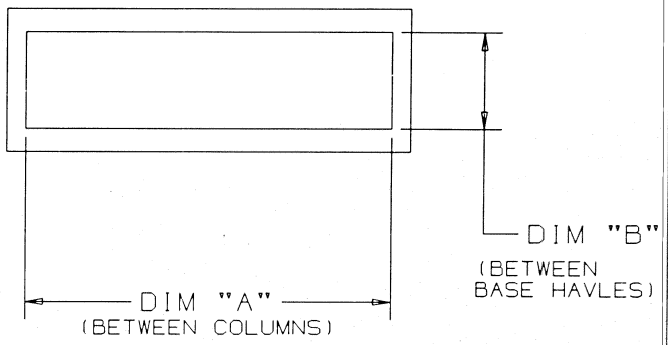
NOTES:

1. Only Tank 1 Relay Select Lines (X) are shown. Refer to appropriate dispenser Installation Wiring Diagram for additional Relay Select Line details.
2. A Group of Dispensers consists of all the dispensers and associated Submersible Pump Control Relay Coils supplied by the same dispenser Control Power Circuit Breaker.
3. SINGLE GROUP OF DISPENSERS
   A. If more than one Relay Select Line within the Group activates the same Submersible Pump, they may be commoned at the Relay Coil Terminal (COIL) up to a maximum of 12 Relay Select Lines.
   B. Where more than 12 Relay Select Lines activate the same Submersible Pump, additional relays should be used and the contacts paralleled (as shown in Sub-Groups 1-A & 1-B).
4. MULTIPLE GROUPS OF DISPENSERS
   A. If dispensers are separated into more than one group, it is essential that the single group requirements are maintained for each group.
   B. WARNING: NO CONNECTIONS (INCLUDING NEUTRAL) ARE PERMITTED BETWEEN GROUPS (AFTER THE CIRCUIT BREAKERS). A SEPARATE CONTROL POWER CIRCUIT BREAKER MUST BE PROVIDED FOR EACH GROUP. THE CONTROL POWER CIRCUIT BREAKER FOR EACH GROUP MAY BE CONNECTED TO EITHER LINE SUPPLY LEG.
5. A separate circuit breaker must be provided for each Submersible Pump.
6. All equipment to be installed in accordance with the National Electrical Code (NFPA 70) and the Automotive and Marine Service Station Code (NFPA 30A).
7. Remote dispensers require a relay to interface to the Submersible Pump Motor. A Potter and Brumfield PRD7AY0 Relay in a UL Listed Magnetic Motor Controller Assembly is recommended. A maximum of 12 dispensers (24 Fueling Points), may be connected to a PRD7AY0 relay. Other relays may have different limitations.
8. All equipment to be grounded per National Electrical Code requirements.

Figure C-30. 7151-C Typical Dispenser Site Wiring Diagram

MODEL SERIES	DIMENSION "A"	DIMENSION "B"
350/360	25	9.500
370	25	9.500
380	27	9.500
390	42	11.500
490	42	11.500
585	27	9.500
590	42	11.500
V380	29	11.500
V390	42	11.500
V490	42	11.500
V580	29	11.500
V585	29	11.500
V590	42	11.500

Ⓐ



TOLERANCES
.X ± .05C
.XX ± .025
.XXX ± .010
UNLESS OTHERWISE SPECIFIED

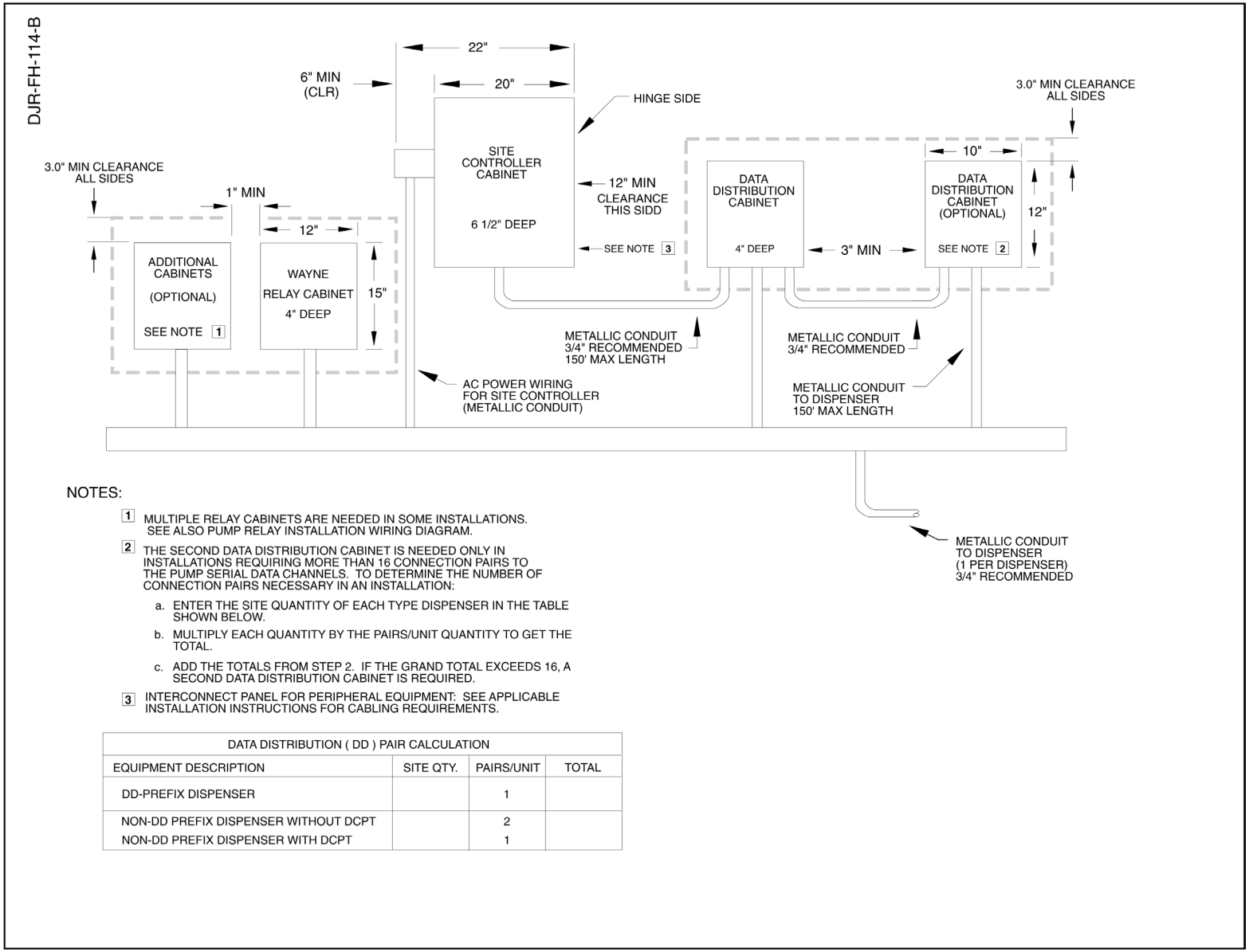
WAYNE DIVISION
DRESSER INDUSTRIES INC.
SALISBURY, MARYLAND 21801

TITLE
DIMENSIONAL DRAWING
INSIDE FOOT PRINT

DESIGNED GAH SCALE NONE
DRAWN JDD DATE JUNE 19, 1991
TRACED
CHECKED D.J.W. 10196-B
APPROVED R.E.H.

Figure C-31. 10196-B Dispenser Dimensional Drawing - Inside Footprint

APPENDIX D SITE INTERCONNECTION DIAGRAMS



NOTES:

1. MULTIPLE RELAY CABINETS ARE NEEDED IN SOME INSTALLATIONS. SEE ALSO PUMP RELAY INSTALLATION WIRING DIAGRAM.
2. THE SECOND DATA DISTRIBUTION CABINET IS NEEDED ONLY IN INSTALLATIONS REQUIRING MORE THAN 16 CONNECTION PAIRS TO THE PUMP SERIAL DATA CHANNELS. TO DETERMINE THE NUMBER OF CONNECTION PAIRS NECESSARY IN AN INSTALLATION:
   a. ENTER THE SITE QUANTITY OF EACH TYPE DISPENSER IN THE TABLE SHOWN BELOW.
   b. MULTIPLY EACH QUANTITY BY THE PAIRS/UNIT QUANTITY TO GET THE TOTAL.
   c. ADD THE TOTALS FROM STEP 2. IF THE GRAND TOTAL EXCEEDS 16, A SECOND DATA DISTRIBUTION CABINET IS REQUIRED.
3. INTERCONNECT PANEL FOR PERIPHERAL EQUIPMENT: SEE APPLICABLE INSTALLATION INSTRUCTIONS FOR CABLING REQUIREMENTS.

DATA DISTRIBUTION (DD) PAIR CALCULATION			
EQUIPMENT DESCRIPTION	SITE QTY.	PAIRS/UNIT	TOTAL
DD-PREFIX DISPENSER		1	
NON-DD PREFIX DISPENSER WITHOUT DCPT		2	
NON-DD PREFIX DISPENSER WITH DCPT		1	

Figure D-1 Backroom Installation - Wayne Management Control System.

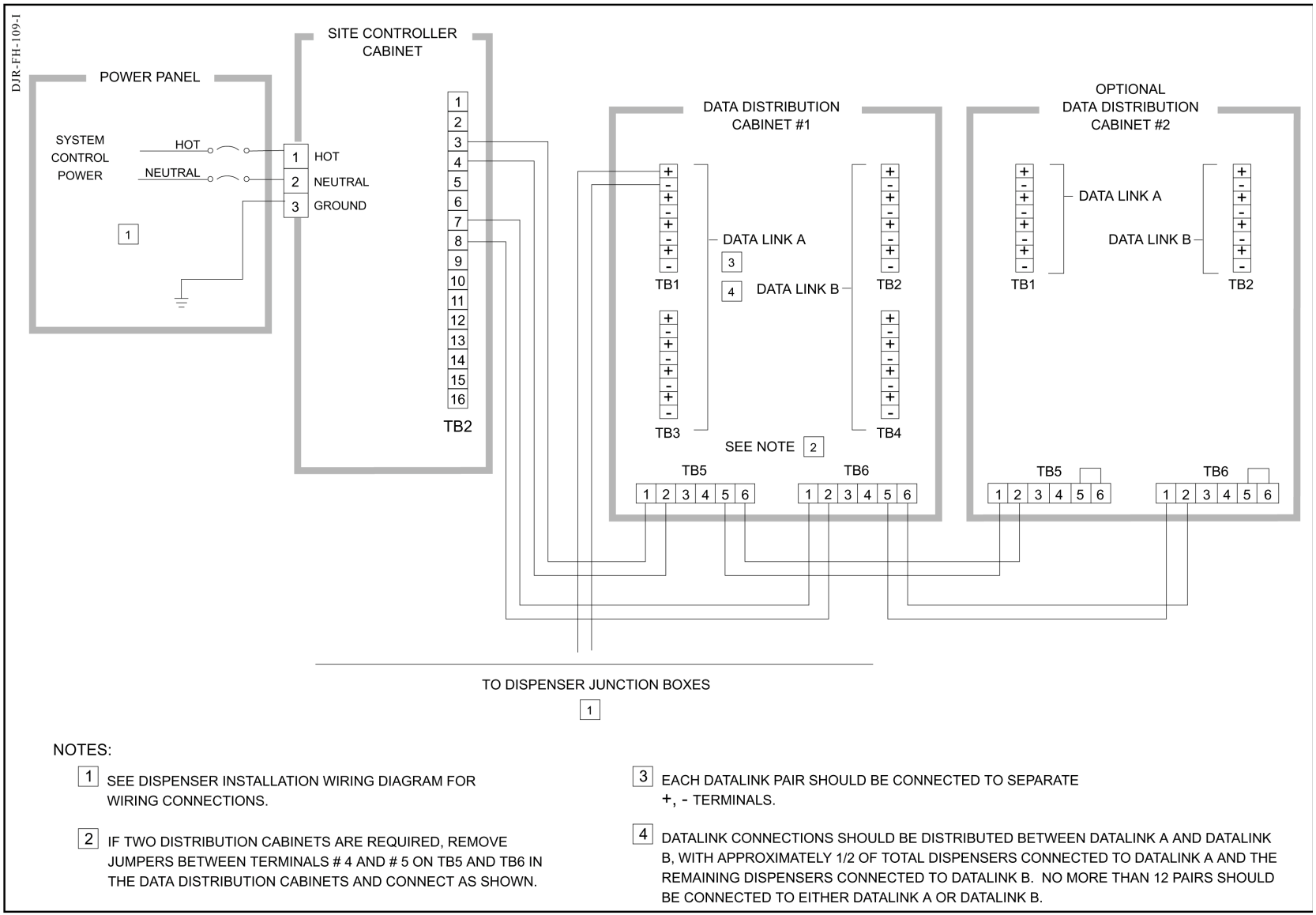


Figure D-2 Interconnection Wiring Diagram - Data Distribution Cabinet To Dispensers.

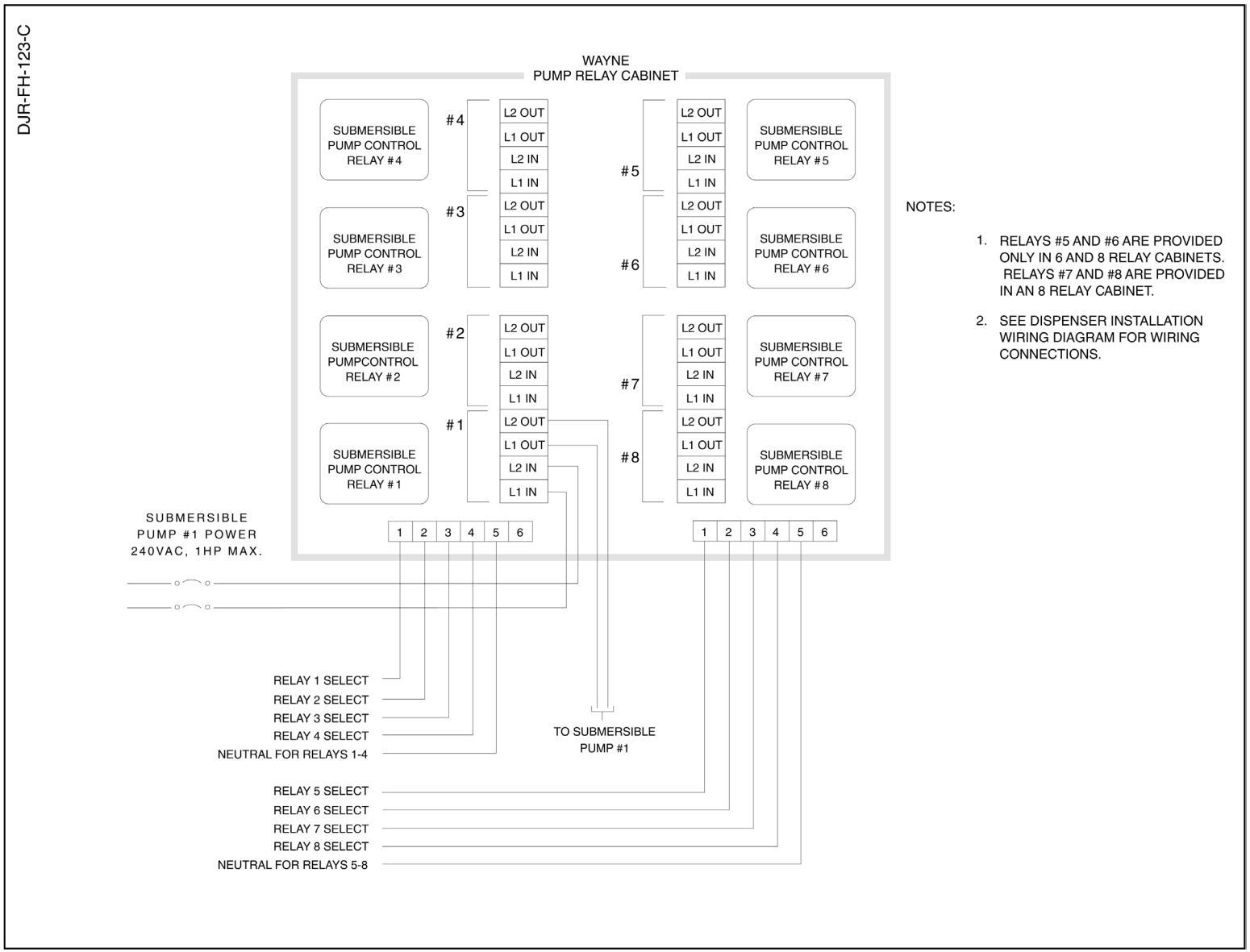


Figure D-3 Pump Relay Installation Wiring Diagram.

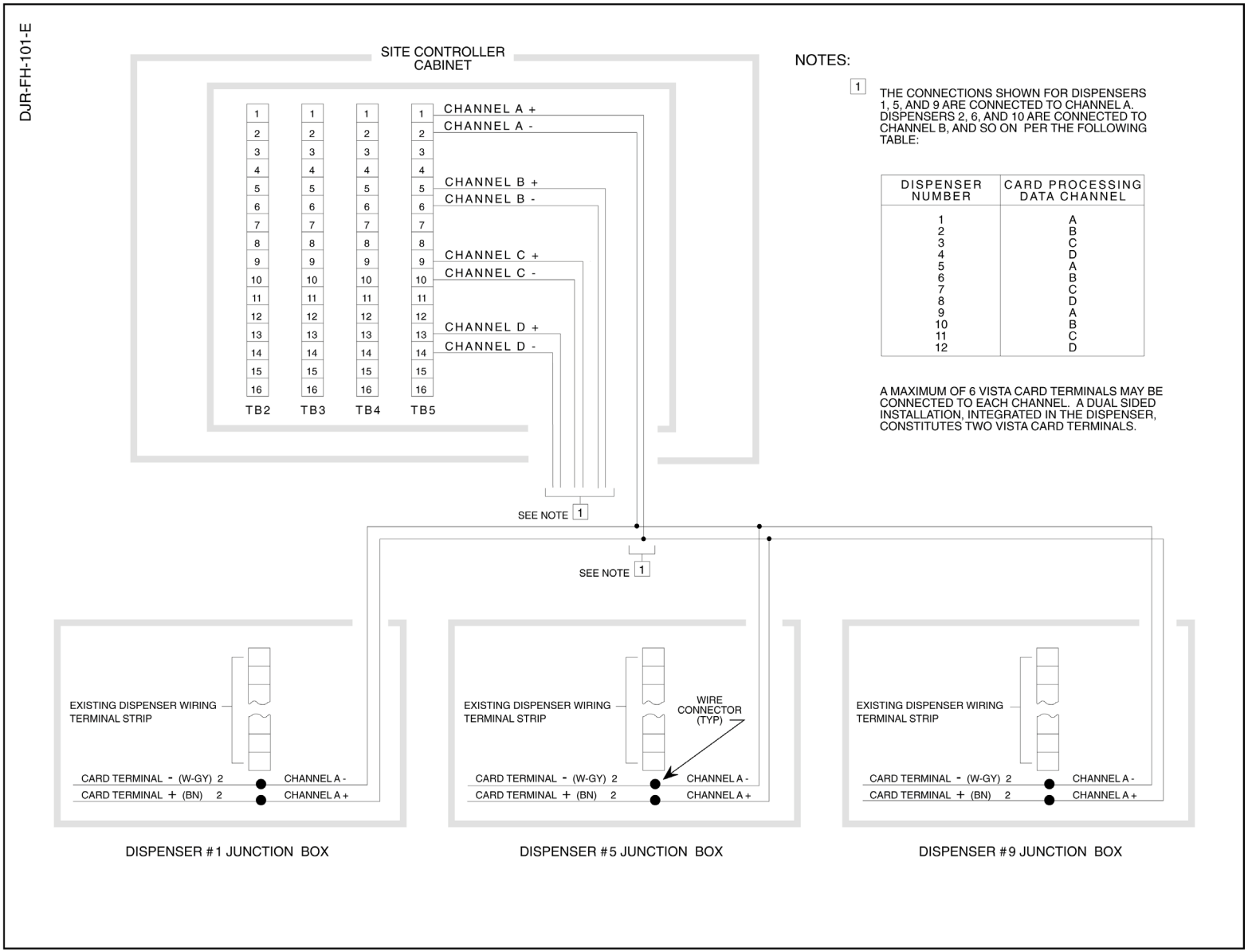


Figure D-4 Interconnection Wiring Diagram - Dispenser Card Processing (CATs) .

INSTALLATION & OPERATION MANUAL

3/Vista Series Blending and Non-blending Suction Pumps and Remote Dispensers

Written by S. G. Martin

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