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ROCHESTER GAS AND ELECTRIC CORPORATION • 89 EAST AVENUE, ROCHESTER, N.Y. 14649

LEON D. WHITE, JR.
VICE PRESIDENT

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July 26, 1979

Mr. Boyce H. Grier, Director
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region I
631 Park Avenue
King of Prussia, PA 19406

Subject: Supplemental Response
IE Bulletin No. 79-02
Pipe Support Base Plates Designs Using Concrete Expansion Anchor Bolts
R. E. Ginna Nuclear Power Plant, Unit No. 1
Docket No. 50-244

Dear Mr. Grier:

On July 6, 1979 we provided you with a response to the subject IE Bulletin. During subsequent discussions with members of the Region 1, IE Headquarters, and DOR Staff we have been requested to provide additional information concerning our initial response. Enclosed is a copy of the information requested.

Very truly yours,

L. D. White, Jr.

Enclosure

xc: U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Division of Reactor Construction Inspection
Washington, DC 20555

Revised Response to IE Bulletin No. 79-02
Pipe Support Base Plate Designs Using Concrete Expansion Anchor Bolts
R.E. Ginna Nuclear Power Plant, Unit No. 1
Docket No. 50-244

1. Systems

a) The following is a list of the systems, and portions of systems, included in Phase 1 of our testing and replacement program; and the number of supports in each. These systems are the essential Seismic Category I systems required for reactor coolant system integrity and achieving a safe shutdown condition following a seismic event. In addition, the list includes those systems necessary to mitigate the consequences of a design basis loss of coolant accident. This list of systems has been developed for Systematic Evaluation Program Topics VII-3, "Systems Required for Safe Shutdown"; and III-1, "Classification of Structures, Components, and Systems".

Reactor Coolant System	1
Main Steam	0
Main Feedwater	0
Standby Auxiliary Feedwater	19
Safety Injection System	4
Residual Heat Removal	15
Containment Spray	0
Chemical and Volume Control System	15
Component Cooling System	10
Service Water	17
Steam Generator Blowdown	1
Total	82

b) The following is a list of the systems, and portions of systems, included in Phase 2 of our testing and replacement program. These systems are designated Seismic Category I but are not required for reactor coolant system integrity, achieving a safe shutdown condition following a seismic event, or mitigating the consequences of a loss of coolant accident.

Auxiliary Feedwater	21
Boric Acid System	10
Chemical and Volume Control System	5
Service Water	9
Total	45

c) Both phases of our testing and replacement program include load bearing pipe support base plate designs using concrete expansion anchor bolts. The program has been revised to include anchor bolts in load bearing pipe support base plate designs on all 2½ inch and critical 2 inch nominal size piping systems on the above lists.

2. Base Plate Flexibility

a) As indicated in our initial response on July 6, 1979, it was not possible to reanalyze, using flexible plate assumptions, the base plates on all pipe supports in our testing and replacement program prior to its initiation. Therefore, a representative sample of 10 typical pipe support base plates has been analyzed, using rigid plate assumptions, for both existing and replacement designs. The results of these analyses are shown in Table 1. In all cases, bolt capacity has been increased in the replacement designs. In 2 cases (SWAH-19 and SWAH-23), additional analyses, using flexible plate assumptions, have been performed. These analyses show minimum factors of safety of 5.00 and 5.35, respectively, for the replacement designs. The design factor of safety for the wedge type anchor bolts used in the replacement designs is 4.00. It is our determination that the design bolt capacities provide sufficient margins of safety to account for any load increases due to flexibility.

b) In general, pipe supports at Ginna Station with base plates using concrete expansion anchor bolts are of similar design. Figures 1 through 5 show the design of the supports described above. They are typical of the type used in Seismic Category I systems throughout the plant.

3. Schedule

The schedule for the anchor bolt testing and replacement program described in our July 6, 1979 response has been accelerated. The testing and replacement of all anchor bolts in inaccessible and accessible supports included in Phase 1 will be completed prior to August 1, 1979. Phase 1 includes all the systems listed in paragraph 1(a) above. This revised schedule is consistent with our plans for returning the plant to power operation following the present outage to perform the inspections and repairs required by IE Bulletin 79-13.

TABLE 1

Support No.	Existing Design					Replacement Design				
	Bolt Load		Bolt Capacity		Factor of Safety	Bolt Load		Bolt Capacity		Factor of Safety
	Tension	Shear	Tension	Shear		Tension	Shear	Tension	Shear	
ACH-106	75	0	7285	5760	97.0	75	0	14100	15195	188.0
ACH-118	241	293	7285	5760	11.9	241	293	14100	15195	27.5
SWAH-19	3161	1435	26880	26880	5.8	1452	957	14100	15195	6.0
SWAH-23	2963	1345	26880	26880	6.2	1257	897	14100	15195	6.8
SWAH-24	1972	895	26880	26880	9.4	837	597	14100	15195	10.1
SWCH-63	6	0	7285	5760	1121.0	7	0	11550	15195	1650.0
SWCH-73	18	0	7285	5760	399.0	19	0	11550	15195	608.0
SWCH-74	14	0	7285	5760	520.0	14	0	11550	15195	825.0
ACH-100	262	0	7285	5760	27.8	340	126	14100	15195	30.9
SWAH-37	499	220	7285	5760	9.4	455	250	14100	15195	20.5

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ENGINEERS AND CONSULTANTS
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Figure 1

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K.T.N

DATE 7-25-79

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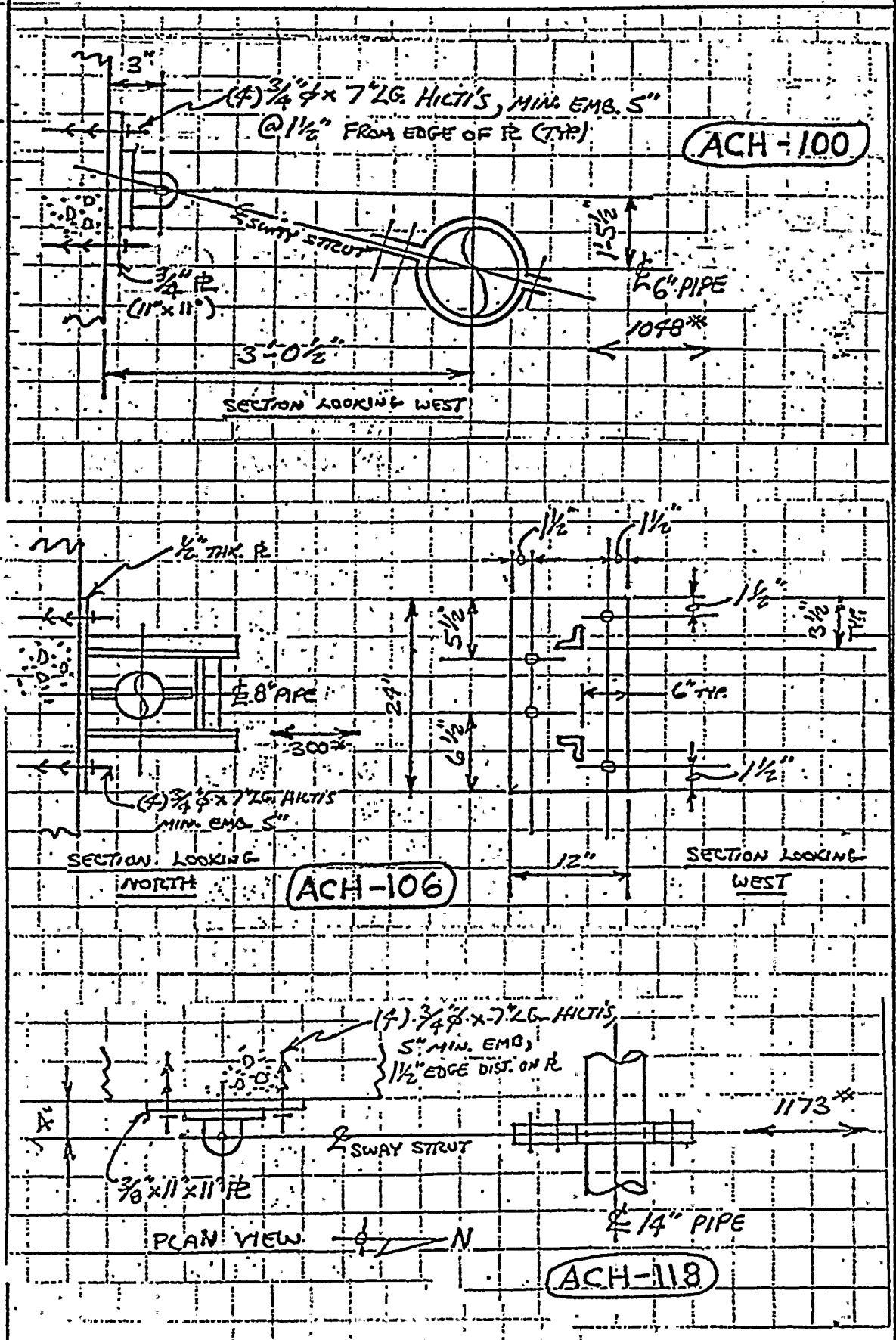

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SUBJECT: SKETCHES Figure 2

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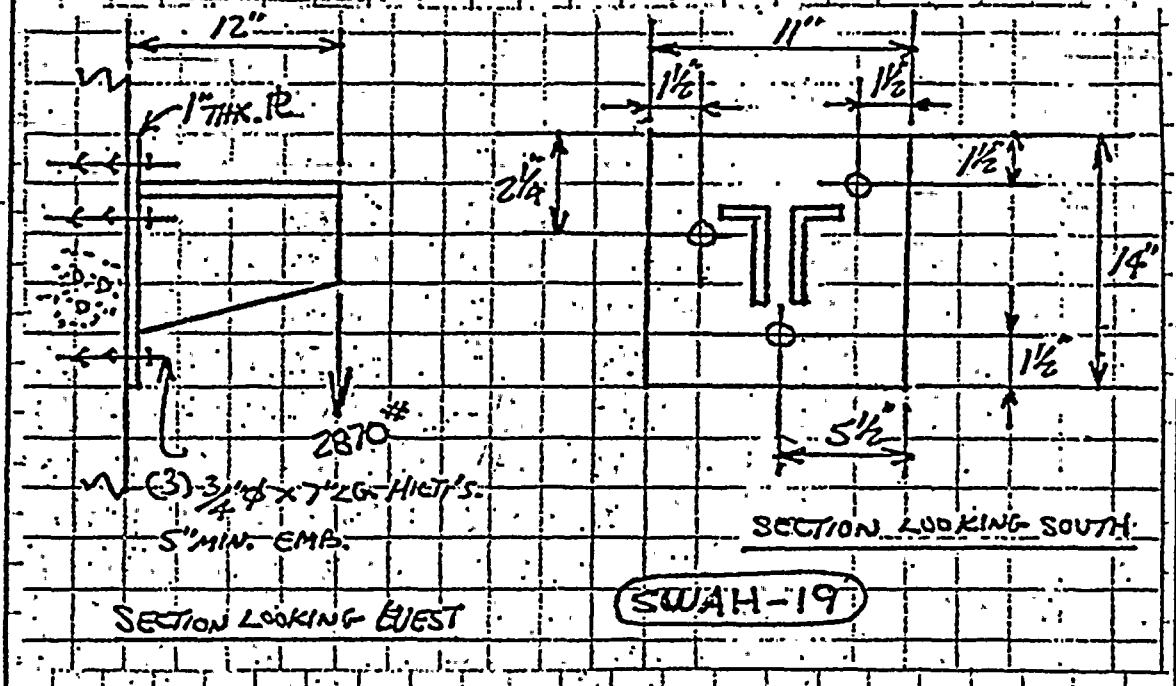

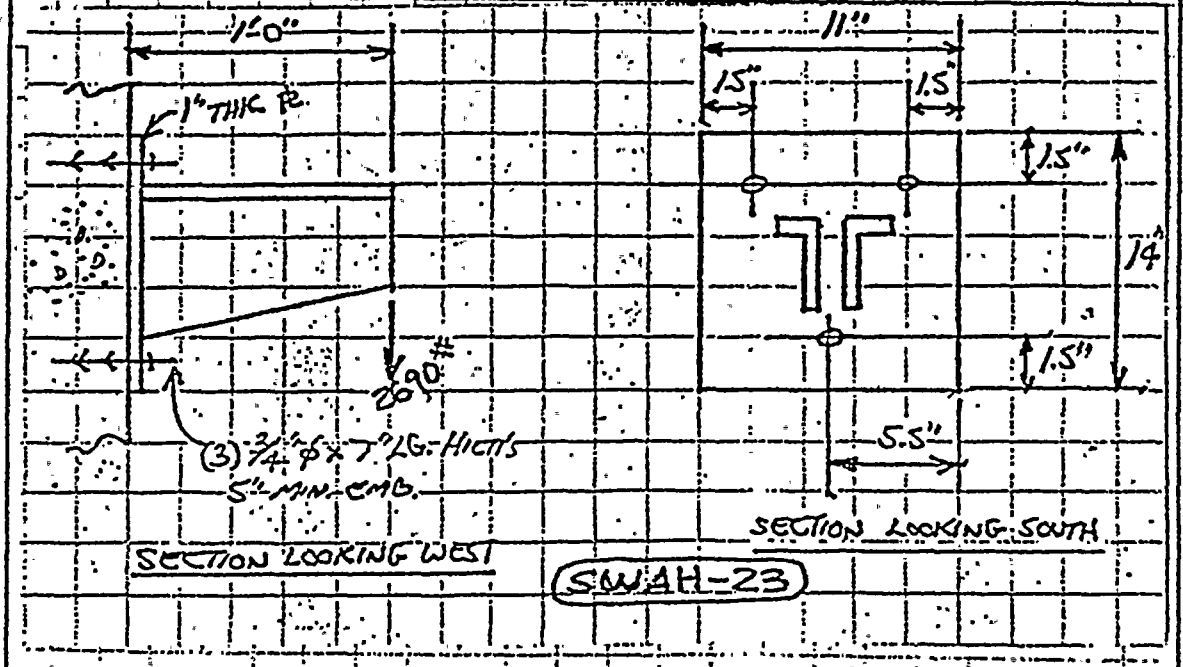

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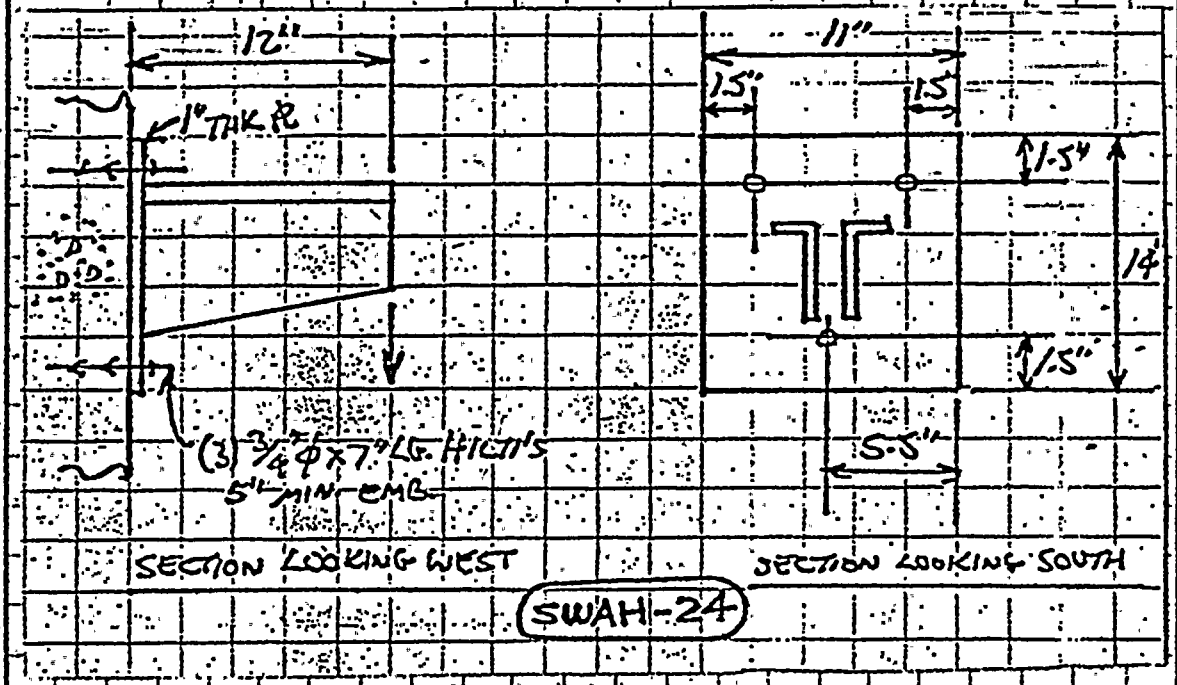

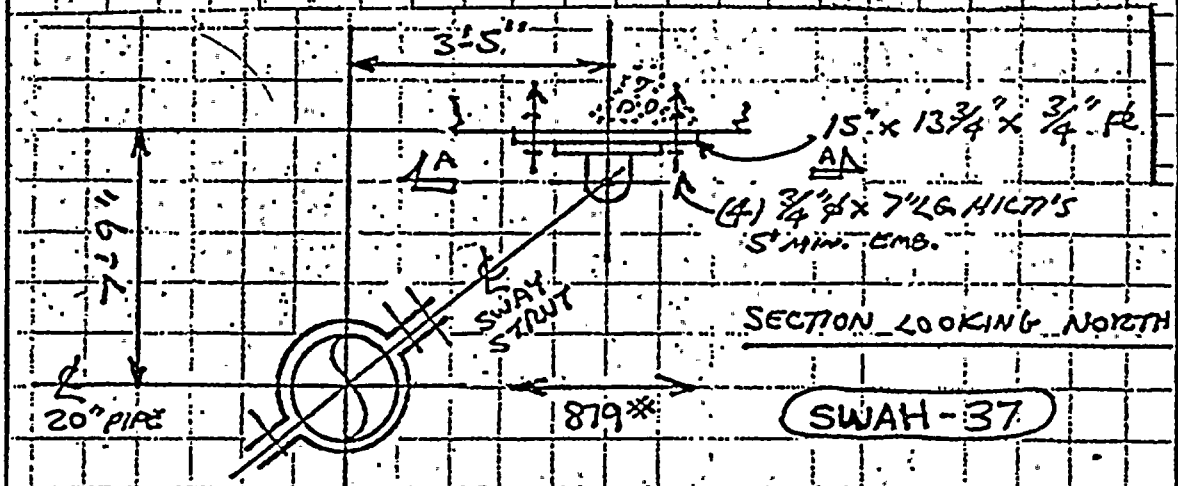

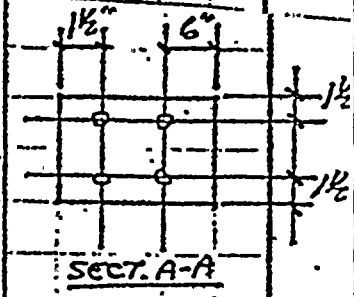

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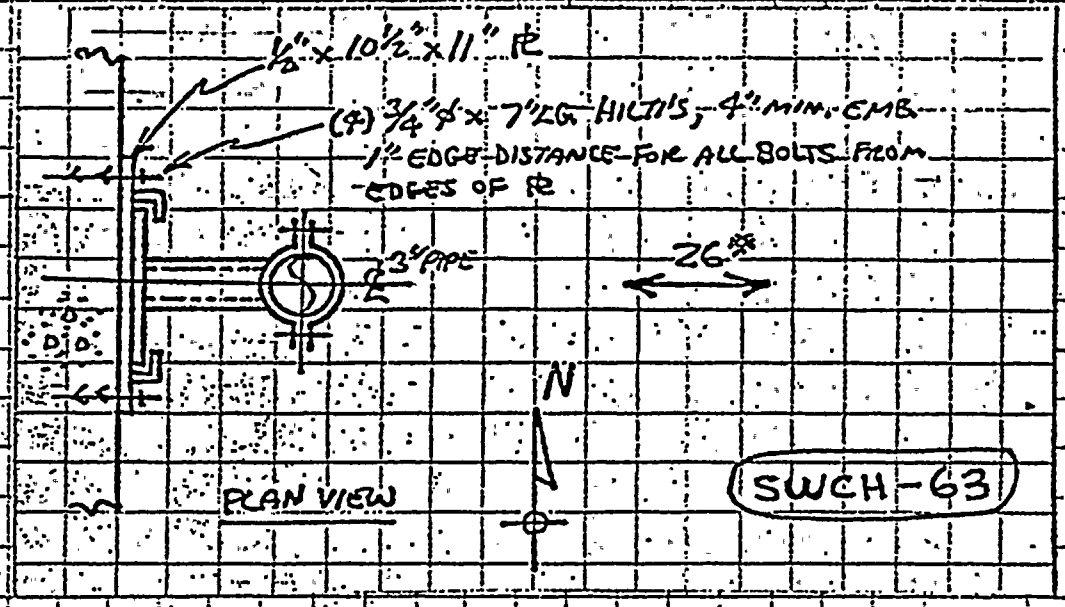

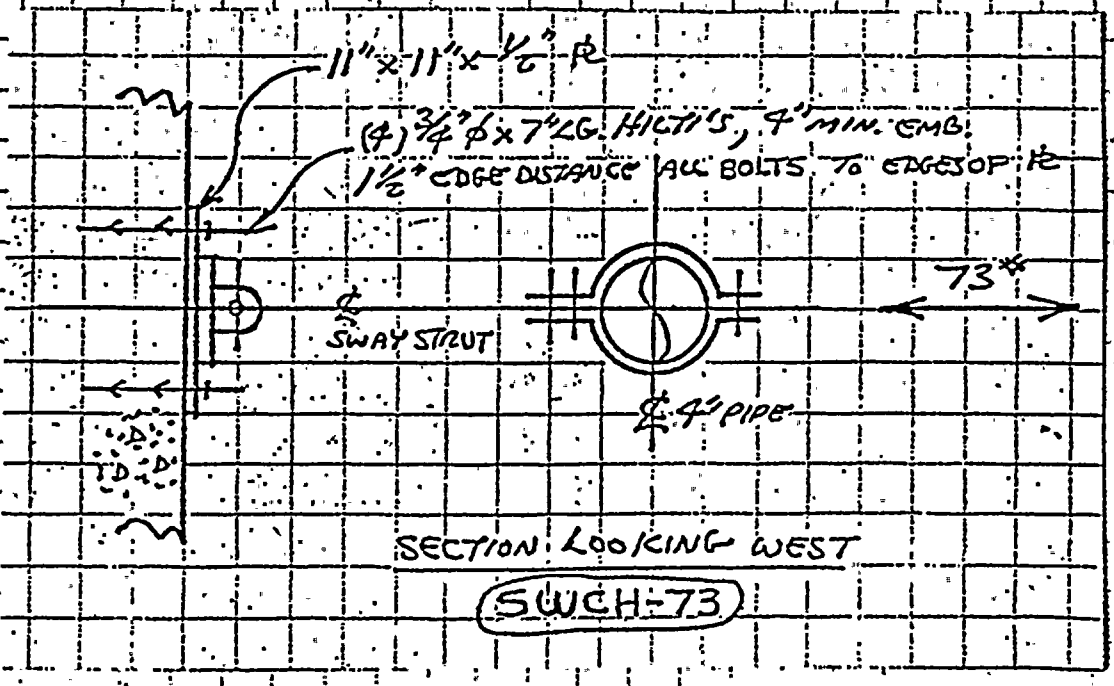

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Figure 5

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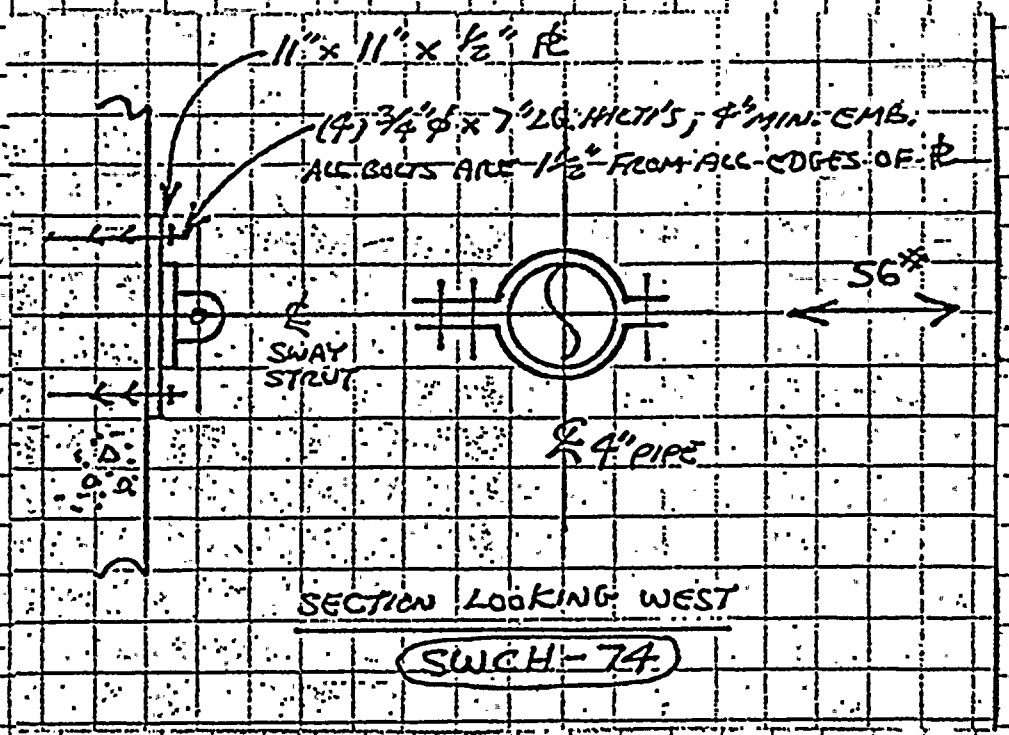

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