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Patric Conroy
Licensing Manager
Indian Point Energy Center

October 27, 2005

Re: Indian Point Unit 2
Docket No. 50-247
NL-05-118

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Reply to RAI regarding Request for Relief From System Hydrostatic Test Requirements for Large Bore Pipe IP2-RR-74 (TAC MC7307)

- References:
1. NRC letter dated September 29, 2005; "Request for Additional Information Regarding Request for Relief From System Hydrostatic Test Requirements for Large Bore Pipe (TAC MC7307)".
 2. Entergy letter to NRC (NL-05-073) dated June 8, 2005; "Request for Relief from System Hydrostatic Test Requirements for Large Bore (> 1 inch), ASME Code Class 1 Reactor Coolant Pressure Boundary (RCPB), Process, Drain, Test, and Flush Lines and Connections".

Dear Sir;

Entergy Nuclear Operations, Inc. is providing a response to the NRC request for additional information in Reference 1 regarding the Request for Relief From System Hydrostatic Test Requirements for Large Bore Pipe (Reference 2) for Indian Point 2 (IP2). The responses to questions are provided in Attachment 1.

There are no new commitments identified in this submittal. If you have any questions or require additional information, please contact Mr. Patric W. Conroy, Licensing Manager at 914-734-6668.

Very truly yours,

A handwritten signature in black ink, appearing to read "Patric W. Conroy".

Patric W. Conroy
Licensing Manager
Indian Point Energy Center

AOCT

Attachment 1: Reply To NRC, "Request For Additional Information Regarding Request For Relief From System Hydrostatic Test Requirements For Large Bore Pipe (TAC MC7307)".

Attachment 2: Relief Request #74 Pipe Segment Data

Attachment 3: Relief Request #74 Isometric Drawings

**cc: Regional Administrator, Region 1
 U.S. Nuclear Regulatory Commission**

**Resident Inspector's Office
Indian Point Unit 2
U.S. Nuclear Regulatory Commission**

**Mr. John P. Boska, Sr. Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
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U.S. Nuclear Regulatory Commission**

**Mr. Peter R. Smith, President
NYSERDA**

**Mr. Paul Eddy
New York State Department of Public Service**

Attachment 1 TO NL-05-118

**REPLY TO NRC, "REQUEST FOR ADDITIONAL INFORMATION REGARDING
REQUEST FOR RELIEF FROM SYSTEM HYDROSTATIC TEST REQUIREMENTS
FOR LARGE BORE PIPE (TAC MC7307)".**

**ENTERGY NUCLEAR OPERATIONS, INC
INDIAN POINT NUCLEAR GENERATING UNIT 2
DOCKET 50-247**

Request for Additional Information
NRC letter dated September 29, 2005 (TAC NO. M7307)

The following responses are provided based on Nuclear Regulatory Commission (NRC) staff questions from the submittal review:

1. Please confirm the start and end dates for the third 10-year in-service inspection (ISI) interval at IP2.

Response: IP2 third 10-year interval started on July 1, 1994 and will end on December 31, 2006. The interval has been extended due to outages greater than six months and to coincide with a refueling outage as allowed by the 1989 Edition of the ASME Boiler and Pressure Vessel Code paragraph IWA-2430(e) and IWA-2430(d) respectively.

2. Requirements for pressure testing found in both the ASME Code and ASME Code Case N-498-4 were cited in Relief Request (RR) RR-74. ASME Code Case N-498-4 is an alternative to certain ASME Code requirements for hydrostatic pressure testing of ASME Class 1, 2, and 3 components, and is approved in Revision 13 of Regulatory Guide (RG) 1.147, "In-service Inspection Code Case Acceptability, ASME Section XI, Division 1," for general use, provided the licensee meets the stated condition that hold times during these pressure tests are maintained according to the 1989 Edition of ASME Code, Section XI. The licensee's proposal contains references to both ASME Code and ASME Code Case N-498-4 requirements, therefore, it appears the licensee has adopted the alternatives described in the ASME Code Case N-498-4 (with the condition imposed), in conjunction with associated ASME Code requirements that are required for pressure testing of the subject components. Please note that ASME Code Case N-498-4 is a voluntary alternative to ASME Code requirements and the staff expects that ASME Code Cases approved in RG 1.147 will be adopted in their entirety. Further, Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.55a(a)(3), allows licensees to propose alternatives to ASME Code requirements, provided (i) an acceptable level of quality and safety will be realized by the alternative, or (ii) existing ASME Code or CFR requirements would impose an unusual hardship or difficulty without a compensating increase in quality and safety. However, no mechanism for evaluating a licensee's proposal to an existing, NRC approved, voluntary alternative, is allowed by the provisions at 10 CFR 50.55a(a)(3). This would, in effect, be providing an alternative to an alternative.

The issue related to test pressures and temperatures for the piping segments defined in RR-74 should be addressed as a stand alone alternative to ASME Code requirements, not as an alternative to ASME Code Case N-498-4. Please revise the proposal accordingly, re-state the basis for the alternative, describe the hardship or unusual difficulty that would be incurred if the ASME Code or CFR requirements are imposed, and clearly define all conditions or provisions that will be met by the proposed alternative.

Response: Entergy is proposing to use a "system leakage test" described in IWB-5221 in lieu of the "system hydrostatic test" described in IWB-5222 that is required at the end of the 10-year interval. Code Case N-498-4 was inadvertently cited in the original relief request submittal, under Section 5.0, "Proposed Alternative", 3rd paragraph, "Small Size Class 1 System Drain, Test and Flush Lines". It is proposed that the words "Code Case N-498-4" be replaced with "*proposed*" in the same paragraph. The following paragraph is a reprint of the complete paragraph as proposed:

Small Size Class I System Drain, Test and Flush Lines

Relief is requested from fully pressurizing piping between the first and second isolation device. There are nine lines of 2-inch or 3-inch diameter listed in Attachment 1 for use as drains, test and flush lines. The configurations are two isolation valves in series or a valve and a blind flange. In some configurations, the piping segment may tee to additional lines where an additional valve, cap or flange provides the second boundary. The piping segments provide the design required double isolation barrier for the reactor coolant pressure boundary. The proposed system leakage test would be performed at pressure associated with 100% reactor power where temperature shall not exceed the limiting temperature for the corresponding pressure (IWB-5230(a)). Pressure testing of these piping segments at nominal operating pressure would require the opening of the inboard isolation valve at normal operating RCS pressure conditions. Opening the inboard isolation valve is contrary to the design double-barrier requirement and introduces potential risk for spills and personnel contamination. Opening of the inboard valve introduces the possibility of a personnel safety hazard if a flange fails in the presence of inspection personnel.

3. For each of the piping segments listed in the table in the proposed alternative, please provide the piping material, piping design pressure and proposed test pressure. In addition, submit the isometric drawings associated with the piping segments.

Response: The piping material, piping design pressure and proposed test pressure are given for the pipe segments listed in Attachment 2. As stated in the relief request there is no alternate test pressure since the pressure-side isolation will not be opened or bypassed. All the referenced isometric drawings for the relevant piping are provided in Attachment 3.

4. For the piping segments discussed in RR-74, list any other examinations that are conducted to ensure structural or leakage integrity. Specifically, describe any volumetric or surface examinations being performed as part of the current ISI program, and list any indications that have resulted from these examinations.

Response: The examinations and any indications are listed in Attachment 2.

5. State the operating pressures and temperatures of these piping segments during a plant event that requires safety injection, (i.e., operation of the lines). Include a discussion regarding why the proposed pressure and temperature is adequate to ensure leakage integrity for these lines.

Response: There are no proposed pressures or temperatures since the pressure-side isolation valve will not be opened or bypassed. The drain valves will not be operated in a safety injection transient. The residual heat removal and safety injection segments will be subject to pressures and temperatures less than the design pressure and temperature of the respective supply systems. The information for each segment is provided in Attachment 2.

6. In Section 6 of RR-74, "Basis for Relief Request," it is stated that there would be additional radiation exposure to plant personnel if the ASME Code system leakage test was performed to the full system boundary, but an estimated radiation dose to plant personnel was not provided. For each item in attachment 1 of your submittal, please provide the estimated dose savings which would result if this relief was approved.

Response: The estimated dose savings is provided for each segment in Attachment 2.

ATTACHMENT 2 TO NL-05-118

RELIEF REQUEST #74 PIPE SEGMENT DATA

(4 PAGES)

**ENTERGY NUCLEAR OPERATIONS, INC
INDIAN POINT NUCLEAR GENERATING UNIT 2
DOCKET 50-247**

NL-05-118 Attachment 2
IP#2 RELIEF REQUEST#74 PIPE SEGMENT DATA

#	Pipe Segment	Schedule Diameter	Line No.	Pipe Material	Pipe Design Pressure	Proposed Test Pressure	Transient Press/Temp	Other SI Examinations	ISO Dwg No.	Length	Dose Savings	Request
1	Regenerative Heat Exchanger flush taps.	SCH 160 3" Dia	# 19	A 376 Type 316	2580 psig	NONE	NONE - dead leg remains isolated	PT on 19-5AA in 2000. No indication.	206684	< 1 ft	2.82 mr	Relief is requested from cycling valve 4970 in order to pressurize downstream pipe piece and blank.
2	Regenerative Heat Exchanger flush taps.	SCH 160 3" Dia	# 27	A 376 Type 316	2580 psig	NONE	NONE - dead leg remains isolated	PT on 27-12AA in 2000. No indication.	206685	< 1 ft	0.33 mr	Relief is requested from cycling valve 4972 in order to pressurize downstream pipe piece and blank.
3	Regenerative Heat Exchanger flush taps.	SCH 160 3" Dia	# 80	A 376 Type 316	2580 psig	NONE	NONE - dead leg remains isolated	PT on 80-10AA in 1997. No indication.	206714	< 1 ft	575 mr	Relief is requested from cycling valve 4978 in order to pressurize downstream pipe piece and blank.
4	Regenerative Heat Exchanger flush taps.	SCH 160 3" Dia	# 64	A 376 Type 316	2580 psig	NONE	NONE - dead leg remains isolated	No inspection performed	206711	< 1 ft	67 mr	Relief is requested from cycling valve 4974 in order to pressurize downstream pipe piece and blank.
5	Regenerative Heat Exchanger flush taps.	SCH 160 3" Dia	# 79	A 376 Type 316	2580 psig	NONE	NONE - dead leg remains isolated	No inspection performed	206713	< 1 ft	575 mr	Relief is requested from cycling valve 4976 in order to pressurize downstream pipe piece and blank.
6	Reactor Coolant System loop drain lines.	SCH 160 2" Dia	# 81	A 376 Type 316	2580 psig	NONE	NONE - dead leg remains isolated	PT on 81-6, 81-7, 81-8 in 1997. No indication.	206715	1 ft	13 mr	Relief is requested from cycling valve 508A in order to pressurize downstream pipe piece and valves 508B and 542.
7	Reactor Coolant System loop drain lines.	SCH 160 2" Dia	# 82	A 376 Type 316	2580 psig	NONE	NONE - dead leg remains isolated	No inspection performed	206716	1 ft	13 mr	Relief is requested from cycling valve 505A in order to pressurize downstream pipe piece and valve 505B.

NL-05-118 Attachment 2
IP#2 RELIEF REQUEST#74 PIPE SEGMENT DATA

#	Pipe Segment	Schedule Diameter	Line No.	Pipe Material	Pipe Design Pressure	Proposed Test Pressure	Transient Press/Temp	Other SI Examinations	ISO Dwg. No.	Length	Dose Savings	Request
8	Reactor Coolant System loop drain lines.	SCH 160 2" Dia	# 83	A 376 Type 316	2580 psig	NONE	NONE - dead leg remains isolated	No inspection performed	206717	1 ft	13 mr	Relief is requested from cycling valve 511A in order to pressurize downstream pipe piece and valve 511B.
9	Reactor Coolant System loop drain lines.	SCH 160 2" Dia	# 84	A 376 Type 316	2580 psig	NONE	NONE - dead leg remains isolated	PT on 84-6 in 2000. No indication.	206718	1 ft	13 mr	Relief is requested from cycling valve 515A in order to pressurize downstream pipe piece and valve 515B.
10	Residual Heat Removal Line from the Reactor Coolant System.	SCH 140 14" Dia	# 10	A 376 Type 316	2580 psig	NONE	700 psig / 400 deg F. Taken from IP2 UFSAR 6.2.2.3.13 Piping as a Design Parameter for RHR. The transient conditions will not exceed these values.	UT and PT on 10-17, 10-18 in 2000. No indication.	206669	75 ft	NONE	Relief is requested from cycling valve 731 in order to pressurize downstream pipe piece and valve 730.
11	Safety Injection and Residual Heat Removal Lines to the Reactor Coolant System.	SCH 140 10" Dia SCH 160 6" Dia SCH 160 2" Dia	# 351 # 355 # 56	A 376 Type 316	2580 psig	NONE	1500 psig / 300 deg F. Taken from IP2 UFSAR 6.2.2.3.13 Piping as a Design Parameter for SI. The transient conditions will not exceed these values.	PT on 56-91 in 1997. No indication.	206903 206906 206700	28 ft and 2 ft and 1 ft	NONE	Relief is requested from installing and removing temporary jumper hoses from downstream of 897A check valve to pressurize upstream piping.
12	Safety Injection and Residual Heat Removal Lines to the Reactor Coolant System.	SCH 140 10" Dia SCH 160 6" Dia	# 352 # 356	A 376 Type 316	2580 psig	NONE	700 psig / 400 deg F. Taken from IP2 UFSAR 6.2.2.3.13 Piping as a Design Parameter for RHR. The transient conditions will not exceed these	No inspection performed	206904 206907	12 ft and < 1 ft	NONE	Relief is requested from installing and removing temporary jumper hoses from downstream of 897B check valve to pressurize upstream piping.

NL-05-118 Attachment 2
IP#2 RELIEF REQUEST#74 PIPE SEGMENT DATA

#	Pipe Segment	Schedule Diameter	Line No.	Pipe Material	Pipe Design Pressure	Proposed Test Pressure	Transient Press/Temp values.	Other SI Examinations	ISO Dwg No.	Length	Dose Savings	Request
13	Safety Injection and Residual Heat Removal Lines to the Reactor Coolant System.	SCH 140 10" Dia SCH 160 6" Dia SCH 160 2" Dia	# 353 # 358 # 56	A 376 Type 316	2580 psig	NONE	1500 psig / 300 deg F. Taken from IP2 UFSAR 6.2.2.3.13 Piping as a Design Parameter for SI. The transient conditions will not exceed these values.	UT and PT on 353-6 in 1995. Root geometry found and accepted on the UT. Minor indication found and accepted during PT.	206905 206908 206701	10 ft and 12 ft and 3 ft	NONE	Relief is requested from installing and removing temporary jumper hoses from downstream of 897C check valve to pressurize upstream piping.
14	Safety Injection and Residual Heat Removal Lines to the Reactor Coolant System.	SCH 140 10" Dia SCH 160 6" Dia	# 350 # 361	A 376 Type 316	2580 psig	NONE	700 psig / 400 deg F. Taken from IP2 UFSAR 6.2.2.3.13 Piping as a Design Parameter for RHR. The transient conditions will not exceed these values.	No inspection performed	206901 206910	18 ft and < 1 ft	NONE	Relief is requested from installing and removing temporary jumper hoses from downstream of 897D check valve to pressurize upstream piping.
15	Safety Injection Lines to the Reactor Coolant System.	SCH 160 2" Dia	# 16	A 376 Type 316	2580 psig	NONE	1500 psig / 300 deg F. Taken from IP2 UFSAR 6.2.2.3.13 Piping as a Design Parameter for SI. The transient conditions will not exceed these values.	PT on 16-48,16-49,16-50,16-51,16-51A in 1997. No indication.	206683	87 ft	NONE	Relief is requested from installing and removing temporary jumper hoses from downstream of 857A check valve to pressurize upstream piping.

NL-05-118 Attachment 2
IP#2 RELIEF REQUEST#74 PIPE SEGMENT DATA

#	Pipe Segment	Schedule Diameter	Line No.	Pipe Material	Pipe Design Pressure	Proposed Test Pressure	Transient Press/Temp	Other SI Examinations	ISO Dwg No.	Length	Dose Savings	Request
16	Safety Injection Lines to the Reactor Coolant System.	SCH 160 2" Dia	# 56	A 376 Type 316	2580 psig	NONE	1500 psig / 300 deg F. Taken from IP2 UFSAR 6.2.2.3.13 Piping as a Design Parameter for SI. The transient conditions will not exceed these values.	PT on 56-10,56-11,56-12,56-13,56-22,56-23,56-24,56-24.1,56-24.2,56-25,56-26 in 1997. Minor indication found and accepted on 56-24.2.	206702	61 ft	NONE	Relief is requested from installing and removing temporary jumper hoses from downstream of 857B check valve to pressurize upstream piping.
17	Safety Injection Lines to the Reactor Coolant System.	SCH 160 2" Dia	# 16	A 376 Type 316	2580 psig	NONE	1500 psig / 300 deg F. Taken from IP2 UFSAR 6.2.2.3.13 Piping as a Design Parameter for SI. The transient conditions will not exceed these values.	No inspection performed	206682	37 ft	NONE	Relief is requested from installing and removing temporary jumper hoses from downstream of 857C check valve to pressurize upstream piping.
18	Safety Injection Lines to the Reactor Coolant System.	SCH 160 2" Dia	# 16	A 376 Type 316	2580 psig	NONE	1500 psig / 300 deg F. Taken from IP2 UFSAR 6.2.2.3.13 Piping as a Design Parameter for SI. The transient conditions will not exceed these values.	No inspection performed	206683	15 ft	NONE	Relief is requested from installing and removing temporary jumper hoses from downstream of 857D check valve to pressurize upstream piping.

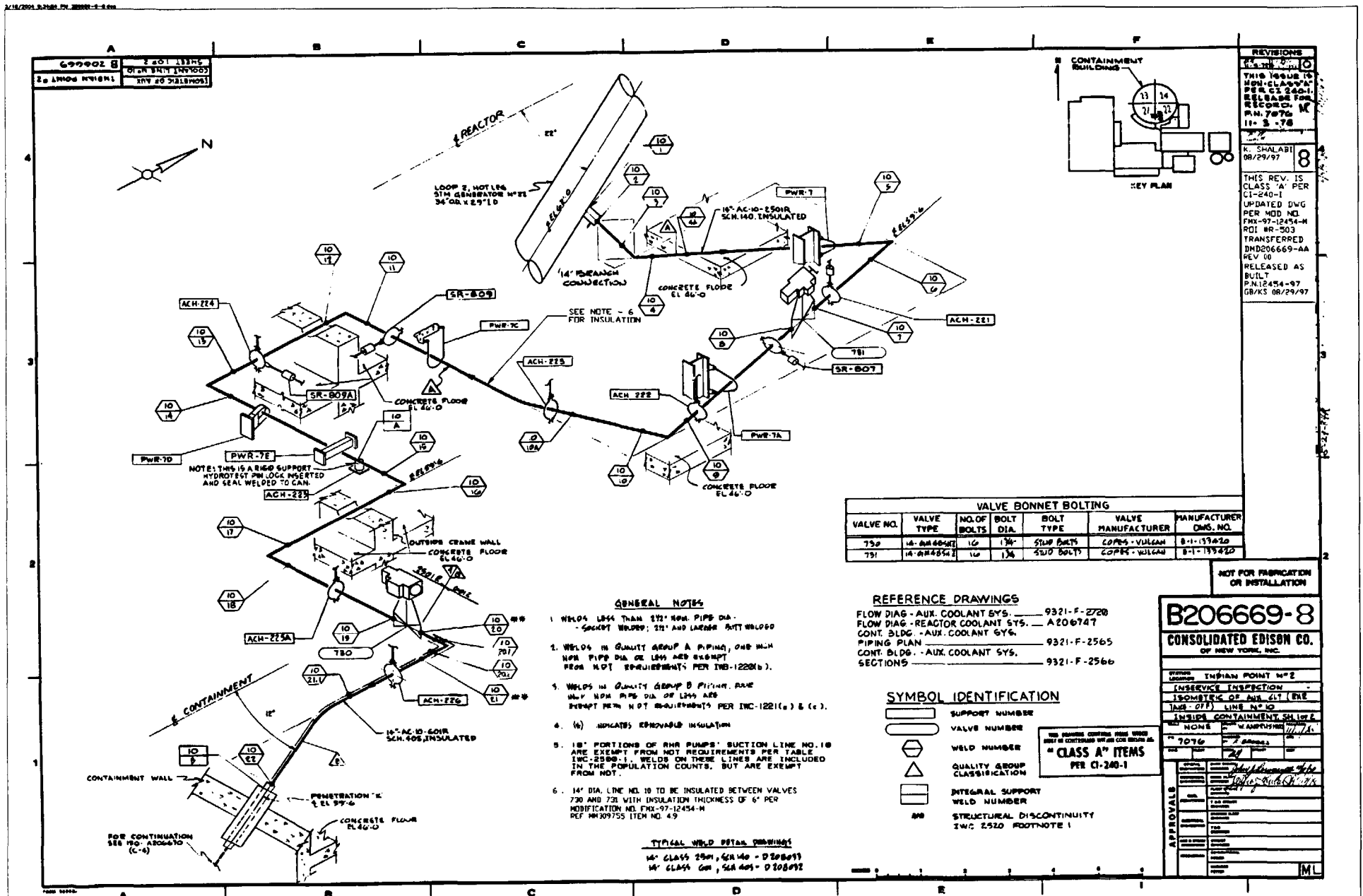
ATTACHMENT 3 TO NL-05-118

RELIEF REQUEST #74 ISOMETRIC DRAWINGS

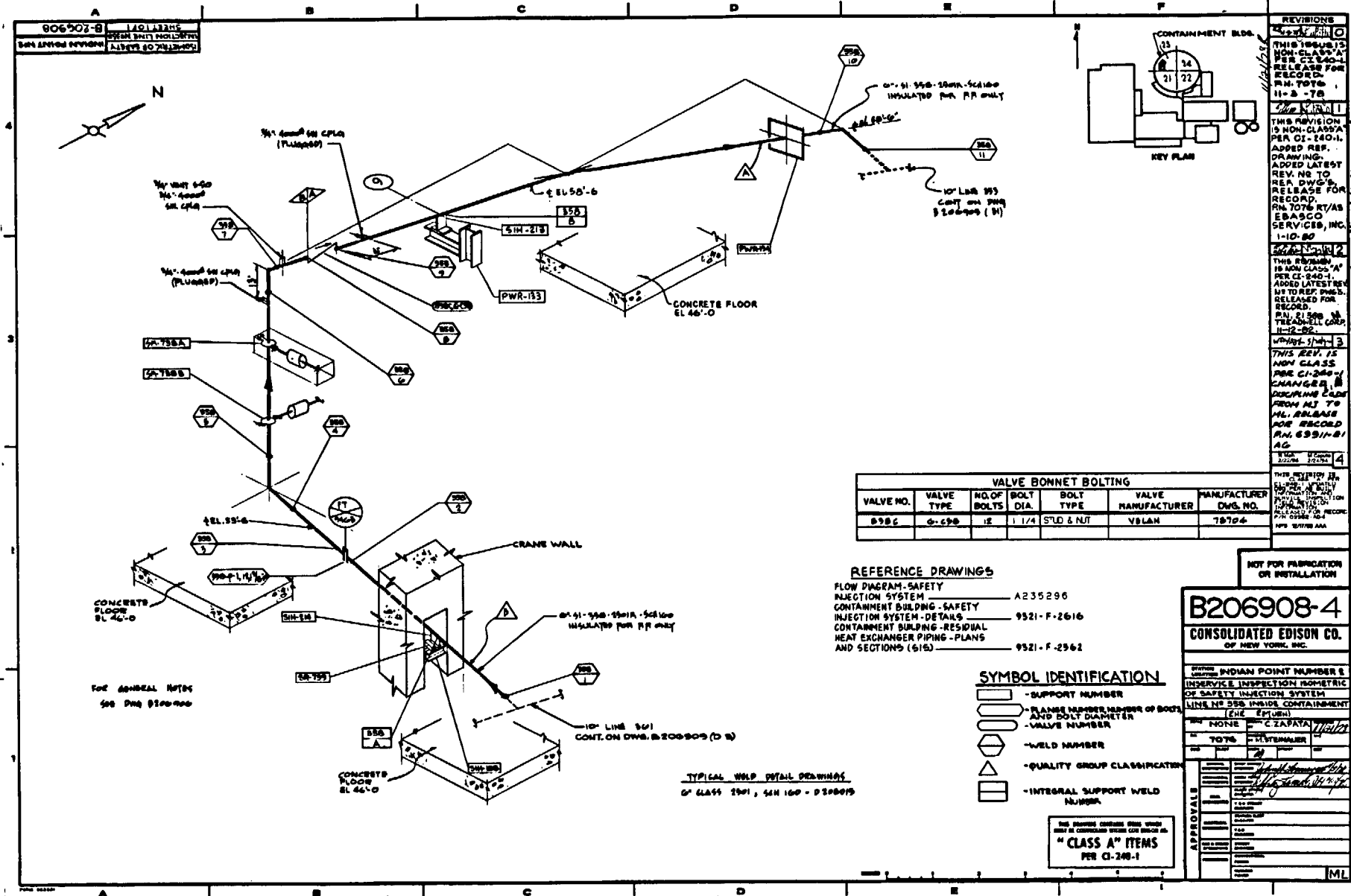
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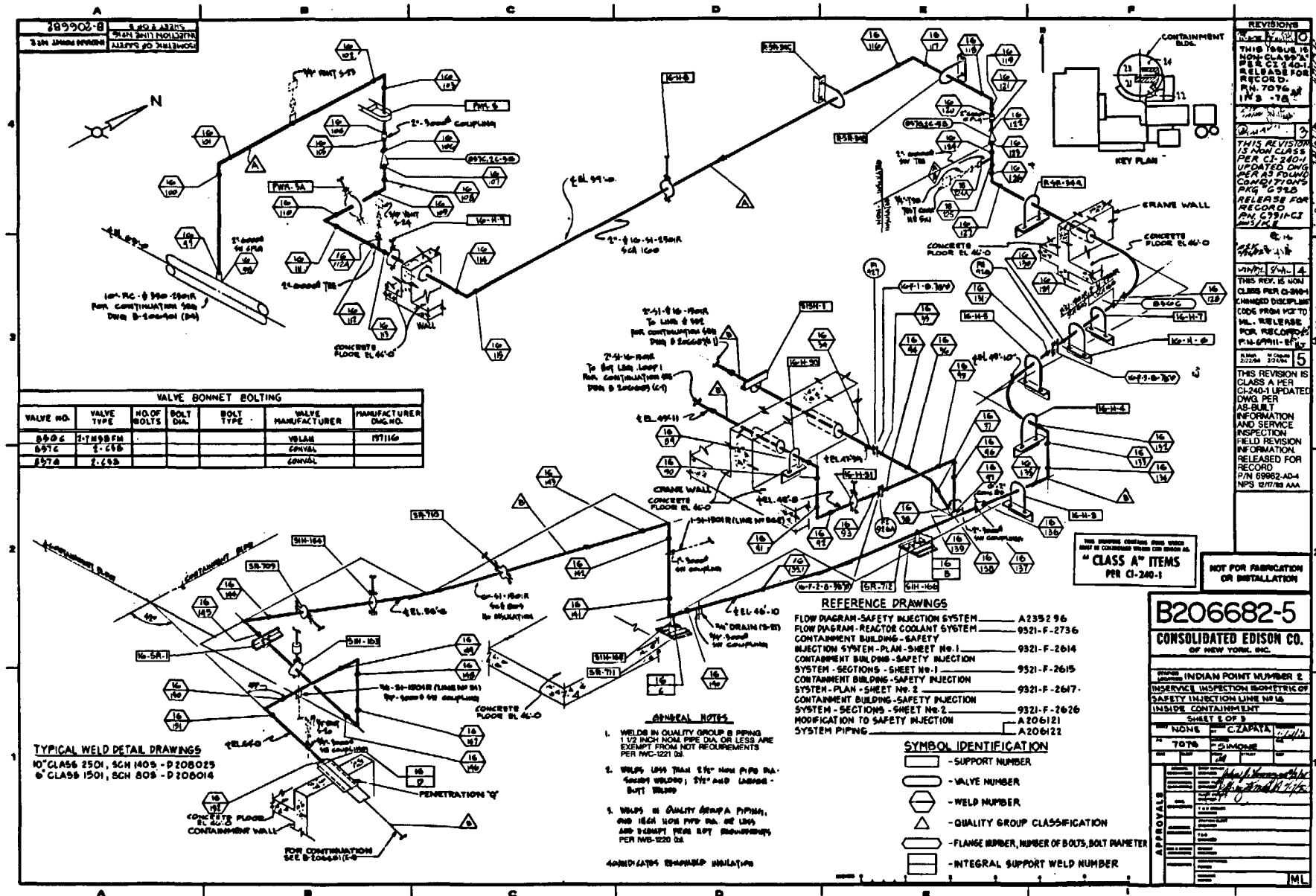
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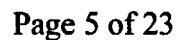
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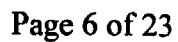
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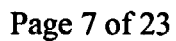
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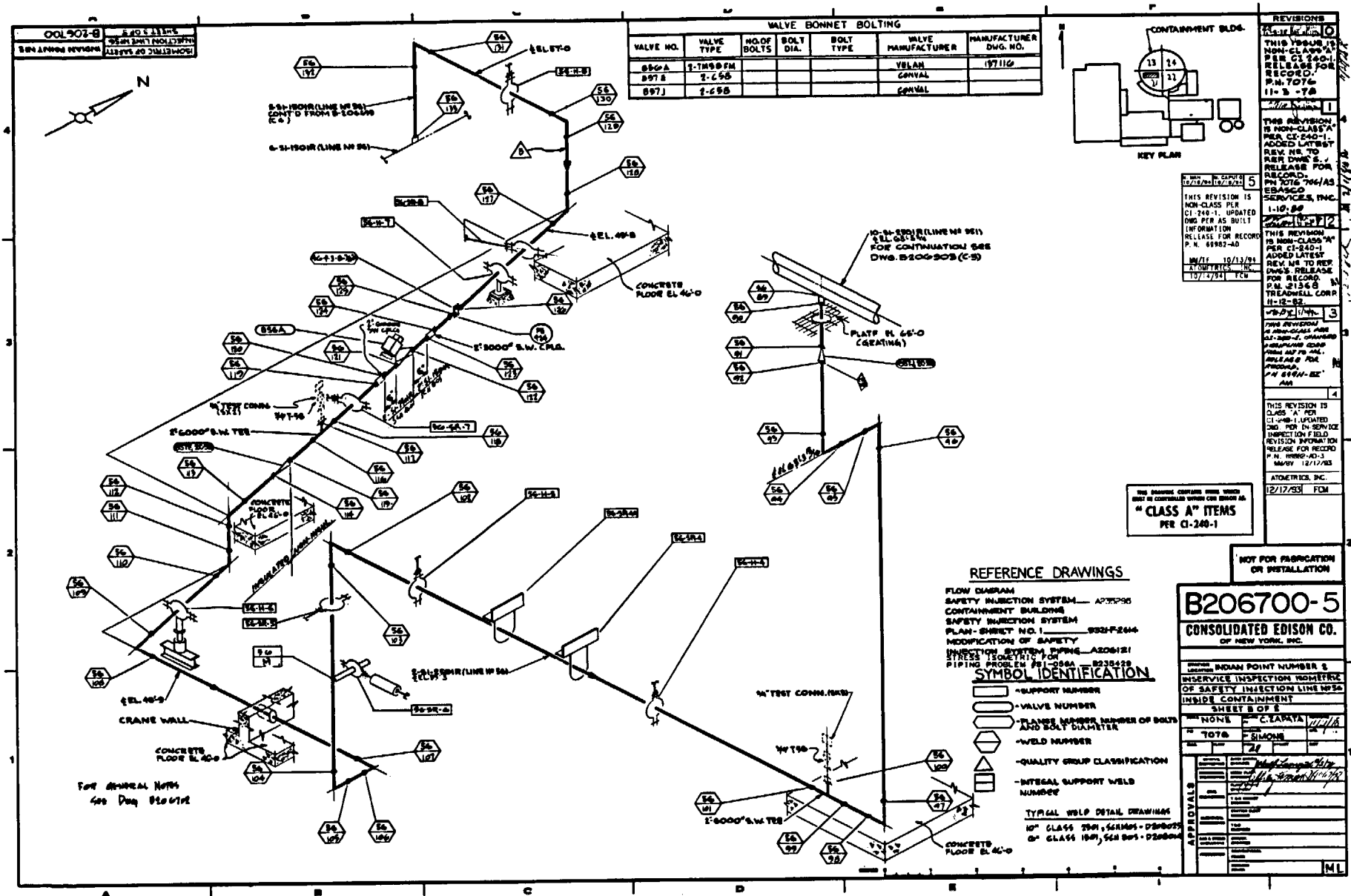
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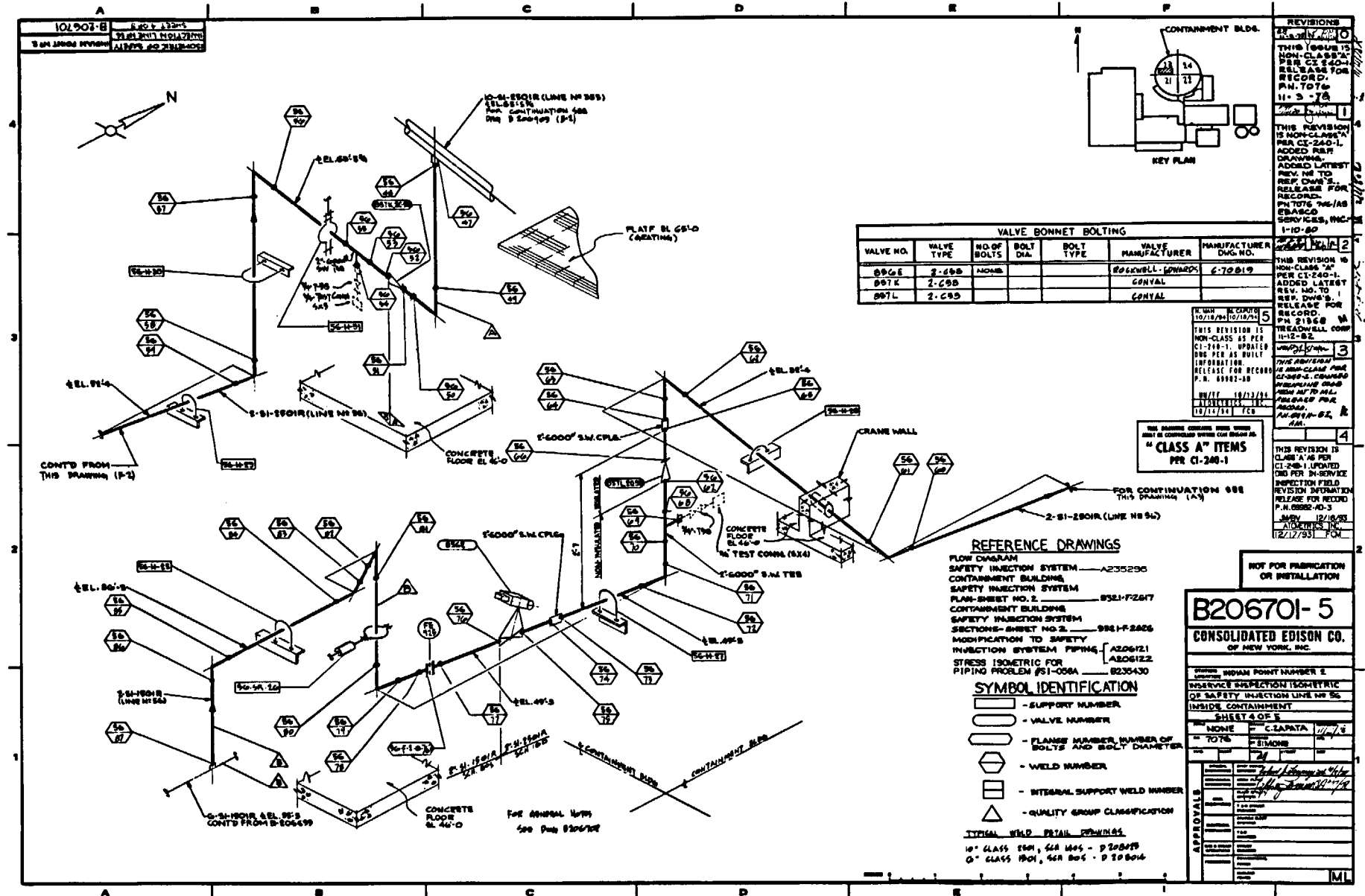


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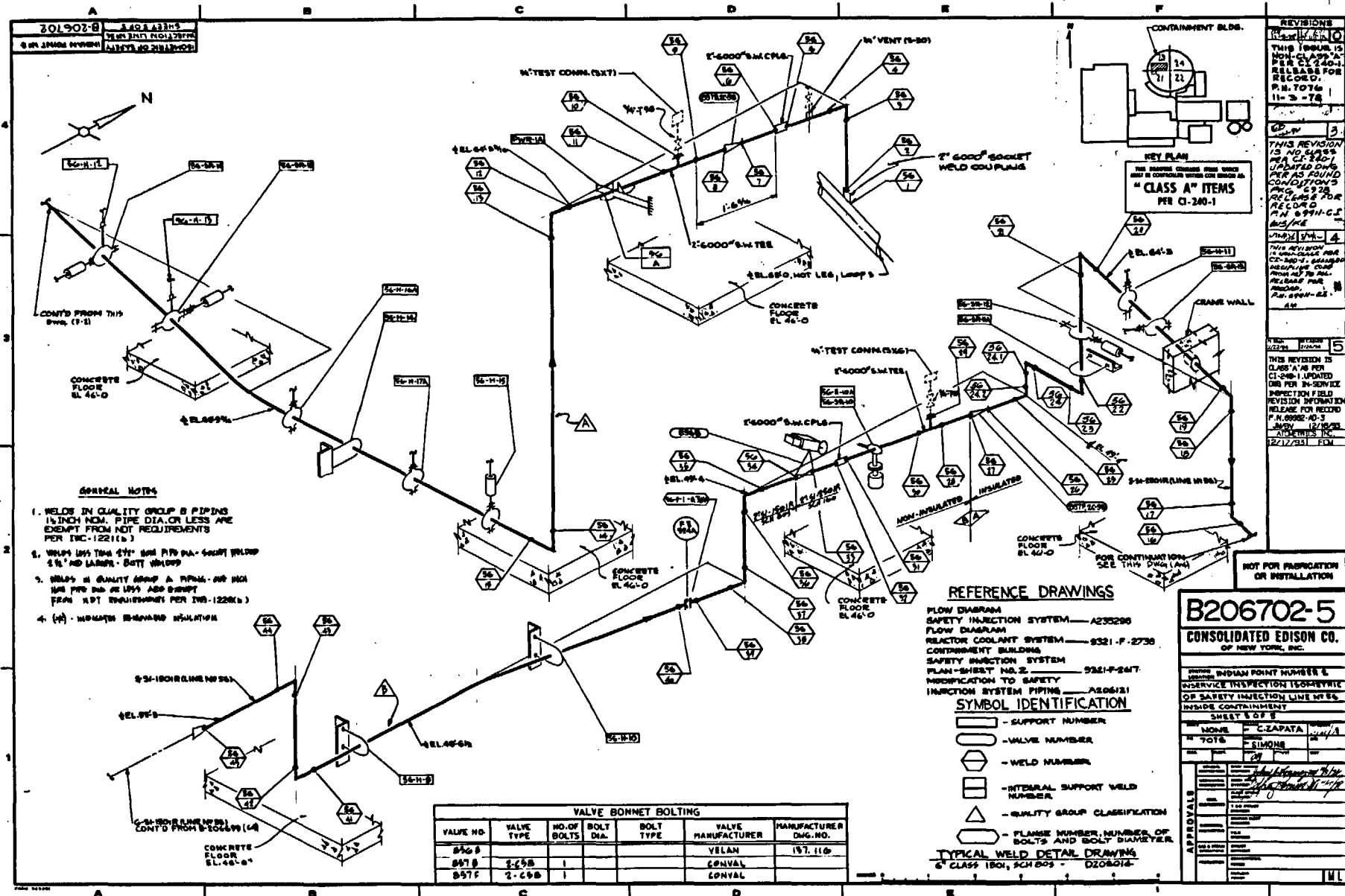


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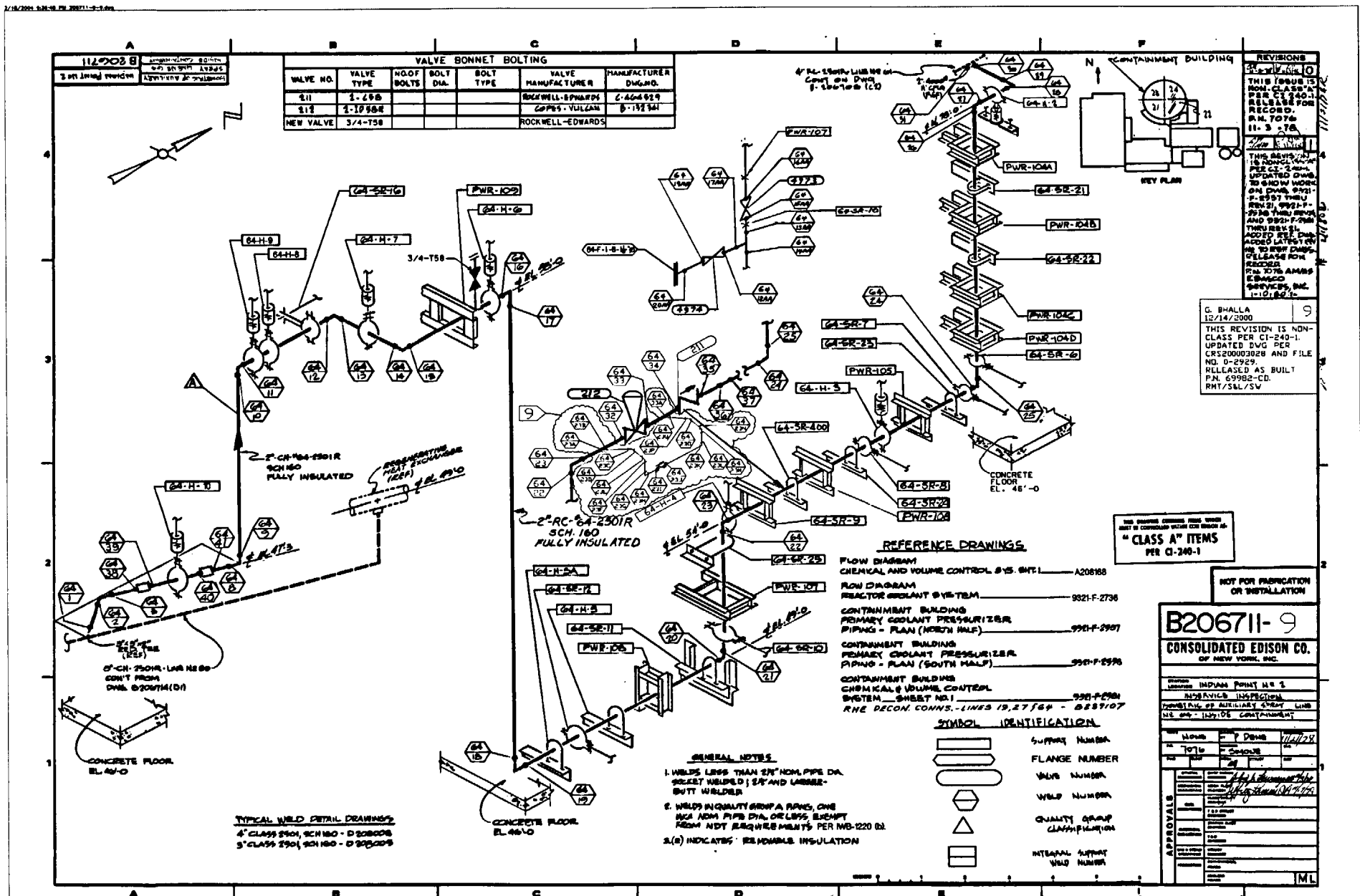
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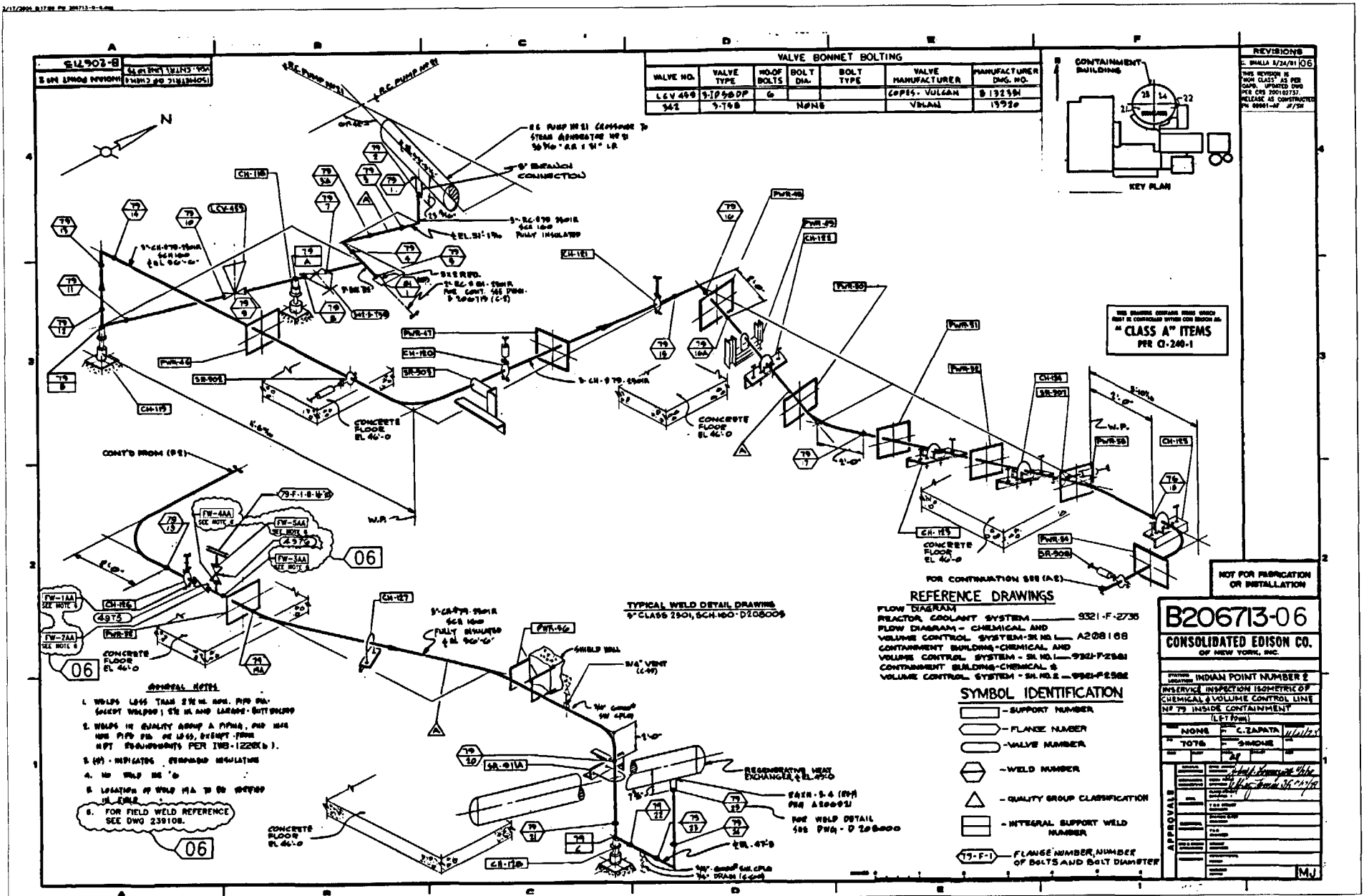
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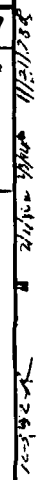
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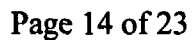
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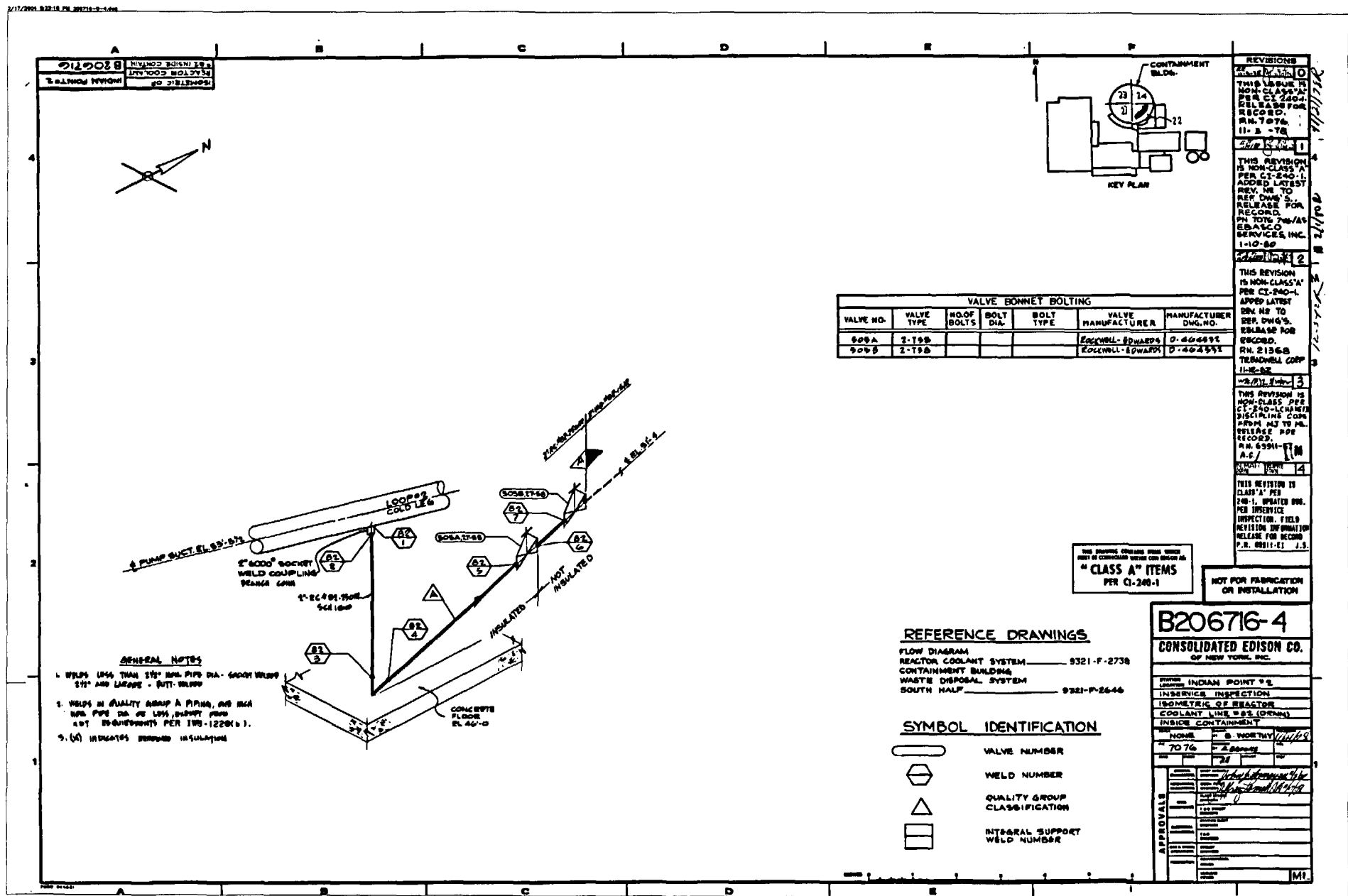
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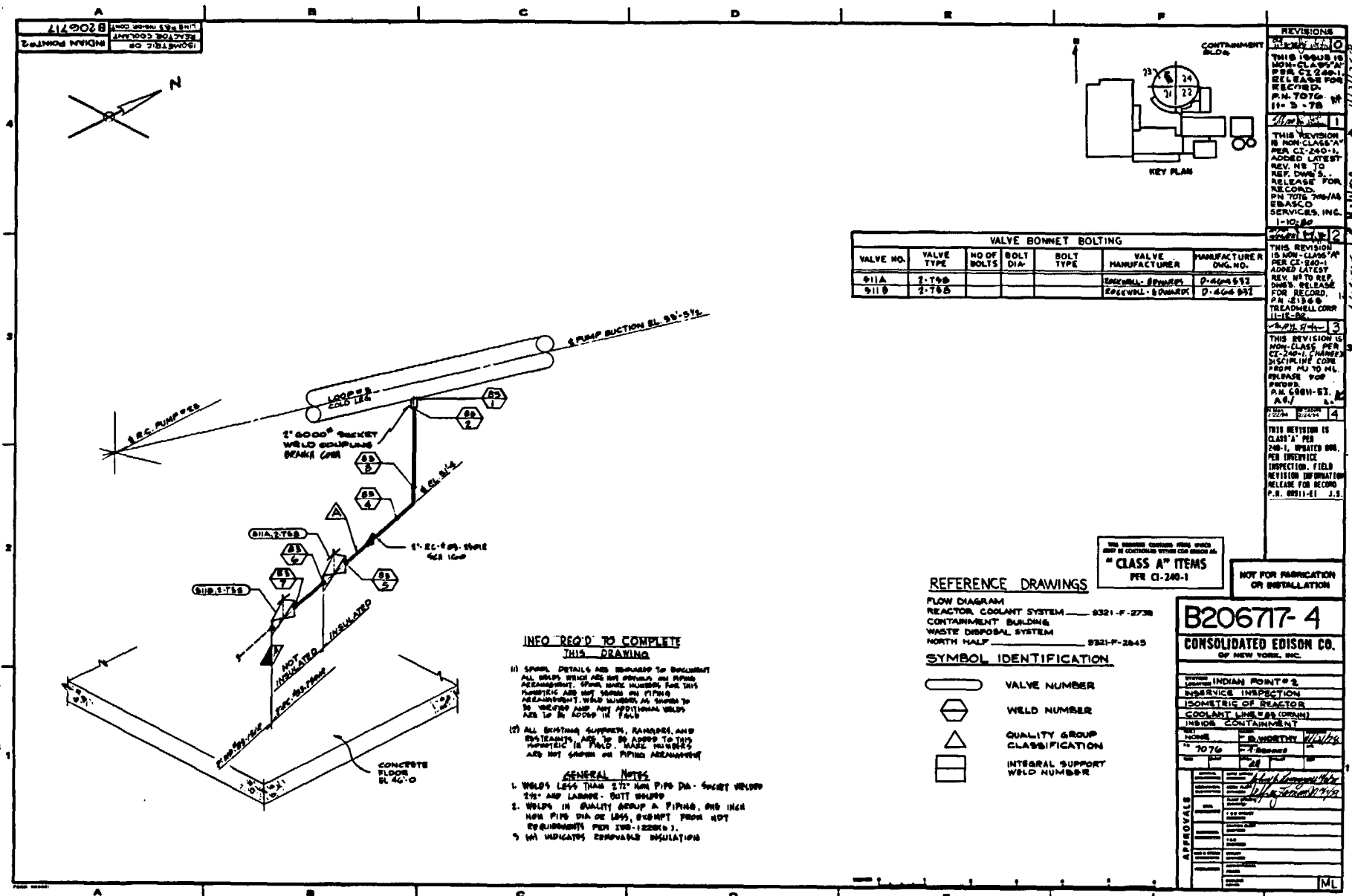
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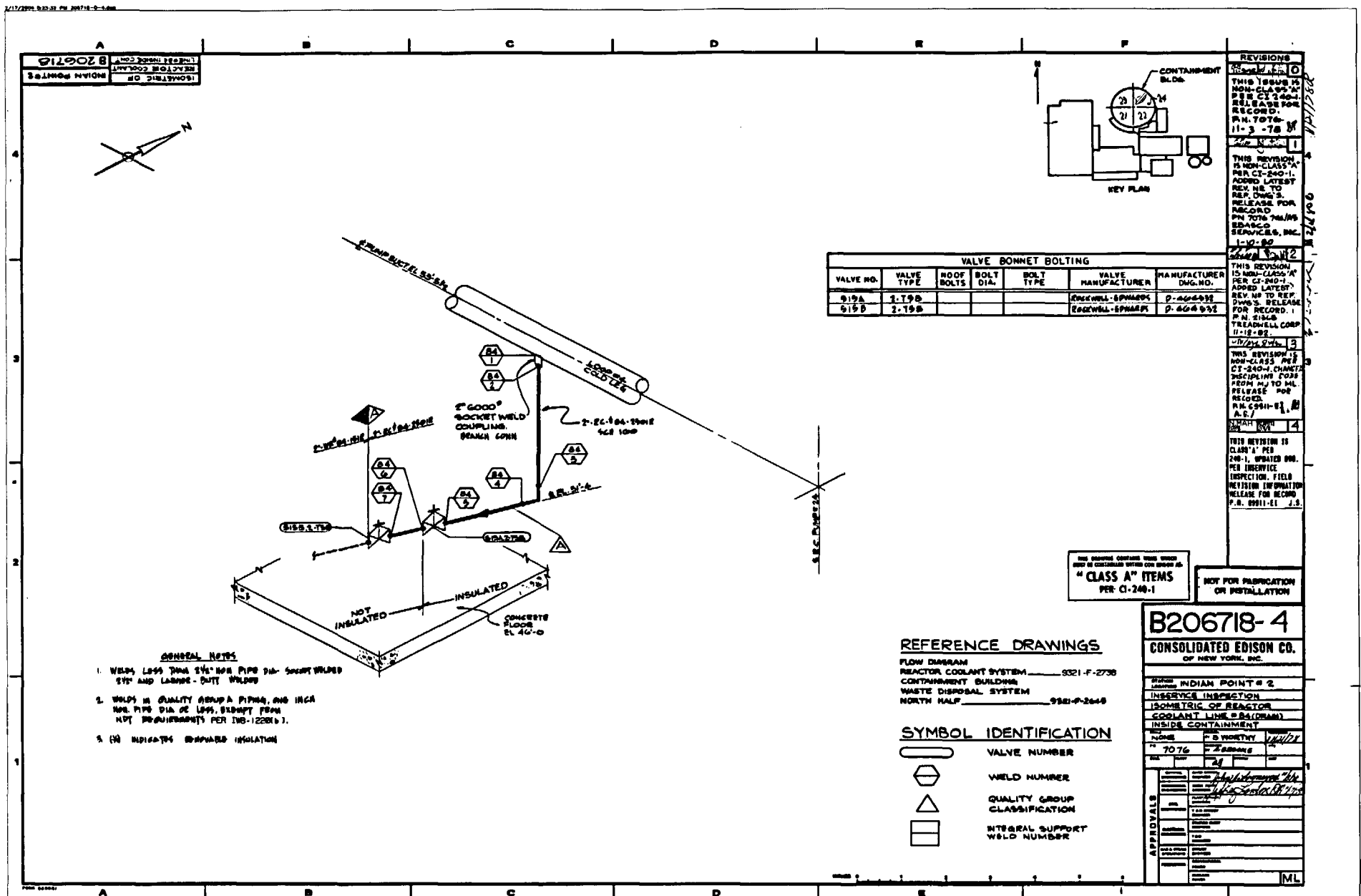
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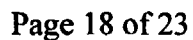
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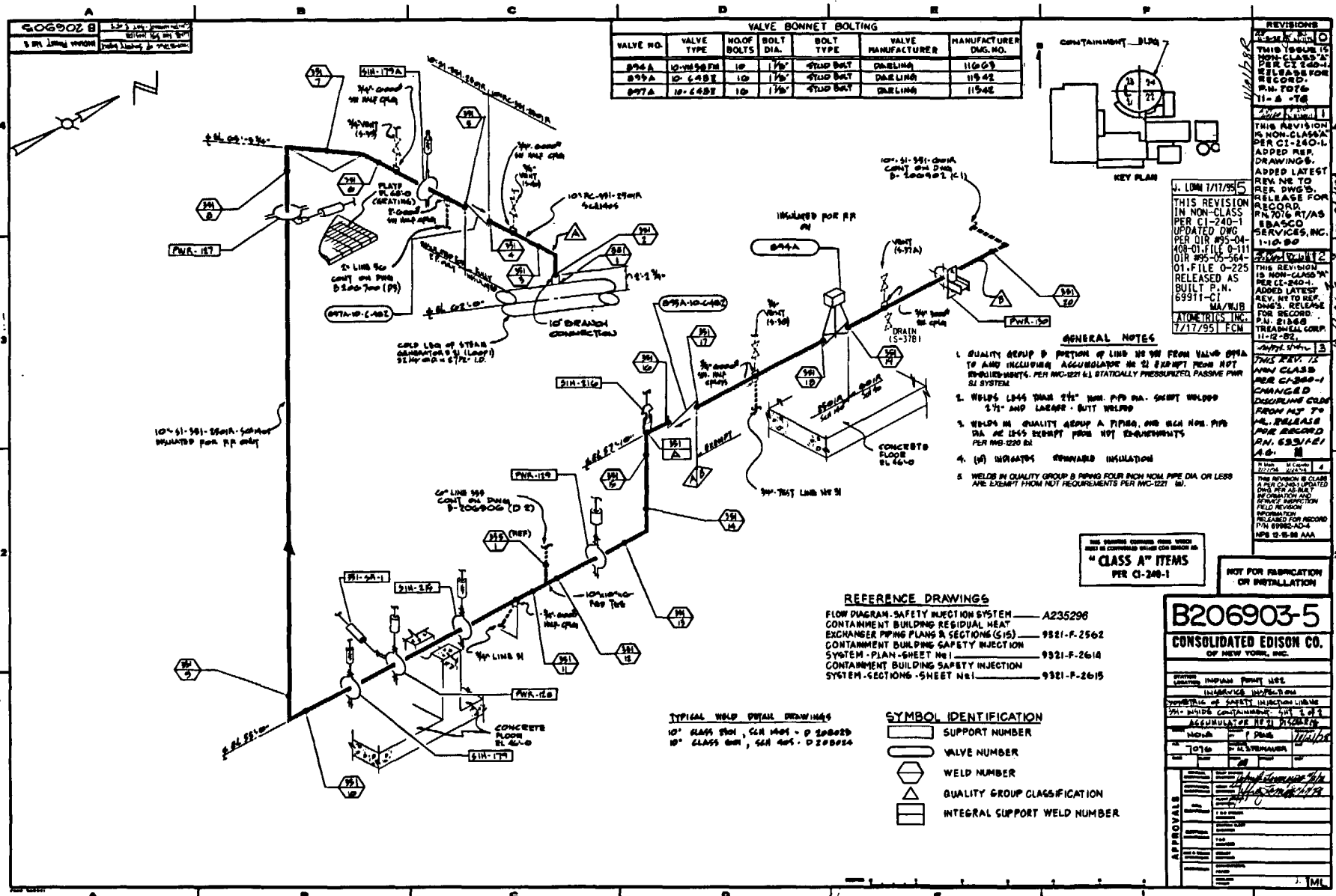
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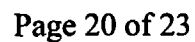
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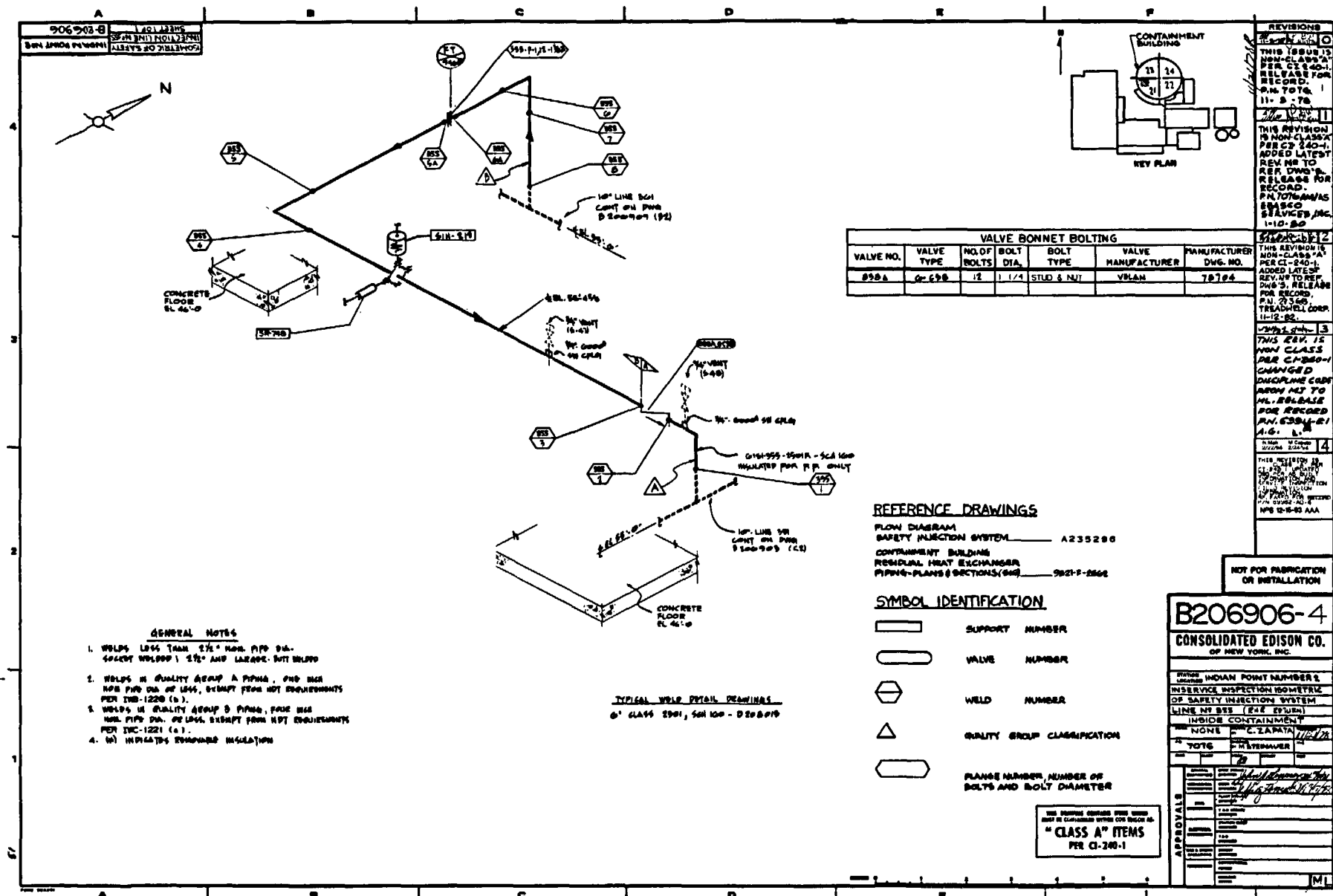


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