UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

S-4-0007

1984 JAN 27 P12:

January 23, 1984

MEMORANDUM FOR: Ben B. Hayes, Director
Office of Investigations

FROM: Jesse C. Ebersole, Chairman, ACRS

SUBJECT: ALLEGATIONS REGARDING CONSTRUCTION PRACTICES AT THE DIABLO CANYON NUCLEAR POWER STATION

This memorandum is to confirm conversations between you and Mr. Raymond F. Fraley, Executive Director, ACRS, regarding allegations received by me concerning the Diablo Canyon Nuclear Power Station.

On January 16, 1984, Dr. Henry Myers, Science Advisor to Congressman Morris K. Udall set up a conference call between himself, me, and an unnamed person who appeared to be a person knowledgeable with respect to electrical work at the Diablo Canyon Nuclear Station. He desired to bring to my attention various allegations which had been identified by this unnamed alleger. I am bringing them to your attention so that they may be considered and resolved with the numerous other allegations identified with respect to this project. It may be that you already have some of these allegations under consideration. The items discussed are as follows:

- Inadequate planning and routing of cables within the plant giving rise to a potential for inadequate separation of redundant safety-related cables and loss of traceability.

- Transfer of cable to alternate reels - short sections of cable were frequently transferred from their original reel to other reels of cable as a convenience resulting in confusion regarding specific documentation of cable characteristics.

- Improper clearing of cable ways before pulling cables. Failure to adequately clear the cable ways could have resulted in damage to cables when they were pulled through the cable ways.

- Inadequate control of tension levels when pulling cables -- inadequate control was exercised in pulling electrical cable through cable ways and could have resulted in damage to cables during installation.

- Changes from interim "as built" drawings to final drawings -- inadequate control has been exercised over the transition from interim drawings to final drawings of the station as actually constructed.

295

- Anchor bolts (torquing of "red-head" bolts).

- RHR pump suction line valve control. Potential damage to RHR pumps due to loss of suction as a result of a single failure.

cc:
R. C. DeYoung, IE
H. Schierling, NRR
J. B. Martin, Region V
H. H. E. Plaine, OGC
W. J. Dircks, EDO

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SAME AS 171 54, 59, 62, 133, 146

- Inadequate planning and routing of cables within the plant giving rise to a potential for inadequate separation of redundant safety-related cables and loss of traceability.

172

- Transfer of cable to alternate reels - short sections of cable were frequently transferred from their original reel to other reels of cable as a convenience resulting in confusion regarding specific documentation of cable characteristics.

177

- Improper clearing of cable ways before pulling cables. Failure to adequately clear the cable ways could have resulted in damage to cables when they were pulled through the cable ways.

174

- Inadequate control of tension levels when pulling cables -- inadequate control was exercised in pulling electrical cable through cable ways and could have resulted in damage to cables during installation.

175 SAME AS (61)

- Changes from interim "as built" drawings to final drawings -- inadequate control has been exercised over the transition from interim drawings to final drawings of the station as actually constructed.

301

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W. J. Dircks, EDO

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JC 3-8-84 Final

Task: Allegation or Concern No. 171

AITS No. RV-84-A0007 BN No. N/A

Characterization:

Inadequate planning and routing of cables within the plant giving rise to a potential for inadequate separation of redundant safety-related cables and loss of traceability.

Implied Significance to Plant Design, Construction or Operation

See statement below.

Assessment of Safety Significance

This concern is addressed in Allegation or Concern Nos. 54, 59 and 63 of SSER-21, including supplements thereto.

Staff Position

See Allegation or Concerns referenced above.

JC
FINAL
3-8-84

FILECOPY

Task: Allegation or Concern No. 172

AITS No.: RV-84-A0007 BN No.: N/A

Characterization:

The transfer of cable to alternate reels - short sections of cable were frequently transferred from their original reel to other reels of cable as a convenience resulting in confusion regarding specific documentation of cable characteristics.

Implied Significance to Plant Design, Construction or Operation

See statement below.

Assessment of Safety Significance

This concern was addressed in Allegation or Concerns 54 and 59 of SSER-21.

Staff Position

See Allegation or Concerns referenced above.

JC
FINAL

FILE COPY

Task: Allegation or Concern No. 173

ATS No: RV-84-A-0007 BN No: N/A

Characterization:

Improper clearing of cable ways before pulling of cables. Failure to adequately clear the cable ways have resulted in damage to cables when they were pulled through the cable ways.

Implied Significance to Plant Design, Construction or Operation

Pulling of cables into cable ways which have defective conditions, such as sharp edges on conduit or junction boxes, could result in unacceptable damage to the cable being pulled.

Assessment of Safety Significance

During an inspection at the site on January 31 through February 8, 1984, this concern was pursued by the staff. The staff's examination of QC records of the H. P. Foley Company, the electrical installation contractor, revealed that there were instances when cables were pulled into raceways prior to QC inspection and clearance of the raceways. These instances were documented in nonconformance reports (NCR's) by the contractor's QC department.

Dispositioning of the NCR's required thorough inspection of the raceways to determine their acceptability and that conditions did not exist which would

have resulted in damage to the cables which were installed. An example was NCR No. 8802-975, dated December 12, 1983. In this instance cable had been repulled into a conduit following modifications to the conduit. The modified conduit was inspected on January 20, 1984 and found to be acceptable in terms of size, type, identification, support placement, installation detail and workmanship. Based upon the results of the raceway inspection the cable installation was accepted as installed. The quality records also include the results of satisfactory post-installation continuity and megger testing of the cables installed.

Staff Position

The licensee contractor disposition of the nonconforming conditions identified appears acceptable.

Action Required

None.

ENCLOSURE

[redacted] Petition at 5.

It is alleged that:

> In November 1981 PG&E also accepted out-of-code practices when PG&E official Robert Torstrom overruled an inspector who found that engineering drawings specified a weld not recognized by AWS. The drawing called for a fillet weld. Due to the fitup angle for the weld, however, AWS does not credit it as a fillet weld. Instead, contrary to the design, the weld can only be considered as a partial penetration groove weld. In this instance, Karner backed the inspector, but Mr. Torstrom blocked corrective action with the unexplained conclusion that there was "no need" for it. (citing 2/25/84 Anon. Aff. at 5 and related Exhibit 4.)

The significant difference between the Petition and Attachment 2 is found on the sketch located on page 2 of Exhibit 9 to Attachment 2. The sketch indicates that the allegation is referring to an open, accessible weld root connection rather than an acute intersection. Therefore, the discussion of root fusion and effective throat in the original response to this allegation contained in the second half of paragraph 107 is no longer relevant and should be deleted.

A review of the sketch provided substantiates the original symbolization as fillet welds and supports Mr. Torstrom's disposition of the Discrepant Condition Notice (DCN) initiated by Mr. McDermott. The sketch shows that a right angle intersection for a fillet weld exists at the root and for a portion of the fillet weld leg permitting full penetration and fusion at the root. For the condition as sketched, there would be no deduction from

symbolize this particular weld joint in more than one way. The meaning of the effective throat. As discussed in the original response, it is acceptable to weld symbol used in this instance is clear and there was no out of code practice.

GAP #183 and 184, Petition at 7.

It is alleged that:

> In 1981 PG&E neutralized a corrective action program by accepting welds that failed an MT (magnetic particle) test, based on results from previously-discredited tests that had accepted the same welds. The current selector switch on a testing machine had erroneously been installed backwards, to run at alternating current (AC) rather than on direct current (DC). AC, unlike DC, cannot detect subsurface cracks. Pullman and PG&E both require the use of DC for this reason. After 80 welds had been approved with the machine in an AC mode, the problem was discovered. When a sample of eight erroneously approved welds were retested, three failed because of subsurface flaws. Nonetheless, PG&E directed Pullman to accept these three welds, based on the earlier inadequate approvals with AC. (citing 2/25/84 Anon. Aff. at 9-10 and related Exhibits 15-19.) One such weld had "linear indications", suggesting possible cracks, as long as 3 inches." (citing 2/25/84 Anon. Aff. at 9-10 and related Exhibits 17 and 19.)
>
> In the same case, PG&E directed Pullman to accept welds that had never been properly tested. Rather than retesting the remainder of the 80 welds that had been erroneously accepted using an improper testing method, PG&E directed Pullman to accept all of them without retesting, based on the AC tests. The reason PG&E gave for this was the cryptic statement that "the ability of DC to detect subsurface defects is limited in our configurations." (citing 2/25/84 Anon. Aff. at 9-10 and related Exhibit 18.) As described above, PG&E offered this excuse in spite of the fact that a retest with DC had failed more than a third of the sample, a result that PG&E's Torstrom called "inconclusive" (citing 2/25/84 Anon. Aff. at 10 and related Exhibit 18.)

The difference between the Petition and Attachment 2 is the reference to the memo from Mr. McDermott to Mr. Spanner, dated August 26, 1981, requesting an explanation of the Disposition of Pullman D.R.'s 4350 and 4352 and the

FINAL
JC
3-6-84

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Task: Allegation or Concern No. 174

ATS No: RV-84-A-0007 BN No: N/A

Characterization:

Inadequate control of tension levels when pulling cables - inadequate control was exercised in pulling electrical cable through cable ways and could have resulted in damage to cables during installation.

Implied Significance to Plant Design, Construction or Operation

Inadequate control of pulling tension during the installation of electrical cables could result in unacceptable damage to the cables.

Assessment of Safety Significance

The allegation in this instance was not accompanied by detailed supporting information. However, during the staff's examination into other allegations at the Diablo Canyon site information of a related nature was obtained as follows.

The staff's review of H. P. Foley quality records revealed a condition identified by the QA department's review of quality records wherein it had not been documented that pulling tension had been measured directly by QC inspection as required. These instances, which involved the pulling of five circuits, were the subject of a nonconforming report (NCR No. 8802-1027) dated

January 19, 1984. All cable pulls in this case involved high temperature resistance (HTR) cables with "soft" jacket material - thus the requirement for direct measurement of pulling tension. The disposition of the NCR in this instance was "accept-as-is," based upon successful post installation electrical continuity and resistance tests and the fact that all pulls were made by hand.

Staff Position

The staff concludes that there were instances when QC inspections were not conducted in accordance with QA/QC program requirements regarding QC monitoring and witnessing of special cable pulls. These conditions were documented by the H. P. Foley QC department and acceptable dispositions were made regarding the nonconforming conditions identified.

Action Required

None.

PG and E

FOR INTRA—COMPANY USES

From Division or Department: STATION CONSTRUCTION
Diablo Canyon Project

FILE NO.

RE LETTER OF SUBJECT: Audit of the H. P. Foley Company
Tool Calibration
Audit Report DCO-82-027

To Division or Department

August 13, 1982

R. D. ETZLER

Attention: D. A. Rockwell

From May 14 through June 10, 1982, Quality Control conducted an audit of tool calibration performed by the H. P. Foley Company.

The scope and results of this audit are outlined in the attached report. Discrepancies were identified which required the issuance of Minor Variation Report E-2375.

JAMES R. BRATTON
Lead Quality Control Engineer

Attachment: Audit DCO-82-027

JNystrom:lgh

262

PACIFIC GAS AND ELECTRIC COMPANY
STATION CONSTRUCTION DEPARTMENT
DIABLO CANYON PROJECT

Audit of H. P. Foley Company
Tool Calibration
Audit Report DCO-82-027

June 10, 1982

D. A. ROCKWELL

From May 14 through June 10, 1982, an audit was conducted by the Quality Control Department of H. P. Foley Company tool calibration.

SCOPE

This audit was conducted to investigate tool calibration performed by the H. P. Foley Company to verify compliance with H. P. Foley Company Quality Assurance Manual Section XII and Quality Control Procedure QCP-8.

AUDIT POINT ONE

Verify that procedure QCP-8, as a minimum, contains the following QA Manual requirements:

a) Item identity name and/or number.

b) Frequency of calibration and the applicable procedure used for calibration.

c) The date calibrated and the due date for the next calibration.

d) The name of the person, or subcontractor, performing the calibration.

e) Responsible authority review of calibration results.

Results

A review of QCP-8 verified that these requirements have been addressed.

Corrective Action

No corrective action is required.

AUDIT POINT TWO

Verify that tools are being recalled in accordance with the requirements of procedure QCP-8.

Results

A review of approximately 20% of the Calibration Log (form HPF/CR Log) and the active recall memo file verified that tools are being recalled in accordance with the procedure.

Corrective Action

No corrective action is required.

AUDIT POINT THREE

Verify that calibrated tools that have been returned to production have current calibration stickers affixed to them.

Results

All but two of the 47 tools inspected in the tool crib had current calibration stickers. Two torque wrenches (HPF #1014 and HPF A1) had exceeded their calibration periods. Further investigation showed that the calibration stickers affixed to the wrenches incorrectly specified a one month calibration period instead of the required three month period.

Corrective Action

Minor Variation Report E-2375 was initiated to document this discrepancy.

An exit interview was conducted with D. A. Rockwell, the Electrical Resident Engineer, to discuss the scope and results of this audit.

John Nystrom

JOHN NYSTROM
Electrical Quality Control
Engineer

PG&E

FOR INTRA – COMPANY USES

From Division or Department: STATION CONSTRUCTION
Diablo Canyon Project

FILE NO.

RE LETTER OF SUBJECT: Audit of the H. P. Foley Company
Soldering Activities
Audit Report DCO-82-029

To Division or Department

0215322

August 13, 1982

R. D. ETZLER

Attention: D. A. Rockwell

From June 10 through June 16, 1982, Quality Control conducted an audit of Class One soldering performed by the H. P. Foley Company.

The scope and results of this audit are outlined on the attached report. Minor Variation Report E-2376 has been issued for the outstanding deficiency identified.

Derek Bell for

JAMES R. BRATTON
Lead Quality Control Engineer

Attachment: Audit DCO-82-029

JHystrom:lgh

263

PACIFIC GAS AND ELECTRIC COMPANY
STATION CONSTRUCTION DEPARTMENT
DIABLO CANYON PROJECT

June 16, 1982

Audit of H. P. Foley Company
Soldering Activities
Audit Report DCO-82-029

D. A. ROCKWELL

From June 10 through June 16, 1982, Quality Control conducted an audit of Class One soldering performed by the H. P. Foley Company.

SCOPE

This audit was conducted to verify that Class One soldering performed by the H. P. Foley Company complies with their Quality Control Procedure QCP-18, "Soldering".

AUDIT POINT

Verify that soldering is being performed and documented in accordance with procedure QCP-18.

Results

No soldering has been performed per procedure QCP-18, and there are no HPF/Solder Reports in the H. P. Foley QC files.

However, Class I soldering has been performed by the contractor on LOCA splices. This soldering was documented on an Electrical Process Traveler for each splice in accordance with procedure QCP-17, paragraph 4.3.2. A review of all travelers for the LOCA splices verified that H. P. Foley QC had inspected the soldering in accordance with the included procedure, with the exception of one splice. Traveler #34 for Flow Transmitter 1-FT-532 does not have a QC sign-off for the soldering.

Corrective Action

Minor Variation Report E-2376 has been initiated to document this deficiency.

An exit interview was conducted with D. A. Rockwell, the Electrical Resident Engineer, to discuss the scope and results of this audit. This included a discussion that FT-532 and its LOCA splice have been removed from the plant as part of Design Change Notices DCO-E-M-556, 764, and 1108.

John J Nystrom

JOHN J. NYSTROM
Quality Control Engineer

INTEROFFICE MEMORANDUM

Diablo Canyon Project

PACIFIC GAS AND ELECTRIC COMPANY
BECHTEL POWER CORPORATION

To R. D. ETZLER / D. A. ROCKWELL

From James R. Bratton

Of Quality Control

At DCPP Extension 69-1466

Date December 31, 1982

File No. Audit Report DCO-82-049

Subject Audit of H. P. Foley Company Welder Qualification

ATTENTION: W. E. COLEY

On December 6-10, 1982, Quality Control audited the H. P. Foley Company for conformance to the welder qualification requirements of their Quality Control Procedure QCP-5, "Welder Qualification and the Qualification of Welding Procedures". The scope and results of the audit are outlined in the attached report.

The qualification records for one welder indicated that insufficient tests were performed to qualify him for indirect butt splices in reinforcing steel. This has been documented on Minor Variation Report E-2437. No other discrepancies were identified.

James R. Bratton

JAMES R. BRATTON
Lead Quality Control Engineer

264

PACIFIC GAS AND ELECTRIC COMPANY
STATION CONSTRUCTION DEPARTMENT
DIABLO CANYON PROJECT

Audit of H. P. Foley Company
Welder Qualification
Audit Report DCO-82-049

December 31, 1982

W. E. COLEY

On December 6-10, 1982, Quality Control conducted an audit of the H. P. Foley Company to verify conformance to the welder qualification requirements of the contractor's Quality Control Procedure QCP-5, "Welder Qualifications and the Qualification of Welding Procedures".

SCOPE

This audit reviewed welder qualification procedures, test records, and documentation providing objective evidence of welder qualification continuity.

AUDIT POINT ONE

Review H. P. Foley Quality Control Procedure QCP-5 for conformance to the welder qualification requirements of the American Society of Mechanical Engineers (ASME) and American Welding Society (AWS) welding codes.

Results

The technical and administrative requirements of Procedure QCP-5 comply with code requirements.

Corrective Action

No corrective action required.

AUDIT POINT TWO

Examine welder qualification test records to verify that qualification tests were performed and documented in accordance with Procedure QCP-5. Determine the limits of each welder's qualifications.

Results

The qualification test records of all seventy-three H. P. Foley welders were examined. The welders have performed qualification tests to qualify for various welding processes (i.e. shielded metal-arc, gas tungsten arc) to be used for welding requiring compliance with the ASME Boiler and Pressure Vessel Code, the AWS Structural Steel Welding Code, the AWS Sheet Steel Welding Code, and the AWS Reinforcing Steel Welding Code.

The following discrepancies were identified:

	Welder	Discrepancy
(1)	H. Dutton	I.D. symbol is not referenced consistently. Records indicate "S" or "D2".
(2)	D. Estrada	AWS certification dated 11/4/82 was not signed by Quality Control.
(3)	W. Haines	AWS certification dated 11/4/82 was not signed by Quality Control.
(4)	J. Lavoie	AWS certification dated 11/19/82 was not signed by Quality Control.
(5)	L. McFadden	AWS D1.4 certification dated 1/13/81 indicates insufficient macroetch tests were performed.
(6)	C. Smith	AWS D1.4 certification dated 10/8/82 does not indicate bar size used in test.
(7)	D. Waller	AWS certification dated 11/19/82 was not signed by Quality Control.

The limitations of each welder's qualifications, with respect to code, process, thickness, diameter, position, backing, filler metal, and date of original qualification, were compiled for later comparison with the H. P. Foley Company Active Welder List, in-process inspection reports, and production inspection reports.

Corrective Action

Six of the discrepancies identified above were corrected during the course of the audit. Minor Variation Report #E-2437 has been initiated to document the remaining unresolved discrepancy.

Discrepancy	Corrective Action
(1)	Dutton's symbol was confirmed to be "S". Records indicating "D2" were corrected.
(2)	Certification was signed by Quality Control.
(3)	Certification was signed by Quality Control.
(4)	Certification was signed by Quality Control.
(5)	Reference MVR #E-2437.

Discrepancy	Corrective Action
(6)	Test bar size was entered on certification.
(7)	Certification was signed by Quality Control.

AUDIT POINT THREE

Review the H. P. Foley Active Welder List to verify that the welders listed are qualified and that the limitations listed are correct. Review past lists to assure that the list is revised when there is a change in welder qualification status.

Results

The Active Welder List effective at the beginning of the audit contained the following discrepancies:

1) Welder V. Matties had successfully completed an AWS qualification test on 12/3/82, but was not identified on the Active Welder List.

2) Welders H. Dutton and A. Schofield are qualified for unlimited thickness groove welds. The list limits these welders to materials 3/4" thick or less.

A review of superseded lists indicates that the Active Welder List is revised to reflect changes in the status of welder qualification.

Corrective Action

The discrepancies identified above were corrected/explained as follows:

1) The list was in the process of being revised to reflect the addition of V. Matties as a qualified welder. Prior to the conclusion of the audit, the revised list was issued.

2) The Quality Control inspector supervising the qualification of welders preferred to list welders H. Dutton and A. Schofield as limited thickness welders. This does not represent a violation of codes or procedures.

AUDIT POINT FOUR

Review the contractor's program for monitoring welders to assure that each welder's qualification in a given code and process is maintained.

Results

The contractor performs an inspection of a welder's production work prior to expiration of the welder's qualification, documents this

inspection on an "In-Process Inspection Report", and files the inspection report with the qualification records as documentary evidence of welder qualification continuity. The records on file were not sufficient to maintain qualification of welders D. Backes and K. Parke to the present date.

Corrective Action

During the course of the audit, Quality Control located documentation providing evidence that welding was performed by these welders on dates sufficient to extend their qualifications to the present. Copies of this documentation were then filed with each welder's qualification records.

AUDIT POINT FIVE

Review a random selection of production weld inspection reports for all types of welding to assure that welders have not exceeded the limits of their qualifications.

Results

Approximately 50 weld inspection reports from work packages involving the welding of structural steel, sheet steel, and pipe were examined. No discrepancies were identified.

Corrective Action

No corrective action required.

An exit interview was conducted with the Electrical Resident Engineer to discuss the scope and results of this audit.

Derek Bell

DEREK BELL
Quality Control Engineer
Audit Team Leader

Terry E. Pierce

TERRY E. PIERCE
Quality Control Engineer

INTEROFFICE MEMORANDUM

Diablo Canyon Project

PACIFIC GAS AND ELECTRIC COMPANY
BECHTEL POWER CORPORATION

To R. D. Etzler

From James R. Bratton

Of Quality Control

At DCPP Extension 69-1466

Date January 24, 1983

File No. Audit Report DCO-83-001

Subject Audit of H.P. Foley Company Welding Electrode Control

ATTENTION: W. E. COLEY

On January 20, 1983, Quality Control audited the H. P. Foley Company for conformance to Quality Control Procedure QCP-4A, "Welding Electrode Control". The scope and results of the audit are outlined in the attached report.

Several discrepancies in the control of welding electrodes were identified. Minor Variation Report #C-1238 has been initiated to document these discrepancies and assure that corrective action will be provided.

James R Bratton

JAMES R. BRATTON
Lead Quality Control Engineer

cc: [illegible]
Attachment Audit DCO-83-001

265

PACIFIC GAS AND ELECTRIC COMPANY
STATION CONSTRUCTION DEPARTMENT
DIABLO CANYON PROJECT

Audit of H.P. Foley Company
Welding Electrode Control
Audit Report DCO-83-001

January 24, 1983

W. E. COLEY

On January 20, 1983, Quality Control conducted an audit of the contractor's practice for control of welding electrodes to verify conformance to Quality Control Procedure QCP-4A, "Welding Electrode Control".

SCOPE

This audit was conducted to assure satisfactory control of welding electrodes at issuance stations and in welding areas. The audit was limited to the issuance station in the Unit One Turbine Building and the welding areas in the Unit One Fuel Handling Building.

AUDIT POINT ONE

Observe the issuance of welding electrodes to assure that accountability of electrodes is established prior to use.

Results

Issuance of electrodes to several swing shift welders was observed. The attendant counted the electrodes and made the correct entries on the Weld Electrode Requisition Form, recording the oven temperature, the welder, the work location, the amount issued, and the time of issue. No discrepancies were noted.

Corrective Action

No corrective action required.

AUDIT POINT TWO

Inspect welding areas to assure that welding electrodes are not left uncontrolled at the work location.

Results

Inspection of the welding area revealed five uncontrolled electrodes; three used and two unused.

Corrective Action

Refer to Minor Variation Report #C-1238 for the details of the discrepancy and corrective action.

AUDIT POINT THREE

Observe the return of welding electrodes to assure that accountability of electrodes is maintained.

Results

Return of electrodes by several day shift welders was observed. The attendant did not count unused electrodes or stubs; the welders discarded their stubs in an open bucket, placed their unused electrodes in the oven, and apparently informed the attendant of the amount of each. At no time did the attendant handle or count returned electrodes. Although no procedural requirement exists, this does not constitute adequate control of welding electrodes.

At the end of the shift, the attendant locked the ovens and left the station. The swing shift attendant did not show up until twenty minutes later. During this period, two welders returned their electrodes, waited for an attendant, placed their electrode containers on the table, and left. The electrode containers were not traceable to the welders. This is in violation of Procedure QCP-4A, paragraph 4.4.1.3.

The Weld Rod Requisition Forms were reviewed at this point and showed that all outstanding electrodes had been returned; this indicates that electrodes are being documented as returned to the station prior to their physical return. Discussion with the night shift attendant confirmed that this practice occurs frequently. This does not conform to the requirements of Procedure QCP-4A, paragraph 4.4.1.2.

Corrective Action

Refer to Minor Variation Report #C-1238 for the details of the discrepancy and corrective action.

An exit interview was conducted with the Civil Resident Engineer and the Structural Steel Group supervisor to discuss the scope and results of this audit.

Derek Bell

DEREK BELL
Quality Control Engineer

DIABLO CANYON PROJECT

INTERFERENCE NO: M-1-301

ASSOCIATED IDI NO(S):

INTER DEPARTMENTAL INTERFERENCE

REQUEST BY: JOHN HEARD EXT: 3858 DEPT: CIVIC

TYPE OF INTERFERENCE:

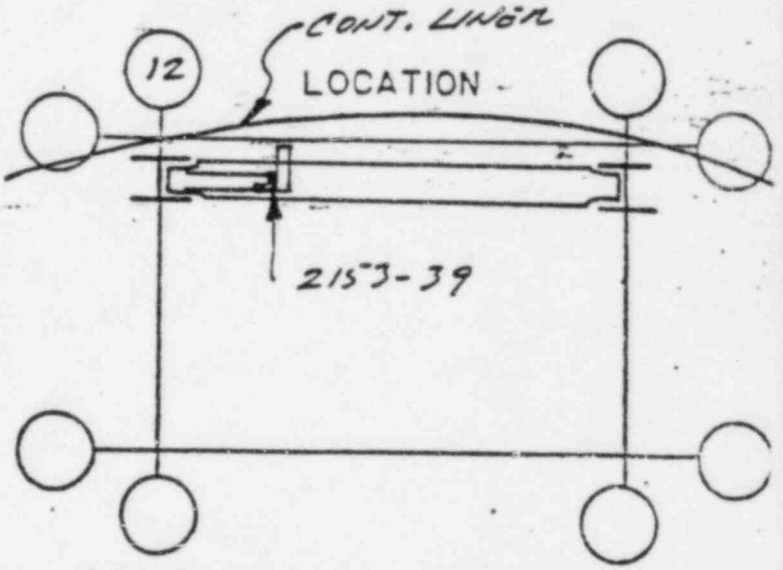
TAGGING: ☑ HNGRS PINK ☐ PIPING RED ☐ HVAC WHITE ☐ ELECT BLUE ☐ CIVIL YELLOW ☐ INST ORANGE ☐ MECH GREEN

DESCRIPTION OF INTERFERENCE: PIPE HANGER INTERFERES WITH STRUCTURAL BRACE

Ch Hung 6-22-83 mech

NEED IDI REMOVED BY: 6-27-93 (DATE)

ESTIMATED TIME TO COMPLETE INSTALLATION AFTER REMOVAL OF INTERFERENCE 2 WEEKS (DAYS / WEEKS)



AREA: 1F

ELEVATION: 117

LINE NO: NA

HANGER NO: 215-3-39

INST. OR DEVICE NO: NA

CONDUIT OR SUPPORT NO: NA

SUGGESTED SOLUTION: REMOVE HANGER, REDESIGN TO ATTACH TO NEW STRUCTURAL BRACE.

D.C.P.P.
JUN 23 1983
RECEIVED UNIT 1
I.D.I. DEPT.

D.C.P.P.
JUN 22 1983
RECEIVED UNIT 2
I.D.I. DEPT.

266

Attachment 1 PI-23 Rev.

INTEROFFICE CORRESPONDENCE

REC 11/3/83 11/77 R.R.

DATE November 2, 1983

TO All QA/QC/ Redliners

FROM Bob Hosman/QA Supervisor

SUBJECT AS-BUILT DISCREPANT CONDITIONS

SMALL BORE - DISCREPANT CONDITIONS

1. Changes to A/B - within ESD tolerance

- corrective action -

Redliner to correct A/B - initial and date change.
QC to verify correction - initial and date verification.
Also, QC shall note correction/changes on the back of the F.P.S. and the method of justification.
(Ref. ESD 254)

2. Changes to A/B (Hanger) - outside ESD tolerance without PG&E authorization.

- corrective action -

QC shall verify actual field condition.
QA shall initiate DCN (per ESD 253) requesting PSDTC for authorization. The QA reviewer has authorization to sign "Contractor Receipt" on the PSDTC.

3. Documentation problems, i.e. missing or discrepant information on the F.P.S., snubber checklists or other record documents.

- corrective action -

Problems can be resolved by locating objective evidence which provides sufficient proof to rectify the discrepancy. This may entail checking QC dailies, logs, or physical verification. Corrections/changes can be made when justified and shall be noted on the F.P.S. (Ref. ESD 254).

LARGE BORE - DISCREPANT CONDITIONS

1. Copy of A/B reflects field condition but there is no PG&E authorization (PSDTC).

- corrective action -

QC shall verify field condition.
QA reviewer shall initiate a DCN to obtain PG&E authorization (PSDTC)

267

2. Copy of A/B does not reflect Field condition and the discrepancy is outside ESD tolerance (includes missing information)

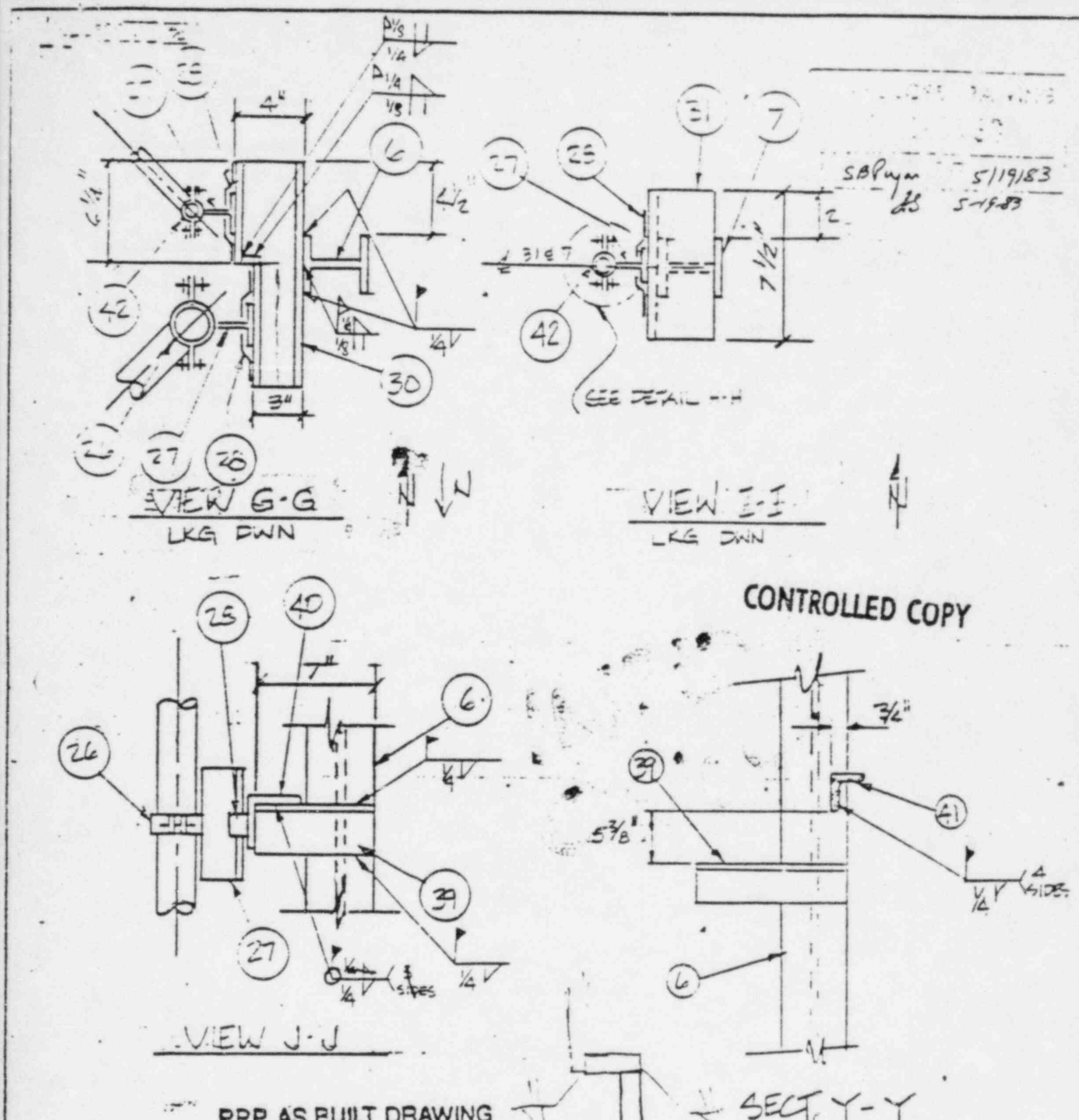
- corrective action -

QC shall verify Field condition.
QA Reviewer shall initiate a DR.

3. Documentation problems: Same as Small Bore.

Bob Hosman
QA Supervisor

BH:jg



CONTROLLED COPY

P.P.P. AS BUILT DRAWING

DATE	P.P.P. VERIFIED
7/24/83	[illegible signature]

UNLESS OTHERWISE SPECIFIED

Use for field ... each side Horiz. ... clearances are 0" bottom and ... two sides and top.

REF. DWG. 500090 SYS S/a

CLASS 1 UNIT 1 AREA K

ELEV 100' DESIGN PUJARI-AB

ISO MULTI DATE 2-16-83

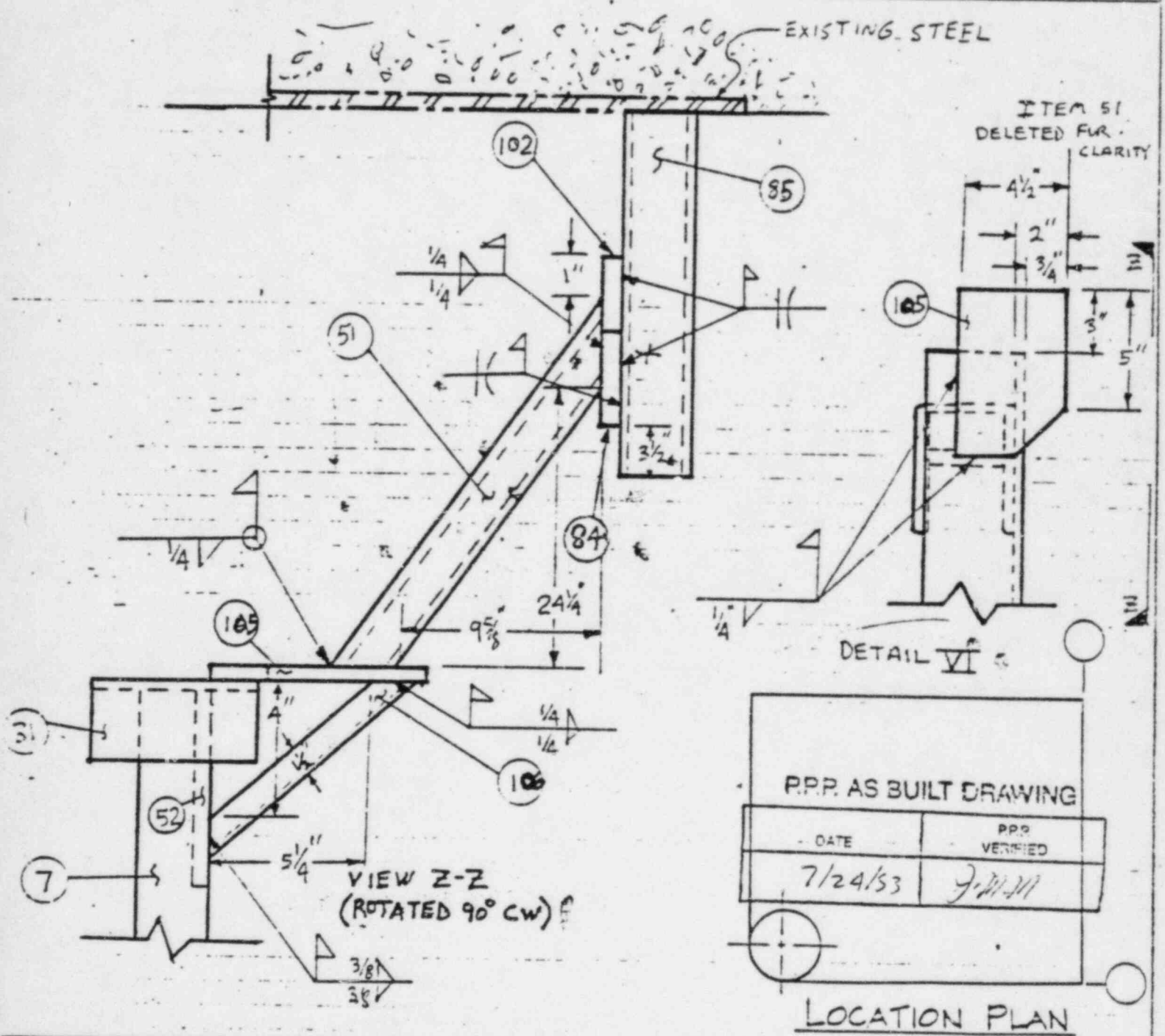
PIPE SUPPORT

268 [redacted]

DWG. No. 90-11 REV. No. 7

BILAT SHT 10 OF 25

105	1	½" PL 4½ x 7" ✓ CUT AS SHOWN
106	1	1" PL 1½" x ~~10"~~ 7/15/83 7½" LG. CUT AS SHOWN
84	2	PL 3/4 x 5 ~~84 4"LG~~ ~~84~~ 5"LG
85	1	T.S. 4"X4" x 3/8", 20" LG LENGTH
102	1	PL 3/4 x 5 x 4" LG. ✓



P.P.P. AS BUILT DRAWING

DATE	P.P.P. VERIFIED
7/24/83	J.M.M.

LOCATION PLAN

UNLESS OTHERWISE SPECIFIED

U-bolts: field-fit, nut each side. Horiz. pipe clearances are: 0" bottom and 1/16" two sides and top.

REF. DWG. 500099 SYS 8/9

CLASS 1 UNIT 1 AREA K

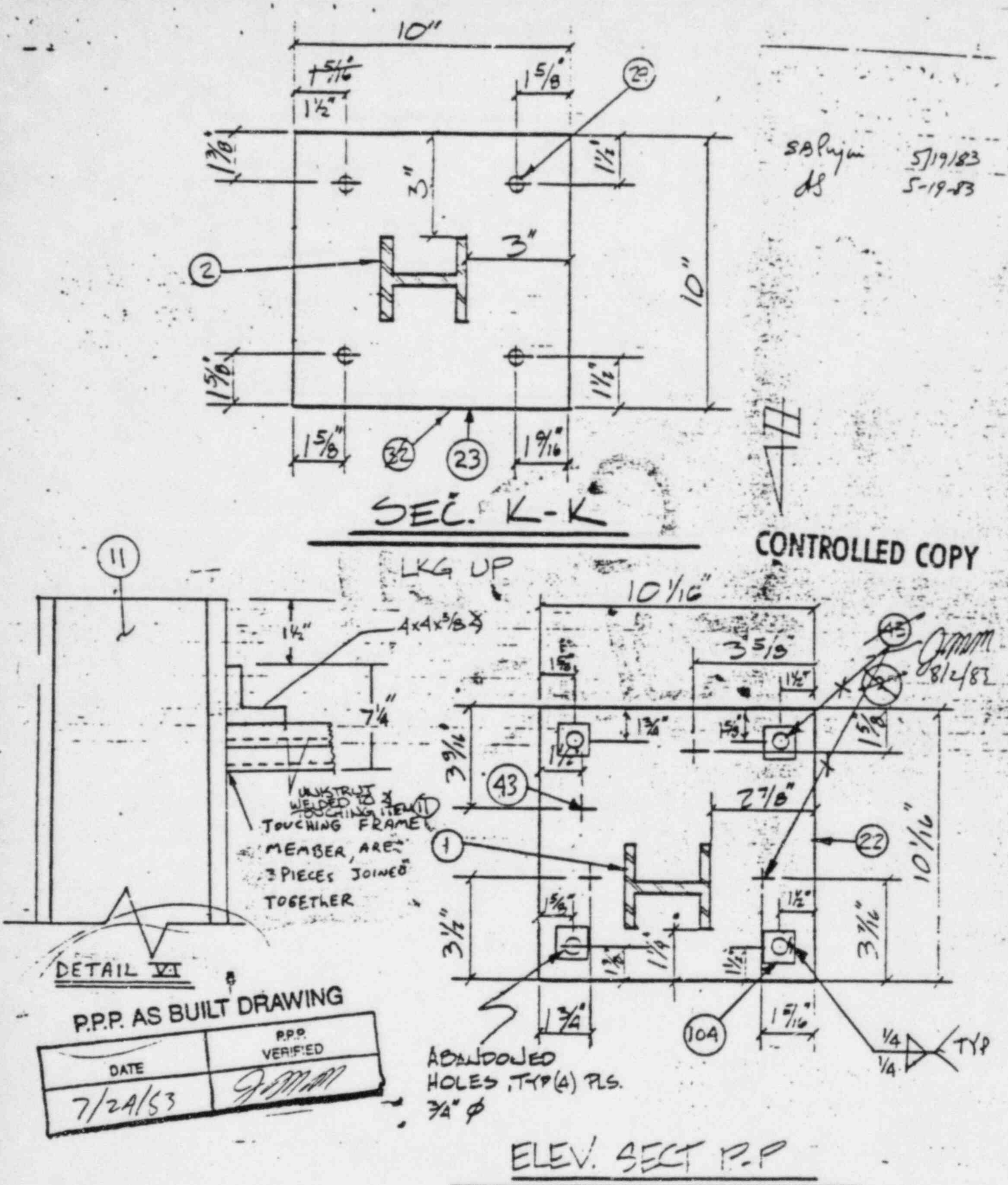
ELEV 100' DESIGN J.M.M.

ISO MULTI DATE 7/24/83

PIPE SUPPORT

DWG. No. 99-11 REV. No. 7

SHT 31 OF 50



UNLESS OTHERWISE SPECIFIED

~~bolts hand tight, nut each side. Horiz. pipe clearances are: 0" bottom and 1/16" two sides and top~~

REF. DWG. 500099 SYS E/G

CLASS 1 UNIT 1 AREA E

ELEV 100' DESIGN PL421/JAB

ISO MULTI DATE 2-16-83

PIPE SUPPORT

DWG. No. 99-11 REV. No. 7

(17) BUILT SHT 12 OF 35 ~~20~~

REV. 5-11-82 — 3 ✓
FORM F-65
* HOLD POINTS
✓ QC VERIFICATION POINTS

PULLMAN POWER PRODUCTS
GENERAL FIELD SUPPORT PROCESS SHEET

SUPPORT NO. 49-11 | DRAWING 300099 - 7
PREPARED BY F.I.P. DATE 1/05 | FITTER/WELDER BADGE NUMBER | Q.C. DATE & INITIAL

1. LOCATION OF SUPPORT COMPLIES WITH DRAWING.	2245	✓ 7/11/83
2. DRAWING CHANGES NOTED AND COMPONENTS COMPLY WITH MATERIAL LIST	2245	✓ 8-2-83
3. ANCHORS INSTALLED AND WITNESSED BY Q.C. A. Holes drilled to tolerance and Check adjacent anchors	2245	* 6/30/83 PLATE 58
B. Shield/Plug Driven to Tolerance TYPE: Hilti/Phillips	2245 N/A	* N/A 7/11/83
C. Type Stud Installed — SIZE — MIN. EMB. — TYPE: (Hilti)/Phillips	3080	* 7/11/83
1"x9" Hilti — 1x9" — 4½"	3080	6/30/83 PLATE 58
D. Anchors Torqued — SIZE — VALUE — WRENCH SERIAL	2245	* 7/10/83
5/8" — 3/4" 100 ft-lb — 1/2" 40 ft-lb — 4-½" HDI due #96	2245 Due 7-27-83	
E. Unused holes dry packed 1" 220 ft. lb PPP 24 DUE 7/17/83	2245	* 7/11/83
4. BACK OFF BOLTS PRIOR TO WELDING ON BASE PLATES	N/A	* N/A old work
5. FIT-UPS: A. Pipe attachments installation: (1) Heat No:	N/A	✓ N/A
(2) P.O. No:	N/A	✓ N/A
B. Support Members: ITEMS SPECIAL INSTRUCTIONS		
(1) Groove & Full Pen Welds — Fitter Signed in Error 7/11	~~3080~~	* NA 7/11/83
(2)		*
C. Purge Established where required	N/A	* N/A
6. WELD PREP ZONES CLEAN OF PAINT, OIL ...	2245	7/11/83
7. WELDING OF PIPE ATTACHMENTS (PER SEPARATE PROCESS SHEET) F.W.#	X	* N/A
8. WELDING OF HANGER SUPPORT MEMBERS ONLY: IDENTIFICATION — WELD CODE	551	7/11/83
SPECIAL WELDING INSTRUCTIONS: Item (80) — CS/CS (7/8) 88/89 — SS/SS 12/14 — 15/16 — CS/SS	3080	7/11/83
9. OTHER INSTRUCTIONS: All welds ok @ plate #96 as per QF. Items 96-97-98-10	3080	7/16/83
10. FINAL WELD CONDITION-SUPPORT MEMBERS: A. Weld Surface Clean	2245	✓ 7/11/83
B. Arc Strikes Removed/Minimized	2245	✓ 7/11/83
C. Weld Size Complies with drawing	3080	✓ 7/11/83
11. REVIEW FOR GENERAL WORKMANSHIP AND CONFIGURATION:	FOREMAN INITIAL/DATE	Q.C. DATE & INITIAL
A. Components and Dimensions Comply W/Dwg. & Mat'l. List	DB 7/11/83	✓ 8-2-83
B. Pipe Clearance in Accordance with Drawing	DB 7/11/83	✓ 7/11/83
C. Riser Clamp Bears upon Lug	N/A	✓ N/A
D. Hanger is Level and Plumb	DB 7/11/83	✓ 7/11/83
E. All Bolts/Nuts Installed and Tight	DB 7/11/83	✓ 7/11/83
F. Wall & Ceiling Plates Shimmed where Necessary	N/A	✓ N/A
G. Grout Request Submitted	N/A	✓ N/A
H. Lug Clearance within Tolerance	N/A	✓ N/A
12. SNUBBERS: A. Installed per Separate Process Sheet	N/A	* N/A
NONE B. Grinnell Fit.# & Size C. PSA Size D. TYPE: HP, MON-HT		

13. SUPPORT ACCEPTED BY Q.C. (Complete Installation Review) Q.C. SIGNATURE [illegible]

DATE 8-2-83

t &
nal
gue
1" Hilti
ik Bolts
E #2
6-83
- 7-16-83
0 ft/lbs
7/1/83

PREINSPECTION CHECKLIST

	Q.C.	ENGINEERING
1. ALL MEMBERS INSTALLED	Pre-inspection was done by R. Noji (see rev 6) [illegible] 5/25/83	✓ RC 5-25-83
2. WELDS: Inaccessible and/or Undersized		✓ RC 5-25-83
3. GAPS: U-Bolts, Tee Shoes and Lugs		✓ RC 5-25-83
4. GROUTED PLATES; Grout damaged or Holes in Plate		✓ RC 5-25-83
5. SHIMS: Tack Welds		N/A
6. NUTS NOT FULLY ENGAGED		N/A
7. ARC STRIKES		N/A
8. MATERIAL SIZE		✓ RC 5-25-83
9. OVERSIZED HOLES IN PLATE; Washers		N/A
10. WARPED BASE PLATES/MEMBERS		N/A

PREINSPECTION REMARKS:

REMOVE EXISTING ½" PLATE AND INSTALL ¾" PLATES Items (19) & (20)
INSTALL ITEMS (44) THRU (55)

NOTE INSULATION REMOVAL REQUIRED TO INSTALL ITEM (48)
ALSO REQUIRED FOR 44, 45, 46 & 47

AN INTERFERENCE MAY EXIST WITH INSTALLATION OF ITEM (51)
RESOLVED IN PROCESS FOR CONVICTING

RELOCATE ITEM ~~ITEM~~ (53) 3" TO UTILIZE EMBED [signature]
SEE RED-LINED DIMENSION X1355

PG&E P.I. FINAL PKG. REVIEW - COMPLETE. MMC 6/1/83
WORK W/ TC-1-7142

FINAL INSPECTION COMMENTS: INSPECTOR DATE

#54 to #1 fillet gap 3/32 gap exists, also #1 has been ground down to clear same gap on South side LT 6/27/83
Fixed above w/ Quick Fix TC1-8222 LT 6/28/83
All Welds on TC1-8222 OK plus upper #53 at insert OK LT 6/29/83

FINAL INSPECTION COMPLETE - (AW) 7-10-83

AS BUILT CHANGES AFTER QC FINAL ACCEPTANCE PER QA REQUEST WITH THE KNOWLEDGE & APPROVAL OF THE FIELD QA/QC MANAGER TJO 11/3/83
DCN 16CA-025 WRITTEN FOR DEFICIENCIES TJO 11/3/83

P.G. and E. 845 7-12-83

X 1355

PRE-INSPECTION ENGINEER

1604-016	9/20/83	1604-016	9/20/83
1604-017	9/22/83	1604-017	9/22/83
1604-018	9/22/83	1604-018	9/22/83
1604-019	10/10/83	1604-019	10/10/83
020	10/12/83		
021	10/12/83		
022	10/20/83		
023	10/26/83		NO HOLD TAG
024	10/26/83		NO HOLD TAG
025	11/3/83		NO HOLD TAG
026	11/10/83		
027	11/15/83		NO
028	11/29/83		NO
029	12/15/83		NO

DCN ORIGINATED BY [illegible] FOR UNAUTHORIZED AND PARTS ADDED TO PIPE AT: RESTRAINED LINE 1-K-108-1E DOE ,J CHECK VALVE NEAR HGR 547-17

UNTENSIONED SPRING CAN, HGR 547-17

SUPPORT 384/322R - UNAUTHORIZED WORK, ~~NO~~ CHANGES TO SPECS AFTER AFC STAMP SIGNED, SWAY STRUT INSPECTED BY FIELD ENGINEERS

GRINDING GOUGE ON 1-K-103-20

LUG WELDING ON SCW L.O. LINES

GAPS ON HGR 547-17

TO REN FOR QA VERIFICATION - HGR 384/20

" HGR 10-1365L

A/B WRONG - SUPPORT 99/11 WILL REQ. A DR

ISO 1-A-363 WALKDOWN SFWX2165 IRREGULARITY

ARC STRIKES, GOUGES ON VCT

HOLD POINT ON SUPPORT 229/61R BOLTS BACKED OFF ~~PASSED~~ CR, NOT VERIFIABLE

DESK ON 140 TURBINE, DOC. CONTROL

FORM F-130

PULLMAN POWER PRODUCTS

DCN/HOLD TAG/D.R. LOG

D.C.N. #	D.C.N. DATE	HOLD TAG #	HOLD TAG DATE	D.R. #	D.R. DATE	DWG #	DISCREPANCY	DATE CLOSE
1604/001	7/25/83	1604/001	7/25/83	NA	NA	DO16-13 REV. A	ARC STRIKES & GOUGES ON LINES 1-51-3269-4" [E], 1-52-3270-4" [E], 1-52-3271-4" [E] And 1-52-3272-4" [E]	
~~1604/002~~	~~7/26/83~~	~~1604/002~~	~~7/26/83~~	VOID 7/26/83		~~[illegible] REV 2~~	~~GOUGES ON LINE 1-56-225-10 [A]~~	
1604/003	7/27/83	1604-003	7/27/83	NA	NA	049265 REV 4	ARC STRIKE ON PIPE 56-508-8 REF. BY PTGC INSULATION INSPECTOR	10/15/8[illegible]
1604/004	8/5/83	1604-004	8/4/83	↓	↓	1501-21-14	ARC STRIKE ON AIR INTAKE HDR DG 1-2	11/10/8[illegible]
1604/005	8/6/83	1604-005	8/6/83	↓	↓	060384	SWAY STRUT ON HGR 384-370R REMOVED AFTER FINAL WORKMANSHIP ACCEPTANCE	11/3/8[illegible]
1604/006	8/8/83	1604-005	8/8/83	↓	↓	SK-18-5R	GOUGES ON PIPE, ARC STRIKE, LINEAR PT INDICATION	
1604/007	8/11/83	1604/007	8/11/83	↓	↓	SK-18-5R	ALTERATION OF DCN 1604-006 + FURTHER EXPLANATION OF DETAILS REF DCN 1604-006	
~~1604/008~~	~~8/11/83~~	~~1604/008~~	~~8/11/83~~	VOID			~~PASSING QC HOLD POINT~~	
1604/008	8/15/83	1604/008	8/15/83	5242	8/24/83 ~~9/9/83~~	049318	UNDERSIZE WELD ON HGR. PIPE ATTACHMENT HANGER 24/85R, WEST LUG LOCATION	
1604/009	8/24/83	NA	NA	↓	↓	049235	REF. DCN - WORK DONE AFTER FINAL WORKMANSHIP HGR 235/11R; 235/165R; 235/36R	11/16/8[illegible]
~~1604-010~~	~~8/25/83~~	~~1604/010~~	~~8/25/83~~	↓	↓		~~ARC STRIKES ON LINE - HANGER 234/21R~~ VOID - CLASS E DCN NOT WRITTEN LINE REPAIRED	
1604/011	8/30/83	1604/011	8/30/83	↓	↓		SWO 1483, HANGER 384/306R - NEW REV PER PG+E MEMO 8/23/83	
1604/012	8/30/83	1604/012	8/30/83	↓	↓		SWO 1484, HANGER 384/342 NEW REV PER PG+E MEMO 8/23/83	9/9/83
1604/013	8/30/83	1604/013	8/30/83	↓	↓		SWO 1485, HANGER 384/354R NEW REV PER PG+E MEMO 8/23/83	
1604/014	9/6/83	1604/014	9/6/83	↓	↓	~~049[illegible]~~ 049294	HANGER 2/417R - REJECTED BY BILL YOUNG FOR INSUFFICIENT SWAY STRUT CLEARANCE ON PIPE CLAMP	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			~~HANGER 547-14 - ON NUCLEF FOR PIPE GAPS OUT OF TOLERANCE~~	

FORM F-130

PULLMAN POWER PRODUCTS

D.C.N./HOLD TAG/D.R. LOG

D.C.N. #	D.C.N. DATE	HOLD TAG #	HOLD TAG DATE	D.R. #	D.R. DATE	DWG #	DISCREPANCY	DATE CLOSED
016	9/20/83	016	9/20/83	NA	NA	051396	UNAUTHORIZED R+ WELD FOUND BY PPP FE BILL AVELLAN AT PREINSPECT - VOIDED BY HAROLD KARNER	N/A
017	9/22/83	017	9/22/83			049242	UNINTENTIONAL RESTRAINT, HGR 547-17 VOIDED BY IDI TO REMOVE "T" COUPLING	N/A
018	9/22/83	018	9/22/83			500547	UNTENSIONED SPRING CAN, LOOSE PIPE CLAMP	11/12/83
019	10/10/83	019	10/10/83			060384	UNCONTROLLED DOCUMENTATION, X HTS VOIDED BY RICK MARKS	N/A
020	10/12/83	020	10/12/83			SK-18-17R	GOUGE ON PIPE	11/2/83
021	10/12/83	021	10/12/83				ACCEPT AS IS BY PG+E	
022	10/20/83	022	10/20/83			500547	GAPS ON HGR 547-17 ACCEPTED BY ME OUT OF TOLERANCE	11/10/83
023	10/15/83	NA	NA			38A-207R	FOR R.E. NEIMYER OF QA	12/13/83
024	10/23/83	NA	NA			049308	FOR R.E. NIEMYER OF QA	
025	11/3/83	NO	NA		VOIDED	BY R	MARKS - WILL BE RE-SUBMITTED AT A LATER DATE	
026	11/10/83	NA	NA			1501-4-363	SHARP IRREGULARITY, SFWX-2165	
027	11/15/83	NA	NA	5578	11/19/03	049315	ARC STRIKES + GOUGES, UNIT 1 VOLUME CONTROL TANK.	
028	11/29/83	NA	NA			049229	PASSED HOLD POINT - CANNOT VERIFY BOLTS BACKED OFF PRIOR TO WELDING	
029	12/15/83	NA	NA				UNCONTROLLED DOCUMENTS, STAMPS, ETC IN UFE DESK, U-1 140' TURBINE	
030	12/15/83	NA	NA	VOIDED BY JEFF CHARBONEAU			FOUND BARE WIRE UNCONTROLLED. SUPT CHARBONEAU INSTRUCTED THIS SHOULD BE REPORTED ON MONTHLY MAINTENANCE REPORT	

FORM F-130

PULLMAN POWER PRODUCTS

D.C.N./HOLD TAG/D.R. LOG

D.C.N.		HOLD TAG		D.R.		DWG #	DISCREPANCY	DATE CLOSED
#	DATE	#	DATE	#	DATE			
030	12/19/83	NO	NA			049182 049198 SK-15-165L	DOCUMENTS SHOULD BE STAMPED "FOR INFO ONLY"	

FORM F-130

PULLMAN POWER PRODUCTS

D.C.N./HOLD TAG/D.R. LOG

D.C.N.		HOLD TAG		D.R.		DWG #	DISCREPANCY	DATE CLOSED
#	DATE	#	DATE	#	DATE			

FORM F-130

PULLMAN POWER PRODUCTS

D.C.N./HOLD TAG/D.R. LOG

D.C.N.		HOLD TAG		D.R.		DWG #	DISCREPANCY	DATE CLOSED
#	DATE	#	DATE	#	DATE			

DEFICIENT CONDITION NOTICE

UNIT #	AREA	ELEV.	COL/LINE	DATE:	NOTICE NO.
1	G	100'	BZ-00 R-45'4"	7/26/83	1604-002

DEFICIENT CONDITION: DURING FINAL WORKMANSHIP INSPECTION OF SUPPORT SGN/11R, INSPECTOR NOTICED MANY HAMMER GOUGES (DINGS) IN LINE 1-56-255-10 [A]. THE GOUGES ARE APPROXIMATELY 1/8 IN. DIA AND 1/64 DEEP, LOCATED AS SHOWN ON PAGE 2. GOUGES ARE LOCATED NEAR FWX354E AND FWX354F AS SHOWN. CRAFT WORKERS CLAIM GOUGES WERE ALREADY PRESENT BEFORE WORK ON HANGER BEGAN, AND PIPE WAS COVERED WITH CLOTH WHEN INSPECTING. INFORMATION COPY OF FIELD PACKAGE INCLUDED FOR REFERENCE. HANGER SGN-133R IS STILL IN PROCESS, AND CRAFT INSTRUCTED NOT TO ATTACH TO WALL UNTIL HOLD IS CLEARED.

ORIGINATOR'S SIGNATURE: T. A. O'Neill

HOLD TAG APPLIED: YES	TAG # 1604-002	INITIALS TAO	DATE 7/26/83

RECOMMENDED DISPOSITION:

FIELD ENGINEER

FIELD QC INSPECTOR

CHIEF ENGINEER

LEVEL III

FIELD QA/QC MANAGER

FIELD QA/QC MANAGERS EVALUATION: ☐ APPROVED AS RECOMMENDED ☐ OTHER

☐ NON-CONFORMANCE - D.R.# _____

☐ REPAIR ORDER

☐ REWORK/REINSPECT

☐ INTERNAL AUDIT

☐ OTHER

COMMENTS:

CAUSE CODE

DATE

FIELD QA/QC MANAGER

CORRECTIVE ACTION REQUIRED BY:

NOT LATER THAN:

STEPS TO PREVENT RECURRENCE:

☐ NOT APPLICABLE

RESPONSIBLE SUPERVISOR	DATE	FIELD QA/QC MANAGER

DEFICIENT CONDITION CLOSED:	DATE	SIGNATURE:

76-1483 (4-82)

AREA 1-G	LINE 1-S6-255-10-A	HANGER SYMBOL 56N 11R
EL 100'-0"	SYS 03 SIS ACCUM INJ LOOP 3	Y RESTRAINT
		LOC ON DWG 500056

REV	ISSUE DATE	DESCRIPTION OF CHANGES	PREPARATION DSGN	PREPARATION DWN	PREPARATION CHKD	APPROVAL DUS	APPROVAL ENGR	APPROVAL SUPV ENGR
2	10-4-82	AS BUILT PER M.E. LEPPKE MEMO DATED 6-1-82.	JS	JS	JEB	[illegible]	[illegible]	[illegible]

THIS PIPE HAD HAMMER DINGS AND GOUGES WHICH WOULD HAVE GONE ON DCN 1604-002 WHICH WAS VOIDED DUE TO RICK MARKS INSTRUCTION THAT DEFECTS WERE ACCEPTABLE AS-IS. GJO 8/6/83

FOR INFORMATION ONLY

A.S.W.R.

REASON: [redacted]

Work To attached Work Req # 1388

ENGR. [signature]

[initials] 3-17-83

NOTES:

WORK W/ 56N-133R

APPROVED FOR CONSTRUCTION
3-17-83 [signature]
DATE ENGR
[initials] 3-17-83

~~NOTE: INSTALL BEFORE~~ COMPLETE SIS PRIOR TO 56N-133R
W.a. 6/3/83

SHEETS ASSIGNED TO THIS HANGER SYMBOL (TOTAL 3 SHEETS)

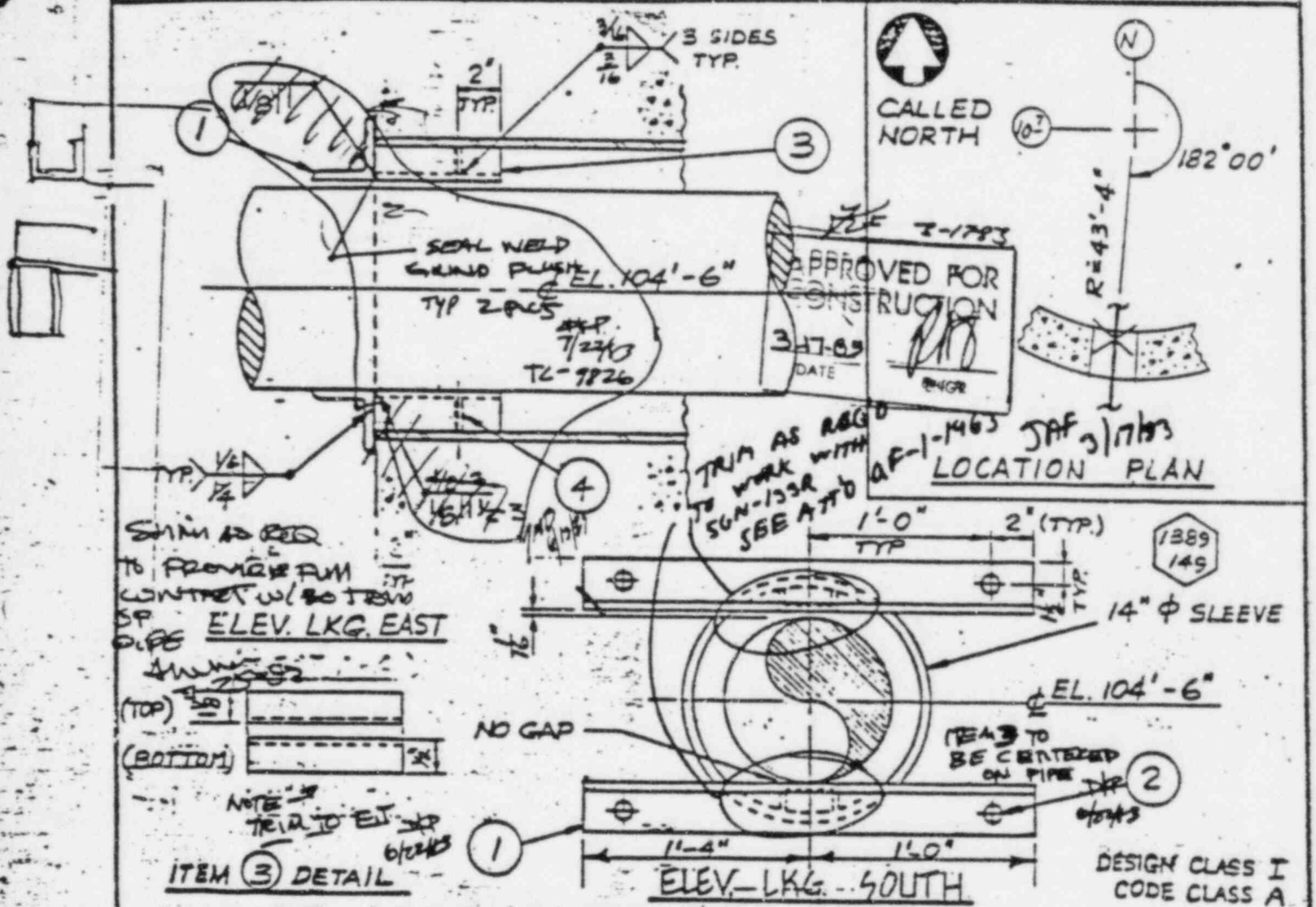
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
176	176A	176X	—	—	—	—	—	—											

DSGN JS	DRAWING NO 049261
DWN JS	
CHKD JEB	
PROJECT: DIABLO CANYON	UNIT: ONE
176X OF — SHS	P G & E CO
ISSUE	MICROFILM

813

AREA 1G | LINE 1-56-255-10 A ACCUMULATOR INJECTION LOOP 3 | HANGER SYMBOL Y-RESTRAINT 56N 11R

EL. 100'-0" | NOS. | LOC. ON DWG. 500056



NO. OF ASSEMBLIES REQUIRED 1

REPLACES ITEM (1) WHICH EXISTS AT 3/8" THICK WITH A 1/2" THICK MEMBER THRU 6-1-83

NO.	REQD	MATERIALS
1	2	L 3" x 3" x 1/2", 2'-4" LG. EA. W/(2) - 15/16" HOLES
2	4	7/8" ϕ STUD TYPE CONCRETE ANCHOR - UU
3	2	4 C 7.25, 6" LG. EA., (SEE DETAIL ABOVE) - SJS
4	2	STIFF PL 1 3/8 x 1/4, 3 3/8" LG. EA., CUT TO FIT.

FOR INFORMATION ONLY

REV. 1: REDESIGNED. THIS SH. SUPERSEDED SH. 102.
APPROVED FOR CONSTRUCTION.

INCORPORATED FIELD VERIFICATION SHEET AS OF 6-24-82

P G & E CO. SHEET 176 OF 176 SHEETS | DRAWING NO. 049261 | REV. 2

SJ 5/6/80

DSGN: AC. CHK'R: CHG 1: P.K. SJ 5/6/80

AREA 1G

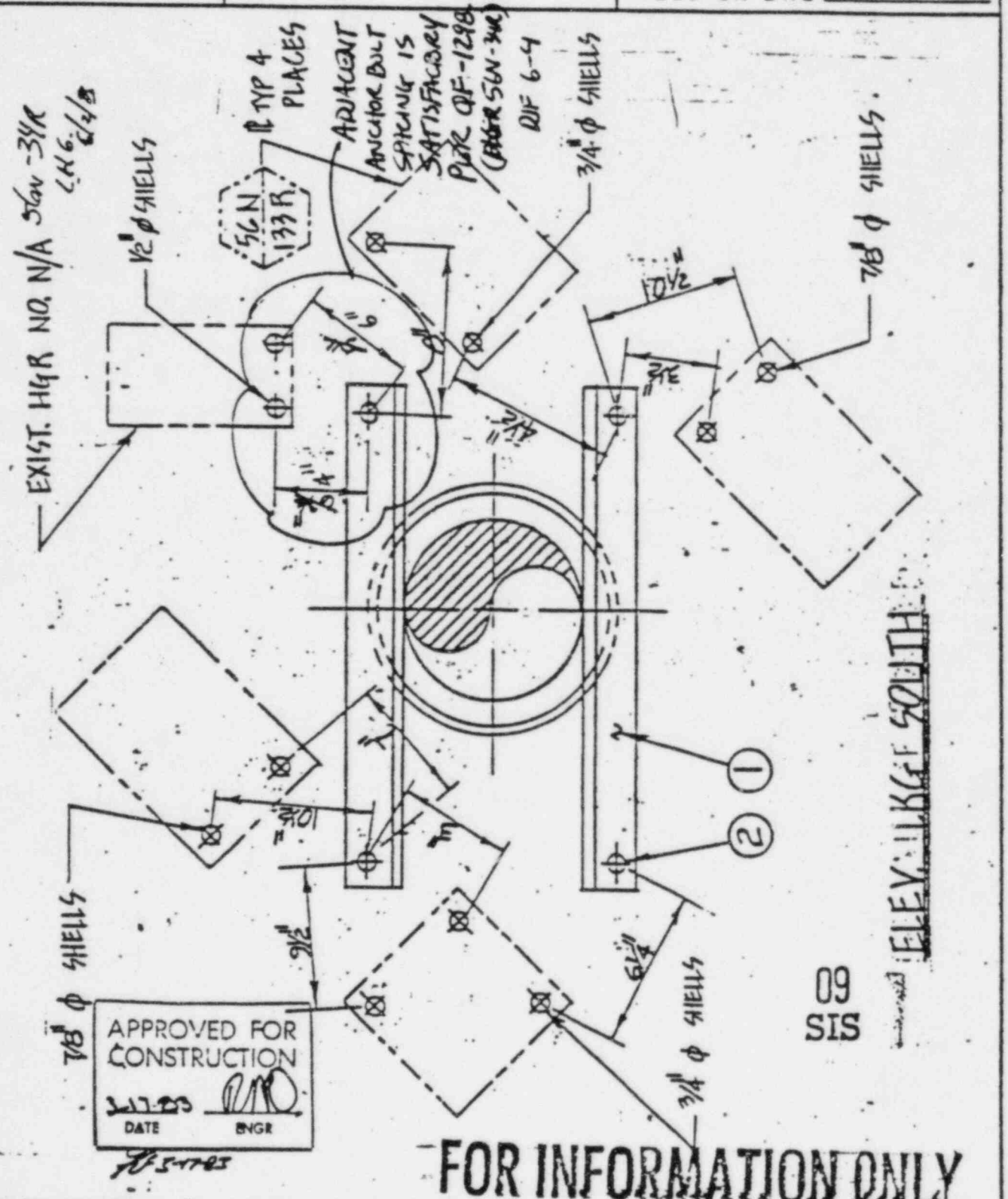
EL 100'-0"

LINE 1-56-255-10 [A]
ACCUMULATOR INJECTION LOOP 3

HANGER SYMBOL
RESTRAINT Y
56N / 11R

LOC ON DWG 500056

76-111



APPROVED FOR CONSTRUCTION
DATE
ENGR

FOR INFORMATION ONLY

INCORPORATED FIELD VERIFICATION SHEET AS OF 6-24-82

DSGN
DWN TS 7-2-82
CHKD

DRAWING NO 049261

PROJECT: DIABLO CANYON | UNIT: ONE | SHT 176A OF SHTS | P G & E CO

ISSUE 2 | REV

MICROFILM

INSTRUCTION NO. 12
ATTACHMENT A

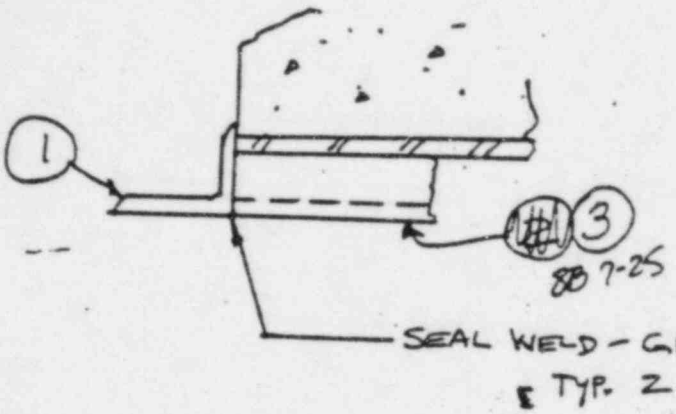
PIPE SUPPORT DESIGN TOLERANCE CLARIFICATION FORM

SEQUENCE NUMBER TC-1-9826

SUBJECT S6N-11R REV 2 CLASS I/A

LOCATION AREA: 1-G ELEV: 91 pre-inspect ☒
in-work ☐
past work ☐
DR ☐ #

DESCRIPTION:



CHANGE WELD ITEM 1-2 AS SHOWN. WELD SYMBOLS ON DWG. UNCLEAR.

FOR INFORMATION ONLY

P.P.P. F.E. ~~DKP~~

REFERENCE DRAWING 049261 SH 176 G.C. F.E. _____

ATTACHMENTS YES (NO) PAGES (INC. THIS SHEET) 1

AREA ENGINEER:

CONSTRUCTION MAY PROCEED Stephen Berkey

DATE 7-22-83

CONSTRUCTION D.P. REQ'D _____

CONTRACTOR RECEIPT ~~Dan~~ Peck DATE 7/22/83

1-7-83

QUICK FIX DESIGN CHANGE

QFDC NUMBER QF1-1963.

SUBJECT 56N-11R. REV 2 SYS 14 CLASS 1A

LOCATION 1-G EL=100

DESCRIPTION:

COPE ITEM #1 (L 3x3x1/2) AS NEEDED TO CLEAR ITEM #11 (W4X13) OF HGR. #56N-133R.

APPROVED FOR CONSTRUCTION 3-17-83 DATE - [illegible] ENGR

[illegible] 3-17-83

FOR INFORMATION ONLY

P.G & E F.E IA

REFERENCE DRAWING 049261

ATTACHMENTS ☐ YES ☒ NO PAGES (INCLUDE THIS SHEET) 1

AREA ENGINEER:

CONSTRUCTION MAY PROCEED [signature] DATE 15-MAR-83

CONSTRUCTION D.P. REQ'D ____

CONTRACTOR RECEIPT [signature] DATE 3-15-83

PULLMAN POWER PRODUCTS

REQUEST FOR AUTHORIZATION
TO ADD HANGERS TO EXCEPTION LIST

1 AREA G DATE 3-5-83 REQUEST # 1388

YS#	HGR SYM.	DWG #	REV.	LINE #	S/B ISO #	CLASS	COMMENTS
7	56N-11R	049261	2	255	—	II/A	

ASON FOR REQUEST:

HGR# 56N-133R REV. 3 CALLS FOR ∠ 3 ON 56N-11R TO BE TRIMMED. 56N-133R NOW BEING WORKED. NEED ASWR OF 56N-11R ASAP.

REVISION 2 IS EIA'D REQUEST TO 11W EIA 56N-11R

FOR INFORMATION ONLY

REQUESTED BY: Doug Peck P.P.P. DATE: 3-5-83

.E. DISPOSITION:

SKETCH SHOWS AN INTERFERENCE OF 1/4" BETWEEN ITEM No 1 OF HGR 57N-11R AND HGR 57N-133R. IF THIS IS THE TRUE FIELD CONDITION, REQUEST TO ASWR HGR 56N-11R IS APPROVED ~~PROVIDED ITEM No 1 IS NOT TRIMMED MORE THAN 1/2" DEEP. RESUBMIT THE MODIFIED AS BUILT OF 56N-11R TO QFDC FOR REVIEW AND APPROVAL PENDING RECEIPT~~ PER ~~OF~~ QFDC # 1963

DISPOSITIONED BY: I. ANUMA P.E.E. DATE: 3-8-83

HOLD POINTS / QC VERIFICATION POINTS

PULLMAN POWER PRODUCTS

GENERAL FIELD SUPPORT PROCESS SHEET

SUPPORT NO. 564-41R | DRAWING NO. 04976 SHT NO. 2

PREPARED BY: 7/17/83

				FITTER/WELDER BADGE NUMBER		Q.C. DATE & INITIAL
1. LOCATION OF SUPPORT COMPLIES WITH DRAWING				3353		7/26/83
2. DRAWING CHANGES NOTED AND COMPONENTS COMPLY WITH MATERIAL LIST				3353		
3. ANCHORS INSTALLED AND WITNESSED BY Q.C. — A. Holes drilled to tolerance and Check adjacent anchors				OLD WORK		OLD WORK NA
B. Shield/Plug Driven to Tolerance		TYPE: Hilti/Phillips				
C. Type Stud Installed	SIZE	MIN. EMB.	TYPE: Hilti/Phillips			
	7/8 Ø					
D. Anchors Torqued	SIZE	VALUE	WRENCH SERIAL NUMBER	3344		7-23-83
	7/8	110 FT-LBS	PPP #39			
E. Unused holes dry packed				N/A		NA
4. BACK OFF BOLTS PRIOR TO WELDING ON BASE PLATES				3344		7-25-83
5. FIT-UPS: A. Pipe attachments installation:		(1) Heat No:		N/A		NA
		(2) P.O. No:				NA
B. Support Members:	ITEMS	SPECIAL INSTRUCTIONS				
(1) Groove & Full Pen Welds	~~3 to 1~~	~~SCEFF~~ NA PER TC 4826		NA		7-26-83
						NA
C. Purge Established where required						NA
6. WELD PREP ZONES CLEAN OF PAINT, OIL				3344		
7. WELDING OF PIPE ATTACHMENTS (PER SEPARATE PROCESS SHEET) P.S.#				X		NA
8. WELDING OF HANGER SUPPORT MEMBERS ONLY:	IDENTIFICATION	WELD CODE				
SPECIAL WELDING INSTRUCTIONS:		CS/CS 7/8		8997		
		88/89		NA		NA
		SS/SS 12				NA
		15/16				NA
		CS/SS				NA
9. OTHER INSTRUCTIONS: RETORQUE ITEM 1 BOLTS DUE TO INSUFFICIENT GAP IN PIPE				7/26/83		7/26/83
WRENCH PPP #75, CAL 7/15/83 DUE 8/15/83 110 LB						
10. FINAL WELD CONDITION-SUPPORT MEMBERS:	A. Weld Surface Clean			3344		7-26-83
	B. Arc Strikes Removed/Minimized			3344		7-26-83
	C. Weld Size Complies with drawing			3344		7-26-83

11. REVIEW FOR GENERAL WORKMANSHIP AND CONFIGURATION:	FOREMAN INITIAL/DATE		Q.C. DATE & INITIAL
A. Components and Dimensions Comply W/Dwg. & Mat'l. List	7/17/83		
B. Pipe Clearance in Accordance with Drawing	7/17/83		7/26/83
C. Riser Clamp Bears upon Lug	NA		NA
D. Hanger is Level and Plumb	7/17/83		7/26/83
E. All Bolts/Nuts Installed and Tight	7/17/83		7/26/83
F. Wall & Ceiling Plates Shimmed where Necessary	NA		NA
G. Grout Request Submitted			NA
H. Lug Clearance within Tolerance			NA
12. SNUBBERS: A. Installed per Separate Process Sheet			NA
B. Grinnell Fig.# & Size — C. PSA Size — D. TYPE: HF NON-HF			

13. SUPPORT ACCEPTED BY Q.C. (Complete Installation Review) Q.C. SIGNATURE

DATE

FOR INFORMATION ONLY

QC VER EST TORQUE 80 STUDS TO 110 FT LB DH 7-23-83 PPP39

ACCEPT WELDS 2 4 1 3 DH 7-26-83

FORM F-65
BACKFORM

PRE-INSPECTION CHECKLIST

		Q.C.	INSPECTION
1.	ALL MEMBERS INSTALLED	JF 3-17-83	
2.	WELDS; Inaccessible and/or Undersized	JF 3-17-83	
3.	GAPS; - U-Bolts, Tee Shoes and Lugs	JF 3-17-83	N/A
4.	GROUTED PLATES; Grout damaged or Holes in Plate	N/A	JAF
5.	SHIMS; -Tack Welds	N/A	3/17/83
6.	NUTS NOT FULLY ENGAGED	JF 3-17-83	
7.	ARC STRIKES	Painted	
8.	MATERIAL SIZE	JF 3-17-83	
9.	OVERSIZED HOLES IN PLATE; Washers	JF 3-17-83	
10.	WARPED BASE PLATES/MEMBERS	JF 3-17-83	

PRE-INSPECTION REMARKS:

OK TO WORK WITH SGN-133R.
JAF 3/17/83

READ! PRE-INSPECTION COMPLETE. O.K. TO INSTALL PER QF-1963 MUST INSTALL THIS SUPPORT FIRST DUE TO ACCESSIBILITY PROBLEMS BEFORE SGN-133R. STENCIL HANGER AFTER COMPLETION. W.A.G.
-PG&E FINAL PACKAGE REVIEW COMPLETE WAG 6-4-83.
QC-PRE-INSPECT COMPLETE - JHH 6/9/83
V.G. & E. PREINSPECTION COMPLETE, RELEASE. JA 6/7/83
P.K. TO INSTALL ITEM 1 PER REV-2-

FINAL INSPECTION COMMENTS: INSPECTOR DATE

HANGER COMPLETE PER REV 2 & TC-1 & 9926 & QF-1963 AW 7-25-83
ANCHOR BOLTS STILL NEED DRILLING - COMPLETE AW 7-26-83
DCN 1604-002 WRITTEN FOR GAUGES ON TOP
OF PROCESS PIPE, HOLD TAG APPLIED AO 7/26/83

FOR INFORMATION ONLY

NO. SGN-11R REV. 2 AREA/ELEV. 1G

SYSTEM 9

HANGER FINAL INSPECTION CHECK SHEET

ITEMS TO BE CHECKED	REFERENCES OTHER THAN ESD 223	ENGINEERING INSPECTION	
		INITIAL	FINAL
Common To All Hangers/Supports:			
1. Hanger Location within ESD 223 Tolerance			[illegible] 7-25
2. Bolting Support to Structure / Adjacent Anchor Spacing			NA
3. Preheat of Structural Steel if Required			NA
4. All Items in B.O.M. Installed & Are Correct Type		N/A	[illegible]
5. All Items in B.O.M. Exhibit the Correct Dimension		N/A	[illegible]
6. Configuration as Per Design Dwg.			[illegible]
7. Hanger Carrying Load (Examine Total Support)		N/A	[illegible]
8. All Welds Complete and Acceptable			X QC
9. Integ. Attach. Ht No.& F.W. No. noted on Process Sheet			NA
10. Threaded Connections Secure		N/A	NA
11. Thread Engagement Adequate		N/A	[illegible]
12. Guide Clearances Acceptable		N/A	[illegible]
13. Expansion Offset Correct as Designed (Thermal)			NA
14. Clamping Config. Correct		N/A	NA
Review Package for Design Change Approvals			[illegible]
16. Hanger Properly Identified . No. Written on Hanger			[illegible]
17. Hanger & Pipe Clearances are Adequate for Thermal Movement			NA
18. Configuration is Free from Arc Strikes		N/A	QC
19. Configuration is Free from Weld Spatter		N/A	QC
20. Weep Holes Installed		N/A	NA
21. Attachment to Other Supports As-Built			NA
Spring Cans:			
22. Spring Can I.D. Plate Complete		N/A	NA
23. Load Column Not Bound on "F" Cans		N/A	
24. Spring Can Set Per Dwg.			
25. Thread Engagement Adequate on Spring Components		N/A	
26. Hot & Cold Load Indicators Attached			
Shock Supports/Sway Struts/Specials:			
27. High Strength Nut & Bolt Mat'l. Properly I.D.		N/A	
28. Staking of Ball Bushings Complete		N/A	
29. Mech. Shock I.D. Plate Complete		N/A	
30. Load Stud Centered on Clamp		N/A	
31. Shocks Protected		N/A	
32. Verify Thread Engagement on Rod Ends		N/A	
33. Welds in Accord. with ESD 223		N/A	
34. Hot & Cold Setting Per Dwg.		N/A	

FOR INFORMATION ONLY

COMMENTS: _____

Record Fitter & Welder Badge No.: _____

[illegible] 7-25-82

JANUARY 14, 1983,

INTEROFFICE CORRESPONDENCE

MARCH 9, 1983,
APRIL 25, 1983, AND
DATE JULY 21, 1983

TO ALL FIELD SUPERINTENDENTS

FROM P. STIEGER/R. FAULL

SUBJECT ARC STRIKES, GRINDER GOUGES AND PUNCH MARKS.

PLEASE CONDUCT A TRAINING SESSION WITH ALL CRAFT PERSONNEL CONCERNING THE FOLLOWING:

In the recent past we have had too many arc strikes and grinder gouges on pipes, hangers, rod assemblies, etc. In order to eliminate these conditions, each person must take the following precautions:

1) Do not ground to pipes, hangers, etc.

2) Protect surrounding pipe hangers and other equipment in work area from weld splatter, grinding and thermal debris.

3) Be careful not to let stingers arc pipe, hangers, etc., when hanging stingers, setting them down or during other movements of stinger.

4) Do not drag leads over pipes, etc: if they have bare spots or open connectors they may arc.

5) Disconnect all leads from grids before pulling or rolling them up.

6) Use extreme caution when grinding in close proximity of piping. Protect the pipe prior to grinding. It is your responsibility to follow these steps and to eliminate arc strikes and grinder gouges on piping and other members.

7) Be sure cables are connected with matching connectors. Do not use a Cam-lock connector with a Jackson as they do not fit properly.

8) Check cables for broken insulation on bare spots.

9) All welding arc starts shall be confined to weld preparation area.

10) Center punches shall not be used on piping where the punch mark will not be removed by subsequent cutting or grinding. A low stress stamp or vibrograph is an acceptable method of marking.

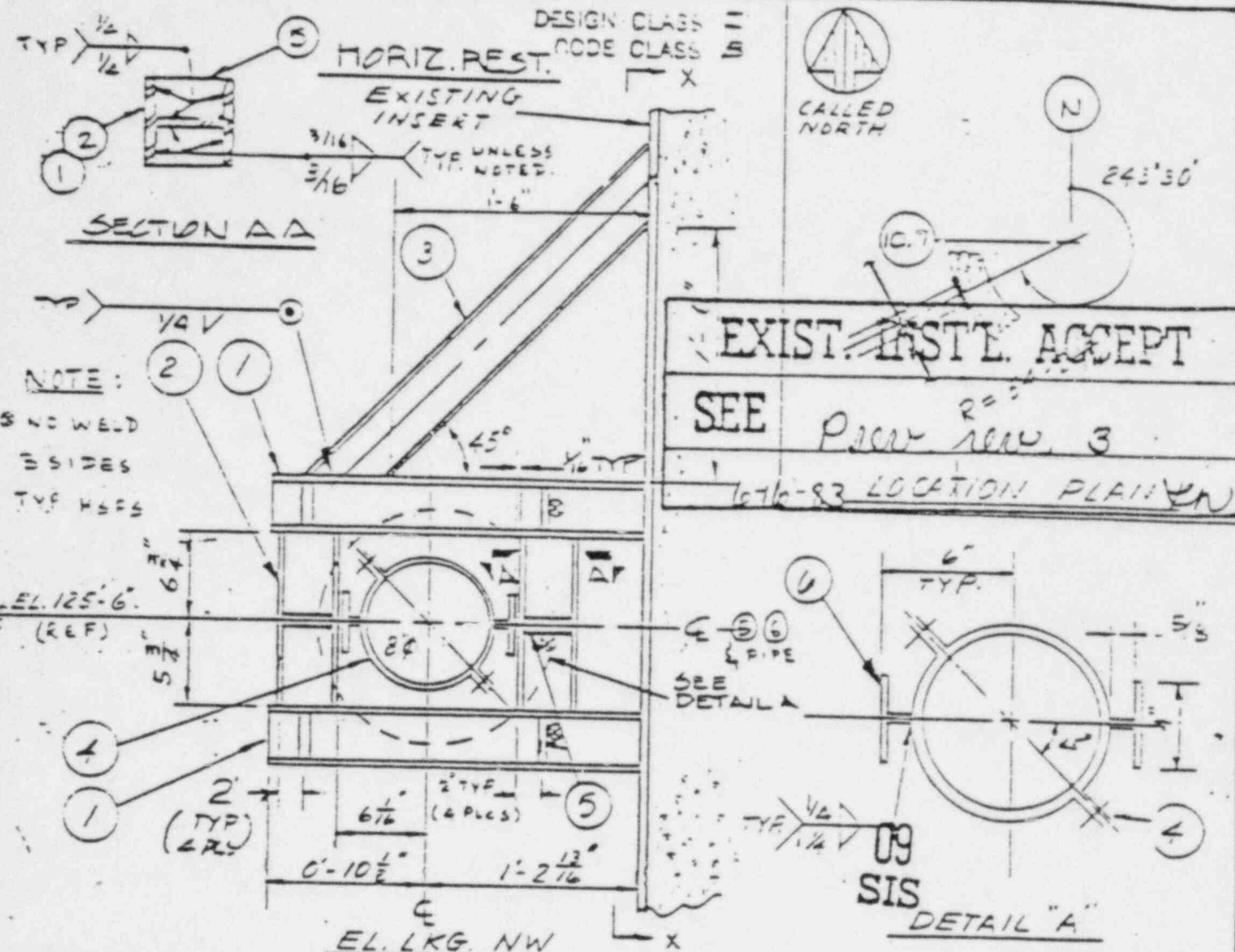
P. Stieger/ecf
P. Stieger
Resident Construction Manager

R. Faull
R. Faull
Assistant Resident Construction Manager

PS:sam

269

AREA: 1G	LINE 1-S6-508-8 III [B]	HANGER SYMBOL 58N 51R
EL. 117'-0"	NOS.	LOC. ON DWG. 500058



NO. OF ASSEMBLIES REQUIRED 1

FOR DATA SEE FILE 33

NO.	REQD	MATERIALS
1	2	M4x13, 2'-1 3/8" LG. EA.
2	2	M4x13, 1'-0 1/2" LG. EA.
3	1	M4x13, 2'-9 1/4" LG. TRIM TO SUIT
4	2	8"Ø PIPE, 1 1/2" INSULATION, FIG. 212, MODIFIED SPIDER CLAMP
		SEE DETAIL "A" ABOVE
5	12	STIFF PL 1/4 x 1 7/8" x 0'-3 1/2" LG EACH (CUT TO FIT)
6	2	M4x13 6" LG (TRIM TO FIT)

270

3

P G & E CO.	DRAWING NO.	REV
SHEET 57 OF SHEETS	049265	4

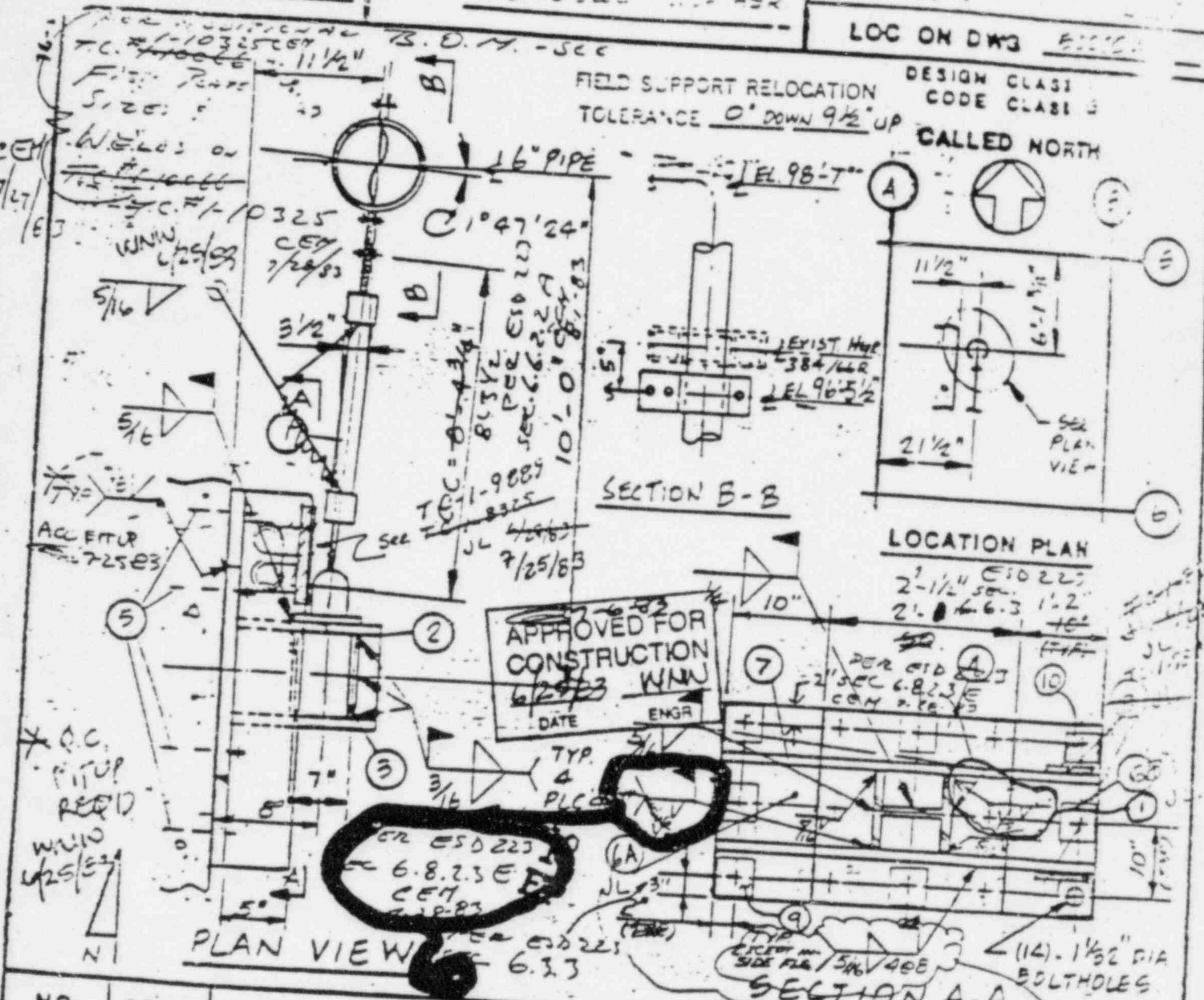
DIABLO CANYON UNIT #1

LINE 1-K-2…	HANGER SYMBOL	
FIRE PROTECTION … TURBINE BLDG …	LOC ON DWG	

FIELD SUPPORT RELOCATION TOLERANCE 0" DOWN 9½" UP

DESIGN CLASS
CODE CLASS

CALLED NORTH



NO	REQD	MATERIALS PER ASSEMBLY
1	1	SRS-20-PC SWAY STRUT ASSY. C-C = 8'-4¾" W/
		SPC-20-D60 PIPE CLAMP
2	1	~~W8 x 31~~, 12" LG.
3	4	¼" x 3 13/16" C.S. PLATE 7⅛" LG.
4	1	1" x ~~2'-8"~~ C.S. PLATE (CUT TO FIT)
5	14	1" ϕ HILTI KWIK BOLTS, MIN. EMB. = 6"
6A	2 1	1" x 10" C.S. PLATE ~~2'-0"~~ LG. 2'-1"
7	2	1" x 5" C.S. PLATE ~~2'-0"~~ LG.
6B	1	1" x 14" C.S. PL 2'-1"
8	2	½" x 2" C.S. PL x 1'-0

CONTROLLED COPY

PROJECT: DIABLO

DSGN	
DWN C. DELUCA	DRAWING NO 060384
CHKD	271

INSTRUCTION NO. 12
ATTACHMENT A

ISO 1-14-5

PIPE SUPPORT DESIGN TOLERANCE CLARIFICATION FORM

SEQUENCE NUMBER TC-1-8578

SUBJECT 18-5R REV DC CLASS 1

LOCATION AREA: 1-D ELEV: 98'-0" SYS 14

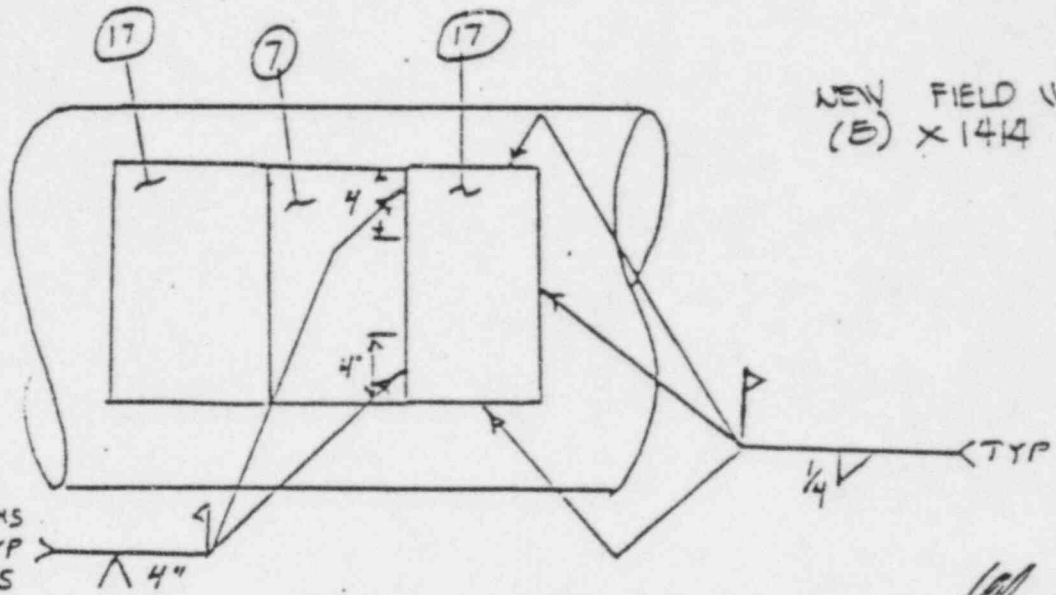
pre-inspect ☐
in-work ☒
past work ☐
DR ☐ #

DESCRIPTION:

ITEM 17 WARPAGE PRODUCES ~~[illegible]~~ VARIED GAP

SOLUTION.

REVISE WELD OF ITEM 17 TO THE PIPE AS SHOWN BELOW --



~~[illegible]~~

P.P.P. F.E. [signature] 7/2/83

G.C. F.E. [signature]

REFERENCE DRAWING DC-1-EP-9041 REV O
DH9242 SH 14,15,16,16X

ATTACHMENTS YES (NO) PAGES (INC. THIS SHEET) 1

AREA ENGINEER:

CONSTRUCTION MAY PROCEED [signature]

DATE 7-2-83

CONSTRUCTION D.P. REQ'D _____

CONTRACTOR RECEIPT [signature] DATE 7/2/83

272

AREA 1-D

LINE 1-K-104-20 [F]

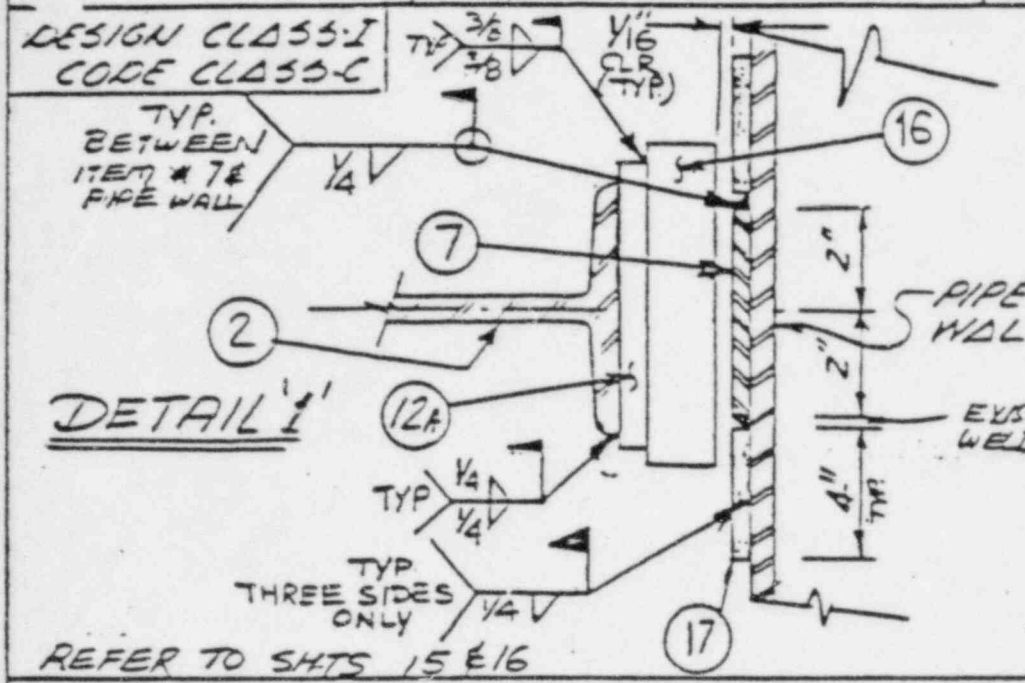
C.C.W. SUPPLY HDR.

EL 98'-0"

HANGER SYMBOL Y,Z RESTRAINT 18 / 5R

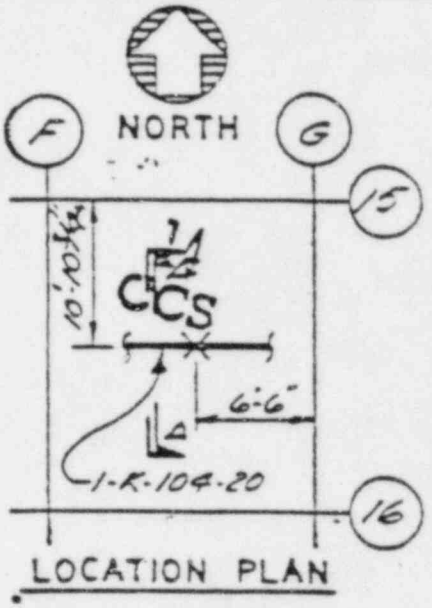
LOC ON DWG 500028

DESIGN CLASS-I
CODE CLASS-C



DETAIL '1'

REFER TO SHTS 15 & 16



LOCATION PLAN

NO. OF ASSEMBLIES REQUIRED [1]

NO.	REQ'D	MATERIALS PER ASSEMBLY			
1	1	W8x28, 11'-7" LG.	18	2	PL 3/8 x 7 1/8 x 2'-6" LG
2	2	W8x28, 5'-0" LG	19	4	STIFF. PL 1/2 x 3 1/8 x 0'-7 1/8" LG
3	1	W8x28, 3'-6" LG			
4	1	W8x28, 2'-0 1/8" LG.			
5	6	PL 1/2 x 2 3/4" x 0'-7" LG.			
~~6~~	~~2~~	~~PL 3/8" (AS PER DETAIL "2")~~			DELETED
7	2	PL 3/8" x 4" BEND TO FIT 20" O.D PIPE. (PER DET. "2") 12 1/2" LG			
~~8~~	~~2~~	~~L 4x4x3/8 x 4' 5 1/2" LG (CUT TO FIT)~~			DELETED
9	1	W8x28, 1'-4" LG. (CUT AS SHOWN)			
10	1	W8x28, 2'-9" LG (CUT AS SHOWN)			
11	1	W8x17, 5'-9 3/8" LG. (CUT AS SHOWN)			
12	2	PLR 7x4, (A) 1/2" THK., (C) 3/8" THK.			
13	1	PL 6 1/2" x 8" x 1/8" SHIM PLATE			
14	2	W4x13x 5'-0" (FIELD CUT TO SUIT)			
15	2	PL 3/4" x 6" x 7" - STIFF. PLATE			
16	2	PL 1 1/4" x 3" x 8". C.S. PLATE (FIELD GRIND THK. TO SUIT)			
17	4	PL 3/8 x 4" x 12" LG. BEND TO FIT 20" OD PIPE			

FIELD INSTALLATION ONLY

DSGN LCC'S	DRAWING NO	
DWN RKB 10-22-80	SK-16-5R	
CHKD [illegible]		
[illegible]	P G & E CO	1

AREA 1-D

EL 98'-0"

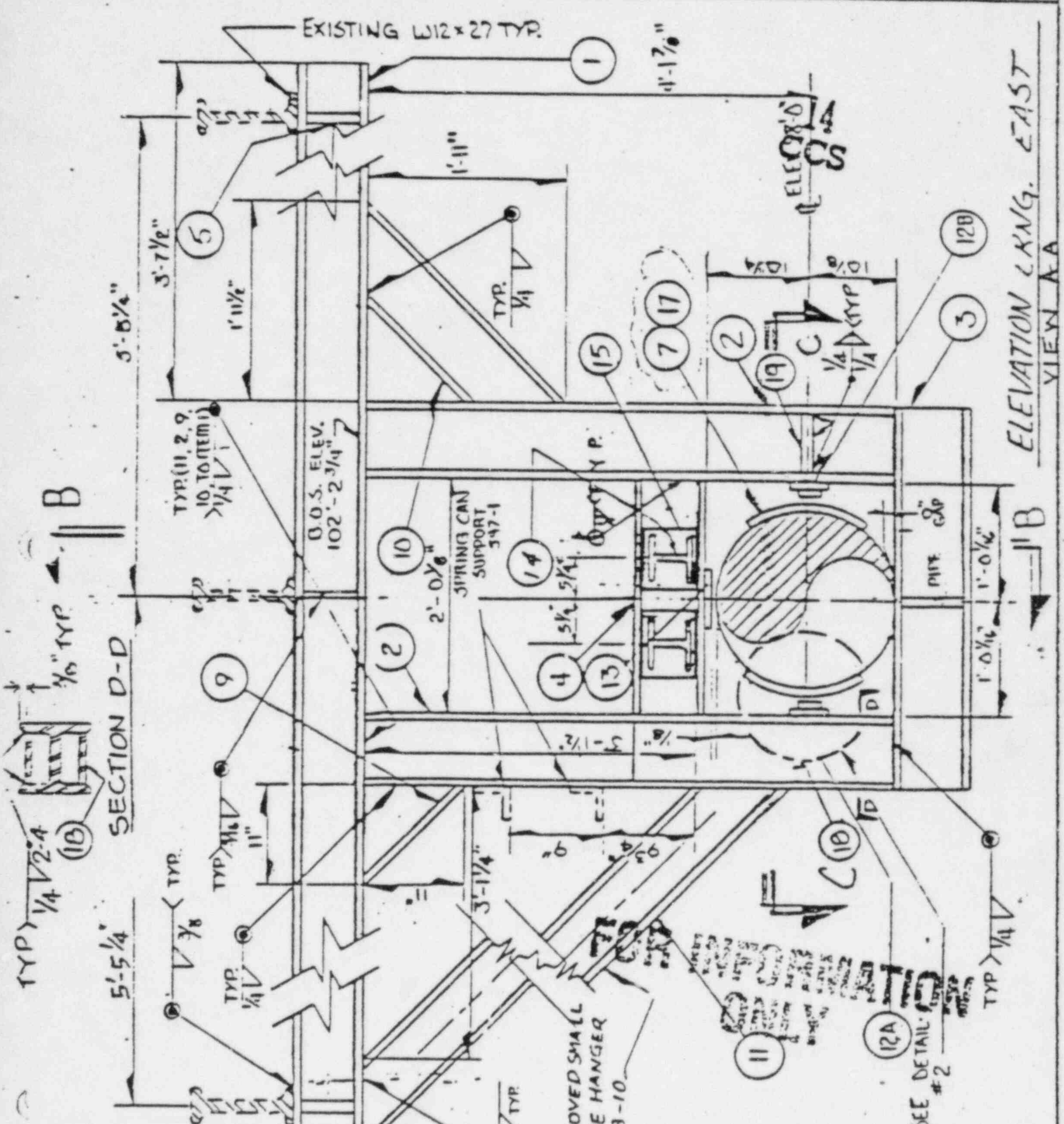
LINE 1-K-104-20 [C]

C.C.W. SUPPLY HDR.

HANGER SYMBOL 18/5R

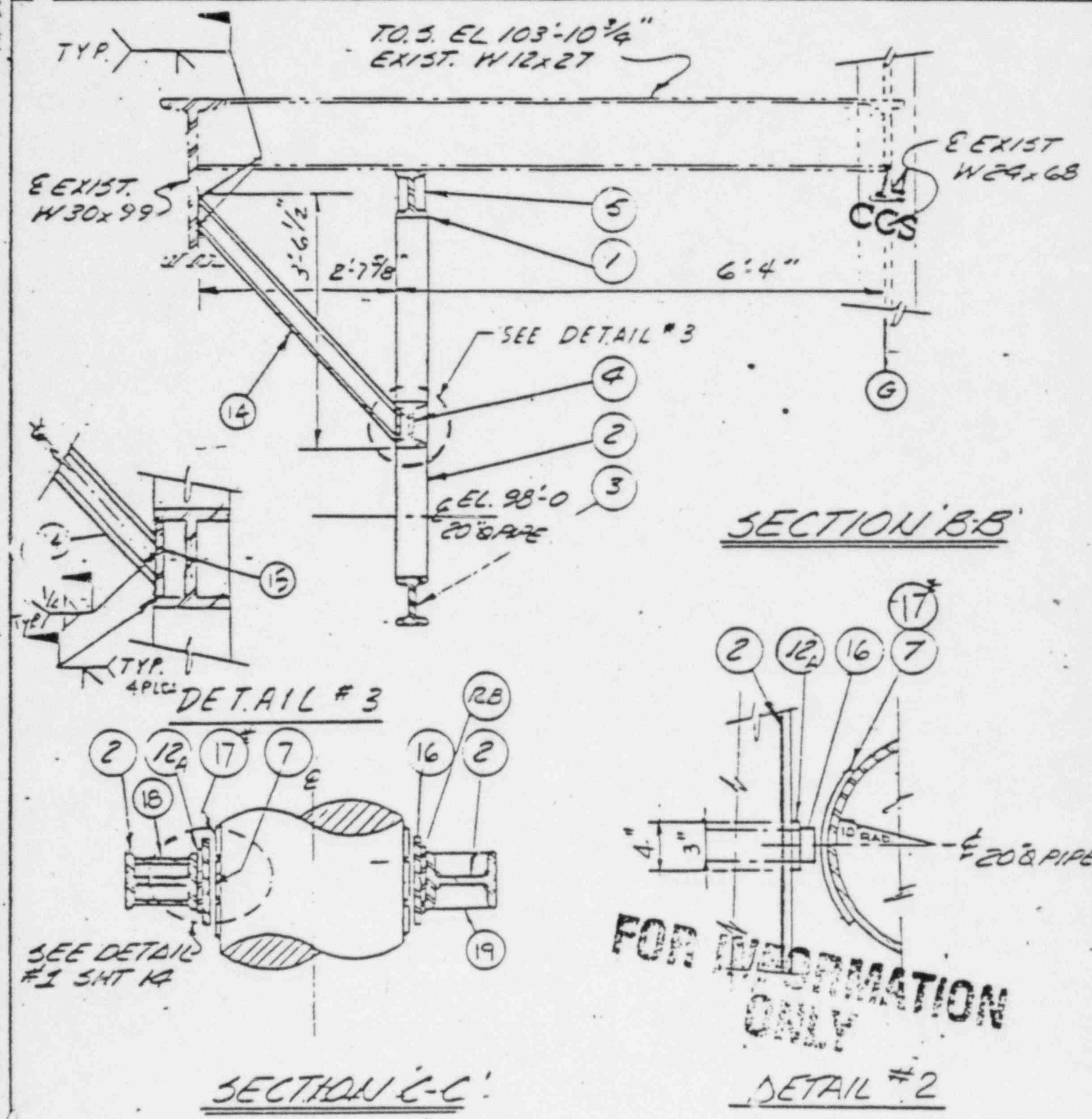
Y & Z RESTRAINT

LOC ON DWG 500028



DSGN LOE	DRAWING NO –
DWN DG 9-10-81	SK-18-5R
CHKD [illegible]	

AREA 1-D	LINE 1-K-104-20 C	HANGER SYMBOL 18 / 5R
EL 98'-0"	C.C.W. SUPPLY HDR.	Y&Z RESTRAINT
		LOC ON DWG 500028



*__GRIND ITEM # 17 IF REQ'D SUCH THAT UNIFORM CLEARENCE MAINTAIN WITH ITEM # 16

REFER TO SHTS. 14 & 15

DSGN L.C.	DRAWING NO	
DWN RKB 10-23-80	SK-18-5R	
CHKD [illegible]		

AREA 1-0	LINE 1-K-104-20-[C]	HANGER SYMBOL 18/5R
EL 98'-0"	CCW SUPPLY HDR. SYS 14	Y, Z RESTRAINT
		LOC ON DWG 500028

REV	ISSUE DATE	DESCRIPTION OF CHANGES	PREPARATION DSGN	PREPARATION DWN	PREPARATION CHKD	APPROVAL DUS	APPROVAL ENGR	APPROVAL SUPV ENGR
		Exist FW# x1377 A-D ITEM #17 Exist FW# x860 & x861 ITEM #7 ~~[illegible]~~ Exist FW#x1414A-H ITEMS #7&17 See QF-1-8578						
1	[illegible] 83	ADDED ITEMS 15 & 19 PER NEW ANAL. 4-102 REV. 2. UNDER DC-1-E-P-9041 REV. 1	DAR	DAR	W. [illegible]	ED	HJT	[illegible]

14
CCS

NOTES:

FOR INFORMATION ONLY

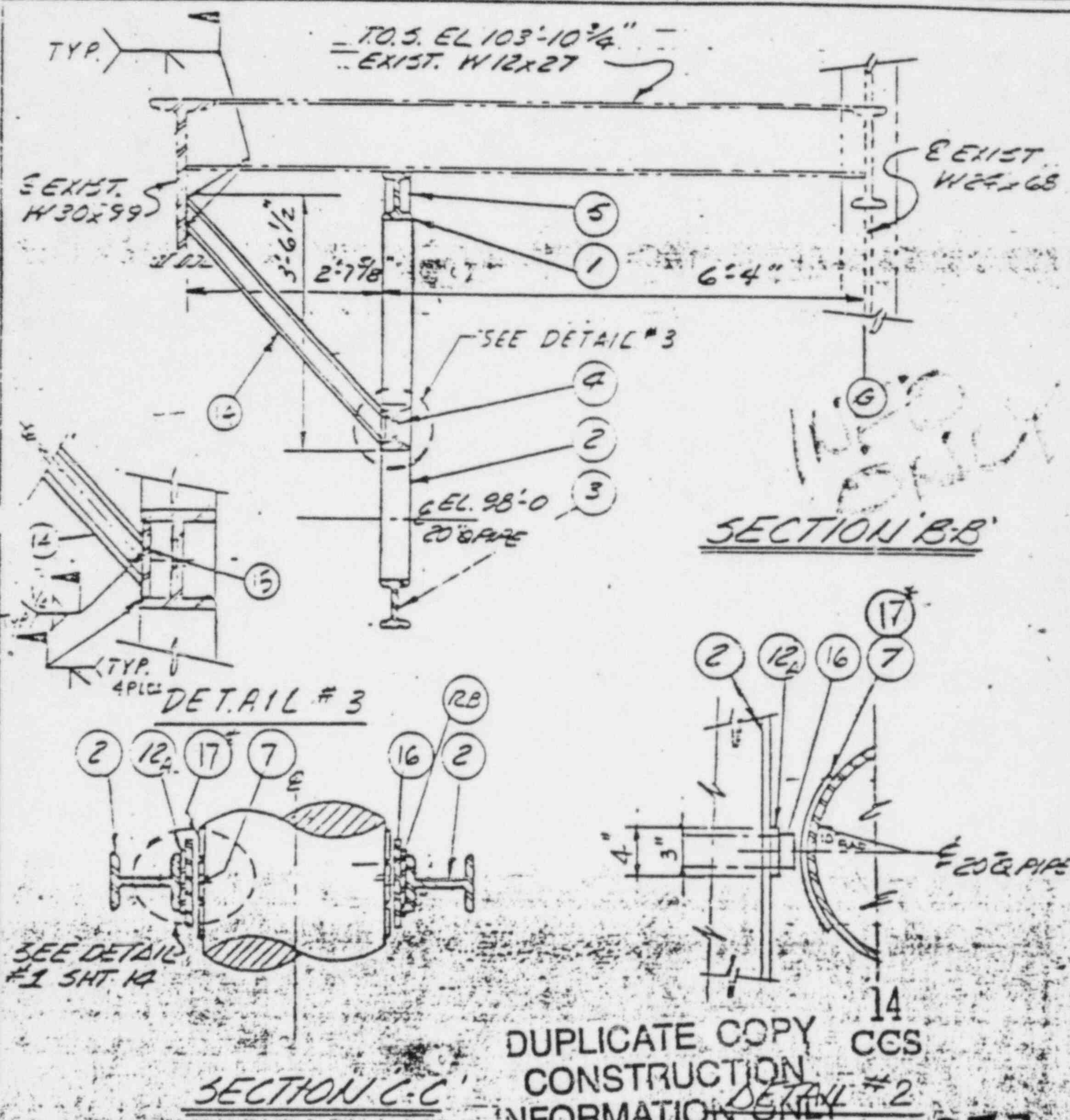
SHEETS ASSIGNED TO THIS HANGER SYMBOL (TOTAL 4 SHEETS)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
7	15	16	16X																

DCN # DC-1-E-P-9041 REV. 0	DSGN [illegible] DWN [illegible] CHKD [illegible]	DRAWING NO SK-18-5R	
PROJECT: DIABLO [illegible] / UNIT: ONE	SHT. 16X OF SHS	P G & E CO	1 ISSUE / RE

DC-1-E-P-90C1 ...

EL 98'-0"	C.C.W. SUPPLY HDR.	LOC ON DWG 500028



DUPLICATE COPY CONSTRUCTION INFORMATION ONLY

14 CCS

* GRIND ITEM #17 IF REQD SUCH THAT UNIFORM CLEARENCE MAINTAIN WITH ITEM #16

REFER TO SHTS. 14 & 15

273

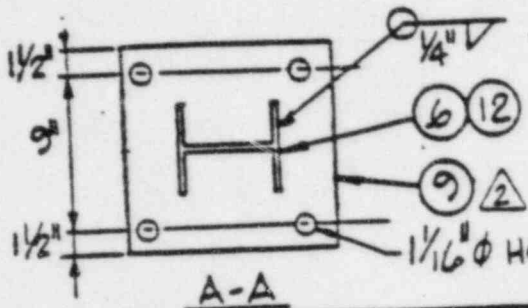
DCN NO. DC-1-E-P-9041	DSGN / DWN / CHKD	DRAWING NO SK-18-5R'

EA VAULT 0-2	LINE 1-2-J-3092-2½ 1-2-J-2599-2 1-2-J-2746-2	HANGER SYMBOL	20 85R
77'-0"	FO TRANS PPO-2 RV DISCH	LOC ON DWG 508845	

DIESEL FO TRANS. FPO-2 DISCH.
DIESEL FO FILTER 0-2 BYPASS

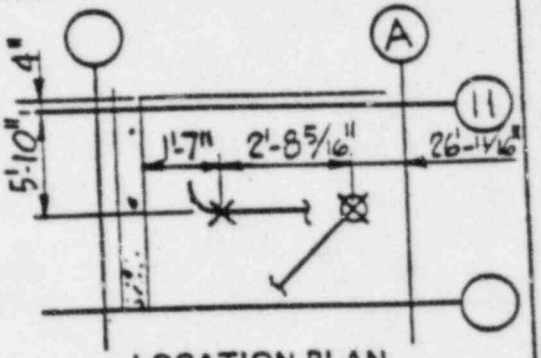
DESIGN CLASS I
CODE CLASS C

CALLED NORTH



A-A

21
DFOS



LOCATION PLAN

NO. OF ASSEMBLIES REQUIRED 1

NO	REQ'D	MATERIALS PER ASSEMBLY
1	1	½" X 2½" FIG 137
2	3	L3X3X3/8" 2' LG ±
3	2	L 4"X 3"X 3/8" 2' LG ± (NOT TO BE USED)
4	2	3/8" X 2½" FIG 137
5	4	½" X ¾" X 1½" C.S. LUGS
6	2	WF 6X15.5 4'-11½" LG.
7	2	M4X13 2'-10" LG.
8	2	STIFFNER R 3/8" CUT TO FIT
9	4	R 12" X 12" X ½" THK SEE A-A INCREASE BOLT HOLE SIZE TO 1 1/16"ø 2
10	2	L3"X 3"X 3/8" 2½" LG
~~11~~	~~16~~	~~5-58 PHILLIPS CONC. FASTENERS W/ STUD & NUT~~ REMOVE 2
12	2	WF 6X15.5 8'-11" LG.
13	1	L3X3X3/8 LENGTH BY FIELD
~~14~~	1	~~L2X2X3/8 1'-6¾" LG. (N)~~ REMOVE 2
15	1	½" X 1" X 1" C.S. LUG
16	16	1"ø HILTI KWIK BOLTS 2 (NEW)
17	1	L3X3X1/2 X 1'-6¾" LG. 2 (NEW)

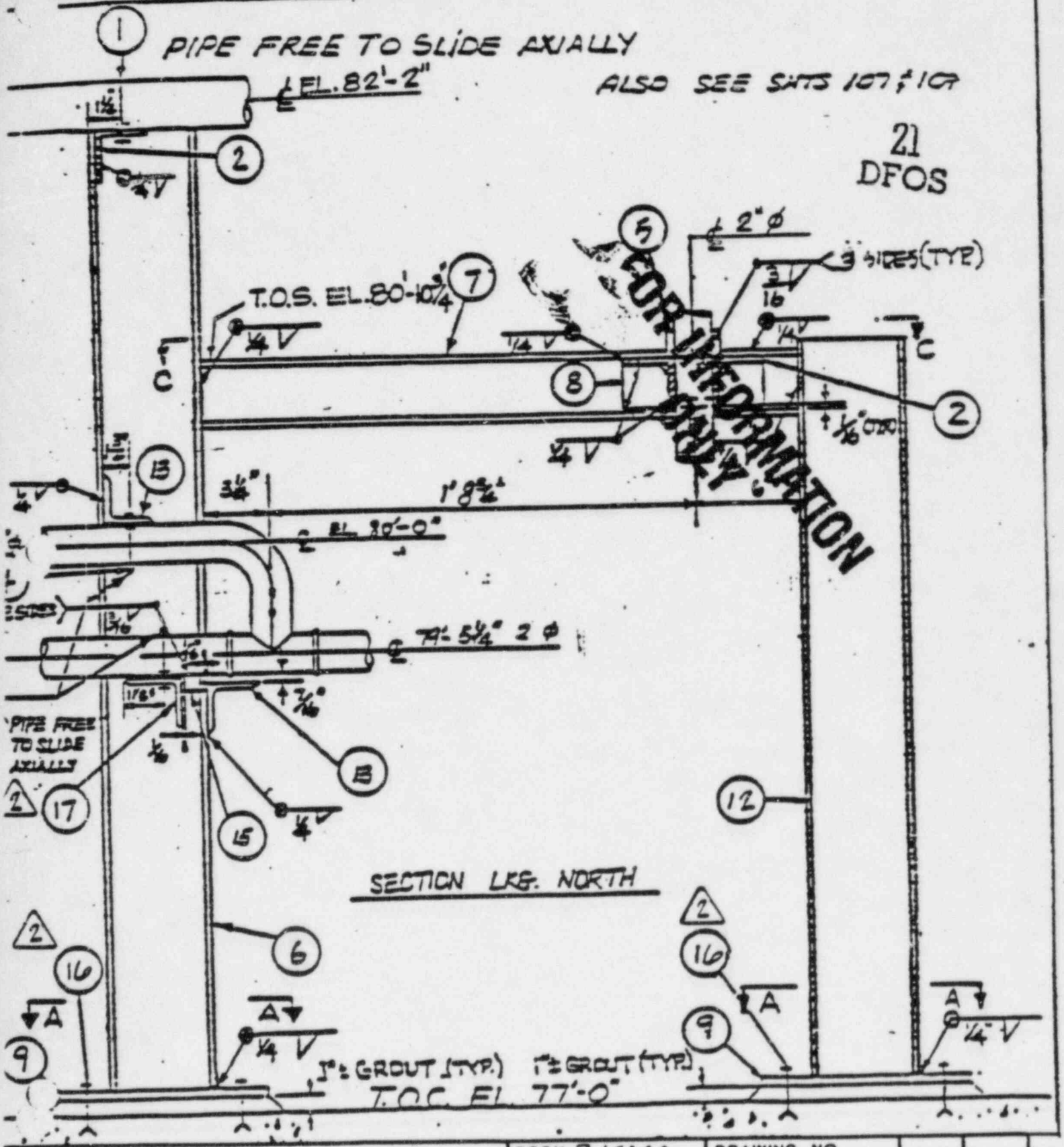
FOR INFORMATION ONLY

274

DSGN Dhm DWN R. CHINN CHKD JLEE	DRAWING NO 049318	2

VAULT 0-2 | LINE 1-2-3092-2½ / 1-2-2746-2 / 1-2-2599-2 | HANGER SYMBOL 20 85R

77' | NCS. | LOC. ON DWG. 508845



DSGN P. ISAAC	DRAWING NO 049318		
DWN R. BAUTISTA			
CHKD H. S. SANTIAGO			
PROJECT: DIABLO CANYON	UNIT: I	SHT 108 OF SHTS	P G & E CO
		ISSUE	REV 2

PIPE SUPPORT INSTALLATION WORKLIST

HANGER NO.: 235-36R

Sys: 18
LINE #: 1-K-5038-4

LEV: 85 AREA: B DWG. NO. 047235 SHT. 44X

DCN NO. _____ REV. 5

PPP ENGINEER: PAT BRIGNOLE DATE: 7-30-83

PG&E ENGINEER: [signature] DATE: 7-30-83

THE FOLLOWING WORK IS REQUIRED TO COMPLETE THIS PIPE SUPPORT:

OK TO INSTALL PER REV 5
PG&E PREINSPECTION FINAL PKG REV. COMP. OK. 7-30-83

REMOVE EXISTING SUPPORT ON PEDESTAL

FOREMAN: TAKE RADIOGRAPH DIMENSION FROM 90°
WORK HGR # 235-165R, 235-36R & 235-11R TOGETHER. SUPPORTS 235-165R & 235-36R NEED TO BE RELOCATED ALONG PIPE.

FOR INFORMATION ONLY

REQ'D	TYPE	DATE INIT.	DATE RET.
YES (NO)	C-51		
✓	INS.RMV.		
✓	IDI		
✓	G 108		
✓	PSDTC		
✓	MATL.AVAL		

REMARKS
HEAT TRACE: N/A
WELD ATTCHMTS: N/A

LINE CLEARANCE REQ'D NO

275

11.

AREA 1-B	LINE 1-K-5033-4	HANGER SYMBOL 235/36R XZ RESTRAINT TOGETHER WITH 235/...
EL 85'-0"		LOC ON DWG 500120

REV	ISSUE DATE	DESCRIPTION OF CHANGES	PREPARATION DSGN	PREPARATION DWN	PREPARATION CHKD	APPROVAL DUS	APPROVAL ENGR	APPROVAL SUPV ENGR
2	9-27-82	AS BUILT PER M.E. LEPPKE MEMO DATED 6-1-82.	FSD	FSD	JEF	MUS	EM	
3	12-10-82	REVISED DWG BY ADDING LINE NO AND ADD DESIGN CLASS I WHICH WAS MISSING (NO FIELD WORK)	CEH	RK	RE	[illegible]		TT
4	7-8-83	REDESIGNED SUPPORT TO REMOVE FROM TURBINE PEDESTAL. REPLACED EDS DESCRIPTION FOR REV. A & B PER EDS REV C 7-1-83	KC	K	DGH	JAY	JAY	JAY
		ACCEPTED BY PROJECT ENGINEERING FOR CONSTRUCTION DCN DC1-E-...-5066 SUPPORT REDESIGN	MUS 7/27/83 18 FP				DRC	ASM
		CORRECTED RELOCATION TOLERANCE	CFL	CFL	P.I.	[illegible]	DRC	ASM
5	7/22/83	REVISED TO ROTATE SWAY STRUT REAR BRACKET & CHANGE SIZE OF ITEM 1 (LIMPELL REV A. 7-21-83)	EFT	EFT	FDS	N/A	[illegible]	[illegible]
		ACCEPTED BY PROJECT ENGINEERING FOR CONSTR... DC...					ASM	DRC

FOR INFORMATION ONLY

NOTES: 1) WORK THIS SUPPORT W/ SUPPORT 235/35R

APPROVED FOR CONSTRUCTION 7/30/83 RAD
DATE ENGR

NO PIPING PROCESS SHEETS REQUIRED

CONTROLLED COPY

SHEETS ASSIGNED TO THIS HANGER SYMBOL (TOTAL 2 SHEETS)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
44	44X																		

DSGN FSD
DWN FSD
CHKD JEF

DRAWING NO 049255

PROJECT: DIABLO CANYON | UNIT: ONE | 44X OF SHS | P G & E CO | ISSUE REV 5

MICROFILM

AREA 1-E
EL 85'-0"

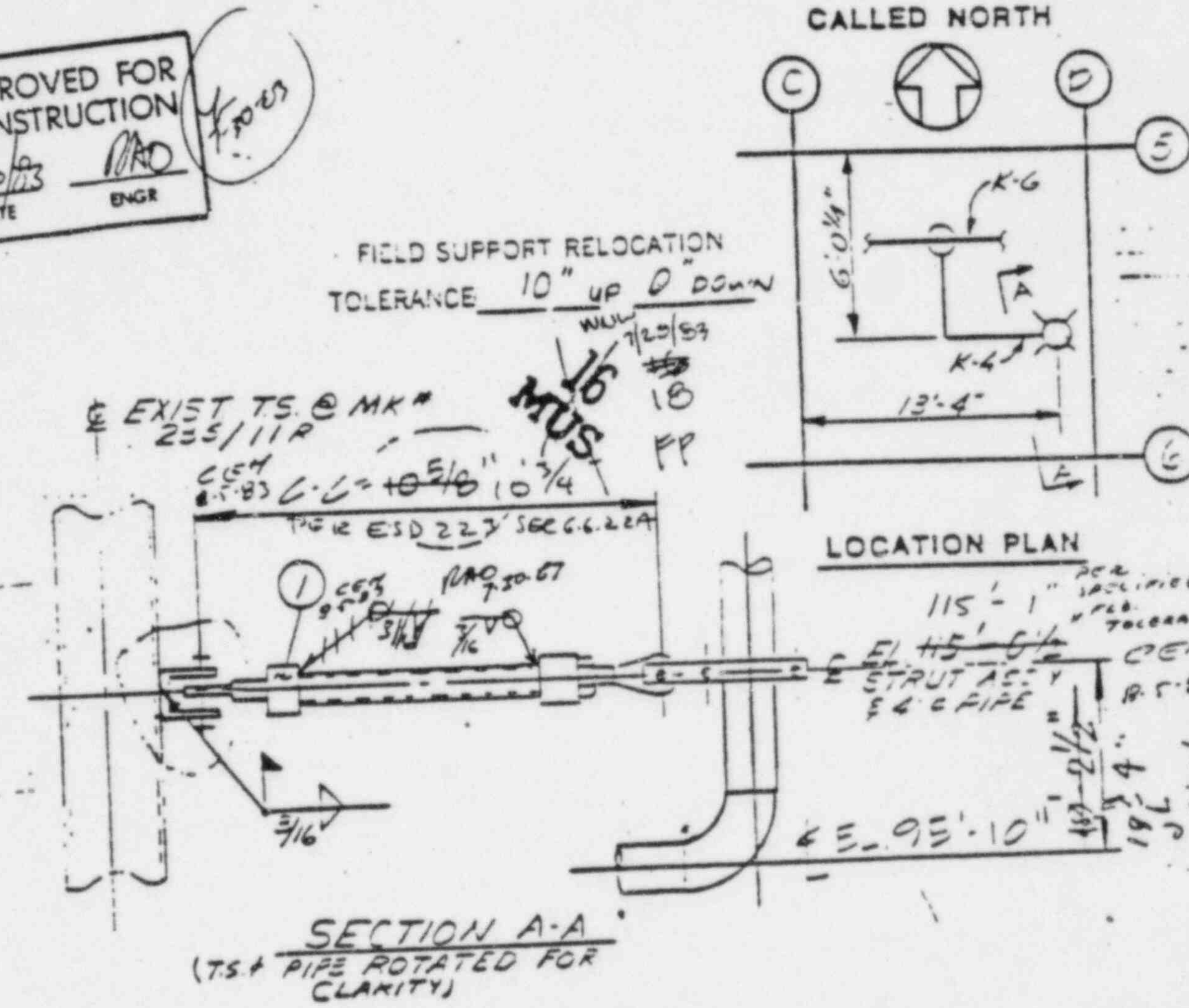
LINE 1-K-503R-4
ISO No 18-220

HANGER SYMBOL 225/36F
X,Z RESTRAINT
TOGETHER WITH 225/16SR

LOC ON DWG 500120

DESIGN CLASS I
CODE CLASS 3

APPROVED FOR CONSTRUCTION
7/30/83 DATE
ENGR



FOR INFORMATION ONLY

NO OF ASSEMBLIES REQUIRED

NO	REQD	MATERIAL PER ASSEMBLY
1	1	SRF TYPE PC, SWAY STRUT 5122 ... C-C = C'-10 5/8"
		SPC-08-040

CONTROLLED COPY

DSGN	DRAWING NO
DWN GCM	049235
CHKD	
SHT 44 OF SHTS	PG&E CO

UNIT: ONE

ISSUE | REV 5

76-1483

AREA 1-B	LINE 1-K-5038-4
EL 85'-0"	

HANGER SYMBOL 235/56R
XZ RESTRAINT
TOGETHER WITH 235/165R
LOC ON DWG 500120

REV	ISSUE DATE	DESCRIPTION OF CHANGES	PREPARATION DSGN	PREPARATION DWN	PREPARATION CHKD	APPROVAL DUS	APPROVAL ENGR	APPROVAL SUPV ENGR
2	9-27-82	AS BUILT PER M.E. LEPPKE MEMO DATED 6-1-82.	RSD	RSD	JEB	[illegible]	[illegible]	[illegible]
3	12-10-82	REVISED DWG BY ADDING LINE NO. AND ADD DESIGN CLASS I WHICH WAS MISSING (NO FIELD WORK)	CEK	CEK	RE	[illegible]		JTS
4	7-8-83	REDESIGNED SUPPORT TO REMOVE FROM TURBINE PEDESTAL. REPLACED EDS DESCRIPTION FOR REV. A & B PER EDS REV. C 7-1-83	JC	JC	DGH	JAY	JAY	JAY
		ACCEPTED BY PROJECT ENGINEERING FOR CONSTRUCTION DCN DCI-E-P-5060 SUPPORT REDESIGN	18 FP				DRC	ASM
		CORRECTED RELOCATION TOLERANCE	CEK	CEK	P.I.	NTA	DRC	ASM

A.S.W.R. N/A RAR 1/10/83
REASON WORK TO REV 4
ENGR. RAO

APPROVED FOR CONSTRUCTION
7/17/83 RAO
DATE ENGR
BAH 7-18-83

FOR CONSTRUCTION INFORMATION ONLY
SUPERCEDED BY REV 5

NOTES: 1) WORK ... SUPPORT 235/165R ... PROCESS ... SHEETS ... ED

ECD 24001
Job 167...

FOR INFORMATION ONLY

CONTROLLED COPY

SHEETS ASSIGNED TO THIS HANGER SYMBOL (TOTAL 2 SHEETS)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
44	44X																		

DSGN RSD
DWN RSD
CHKD JEB

DRAWING NO 049235

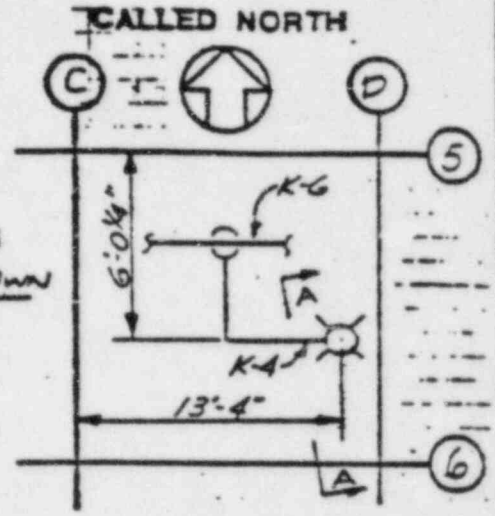
PROJECT: DIABLO CANYON
UNIT: ONE
44X OF SHS
P G & E CO
ISSUE REV 4
MICROFILM 3

AREA 1-B	LINE 1-K-5038-4	HANGER SYMBOL X,Z RESTRAINT TOGETHER WITH 2ea 235/11 & 5R / 235 / 36R
EL 85'-0"	ISO No 18-220	LOC ON DWG 500120

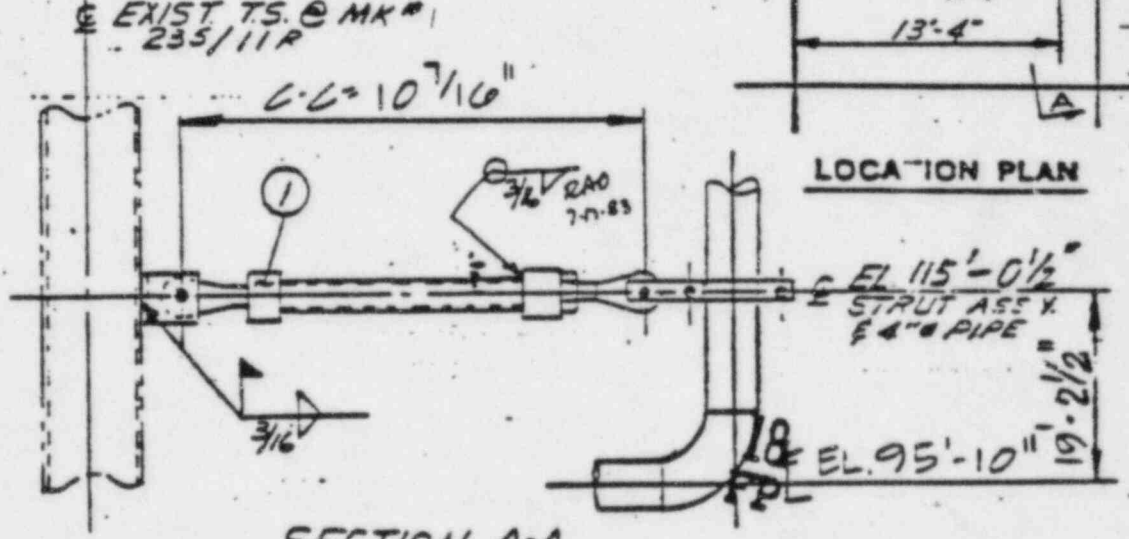
DESIGN CLASS I
CODE CLASS G

APPROVED FOR CONSTRUCTION
10/13/83 DATE
RAO ENGR
SHM 7-18-83

FIELD SUPPORT RELOCATION
- TOLERANCE 10" UP 0" DOWN



LOCATION PLAN



SECTION A-A
(TS.& PIPE ROTATED FOR CLARITY)

FOR INFORMATION ONLY

ADDITIONAL ITEMS REQUIRED

NO	REQD	MATERIAL
1	1	SRF TYPE PC, SWAGED END, SIZE No 6 ; C-C = 0'-10 7/16"
		SAC-06-040

FOR CONSTRUCTION
INFORMATION ONLY
SUPERCEDED BY REV. 5
CONTROLLED COPY

	DSGN J. Park DWN GCM CHKD C.B. Hyl	DRAWING NO 049235		
PROJECT: DIABLO CANYON	UNIT: ONE	SHT 44 OF SHTS	P G & E CO	ISSUE 4 / REV

MICROFILM

11

NPS STRUT INSPECTION CHECK LIST

INSPECTOR K. Hall DATE 8-5-83 RANGE 235-36R

1. A) Strut size: (08, 14, 20, etc.) 08

   B) Clamp size: (enter pipe dia.) 4"

   C) Coupling type: solid/socket weld Solid

CHECK MARK INDICATES ACCEPTANCE

2.	Clamp bolts installed and tight	✓
3.	Clamp spacer installed and tight	✓
4.	Load pin holes aligned in both clamp halves	✓
5.	Rod eye threads visible through sight holes	N/A
6.	Jam nut tight	N/A
7.	Strut axis within ± 6° of optimum or within special requirements noted on drawing/memos	✓
8.	1/16" pull back in socket weld verified on process sheet *	N/A
9.	Solid coupling installed concentrically within 1/8" *	✓
10.	Spherical bearings free of paint and not pushed out	✓
11.	Cotter pins fully spread	✓
12.	Spherical bearing washes/spacers installed where required, reducing total side clearance to less than one washer thickness and greater than 0".	✓
13.	Clamp ears parallel ± 1/8" at load pin side of clamp	✓

14. Comments and/or explanations NPS Strut SBF Type PC KH 8-5-83

* Items 8 and 9 apply to field-fabricated struts, per NPS 11-9 procedure

NO. 235-36R REV. 5 AREA/ELEV. B-85'

HANGER PRE-INSPECTION CHECK LIST

ITEMS TO BE CHECKED	REFERENCES ESD 223 AND OTHERS	PREINSPECT CHECKLIST
1. Can Hanger Be Installed At The Proper Location	6.2	RB
2. Is The Adjacent Anchor Spacing Acceptable	6.4.1	N/A
3. Can All Items Be Installed And All Welds Made		RB
4. Are All Welding Symbols Accurate And Complete	6.8	RB
5. Is Old Work As-Built, Acceptable, Or To Be Reworked	PG&E Memo 4-11-83	N/A
6. Disposition DR No. 4678/4730 (As Appropriate)		N/A
7. Is Pre-Heat Or Structural Steel Rqd. & Noted On Process Sht	6.8.2.2	N/A
8. Are All Q.C. Hold Points Noted On The Process Sheet	ESD 264	RB
9. Have All The Necessary Forms Been Originated (Pipe Attch. IDI, Insl. C-51)		RB
10. Have All The Interferences Been Resolved		RB
11. Pre-Inspect Package Complete (Reqd. Checklists Attached)		RB

PRE INSPECTED BY: Pat [signature] DATE: 7-30-83

HANGER FINAL INSPECTION CHECKLIST

ITEMS TO BE CHECKED	REFERENCES ESD 223 AND OTHERS	FINAL INSPECT CHECKLIST
1. Hanger Location Within ESD 223 Tolerances	6.2	CEM JL
2. Adjacent Anchor Spacing Acceptable	6.4.1	N/A
3. Threaded Connections Secure/Engagement Adequate		CEM JL
4. All Items In B.O.M. Installed And Are Correct Type	6.6	CEM
5. Configuration As Per Design Dwg.		CEM
6. All Welds Complete And Acceptable (Size, Configuration)	6.8	CEM JL
7. Config. minimized From ARC Strikes, Weld Splatter, Etc.	6.8.2.4	CEM JL
8. Pipe And/Or Guide Clearances Acceptable	6.7	CEM
9. Base Plates, Fish Plates, & Stiffners Installed Per ESD 223	6.3.7 & 6.3	N/A
10. Hanger Properly Identified. No. Written On Support		CEM
11. Attachments To Other Supports Identified		CEM
12. Specials Rod Supports U-Bolts, Bolts Properly Installed	6.5, 6.4.2	N/A
13. Spring Can Installed And Cold Load Set Marked	6.4	N/A
14. Sway Struts Correct Size Installed (Req. Attached Checklist)		CEM
15. P To P Within Tolerance	6.6.2.2	CEM
16. Shock Supports Mechanical Shock I.D. Plate Complete		N/A
17. Hot & Cold Setting Within Tolerance	6.10.2	
18. P To P Within Tolerance	6.6.2.2	
19. Alignment Acceptable (Clamp & Rear Bracket)	Attch. A & B	
20. All Hardware Compatible		
21. Package Reviewed For Completeness (Design Change Appr. Etc)		CEM

FOR INFORMATION ONLY

COMMENTS: Final Completed CEM 8-5-83

Reinspected strut installation 8/20/83 JL

RECORD FITTER & WELDER BADGE NO. 5/158 - 5/186

INSPECTED BY: C. E. [signature] DATE 8-5-83

11

REV. 5-11-82 / FORM F-45 / • HOLD POINTS / ✓ QC VERIFICATION POINTS	[illegible] POWER PROJECT / GENERAL PIPE SUPPORT PROCESS SHEET	SUPPORT: 235-38 / PREPARED BY [illegible]	DRAWING: [illegible]135 - 5 / FOREMAN/WELDER BADGE NUMBER	Q.C. DATE & INITIALS
1. LOCATION OF SUPPORT COMPLIES WITH DRAWING.			5/146 5/158	✓ 8-5-83
2. DRAWING CHANGES NOTED AND COMPONENTS COMPLY WITH MATERIAL LIST			5/146 5/158	✓
3. ANCHORS INSTALLED AND WITNESSED BY Q.C.	A. Holes drilled to tolerance and Check adjacent anchors		NA	N/A
B. Shield/Plug Driven to Tolerance	TYPE: Hilti/Phillips		NA	N/A
C. Type Stud Installed — SIZE — MIN. EMB.	TYPE: Hilti/Phillips		NA	N/A
D. Anchors Torqued — SIZE — VALUE	WRENCH SERIAL NUMBER		NA	N/A
E. Unused holes dry packed			NA	N/A
4. BACK OFF BOLTS PRIOR TO WELDING OF BASE PLATES			NA	N/A
5. FIT-UPS: A. Pipe attachments installation:	(1) Heat No:	8-5-83	~~5/146~~ N/A	✓ N/A
	(2) P.O. No:	8-5-83	~~5/146~~ N/A	✓ N/A
B. Support members:	ITEMS	SPECIAL INSTRUCTIONS	NA	
(1) Groove & Full Pen Welds			NA	N/A
			NA	N/A
C. Purge Established where required			NA	N/A
6. WELD PREP ZONES CLEAN OF PAINT, OIL			5/146	
7. WELDING OF PIPE ATTACHMENTS (PER SEPARATE PROCESS SHEET) F.W.I			X	N/A
8. WELDING OF HANGER SUPPORT MEMBERS ONLY:	IDENTIFICATION	WELD CODE		
SPECIAL WELDING INSTRUCTIONS:		CS/CS — 7/31	5/158	
		[illegible]		
		SS/SS 12R		
		[illegible]		
9. [illegible] VERIFY STRUT @ 48" CONCENTRIC			5/158	8-5-83
10. FINAL WELD INSPECTION-SUPPORT MEMBERS:	A. Weld Surface Clean		5/146	✓ 8-5-83
	B. Arc Strikes Removed/Minimized		5/146	✓ 8-5-83
	C. Weld Size Complies with Drawing		5/146	✓ 8-5-83
11. REVIEW [illegible]			FOREMAN [illegible] DATE	Q.C. DATE & INITIALS
A. Components [illegible]			[illegible]	✓
B. Pipe Clearance in Accordance with Drawing			[illegible]	✓ N/A
C. Riser Clamp Bears upon Lug			NA	✓ N/A
D. Hanger is Level and Plumb			BH 8-5-83	✓ 8-5-83
E. All Bolts/Nuts Installed and Tight			BH 8-5-83	✓ 8-5-83
F. Wall & Ceiling Plates Shimmed where Necessary			NA	✓ N/A
G. Grout Request Submitted			NA	✓ N/A
H. Lug Clearance within Tolerance			NA	✓ N/A
12. [illegible] 8-5-83 NPS 3Hrot	A. Installed per Separate Process Sheet		8-5-83 [illegible] 8-5-83	✓ 8-5-83
	B. Grinnell Fig.# & Size	D. PSA Size	E. TYPE: [illegible]	
13. SUPPORT ACCEPTED BY Q.C. (Complete Installation Review) Q.C. SIGNATURE ______ DATE ______				

FOR INFORMATION ONLY

BACKSIDE

PREINSPECTION CHECKLIST:

	CHECKED	
	Q.C.	ENGINEERING
1. ALL MEMBERS INSTALLED	NEW SUPPORT NO Q.E. REQ'D PUB 7-30-83	PRE INSPECT ONLY PUB 7-30-83
2. WELDS; Inaccessible and/or Undersized		
3. GAPS; U-Bolts, Tee Shoes and Lugs		
4. GROUTED PLATES; Grout damaged or Holes in Plate		
5. SHIMS; Tack Welds		
6. NUTS NOT FULLY ENGAGED		
7. ARC STRIKES		
8. MATERIAL SIZE		
9. OVERSIZED HOLES IN PLATE; Washers		
10. WARPED BASE PLATES/MEMBERS		

PREINSPECTION REMARKS:

OK TO INSTALL PER REV 5. PUS. 7-30-83

PG&E PREINSPECTION FINAL PACKAGE REVIEW COMPLETE. PB. 7-30-83

FINAL INSPECTION REMARKS: DATE CEM [illegible] 8-5-83

FINAL COMPLETE. CEM 8-5-83

Reinspect strut installation 8/24/83 JL

DCN 1604-009 WRITTEN FOR WORKING HANGER AFTER QC FINAL WORKMANSHIP INSPECTION TJO 8/24/83

P.G.and E. [illegible] 8-16-83

FOR INFORMATION ONLY

PIPE SUPPORT INSTALLATION WORKLIST

Sys: 18
LINE#: 1-K-5038-4

HANGER NO.: 235-11R

ELEV: 85 AREA: B DWG. NO. 047235 SHT. 15X

DCN NO. _____ REV. 5

PPP ENGINEER: PAT BRIGHOUSE DATE: 7-30-83

PG&E ENGINEER: [signature] DATE: 7-30-83

THE FOLLOWING WORK IS REQUIRED TO COMPLETE THIS PIPE SUPPORT:

OK TO INSTALL SUPPORT PER REV 5.
C.S SUBMITTED
PG&E PREINSPECTION FINAL PKG REV. COMP. PB. 7-30-83

FOREMAN: WORK THIS HGR WITH HGRS # 235-16SR & 235-36R. THESE HANGERS ARE ATTACHED TO 235-11R & NEED TO BE RELOCATED ALONG THE PIPE RELATIVE TO THE 90° BEND

FOR INFORMATION ONLY

REQ'D	TYPE	DATE INIT.	DATE RET.
(YES) NO	C-5 I	7-30-83	
✓	INS.RMV.		
✓	IDI		
✓	G 108		
✓	PSDTC	#	#
✓	MATL.AVAL		

REMARKS
HEAT TRACE: N/A
WELD ATTCHMTS: N/A

LINE CLEARANCE REQ'D

AREA 1-8

EL 85'-0"

LINE 1-K-5098-4 G

HANGER SYMBOL 235/11R

X-Z RESTRAINT TOGETHER WITH 235/104R

LOC ON DWG 500120

REV	ISSUE DATE	DESCRIPTION OF CHANGES	PREPARATION DSGN	DWN	CHKD	APPROVAL DUS	ENGR	SUPV ENGR
2	4-27-82	AS BUILT PER M.E. LEPPKE MEMO DATED 6-1-82.	JS	JS	JEB	MSL	[illegible]	[illegible]
3	12/14/82	ADDED PG&E DESIGN CLASS I & CODE CLASS G. DCN DCI-E-P-5060.	PI	PI	RE	[illegible]	DALE GAYER (DRC)	[illegible]
4	7-11-83	REDESIGNED SUPPORT TO REMOVE FROM TURBINE PEDESTAL, (REPLACED DESCRIPTION FOR REV. A) PER EDS REV. B, 7-5-83	[illegible]	JOL	DGG	JRY	JRH	JRY
		ACCEPTED BY PROJECT ENGINEERING FOR CONSTRUCTION. DCN. DCI-E-P-5060. FRAME MODIFICATION					DRC	ASM
		ADDED SHTS 15A & 15B BY EDS REVISED ELEV. OF HANGER ASSY. & RELOCATION TOLERANCE	PI	PI	CER	N/A	DRC	ASM
5	7-23-83	REVISED ITEM No. 8 (IMPELL REV. A, 7-21-83)	EFT	EFT	JDS	N/L	[illegible]	[illegible]
		ACCEPTED BY PROJECT ENGINEERING FOR CONSTRUCTION. DCN. DCI-E-P-50[illegible] FRAME MODIFICATION					ASM	DRC

FOR INFORMATION ONLY

18 FP

NOTES:

NO PIPING PROCESS SHEETS REQUIRED

ASBUILT TO REV. 4

APPROVED FOR CONSTRUCTION

7/30/83 RAD

DATE ENGR

7/30/83

CONTROLLED C[...]

SHEETS ASSIGNED TO THIS HANGER SYMBOL (TOTAL 4 SHEETS)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
15	15X	15A	15B													

DSGN JS

DWN JS

CHKD JEB

DRAWING NO 049235

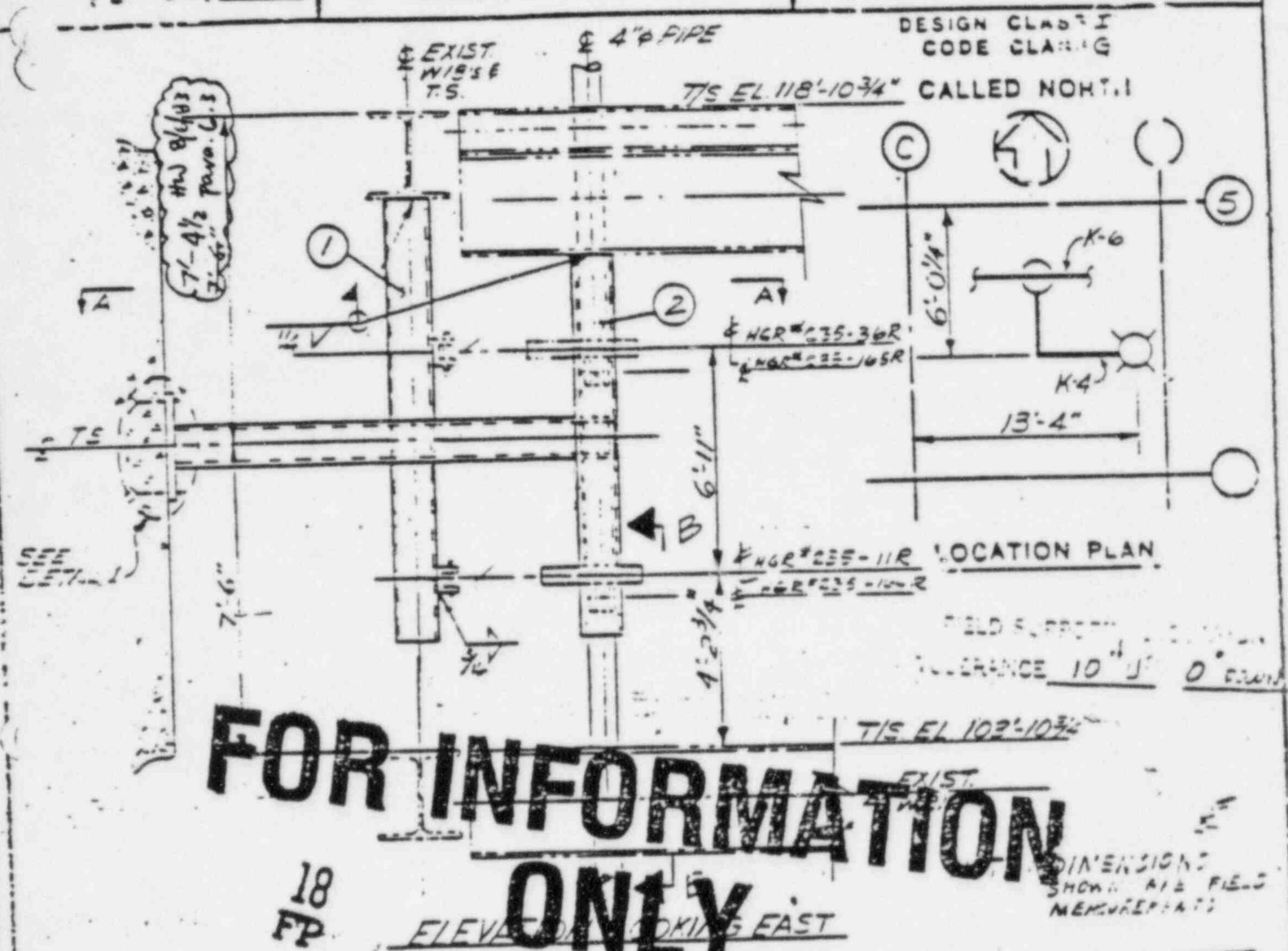
15X OF SHS

P G & E C[...]

PROJECT: DIABLO CANYON

UNIT: ONE

1-B	LINE 1-K-5033-4	X-Z RESTRAINT TOGETHER WITH 235/164R (11 R)
85'-0"	ISO № 18-220	LOC ON DW 50012



FOR INFORMATION ONLY

18 FP

NO OF ASSEMBLIES REQUIRED

APPROVED FOR CONSTRUCTION 7/30/83 DATE

NO	REQD	MATERIALS PER ASSEMBLY
1	1	T.S. 6"x6"x½", 9'-10½" LG.
2	1	T.S. 6"x6"x½", 9'-1" LG.
3	1	T.S. 6 x 6 x ½, 5'-10" LG. (CUT TO SUIT)
4	1	T.S. 6 x 6 x ½, 3'-7" LG. (CUT TO SUIT)
5	1	T.S. 6 x 6 x ½, 2'-10" LG. (CUT TO SUIT)
6	1	SRF TYPE PC, SWAY STRUT SIZE NO. 06, C-C = 0'-10 7/16", SPC-
.		06-040.

CONTROLLED COPY

RM INDEXED

DSGN	DWN G.C. MOORE	DRAWING NO 049235
CHKD A.B.	SHT 15 OF SHTS	PG & E CO
PROJECT: DIABLO CANYON	UNIT: ONE	ISSUE / REV 5 / MICROFILM

AREA L-P

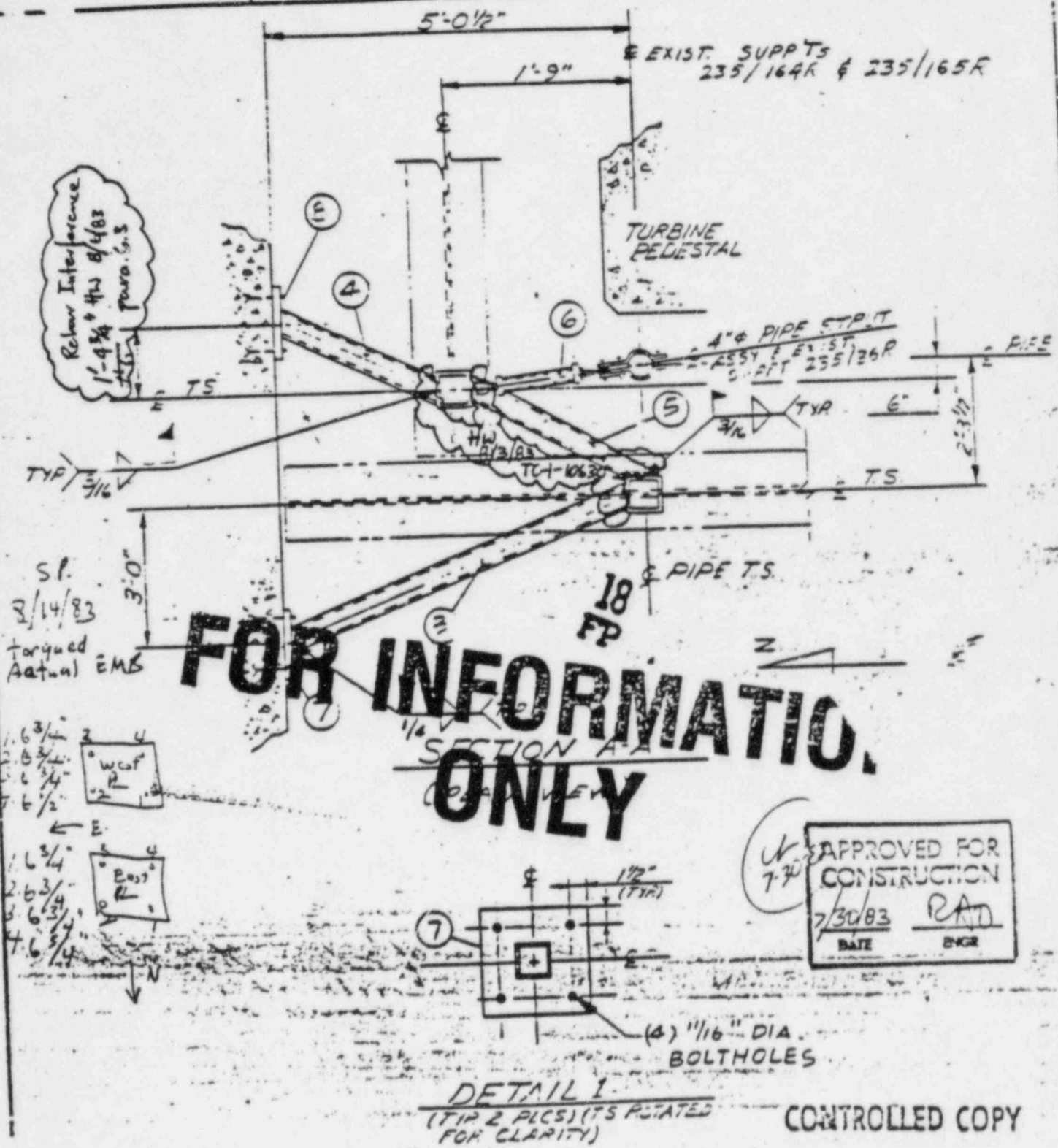
LINE 1-K-503P-4

25'-0"

150' NE 19-220

HANGER SYMBOL
X-Z RESTRAINT
TOGETHER WITH 235/164R

LOC ON DWG



APPROVED FOR CONSTRUCTION
7/30/83 DATE
RAM ENGR

CONTROLLED COPY

DRAWING NO. 049235

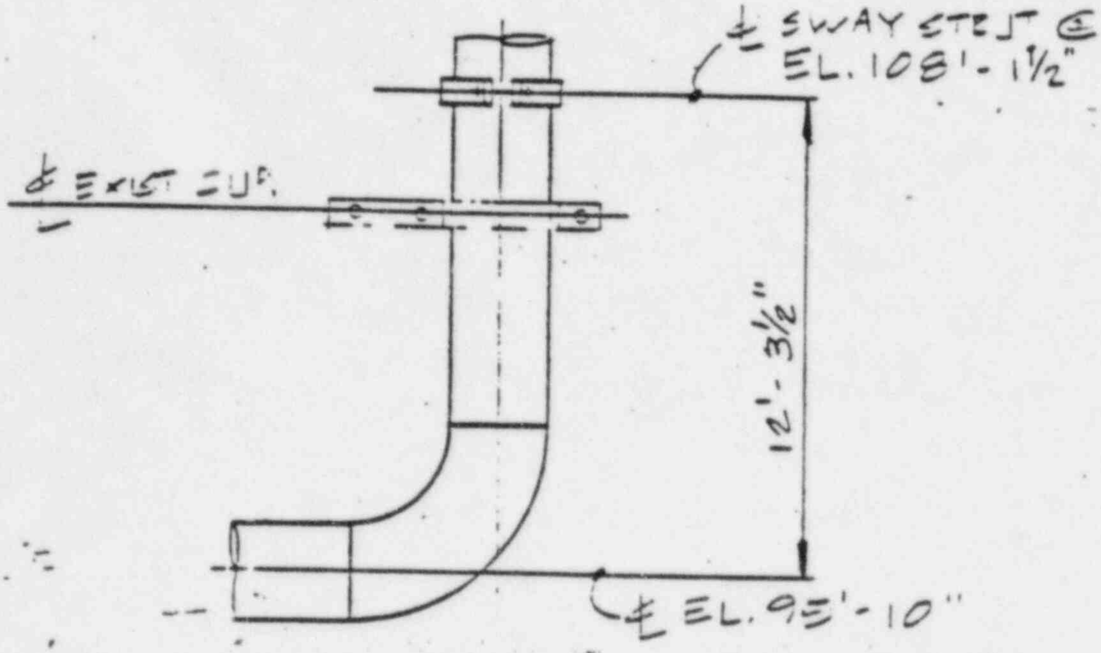
GCM

SHT 15A SHTS

F G & E CO

RM INDEXED REV.

AREA 1-B	LINE SEE SHT. 15	HANGER SYMBOL X-Z RESTRAINT TOGETHER WITH 235/164R
EL 85'-0"		LOC ON DWG 500120



SECTION B-B
(LKG. NORTH)

APPROVED FOR CONSTRUCTION 7/30/83 DATE RAO ENGR

FOR INFORMATION ONLY

NO	REQD	MATERIALS PER ASSEMBLY
7	2	1" x 12" C.S. PLATE, 12" LG. (HW 8/6/83 para 6.3)
8	8	5/8" DIA. HILTI STUD ANCHOR BOLT MIN. EMB. = 6½"
9	2	PL ½" x 7" x 8" Lg. HW 8/5/83
10	2	PL ½" x 7" x 9¾" Lg. TC-1-10630

CONTROLLED COPY

DSGN
DWN JOL
CHKD

DRAWING NO 049235

5

INSTRUCTION NO. 12

ATTACHMENT A

PIPE SUPPORT DESIGN TOLERANCE CLARIFICATION FORM

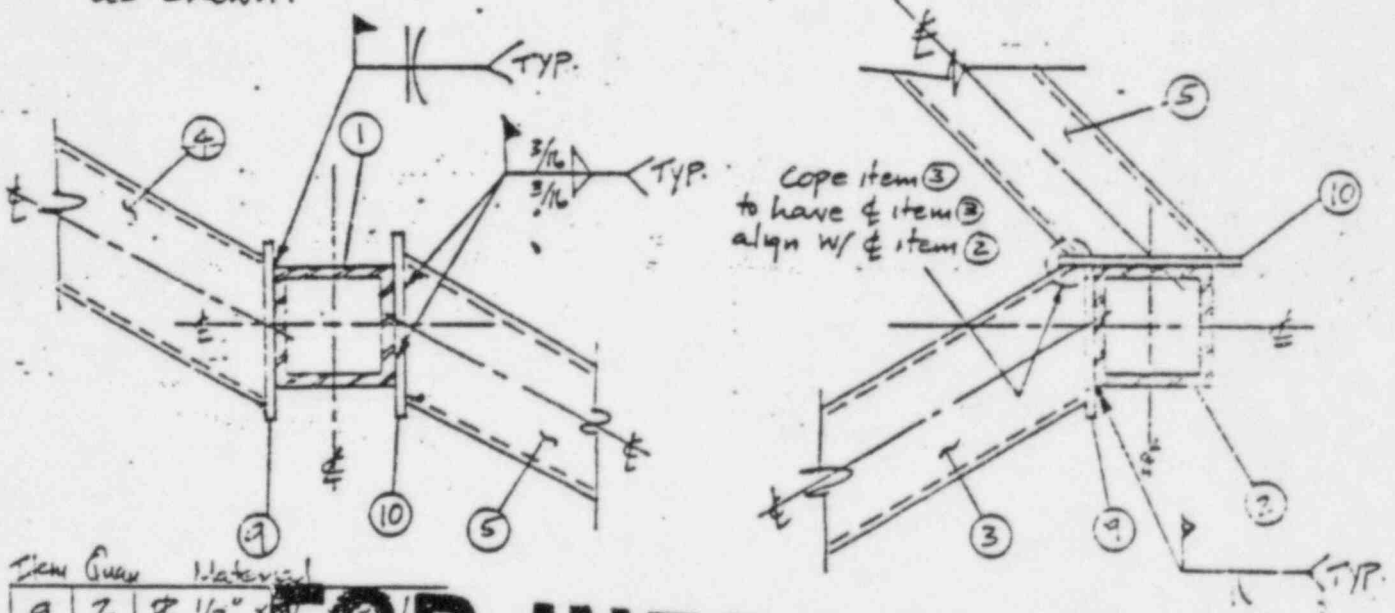
SEQUENCE NUMBER TC-1-10630

SUBJECT 235-11R REV 5 CLASS 1G

LOCATION AREA: 1B ELEV: 104'-0" pre-inspect ☐ in-work ☒ past work ☐ DR ☐ #

DESCRIPTION:

Due to angle cuts on items ③, ④ & ⑤, need to provide end plates to cover overhang when attached to members ① & ②, as shown.



Item	Quan	Material
9	2	PL 1/2" x
10	2	PL 1/2" x

FOR INFORMATION ONLY

THIS IS ACCEPTABLE.

G.C. P.E.

REFERENCE DRAWING 049235

ATTACHMENTS YES (NO. THIS SHEET) 1

AREA ENGINEER:

CONSTRUCTION MAY PROCEED Kiran Patel

DATE 8-3-83

CONSTRUCTION D.P. REP'S

DATE 8/2/83

A 1-B

EL 85'-0"

LINE 1-K-5038-4 (S)

X RESTRAINT 11R

LOC ON DWG 500120

	ISSUE DATE	DESCRIPTION OF CHANGES	PREPARATION DSGN	DWN	CHKD	APPROVAL DUS	ENGR	SUPV ENGR
2	9-27-82	AS BUILT PER M.E. LEPPKE MEMO DATED 6-1-82.	JS	JS	JEB	ASL	[illegible]	[illegible]
3	12/14/82	ADDED PG&E DESIGN CLASS I & CODE CLASS G. DCN DC1-6-P-5060.	PI	PI	RE	[illegible]	DAVE CRYER (DRC)	TPS
4	7-11-83	REDESIGNED SUPPORT TO REMOVE FROM TURBINE PEDESTAL, (REPLACED DESCRIPTION FOR REV. A) PER EDS REV. B, 7-5-83	JC	JDL	DGS	JEY	JRY	JRY
		ACCEPTED BY PROJECT ENGINEERING FOR CONSTRUCTION. DCN. DC1-E-P-5060. FRAME MODIFICATION					DRC	ASM
		ADDED SHTS 15A & 15B BY EDS REVISED ELEV. OF HANGER ASSY. & RELOCATION TOLERANCE	PI	PI	CEK	N/A	DRC	ASM

FOR INFORMATION ONLY

ID#4001 JOB#16702

FOR CONSTRUCTION INFORMATION ONLY SUPERCEDED BY REV. 5

NOTES: PRI 20 RR 7-19-83

NO PIPING PROCESS SHEETS REQUIRED

APPROVED FOR CONSTRUCTION 7/15/83 RAD DATE ENGR RD 7-19-83

CONTROLLED COPY

SHEETS ASSIGNED TO THIS HANGER SYMBOL (TOTAL 4 SHEETS)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
15	15X	15A	15B																

DSGN JS
DWN JS
CHKD JEB

DRAWING NO 049235

15X OF SHS

P G & E CO

ISSUE REV 2

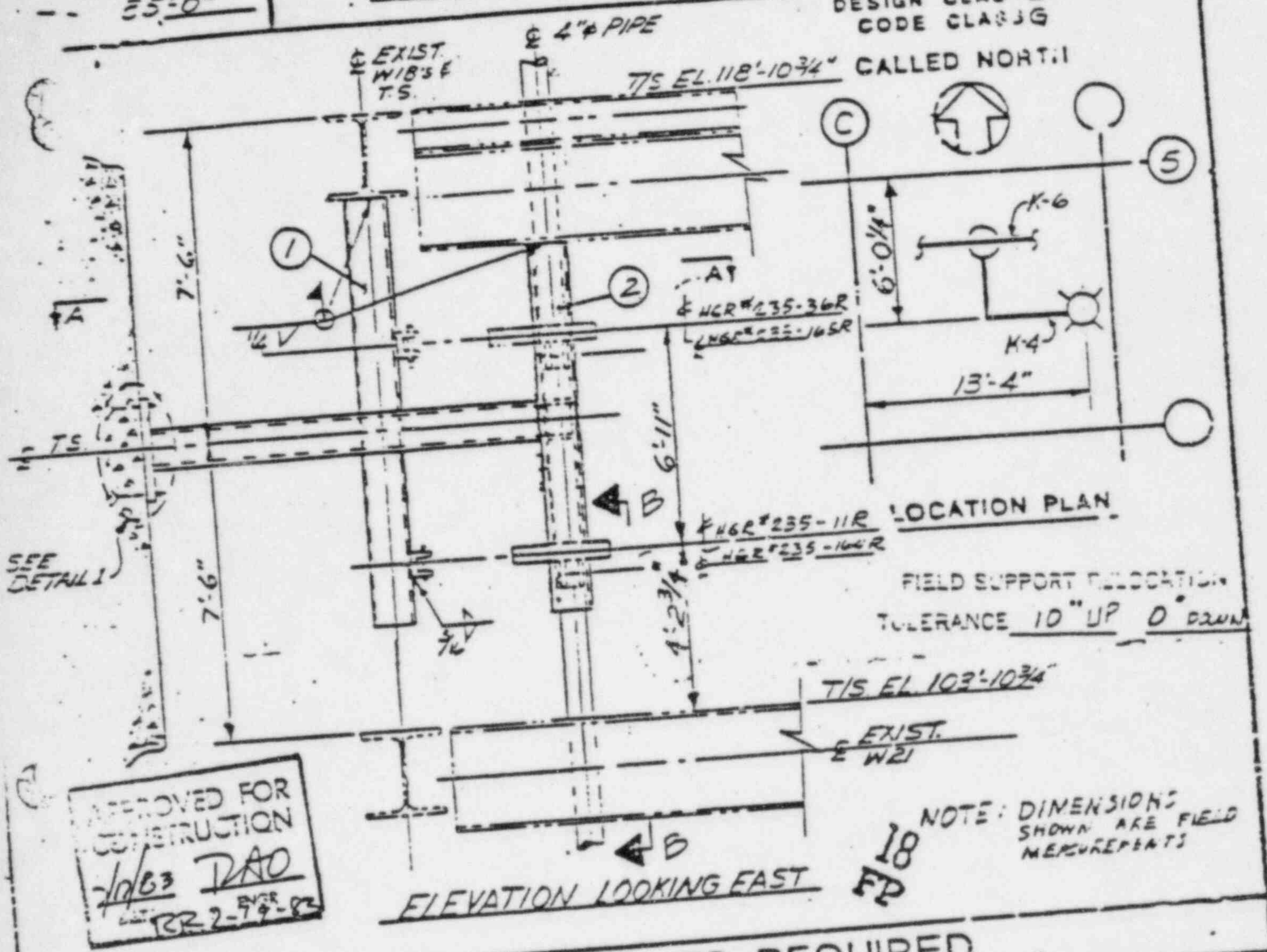
MICROFILM 2

PROJECT: DIABLO CANYON UNIT: ONE

ISO No 18-220

LOC ON DW. 500120

DESIGN CLASS I
CODE CLASS G



FIELD SUPPORT RELOCATION
TOLERANCE 10" UP 0" DOWN

APPROVED FOR CONSTRUCTION
1/11/83 DAO
RR 2-19-83

18 FP

NO OF ASSEMBLIES REQUIRED

FOR CONSTRUCTION INFORMATION ONLY
SUPERCEDED BY REV. 5

FOR INFORMATION ONLY

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NO	REQD	MATERIALS PER ASSEMBLY
1	1	T.S. 6"x6"x½", 9'-10½" LG.
2	1	T.S. [illegible] 9'-[illegible] LG
3	1	T.S. 6 x 6 [illegible]
4	1	T.S. 6 x 6 x ½, 3'-7" LG (CUT TO SUIT)
5	1	T.S. 6 x 6 x ½, 2'-10" [illegible] 0.6; C-C = 0'-10 7/16"; SPC-
6	1	SEE TYPE PC, SWAY STRUT [illegible]
		06-040.

DSGN [illegible]
DWN G.C. MOORE
CHKD A.B.D.
SHT 15 OF SHTS

DRAWING NO 049235

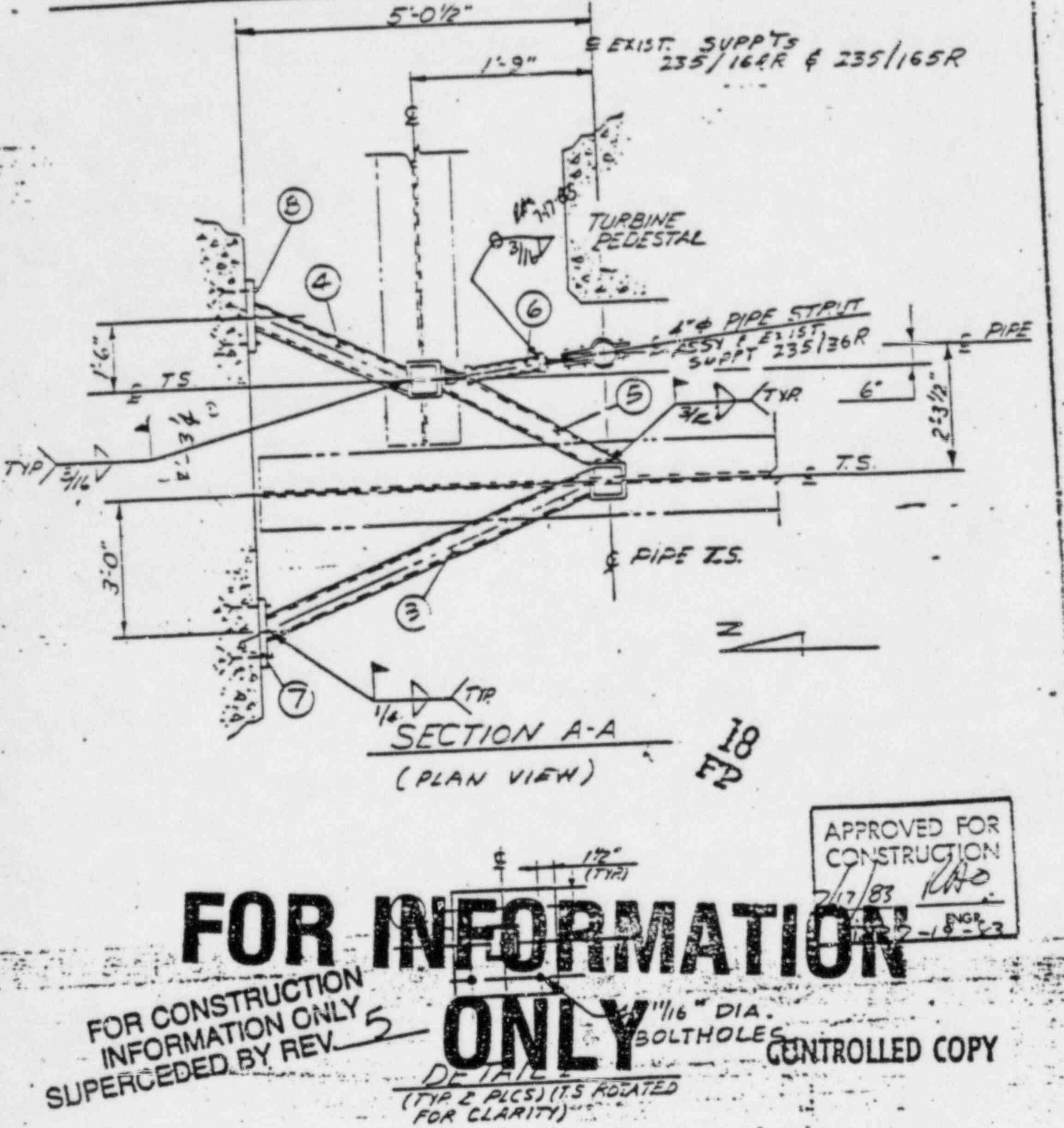
P G & E CO

ISSUE | REV 4

MICROFILM

PROJECT: DIABLO CANYON | UNIT: ONE

AREA 1-B | LINE 1-K-503B-4 | HANGER SYMBOL 235/11R
EL. 85'-0" | ISO No 18-220 | X RESTRAINT
LOC ON DWG 500120



APPROVED FOR CONSTRUCTION 2/17/83 ENGR. 2-18-83

FOR INFORMATION ONLY

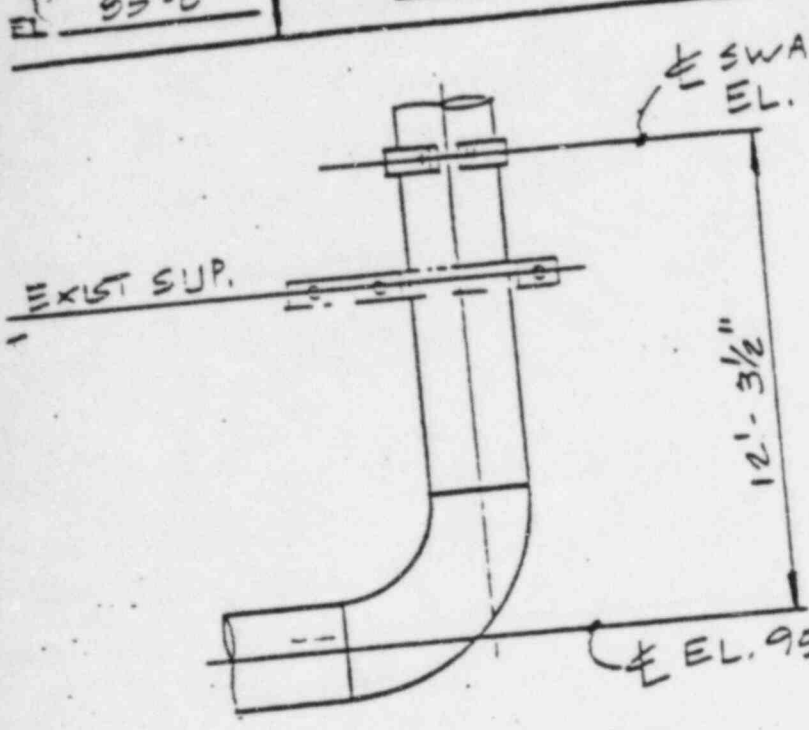
FOR CONSTRUCTION INFORMATION ONLY SUPERCEDED BY REV. 5

CONTROLLED COPY

18 FP

DRAWING NO 049235
GCM
P G & E CO
PROJECT DIABLO CANYON | UNIT ONE
SHT 1 SA 0 | SHTS
4

LOCATIONS		HANGER SYMBOL	235 / 11R
.1:5	LINE SEE SHT. 15	X-RESTR.	
95'-0"		LOC ON DWG 500120	



APPROVED FOR CONSTRUCTION
2/17/83
RP 2-19-83

SECTION B-B
(LKG. NORTH)

FOR INFORMATION ONLY

MATERIALS PER ASSEMBLY

NO	REQD	
7	2	3/4" x 12" C.S. PLATE,
8	8	5/8" DIA. HILTI SHELL

FOR CONSTRUCTION INFORMATION ONLY SUPERCEDED BY REV. 5

CONTROLLED COPY

DSGN		DRAWING NO 049235	
DWN JDL			
CHKD			
15 OF SHTS	PG&E CO	ISSUE	RE

235-11R REV. 5 AREA/ELEV. B-85

HANGER PRE-INSPECTION CHECK LIST

ITEMS TO BE CHECKED	REFERENCES ESD 223 AND OTHERS	PREINSPECT CHECKLIST
1. Can Hanger Be Installed At The Proper Location	6.2	PJB
2. Is The Adjacent Anchor Spacing Acceptable	6.4.1	PJB
3. Can All Items Be Installed And All Welds Made		PJB
4. Are All Welding Symbols Accurate And Complete	6.8	PJB
5. Is Old Work As-Built, Acceptable, Or To Be Reworked	PG&E Memo 4-11-83	N/A
6. Disposition DR No. 4678/4730 (As Appropriate)		N/A
7. Is Pre-Heat Or Structural Steel Rod. & Noted On Process Sht	6.8.2.2	N/A
8. Are All Q.C. Hold Points Noted On The Process Sheet	ESD 264	PJB
9. Have All The Necessary Forms Been Originated (Pipe Attch. IDI, Insl. C-51)		PJB
10. Have All The Interferences Been Resolved		PJB
11. Pre-Inspect Package Complete (Read. Checklists Attached)		PJB

RE INSPECTED BY: Pat Rupp DATE: 7-30-83

HANGER FINAL INSPECTION CHECKLIST

ITEMS TO BE CHECKED	REFERENCES ESD 223 AND OTHERS	FINAL INSPECT CHECKLIST
1. Hanger Location Within ESD 223 Tolerances	6.2	JJC 8/14/83
2. Adjacent Anchor Spacing Acceptable	6.4.1	JJC 8/14/83
3. Threaded Connections Secure/Engagement Acequate		JJC 8/14/83
4. All Items In B.O.M. Installed And Are Correct Type	6.6	JJC 8/14/83
5. Configuration As Per Design Dwg.		JJC 8/14/83
6. All welds Complete And Acceptable (Size, Configuration)	6.8	JJC 8/14/83
7. Config. minimized From ARC Strikes, Weld Splatter, Etc.	6.3.2.4	JJC 8/14/83.
8. Pipe And/Or G[illegible]es Acceptable	6.7	N/A
9. Base Plates, [illegible]	6.3.7 & 6.3	JJC 8/14/83
10. Hanger Proper[illegible]	ESD 223	JJC 8/14/83
11. Attachments To Other Supports [illegible]		JJC 8/14/83
12. Specials Rod Supports, T-Shoes, U-Bolts, Properly [illegible]		N/A
13. Spring Can Installed And Co[illegible] Per Dwg.	6.4.3	N/A
14. Sway Struts Correct Size Installed [illegible]		JJC 8/14/83
15. [illegible] to P Within Tolerance	6.6.2.2	JJC 8/14/83
16. Shock Supports Mechanical Shock I.D. Plate Complete		N/A
17. Hot & Cold Setting Within Tolerance	6.10.2	N/A
18. P To P Within Tolerance	6.6.2.2	N/A
19. Alignment Acceptable (Clamp & Rear Brkt.)	Attch. A & B	N/A
20. All Hardware Compatible		N/A
21. Package Reviewed For Completeness (Design Change Appr. Etc)		JJC 8/14/83

FOR INFORMATION ONLY

COMMENTS:

RECORD FITTER & WELDER BADGE NO.

DATE 8/14/83

INSPECTED BY: [signature]

235-11K — 04123

PULLMAN POWER PRODUCTS

GENERAL PIPE SUPPORT PROCESS SHEET

PREPARED BY 7/29

LiAE 8.14.83

1. LOCATION OF SUPPORT COMPLIES WITH DRAWING.	5/158 5/141	Li.
2. DRAWING CHANGES NOTED AND COMPONENTS COMPLY WITH MATERIAL LIST	5/158 5/141	8/7/83
3. ANCHORS INSTALLED AND WITNESSED BY Q.C. — Holes drilled to tolerance and Check adjacent anchors		NA
B. Shield/Plug Driven to Tolerance — TYPE: Hilti/Phillips	5/158 5/141	8/8/83
C. Type Stud Installed — SIZE 5/8" — MIN. EMB. 6 1/2" — TYPE: Hilti/Phillips		8/8/83
witness drilling of (8) 5/8" x 8 1/2" HK bolts	5-1365-205	8/14/83
D. Anchors Torqued — SIZE 5/8" — VALUE 55# — WRENCH SERIAL NUMBER PPP98 7/20/83 9/20/83		
min EMB met 8/14/83 S.P.	5/158 5/140	8/8/83
E. Unused holes dry packed	5/158 5/141	
4. BACK OFF BOLTS PRIOR TO WELDING ON BASE PLATES	NA	NA
5. FIT-UPS: A. Pipe attachments installation: (1) Heat No: (2) P.O. No:		
B. Support Members: ITEMS / SPECIAL INSTRUCTIONS		
(1) Groove & Full Pen Welds		
C. Purge Established where Required	5-1365-205	AE 8.14.83
6. WELD PREP DOES ...		NA
7. WELDING OF PIPE ATTACHMENTS (PER SEPARATE PROCESS SHEET)		
8. WELDING OF HANGER SUPPORT MEMBERS ONLY:	5A	
SPECIAL WELDING INSTRUCTIONS:	5-136	
9.		
10. FINAL VISUAL — A. Weld Surface Clean	5/158 5-136	AE 8.14.83 ★
B. Arc Strikes Removed	5/158 5-136	AE 8.14.83 ★
	5/158	AE 8.14.83 ★
11. REVIEW — A. Components and Dimensions Comply w/Dwg.	NA	NA
B. Pipe Clearance in Accordance with Dwg.	NA	NA
C. Riser Clamp Bears upon Lug	D.C. 8-13	AE 8.14.83
D. Hanger is Level and Plumb	D.C. 8-13	AE 8.14.83
E. All Bolts/Nuts Installed and Tight	NA	NA
F. Wall & Ceiling Plates Shimmed where Necessary	NA	NA
G. Grout Request Submitted	NA	NA
H. Lug Clearance within Tolerance	D.C. 8-13	AE 8.14.83
12. A. Installed per Separate Process Sheet — Away Strut		
B.		
13. SUPPORT ACCEPTED BY Q.C. (Complete Installation Review) Q.C. SIGNATURE		DATE____

★ Accepted Final Weld at Item #1 to Civil Steel. 8-5-83

★ accepted ... Item #2 to Civil Steel

See firmware on setting 8/8/83

FOR INFORMATION ONLY

FORM F-65
BACKSIDE

PREINSPECTION CHECKLIST

		CHECKED	
		Q.C.	ENGINEER
1.	ALL MEMBERS INSTALLED	NEW SUPPORT NO REC'D PRE-INSP.	PRE INSPECT ONLY
2.	WELDS; Inaccessible and/or Undersized		
3.	GAPS; U-Bolts, Tee Shoes and Lugs		
4.	GROUTED PLATES: Grout damaged or Holes in Plate		
5.	SHIMS; Tack Welds		
6.	NUTS NOT FULLY ENGAGED		
7.	ARC STRIKES		
8.	MATERIAL SIZE		
9.	OVERSIZED HOLES IN PLATE; Washers		
10.	WARPED BASE PLATES ...	HB 7-30-83	PEP 7-30-83

PREINSPECTION REMARKS:

OK TO INSTALL PER REV 5. C-51 SUBMITTED PEP 7-30-83
PG&E PREINSPECTION FINAL PKG REVIEW COMPLETE HB 7-30-83
Field to relocate east Base PL 1½" upward & 1¼" westward and relocate West Base PL 1½" upward, due to rebar interference & to keep min. distance from holes drilled from Rev. 4 — HW 8/6/83
Increase Base PL thickness to 1" — HW 8/6/83
Relocate West Base PL 1¼" westward, also — HW 8/7/83
While setting (4) hilti kwik bolts 5/8" x 8½" on west PL with 3 to 5 turns of the nut the threads were damaged on 3 of the 4 hilti kwik bolts also (3) of the (4) would spin in the holes. Rejected (3) of the (4) hilti kwik bolts on west plate. Ref ESD-223 ... 8/83 due to thread damage.

FINAL INSPECTION REMARKS: ENGINEER DATE

Due to Bad anchor on West Plate. Cut anchors flush to concrete & relocate Plate & anchors 1¼" eastward. — HW 8/8/83

NOTE: Elevat... HE 8-14-83

FOR INFORMATION ONLY

DCN 1604-009 WRITTEN FOR WORKING HANGER AFTER QC FINAL WORKMANSHIP INSPECTION ... 8/24/83

P.G. and E. DCL 8-16-83

PIPE SUPPORT INSTALLATION WORKLIST

HANGER NO.: 235-165R

Sys: 18
Line #: 1-K-5038-4

ELEV: 85' AREA: B DWG. NO. 049235 SHT. 170

DCN NO. _____ REV. 1

PPP ENGINEER: A. Wendt DATE: 7/17/83

PG&E ENGINEER: John Burnett DATE: 7-18-83

THE FOLLOWING WORK IS REQUIRED TO COMPLETE THIS PIPE SUPPORT:

Install as per design Rev. 1

WORK WITH SUPPORT # 235-11R.

PG&E PREINSPECT FINAL PKG REV. COMP. 8/3. 7-18-83

FOREMAN: TAKE REFERENCE DIMENSION FROM 90° ELBOW SUPPORTS 235-165R & 235-36R NEED TO BE RELOCATED ALONG PIPE. WORK HGR # 235-165R, 235-36R & 235-11R TOGETHER.

FOR INFORMATION ONLY

REQ'D	TYPE	DATE INIT.	DATE RET.
YES (NO)	C-51		
X	INS.RMV.		
X	IDI		
X	G 108		
X	PSDTC	=	=
✓	MATL.AVAL		

REMARKS
HEAT TRACE: N/A
WELD ATTCHMTS: N/A

LINE CLEARANCE REQ'D NO

AREA 1-R

LINE 1-K-5038-4

ISO Nº 18-220

HANGER SYMBOL
X, Z RESTRAINT
TOGETHER WITH 235/36R

235
16 SR

EL 85'-0"

LOC ON DWG 500120

REV	ISSUE DATE	DESCRIPTION OF CHANGES	PREPARATION DSGN	PREPARATION DWN	PREPARATION CHKD	APPROVAL DUS	APPROVAL ENGR	APPROVAL SUPV ENGR
1	7/1/83	REDESIGNED SUPPORT TO REMOVE FROM TURBINE PEDESTAL, PER EDS REV. A, 6-13-83	FC	GCM	COP	[illegible]	[illegible]	[illegible]
		ADD RELOCATION TOL. PER (EDS REV. B, 7-1-83)	FC	NPM,	DGL	JBH	JBH	JBH
		ACCEPTED BY PROJECT ENGINEERING FOR CONSTRUCTION, DCN: DC-1-E-P-5060 "SUPPORT ADDITION"					ASM	DRC
		CORRECTED LOCATION & RELOC. TOL. TO LOCATE HGR. WITHIN ALLOW. TOLER. FROM ANA. 12-102, REV. 1 LOCATION.	HC	HC	P.I	N/A	ASM	DRC

D.S.W.R. N/A RAO 7/18/83

REASON WORK TO REV. 1

ENGR. RAO

FOR INFORMATION ONLY

NOTES: WORK THIS SUPPORT WITH HANGER NO. 235/36R REV. 5

ID 4601
Oct 10 1983

NO PIPING PROCESS SHEETS REQUIRED

APPROVED FOR CONSTRUCTION
7/1/83 RAO
DATE ENGR

CONTROLLED COPY

SHEETS ASSIGNED TO THIS HANGER SYMBOL (TOTAL 2 SHEETS)

170	170X																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

DSGN FC
DWN GCM
CHKD

DRAWING NO 049235

PROJECT: DIABLO CANYON

UNIT: ONE

SHT 170X OF

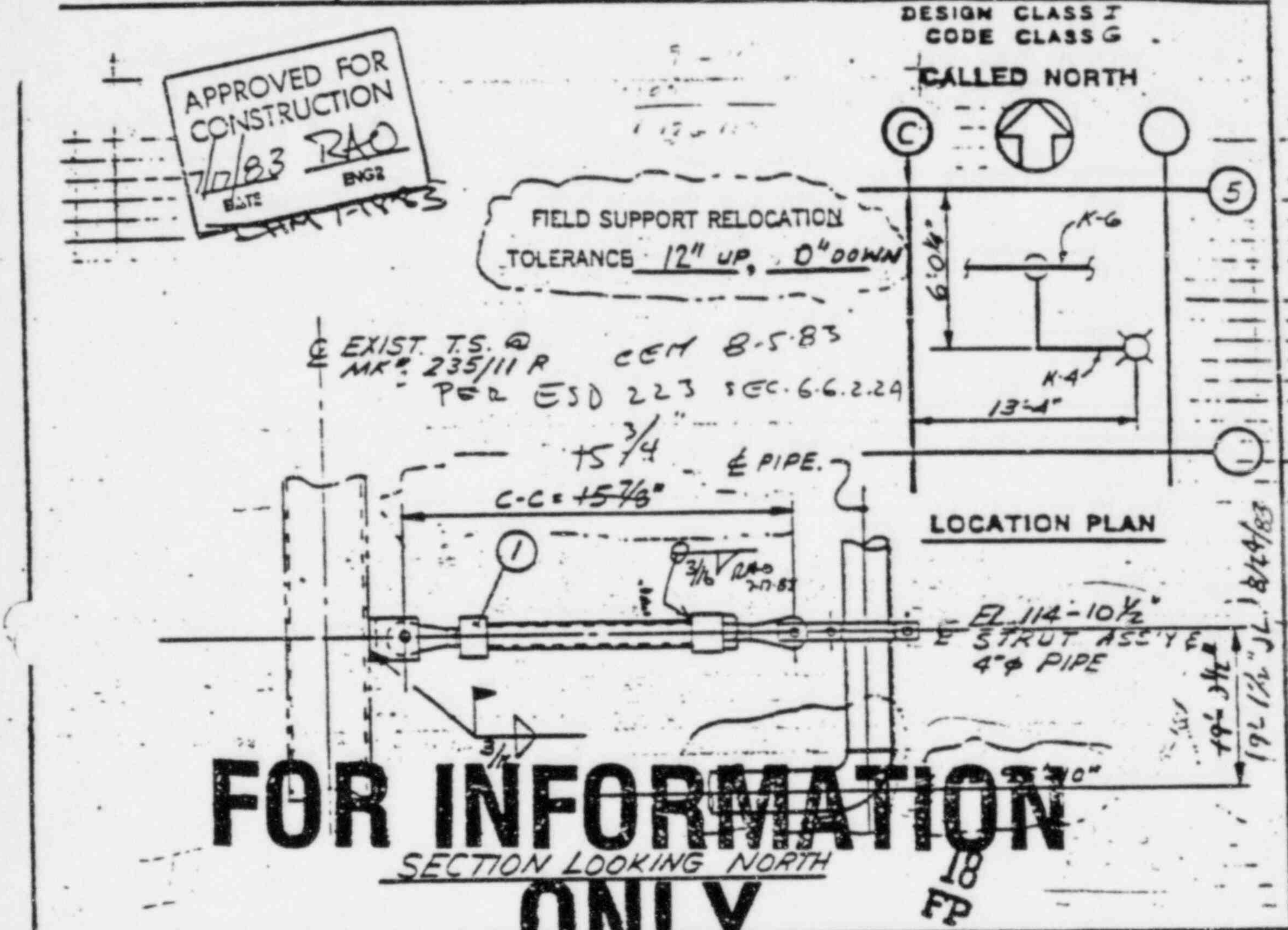
PG&E

ISSUE 1

REV

AREA 1-B	LINE 1-K-5038-4	HANGER SYMBOL X,Z RESTRAINT TOGETHER WITH 235/36R (235 / 165R)
EL 85'-0"	ISO. No 18-220	LOC ON DWG 500120

DESIGN CLASS I
CODE CLASS G



FOR INFORMATION ONLY

18 FP

NO OF ASSEMBLIES REQUIRED

NO	REQD	MATERIALS PER ASSEMBLY
1	1	SRF TYPE PC SWAY STRUT SIZE No 6 ; C-C = 1'-3 7/8"
		SPC-06-040

CONTROLLED COPY

DSGN I. Clark	DRAWING NO 049235	ISSUE
DWN GCM		REV 1
CHKD	PG & E CO	
SHT 170 OF SHTS		

PROJECT: DIABLO CANYON | UNIT: ONE

[illegible] REV. 1

HANGER PRE-INSPECTION CHECK LIST

ITEMS TO BE CHECKED	REFERENCES ESD 223 AND OTHERS	PREINSPECT CHECKLIST
1. Can Hanger Be Installed At The Proper Location	6.2	HW
2. Is The Adjacent Anchor Spacing Acceptable	6.4.1	N/A
3. Can All Items Be Installed And All Welds Made		HW
4. Are All Welding Symbols Accurate And Complete	6.8	HW
5. Is Old Work As-Built, Acceptable, Or To Be Reworked	PG&E Memo 4-11-83	N/A
6. Initiate DR No. 4678/4730 & Dispositioned (As Appropriate)		N/A
7. Is Pre-Heat Or Structural Steel Rqd. & Noted On Process Sht	6.8.2.2	N/A
8. Are All Q.C. Hold Points Noted On The Process Sheet	ESD 264	HW
9. Have All The Necessary Forms Been Originated (Pipe Attch. IDI, Insl. C-51)		N/A
10. Have All The Interferences Been Resolved		N/A
11. Pre-Inspect Package Complete (Reqd. Checklists Attached)		HW

PRE INSPECTED BY: H. Wendt DATE: 7/17/83

HANGER FINAL INSPECTION CHECKLIST

ITEMS TO BE CHECKED	REFERENCES ESD 223 AND OTHERS	PREINSPECT CHECKLIST
1. Hanger Location Within ESD 223 Tolerances	6.2	CEM JL
2. Adjacent Anchor Spacing Acceptable	6.4.1	N/A
3. Threaded Connections Secure/Engagement Adequate		CEM JL
4. All Items In B.O.M. Installed And Are Correct Type	6.6	CEM
5. Configuration As Per Design Dwg.		CEM
6. All Welds Complete And Acceptable (Size, Configuration)	6.8	CEM JL
7. Configuration Free From ARC Strikes, Weld Splatter, Etc.	6.8.2.4	CEM JL
8. Pipe And/Or Guide Clearances Acceptable	6.7	CEM
9. Base Plates, Fish Plates, & Stiffners Installed Per ESD 223	6.3.7 & 6.3	N/A
10. Hanger Properly Identified. No. Written On Support		CEM
11. Attachments Other Supports Identified [illegible]		CEM
12. Specials Rod [illegible] Shoes [illegible]	6.5.[illegible]	N/A
13. Spring C[illegible] Installed [illegible] Load Set Per Dwg	6.4.5	N/A
14. Sway Struts Correct Size Installed (Ref. Attached Checklist)		CEM
15. P To P Within Tolerance	6.6.2.2	CEM
16. Shock Supports Mechanical Shock I.D. Plate Complete		N/A
17. Hot & Cold Setting Within Tolerance	6.10.2	↓
18. P To P Within Tolerance	6.6.2.2	↓
19. Alignment Acceptable (Clamp & Rear Brkt.)	Attch. A & B	↓
20. All Hardware Compatible		↓
21. Package Reviewed For Completeness (Design Change Appr. Etc)		CEM

FOR INFORMATION ONLY

COMMENTS: Final Complete.

Reinspected strut installation 8/24/83 JL

RECORD FITTER & WELDER BADGE NO. 5/158, 5/146

INSPECTED BY: C. E. [illegible] DATE 8-5-83

[illegible] POINTS / [illegible] VERIFICATION POINTS	GENERAL FIELD SUPPORT PROCESS SHEET	PREPARED BY 7/16 ... DATE	FITTER/WELDER BADGE NUMBER		Q.C. DATE & INITIAL
*1.	LOCATION OF SUPPORT COMPLIES WITH DRAWING.		5/146 5/158	✓	8-5-83
2.	DRAWING CHANGES NOTED AND COMPONENTS COMPLY WITH MATERIAL LIST		5/146 5/158	✓	
3.	ANCHORS INSTALLED AND WITNESSED BY Q.C.	A. Holes drilled to tolerance and Check adjacent anchors	N/A	*	N/A
	B. Shield/Plug Driven to Tolerance	TYPE: Hilti/Phillips	N/A	*	N/A
	C. Type Stud Installed — SIZE — MIN. EMB.	TYPE: Hilti/Phillips	N/A	*	N/A
	D. Anchors Torqued — SIZE — VALUE	WRENCH SERIAL NUMBER	N/A	*	N/A
	E. Unused holes dry packed		N/A	*	N/A
4.	BACK OFF BOLTS PRIOR TO WELDING ON BASE PLATES		N/A	*	N/A
5.	FIT-UPS: A. Pipe attachments installation:	(1) Heat No: 8-5-83	~~5/146 5/158~~ N/A	✓	N/A
		(2) P.O. No: 8-5-83	~~5/146 5/158~~ N/A	✓	N/A
	B. Support Members: — ITEMS	SPECIAL INSTRUCTIONS	N/A		
	(1) Groove & Full Pen Welds		N/A	*	N/A
			N/A	*	N/A
	C. Purge Established where required		N/A	*	N/A
6.	WELD PREP ZONES CLEAN OF PAINT, OIL		5/146		
7.	WELDING OF PIPE ATTACHMENTS (PER SEPARATE PROCESS SHEET) F.W.#		X	*	N/A
8.	WELDING OF HANGER SUPPORT MEMBERS ONLY: — IDENTIFICATION	WELD CODE			
	SPECIAL WELDING INSTRUCTIONS:	CS/CS (181)	5/158		
		↓ 88/891			
		SS/SS 1291			
		↓ 15/151			
		SS/SS			
9.	VERIFY STRUT @ 1/8" CONCENTRIC		5/158	*	8-5-83
10.	FINAL WELD [illegible] MEMBERS	A. Weld Surface Clean	5/146	✓	8-5-83
		B. [illegible]			8-5-83
		C. Weld [illegible]	5/[illegible]		8-5-83
11.	REVIEW FOR GENERAL WORKMANSHIP AND CONFIGURATION:		FOREMAN INITIAL/DATE		Q.C. DATE & INITIAL
	A. Components and Dimensions Comply W/Dwg. [illegible]		BH 8-5-83	✓	
	B. Pipe Clearance in Accordance with Dr[illegible] 8-5-83		BH 8-5 ~~83~~ N/A	✓	N/A
	C. Riser Clamp Bears upon Lug		N/A	✓	N/A
	D. Hanger is Level and Plumb		BH 8-5-83	✓	8-5-83
	E. All Bolts/Nuts Installed and Tight		BH 8-5-83	✓	8-5-83
	F. Wall & Ceiling Plates Shimmed where Necessary		N/A	✓	N/A
	G. Grout Request Submitted		N/A	✓	N/A
	H. Lug Clearance within Tolerance		N/A	✓	N/A
12. ~~[illegible]~~ 8-5-83 NPS Strut	A. Installed per Separate Process Sheet		BH 8-5-83	✓	8-5-83
	B. Grinnell Fig.# & Size	C. PSA Size	D. TYPE: [illegible]		
13.	SUPPORT ACCEPTED BY Q.C. (Complete Installation Review) Q.C. SIGNATURE ______ DATE ______				

FOR INFORMATION ONLY

PREINSPECTION CHECKLIST	CHECKED Q.C.	CHECKED ENGINEER
1. ALL MEMBERS INSTALLED	N/A DWM 7/18/83	New Hanger TW 7/17/83
2. WELDS; Inaccessible and/or Undersized		
3. GAPS; U-Bolts, Tee Shoes and Lugs		
4. GROUTED PLATES; Grout damaged or Holes in Plate		
5. SHIMS; Tack Welds		
6. NUTS NOT FULLY ENGAGED		
7. ARC STRIKES		
8. MATERIAL SIZE		
9. OVERSIZED HOLES IN PLATE; Washers		
10. WARPED BASE PLATES/MEMBERS		

PREINSPECTION REMARKS:

Ok to install as per Rev. 1 after Hgr. 235-11R Rev. 4 is installed. TW 7/17/83

PG&E PREINSPECT FINAL PKG REVIEW COMPLETE [initials] 7-18-83

FOR INFORMATION

FINAL INSPECTION COMMENTS: INSPECTOR CCM DATE 8-5-83

FINAL COMPLETE CCM 8-5-83

Reinspected Strut install [illegible] /83 JL

DCN 1604-009 WRITTEN FOR WORKING HANGER AFTER QC FINAL WORKMANSHIP INSPECTION TJD 8/24/83

NPS STRUT INSPECTION CHECK LIST

INSPECTOR [illegible] DATE 8-5-83 RANGE 235-165 R

1. A) Strut size: (08, 14, 20, etc.) 06

   B) Clamp size: (enter pipe dia.) 4"

   C) Coupling type: solid/socket weld Solid

CHECK MARK INDICATES ACCEPTANCE

2. Clamp bolts installed and tight ✓
3. Clamp spacer installed and tight ✓
4. Load pin holes aligned in both clamp halves ✓
5. Rod eye threads visible through sight holes N/A
6. Jam nut tight N/A
7. Strut axis within ± 6° of optimum or within special requirements noted on drawing/memos ✓
8. 1/16" pull back in socket weld verified on process sheet * N/A
9. Solid coupling installed concentrically within 1/8" * ✓
10. Spherical bearings free of paint and not pushed out ✓
11. Cotter pins fully spread ✓
12. Spherical bearing washes/spacers installed where required, reducing total side clearance to less than one washer thickness and greater than 0". ✓
13. Clamp ears parallel ± 1/8" at load pin side of clamp ✓
14. Comments and/or explanations NPS Strut SRF Type PC 11-8-5-83

FOR INFORMATION ONLY

* Items 8 and 9 apply to field-fabricated struts, per NPS 11-9 procedure

PIPE INSTALLATION ...

A / ERROR / EL 115'-0"	LINE 1-K-4405-24VP [E] DIESEL ENG. 1-3 EXCH RISER	HANGER SYMBOL: Z-RESTRAINT 2/47R — LOC ON DWG

REV	ISSUE DATE	DESCRIPTION OF CHANGES	PREPARATION DSGN	DWN	CHKD	APPROVAL DUS	ENGR	SUPV ENGR
1	1-5-83	NEW PIPE SUPPORT AS PER ANALYSIS NO. 14-103, ISSUED UNDER DCN # DCI-E-P-5060 ADDITION OF SUPPORT	HS	ST	ANP	[illegible]	[illegible]	[illegible]
2	3-8-83	DELETED CLAMP FROM ITEM 1 & ADDED ITEM 4.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	6 26 83	DELETED ITEMS 2, 3; ADDED ITEMS 5 THRU 9 & DWG. SHT'S 60A. 60B. 60C; REVISED SUPPORT ELEVATION.	DL	VHT	[illegible]	[illegible]	[illegible]	[illegible]

APPROVED FOR CONSTRUCTION 7/10/83 RAO DATE ENGR

21 DFOS

A.S.W.R.
REASON WORK TO REV 1,2's
ENGR. RAO

7-11-83

ID#4001 JOB#167027

7-11-83

NOTES: DRI 20

INFO ONLY

CONTROLLED COPY

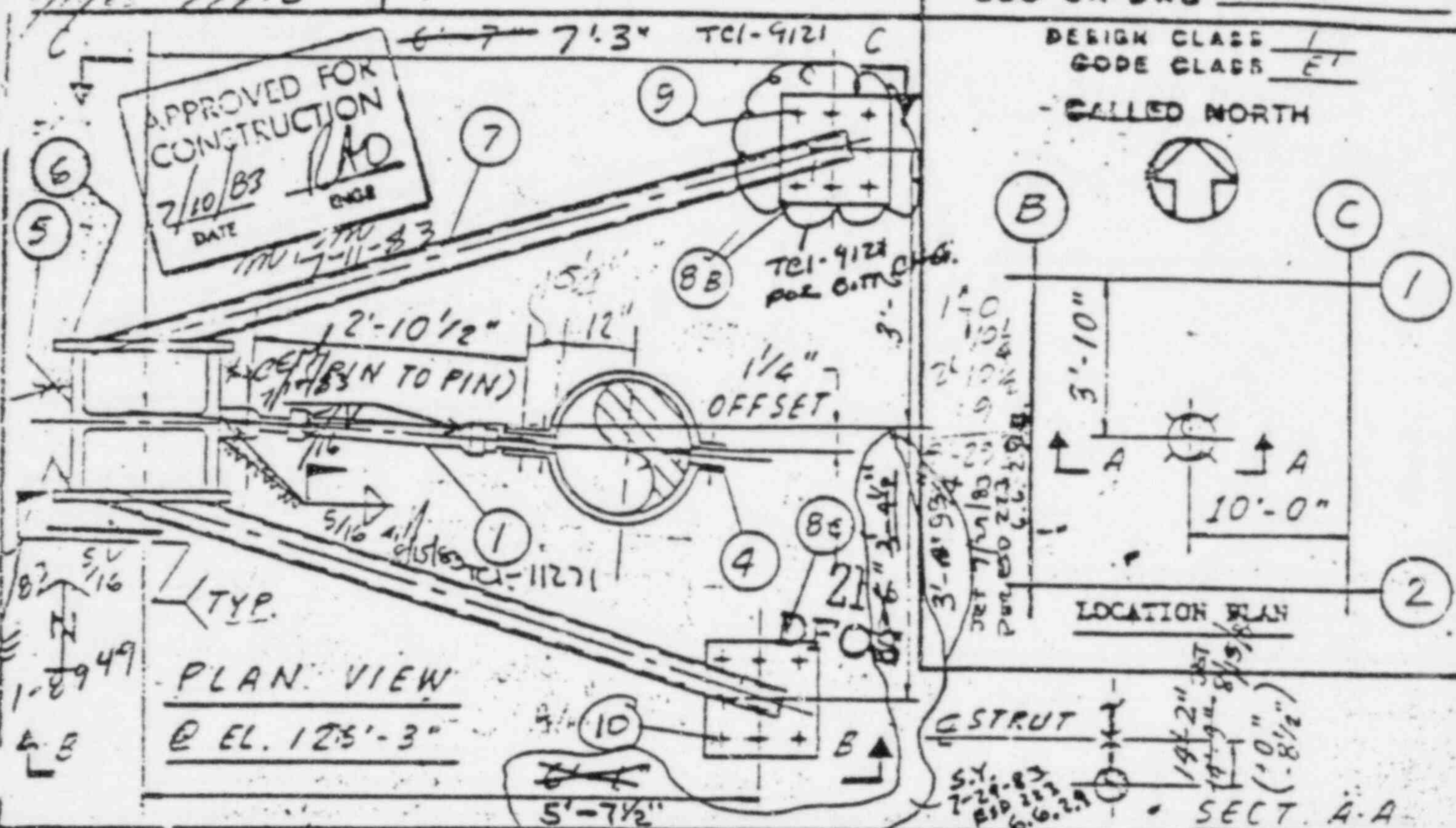
276

SHEETS ASSIGNED TO THIS HANGER SYMBOL (TOTAL: 5 SHEETS)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
60	60A	60B	60C	60X															

RM INDEXED REV. 2	DSGN HS / DWN ST / CHKD AN	DRAWING NO 049294	
PROJECT: DIABLO CANYON	UNIT: ONE	60X OF SHS	P G & E CO — ISSUE — REV 3

AREA 1-A EL ~~85'-0"~~ 119'-0"	LINE 1-K-4405-24" P [E1] DIESEL ENG. 1-3 EXCH. RISER	HANGER SYMBOL 2-97R Z - RESTRAINT LOC ON DWG



NO. OF ASSEMBLIES REQUIRED (1)

NO	REQ'D	MATERIALS PER ASSEMBLY
		PLATE ON BASE OF SLAB TC-1-9592 DWG 8-10-83 12 1 PL 1" x 2'-0" x 2'-0"
1	1	SRS TYPE PC NPS SWAY STRUT SIZE 20 C-C = 2'-10 1/2"
		~~WITH SPS-20-240 PIPE CLAMP~~ 10/16/ A36 TC-1-7082 ~~A325~~ T.B. ~~TC1-9121~~
~~3~~	~~1~~	~~W 10 x 49 x 3'-9" LG~~ DELETED JL 8/30/83
~~3~~	~~2~~	~~C.S. BAR 1/2" x 3 1/2" x 8 7/8" LG~~ DELETED
4	1	NPS SPECIAL ALLOY PIPE CLAMP, SPA-20-240 FOR USE WITH
		SRS SIZE 20 SWAY STRUT, CLAMP MAT'L. ASME SA-387
		GR. B7, NUT MAT'L. ASME 194 GR. 24 T.O. 22", PIPE SIZE =
		24", NOTE: DESIGN LOADS TO BE IDENTICAL TO OR
		GREATER THAN CDRS NO. SPC REV. 1, DESIGN TEMP. = 910°F
5	1	W 10 x 49 x ~~7'-1" LG~~ 6'-6" JET 8/5/83
6	2	PLATE 3/4" x ~~1'-2"~~ x ~~1'-9"~~ LG. 2' x 2' CONTROLLED COPY JET 8/8/83
7	2	TS 8 x 8 x 5/16 x 8" ~~x 1'-8"~~ LG. (CUT TO FIT) 8A) 1 1/4 x 28 1/4 x 24 1/4
8	3	PLATE 1 1/4" x 2'-0" x 2'-0" LG. (~~8A~~, 8B, 8C) 2ea TC1-9121 JET
~~9~~ 9	~~8~~ 24	~~1 1/4 Ø HILTI KWIK BOLTS WITH 9" MIN. EMBED.~~ 1 1/4 Ø HILTI KWIK BOLT WITH 10 1/2" MIN. EMB. PSC 8-2-83

SEE TC-1-9430 & TC-1-9592 & TC1-9121

DSGN BL DWN VHT CHKD JW	DRAWING NO 049294	
PROJECT: DIABLO CANYON	UNIT: ONE	SHT OF SHTS — P G & E CO

AREA 1-A

LINE 1-K-4405-24IP-E1

DIESEL ENG 1-3 EXCH. RISER

HANGER SYMBOL

2-RESTRAINT

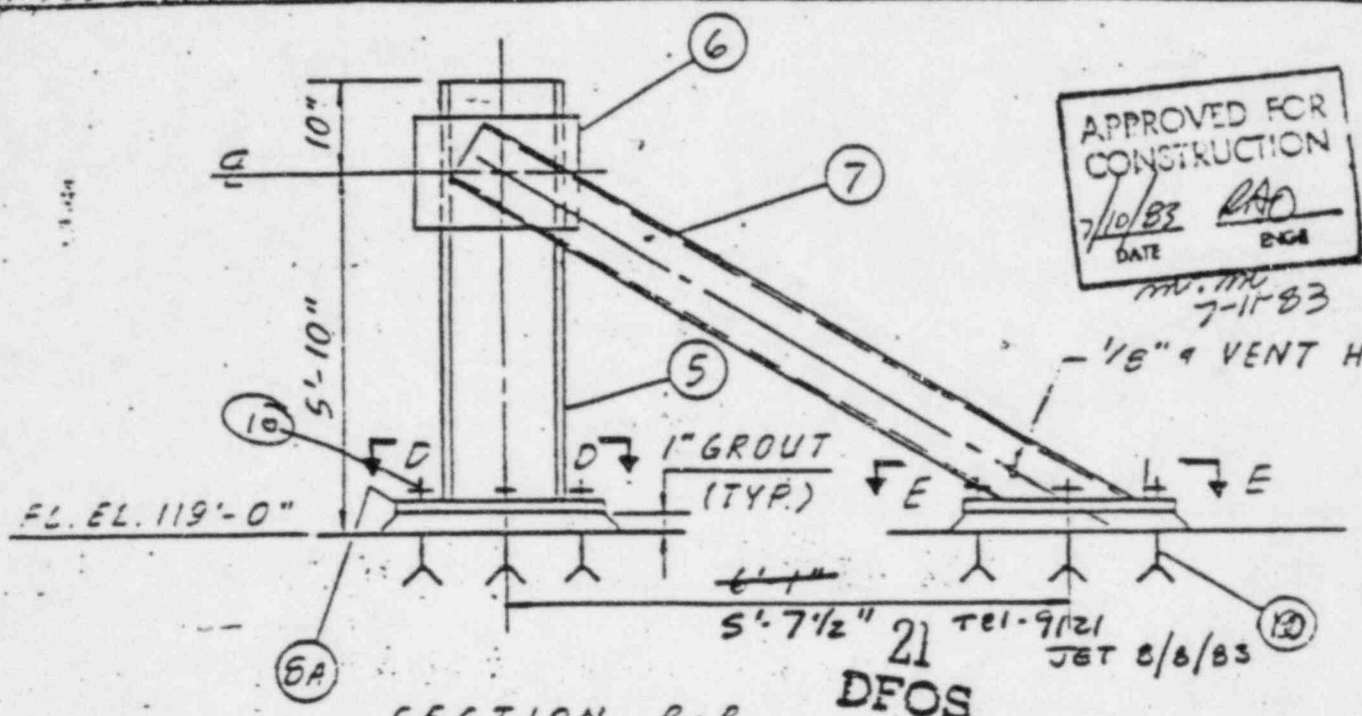
2 / 47R

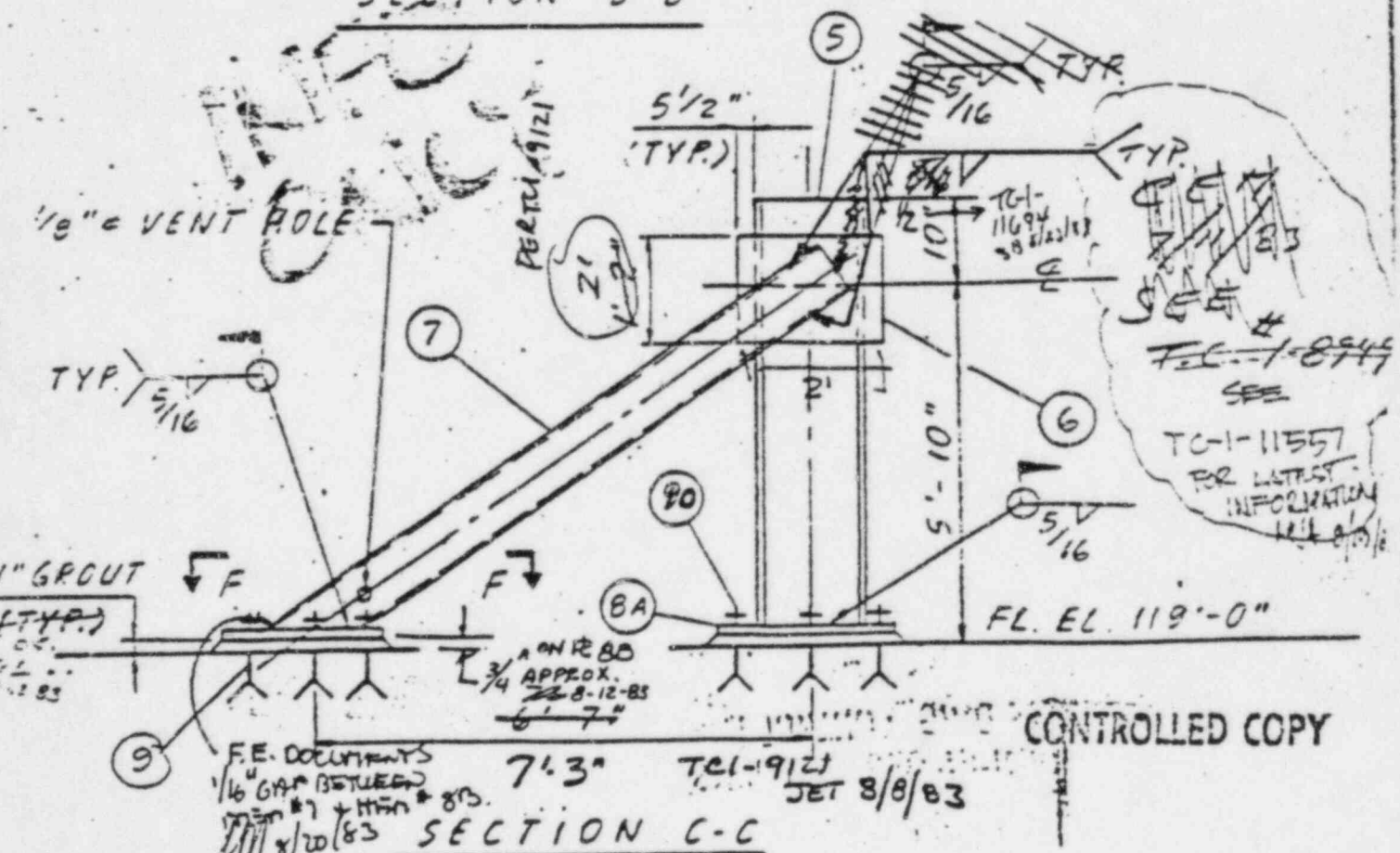
LOC ON DWG

EL 119'-0"

APPROVED FOR CONSTRUCTION
7/10/83 DATE
RAO DSGN

REV. MK 7-11-83



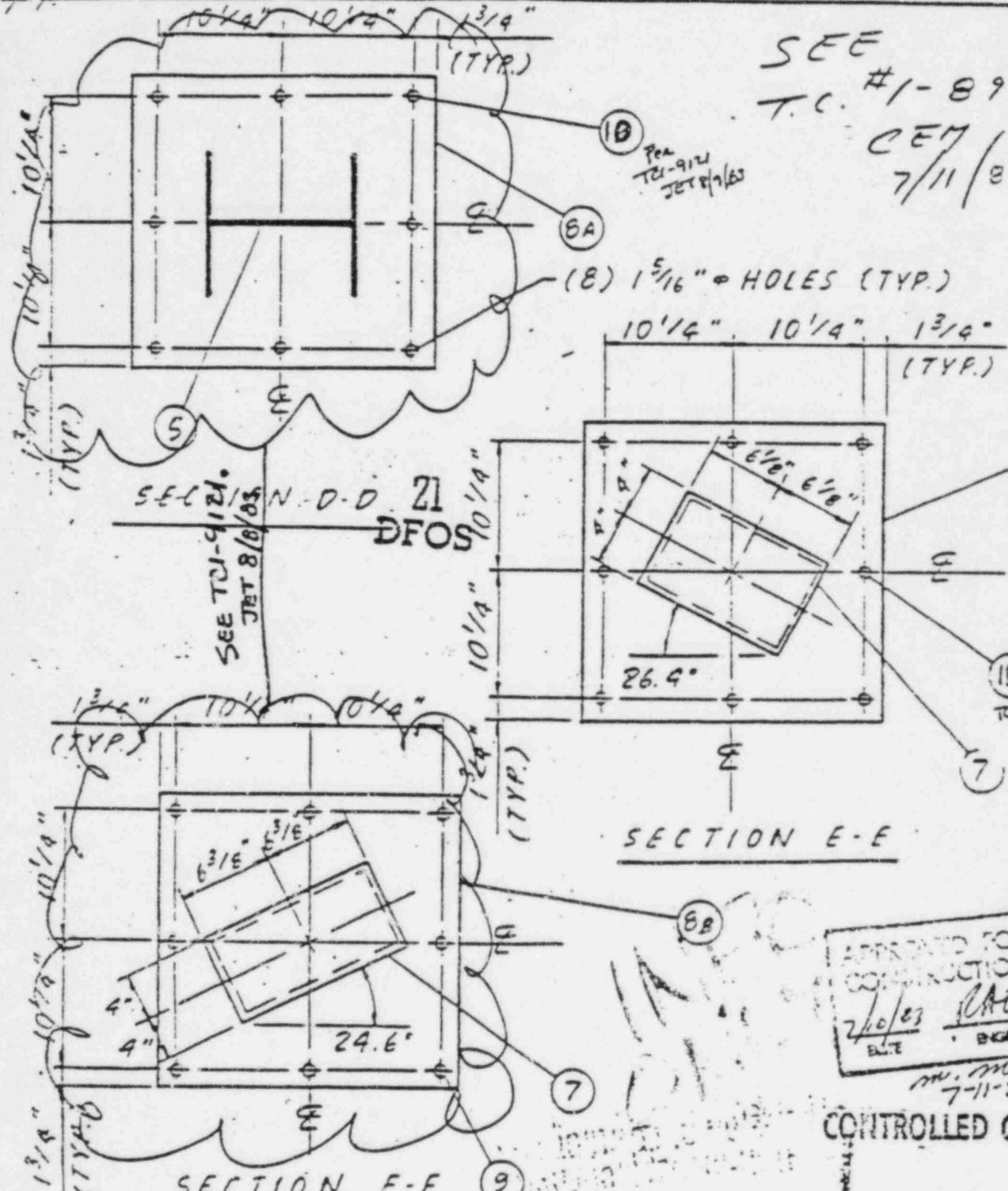


CONTROLLED COPY

	DSGN EC DWN VHT CHKD TW	DRAWING NO 049294	
PROJECT: DIABLO	UNIT: ONE	SHT OF SHTS	P G & E CO

AREA 1-A
LINE 1-K-4405-24VP [E]
DIESEL ENG. 1-3 EXCH. RISER
EL 119'-0"
HANGER SYMBOL: Z-RESTRAINT (2 STR)
LOC ON DWG

SEE T.C. #1-8949 CE7 7/11/83



APPROVED FOR CONSTRUCTION 7/10/83 CAO
7-11-83

CONTROLLED COPY

DSGN	
DWN	VHT
CHKD	
DRAWING NO	049294
PROJECT:	DIABLO CANYON
UNIT:	ONE
SHT 60E OF SHTS	P G & E CO
ISSUE	

LINE 1-K-4405-24"P-601

DIESEL ENG. 1-3 EXCH. RISER

Z-RESTRAINT

47R

LOC ON DWG

GROUTING INSTRUCTIONS
FOR FLOOR MOUNTED BASEPLATES

1. BASEPLATES (ITEMS* 8B,8C) TO BE GROUTED USING CEILCOTE 65BN HIGH TEMPERATURE EPOXY GROUT.

2. EXCEPT FOR THE ADDITIONAL NOTES BELOW, GROUT SHALL BE APPLIED ACCORDING TO PROCEDURES SPECIFIED BY THE MANUFACTURER.

3. BEFORE GROUTING, CONCRETE FASTENER NUTS OR BOLTS SHALL BE REMOVED. GROUT SHALL THEN BE POURED INTO THE HOLE UNTIL FULL AND FREE OF VOIDS OR LARGE BUBBLES. NUTS OR BOLTS SHALL THEN BE REPLACED AND RE-TORQUED ACCORDING TO EXISTING STANDARD PROCEDURES.

4. NO SPECIAL PREPARATION NEED BE DONE ON THE SURFACE OF THE BASEPLATE OR CONCRETE.

21
DFOS

#1-8949
T.C. CEM
7/11/83

7/10/83 DFO

7-11-83

CONTROLLED COPY

		DSGN BL DWN VHT CKED FDJ	DRAWING NO 049294		
PROJECT: DIABLO CANYON	UNIT: ONE	UNIT OF UNITS 60C	P G & E CO	E DWG	3 REV
				MICROFILM	

85-D-1

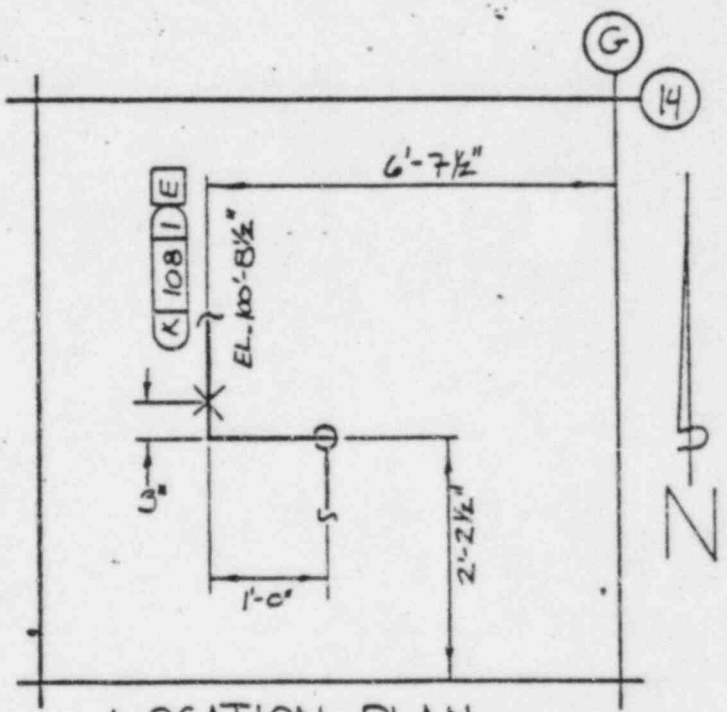
MATERIALS

EM	QTY.	DESCRIPTION
1	1	L 2" x 2" x 1/4" x 0'-5" LG. (CUT TO FIT)
2	1	PUS SIZE 010 U-BOLT

PACIFIC GAS & ELECTRIC CO.
APPROVED FOR CONSTRUCTION
ENGINEERING DEPARTMENT

DATE	8/8/83	8-12-83
BY	GRL	JB

FOR INFORMATION ONLY



LOCATION PLAN

△0 NEW HGR. PER SPP-1729 (8-3-83), S/A 14-303H, D.P. 85. MOD FOR SMALL BORE REVERIFICATION PROGRAM, L. MANGOBA.
KEB 8-4-83

UNLESS OTHERWISE SPECIFIED

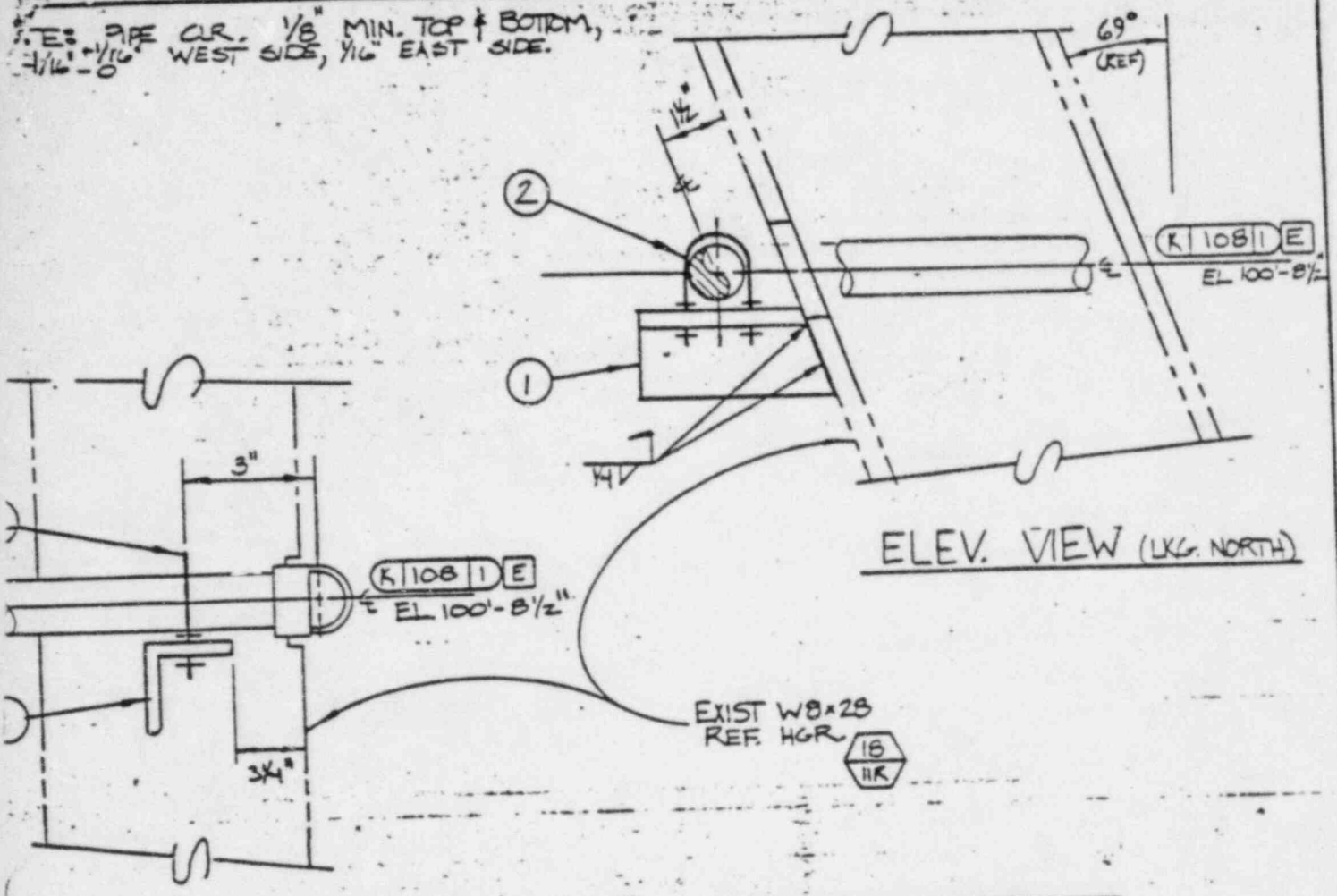
~~U-bolts field fit, set each side Horiz. pipe clearances are 0" bottom and 1/16" two sides and top~~

REF. DWG. 500547- SYS 14
CLASS C/E UNIT 1 AREA D
ELEV 85' DESIGN G. SHAH
ISO 14-250 DATE 9-21-83

PIPE SUPPORT

ID 9001 RM 85-D-1
DWG. No. 547-17 REV. No. 0
Z-RSTR. SHT 1 OF 2

NOTE: PIPE CLR. 1/8" MIN. TOP & BOTTOM, 1/16" WEST SIDE, 1/16" EAST SIDE.



ELEV. VIEW (LKG. NORTH)

ELEV. VIEW (LKG. EAST)

FOR INFORMATION ONLY

PACIFIC GAS & ELECTRIC CO.
APPROVED FOR CONSTRUCTION
ENGINEERING DEPARTMENT
DATE 8/8/83 8-12-83
BY GRS

UNLESS OTHERWISE SPECIFIED

~~U-bolts field fit, nut each side Horiz. pipe clearances are 0" bottom and 1/16" typ sides and top~~

REF. DWG. 500547 SYS 14
CLASS C/E UNIT 1 AREA D
ELEV 85' DESIGN G.R. SHAH
ISO 14-250 DATE 7-21-83

PIPE SUPPORT

DWG. No. 547-17 REV. No. 0
2-RSTR. SHT 2 OF 2

WEEKLY WELDERS QUALIFICATION STATUS

WEEK OF: 8-29-83 PAGE: 26 OF 31
9-4-83

1. Number referenced is the Max. qualified wall thickness on groove welds.
2. Dia. qualification is Large Dia. (LD) unless otherwise noted. See Legend.

WELDER	HAT#	STENO	STATUS	CARBON STEEL												STAINLESS				C.S. to S.S.					COP.	
				1/5	7/8	7/8 SR PLATE	88/89 AD	200	201	202	203	203 PLATE ONLY With backing	13A O/DO	7/8 PLATE ONLY		15/16	79/80	129	129 ⊕	134 (TIG)	134 (TIG & SMAW)	134 (SMAW) WITH BACKGRIND	149	150	B1, B3, B4	409 (CuN1)
J. COLLINSWORTH	3153	XPN	A		.864																					
R. HAND	3018	TRI	B		.674		.872			.936	.936							.936		.936	.872	.936				
O. SALAYER	3156	TSI	B		.674		.872			.936	.936							.936		.936	.872	.936				
J. BONESO	3160	TTI	B		.674		.872			.872	.872					.872	.674	.936		.936	.872	.936	.872	.56		
G. ODLE	3104	TYI	B		.674		.872			.936	.872					.872	.674	.936		.936	.872	.936	.872	.56		
							.872											.936		.936	.872	.936				
C. HUGHEY	2959	TYI	B		.674																					
M. COVIELLO	3155	TXI	B		.674																					
N. BOLTON	3030	PSZ	B		.674																					
S. STEVENSON	3342	FQZ	B		.674								.674													
T. HALL	3168	DXZ	B		.674	X																				
E. MONTAS	3169	DYZ	B		.674													.936		.936	.872	.936				
J. PETERS	3170	DZQ	B		.674																					
A. CZARNECKI	3162	YAI	B		.674	X	.872			.936	.936		.674			.674	.436					.238	.674	.936		
W. GOOKIN	3161	YBI	B		.674											.872	.674	.936		.936	.872	.936	.872	.56		
L. IZATT	3101	YDI	B		.674	X	.872			.936	.936							.936		.936	.872	.936				
R. ANDERSON	1897	ZQ	B		.674	X																				
D. DOUGHTY	3098	FDZ	B		.674																					
D. AGEE	3215	YFI	B		.674		.872			.936	.936							.936		.936	.872	.936				
D. VARNADORE	3212	YEI	B		.674	X	.872			.936	.936							.936		.936	.872	.936				

LEGEND

STATUS: A = Recommended for X-ray welds
B = Recommended for Non X-ray welds
C = Recommended for Hanger welds only

PIPE SIZES:
SW = (Heavy Wall) 1/16" to Max. wall thickness
SR = (Small Dia.) over 1" O.D. thru Max. Dia.
LD = (Large Dia.) over 2-7/8" O.D. thru Max. Dia.
F = Fillets and sockets of all sizes
⊕ = Qualified for outside Dia. equal to or greater than .540"
* = Qualified for Small Dia. *
** = Restricted Area is defined on any weld that is within 12" of an object creating a restriction to the welder
● = Qualified for 408 (Carr 20) 1/16" to .308" W.T., greater than 1" O.D.

WELD PROCEDURE

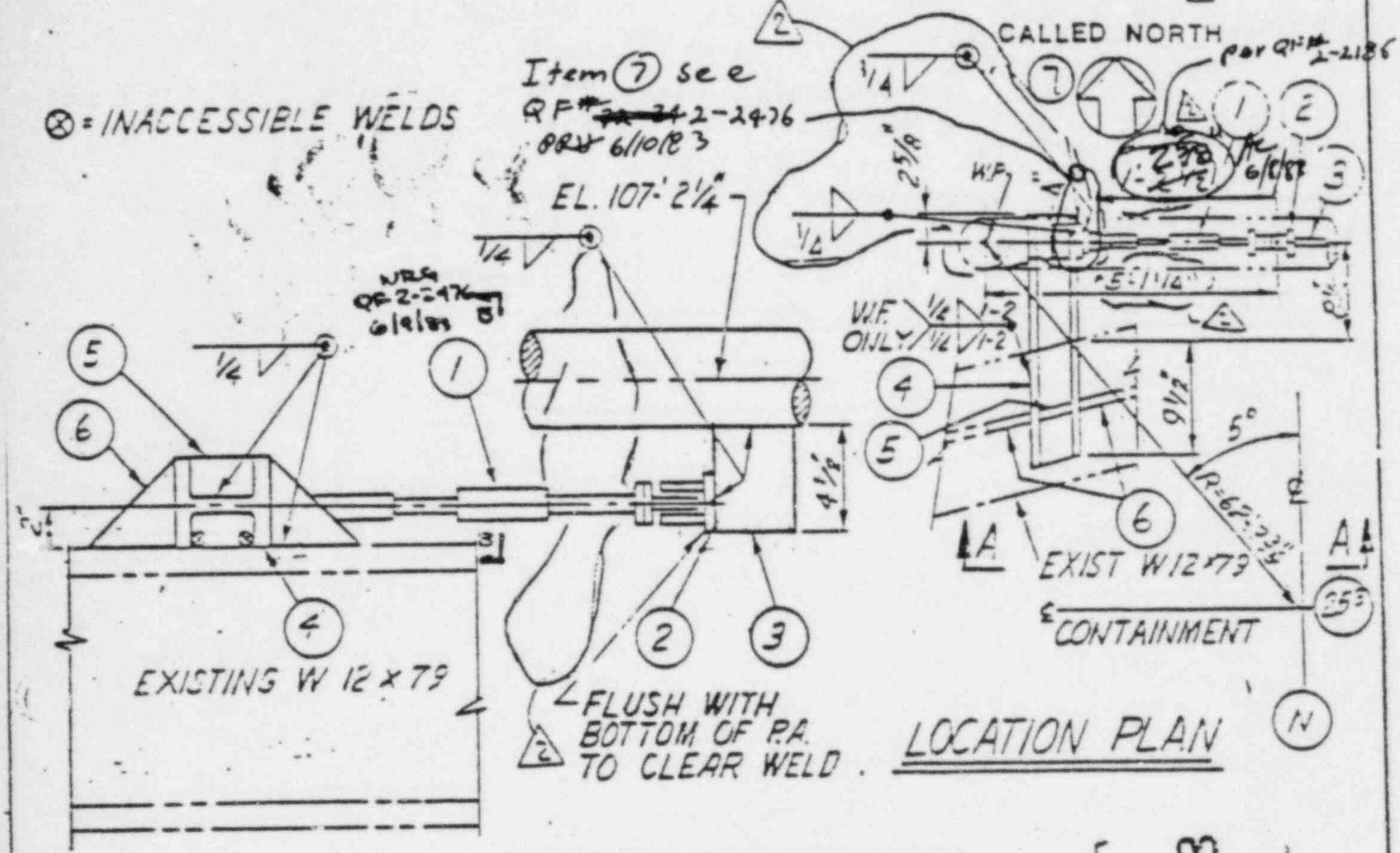
1/5 - GS Insert/TIG Root (E70S-2), Weld Out Stick (7018).
7/8 - GS Backing Ring, Weld Out Stick (7018).

201 - GS Insert/TIG Root and Weld Out (E70S-2).
202 - GS Open Butt/TIG Root and Weld Out (E70S-2).
203 - GS Open Butt/TIG Root and Weld Out (E70S-2), no purge.

88/89 - GS Open Butt/TIG Root (E70S-2), Weld Out Stick (7018).
15/16 - SS Fillets, Sockets, and Butts, Insert/TIG Root (ER-308), Weld Out Stick (E-308).
79/80 - SS Fillets, SocLets, and Butts, Insert/TIG Root (ER-308), Weld Out TIG (ER-308).
129 - SS Open Butt all TIG (ER-308).
134 - SS/CS Open Butt, TIG Root, Weld Out (ER-309) Stick Root, Weld Out (E-309) TIG Root (ER-309) & Weld Out (E-309).
149 - SS/CS Fillets, Sockets, Coupling and Butt, Insert/TIG Root (ER-309), Weld Out Stick (E-309).
150 - SS/CS Fillets, Sockets, Coupling and Butt, Insert/TIG Root and Weld Out (ER-309).
408 - CARP 20/30 Butts, Fillets, Sockets (P-45 P-45) ER-308 Root and Weldout.
409 - CARP 20 Butts, Fillets, Sockets (P-45 P-45) ER-308 Root and Weldout.

AREA 2G	LINE 2-S6-1977-4 (B)	HANGER SYMBOL
EL 107'-6"	SAFETY INJ PP 1-2 DISCHARGE SYSTEM 09	AXIAL RESTRAINT 72 / 34SL
		LOC ON DWG 500907

DESIGN CLASS I
CODE CLASS (E)



DC-2-E-P-6810

SK-72/34SL REV. 0

03 SIS

NO OF ASSEMBLIES REQUIRED 1

NO	REQD	MATERIALS PER ASSEMBLY
1	1	PSA-1, NF, STROKE C.S = 2 H.S. = 1 15/16 STROKE = 4"
2	1	~~PSA-1~~ NPS REAR BRACKET
3	1	SS. PL ½" x 3½" x 4½"
4	1	W 4 x 13, 1'-9⅛" LG.
5	1	STIFFENER PL ⅜" THK, (FIELD TO FIT)
6	2	STIFFENER PL ⅜" x 4" x 4" CUT AS SHOWN
7	1	PL 1" x 4" x ~~0-6" LG~~ x 0-4" LG

w/NPS FWD. BKT & NPS R. BKT 6/8/83 per QF #2-2186

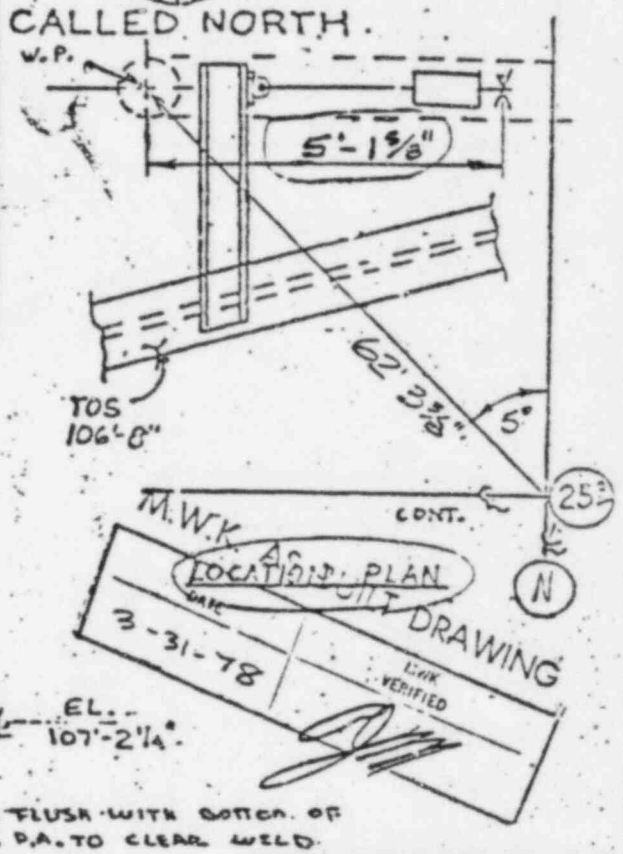
APPROVED FOR CONSTRUCTION
6-8-83 DATE / ENGR

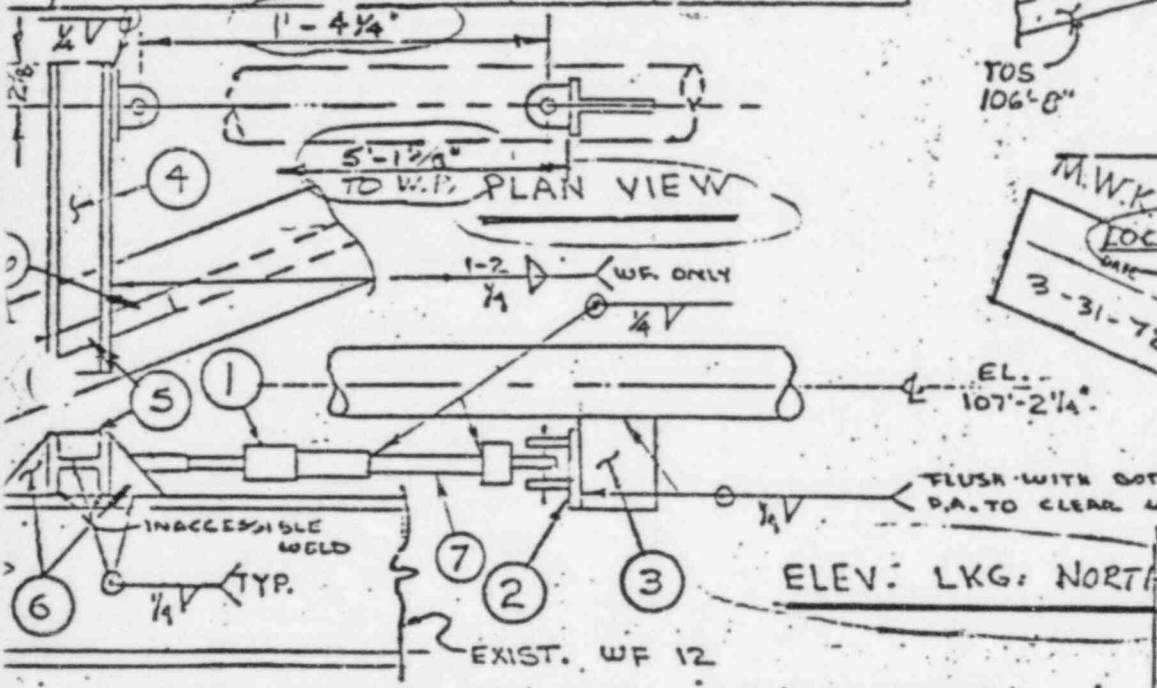
M.W.K. AS BUILT 3-31-78 (1) BECHTEL WALKDOWN 7-10-82	DSGN / DWN 9-17-82 / CHKD JEB	DRAWING NO 051396	
PROJECT: DIABLO CANYON	UNIT: TWO	SHT 53 OF SHTS	P G & E CO	ISSUE / REV -2-

AREA 2G	LINE 2-56-1977-4 B	HANGER SYMBOL 72 / 34 SL
EL. 107'-6"	NOS.	LOC. ON DWG. 500907

LINE NO.	2-56-1977-4	
RESTR. X, Y, Z	AXIAL	
ANAL. NO. & DATE	6-6	6-19-75
DATA POINT	115	
FORCE FAXIAL	164 #	
ANAL. NO. & DATE	92G	8-8-75
DATA POINT	545-550	
NORM. MVMT. ΔX, ΔY, ΔZ	-0.49", 0.01", 0.13"	
INCID. MVMT. ΔX, ΔY, ΔZ	-0.63", 0.0", 0.10"	

DESIGN CLASS I
CODE CLASS B





AS-BUILT DRAWING
ACCEPTED
COPY TO S.F. YES X NO ☐
BY JJ APR 15 1978

NO. OF ASSEMBLIES REQUIRED 1

NO.	REQD	(SEE NO. 944) MATERIALS
1	1	PSA-¼, ¼" EXT. STROKE, (C.S. = 2") (H.S. = 2¼")
2	1	REAR BRACKET FOR PSA-¼
3	1	S.S. PL 3½" x ½" x 3½"
4	1	(WF 4x13, 1'-9⅛" LG.)
5	1	STIFFNER PL ⅜" FIELD FIT
6	2	STIFFNERS PL ⅜" 4"x4"
7	1	EXTENSION TUBE ¾" Ø SCH 40 LENGTH BY FIELD

1=APP'D. FOR CONST.

09

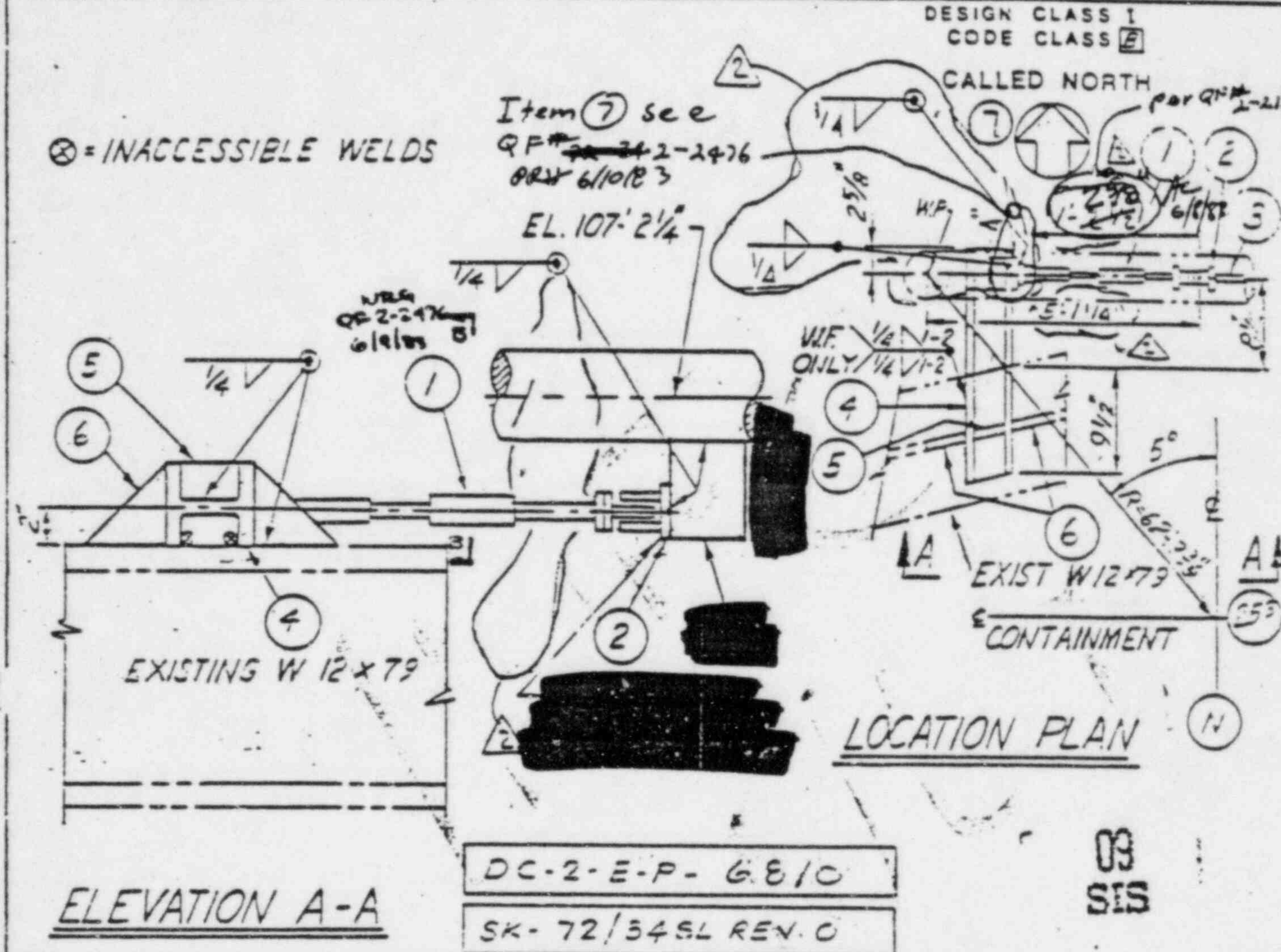
DIABLO CANYON UNIT #2

PG&E CO. | DRAWING NO. 051396 | REV 1

SHEET 53 OF SHEETS

AREA 2G EL 107'-6"	LINE 2-S6-1977-4 [B] SAFETY INJ PP 1-2 DISCHARGE SYSTEM 09	HANGER SYMBOL AXIAL RESTRAINT 72/34SL LOC ON DWG 500907

DESIGN CLASS I
CODE CLASS [E]



NO OF ASSEMBLIES REQUIRED [1]

NO	REQD	MATERIALS PER ASSEMBLY (w/NPS FWD. BKT 6/8/83 per QF #2-2186 & NPS R. BKT)
1	1	PSA-1, NF, STROKE C.S. = 2 H.S. = 1 15/16 STROKE = 4"
2	1	~~PSA-1~~ NPS REAR BRACKET
[redacted]		
4	1	W 4×13, 1'-9 1/8" LG.
5	1	STIFFENER PL 3/8 THK, (FIELD TO FIT)
6	2	STIFFENER PL 3/8" × 4" × 4' CUT AS SHOWN
7	1	PL 1" × 4" × ~~0'-8" LG~~ × 0-4" LG

APPROVED FOR CONSTRUCTION
6-1-83 DATE ENGR
QF 2-2476 6-9-83

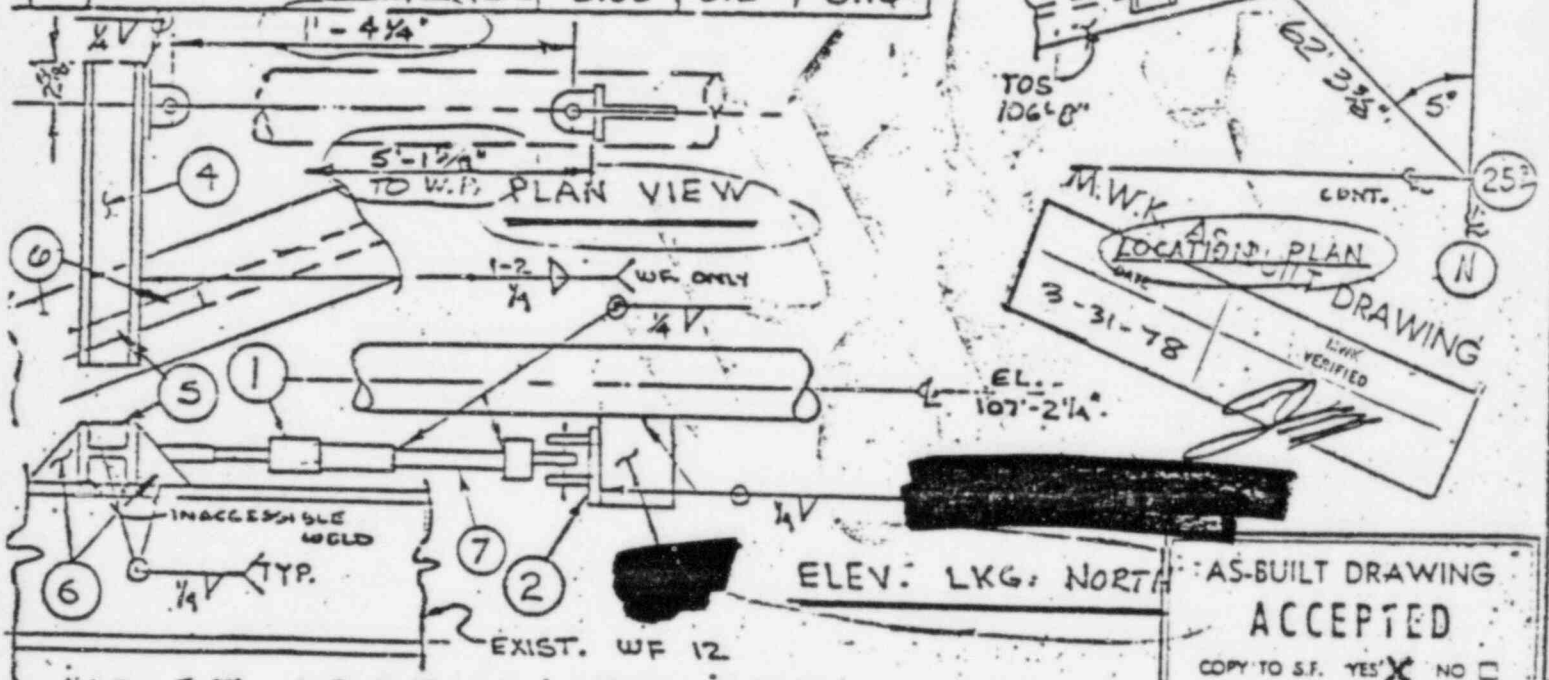
M.W.K. AS BUILT 3-31-78 /1\ BECHTEL WALKDOWN 7-10-82	DSGN DWN 9-17-82 CHKD JEG	DRAWING NO 051396	
PROJECT: DIABLO CANYON	UNIT: TWO	SHT 53 OF SHTS	P G & E CO
			ISSUE [redacted] REV

279

AREA 2G	LINE 2-56-1977-4 [B]	HANGER SYMBOL 72 / 34 SL
EL. 107'-6"	NOS.	LOC. ON DWG. 500907

	LINE NO.	2-56-1977-[4]	
SEISMIC	RESTR. X, Y, Z	AXIAL	
	ANAL. NO. & DATE	6-6	6-19-75
	DATA POINT	15	
	FORCE FAXIAL	164 #	
THERMAL	ANAL. NO. & DATE	92G	8-8-75
	DATA POINT	545-550	
	NORM. MVMT. ΔX, ΔY, ΔZ	-0.49", 0.01", 0.13"	
	INCID. MVMT. ΔX, ΔY, ΔZ	-0.63", 0.0", 0.19"	

DESIGN CLASS I
CODE CLASS B



AS-BUILT DRAWING
ACCEPTED
COPY TO S.F. YES [X] NO [ ]
BY APR 15 1978

NO. OF ASSEMBLIES REQUIRED 1

NO.	REQD	(SEE NO. 944) MATERIALS
1	1	PSA-1/4, 1/4" EXT. STROKE, (C.S. = 2") (H.S. = 2¼")
2	1	REAR BRACKET FOR PSA-1/4
[redacted]		
4	1	(WF 4x13, 1'-9⅛" LG.)
5	1	STIFFNER R ⅜" FIELD FIT
6	2	STIFFNERS R ⅜" 4"x4"
7	1	EXTENSION TUBE ¾" Ø SCH. 40 LENGTH BY FIELD

1 = AFD. FOR CONST.

09

DIABLO CANYON UNIT #2

P G & E CO. | DRAWING NO. 051396

SHEET 53 OF SHEETS

5-11-82
DEM F-65
HOLD POINTS
✓ QC VERIFICATION POINTS

PULLMAN POWER PRODUCTS

GENERAL FIELD SUPPORT PROCESS SHEET

SUPPORT NO. 384-322 R
060384
PREPARED BY F.E. DATE 7/5/83

			FITTER/WELDER BADGE NUMBER		Q.C. DATE & INITIAL
1. LOCATION OF SUPPORT COMPLIES WITH DRAWING.			5/213 157	✓	8-15-83
2. DRAWING CHANGES NOTED AND COMPONENTS COMPLY WITH MATERIAL LIST			5/213 5/157	✓	
3. ANCHORS INSTALLED AND WITNESSED BY Q.C.	A. Holes drilled to tolerance and Check adjacent anchors		NA	✗	N/A
B. Shield/Plug Driven to Tolerance	TYPE: Hilti/Phillips		NA	✗	N/A
C. Type Stud Installed	SIZE / MIN. EMB.	TYPE: Hilti/Phillips	NA	✗	N/A
			NA		
D. Anchors Torqued	SIZE / VALUE	WRENCH SERIAL NUMBER	NA	✗	N/A
			NA		
E. Unused holes dry packed			NA	✗	N/A
4. BACK OFF BOLTS PRIOR TO WELDING ON BASE PLATES			NA	✗	N/A
5. FIT-UPS: A. Pipe attachments installation:	(1) Heat No:		NA	✓	N/A
	(2) P.O. No:		NA	✓	N/A
B. Support Members:	ITEMS	SPECIAL INSTRUCTIONS			
(1) Groove & Full Pen Welds	1,7		NA	✗	N/A
	11,2		5/213 5/157	✗	7-19-83
C. Purge Established where required			NA	✗	N/A
6. WELD PREP ZONES CLEAN OF PAINT, OIL			213 157		
7. WELDING OF PIPE ATTACHMENTS (PER SEPARATE PROCESS SHEET)-F.W.#				✗	N/A
8. WELDING OF HANGER SUPPORT MEMBERS ONLY:	IDENTIFICATION	WELD CODE			
SPECIAL WELDING INSTRUCTIONS: ~~PREHEAT CIVIL STEEL TO 150°F~~ Thickness < 3/4" No Preheat req. HW 7/27/83		CS/CS 7/8	157	✗	N/A
	1	88/89	5/58		
		SS/SS 129	NA		
		15/16			
		CS/SS			
VERIFY SOLID COUPLING INSTALLED CONCENTRIC w/IN 1/8"			5/213 5/157	✗	RG 8-2-83
10. FINAL WELD CONDITION-SUPPORT MEMBERS	A. Weld Surface Clean		5/213 5/157	✓	8-15-83
	B. Arc Strikes Removed/Minimized		5/213 5/157	✓	8-15-83
	C. Weld Size Complies with drawing		5/213 5/157	✓	8-15-83
11. REVIEW FOR GENERAL WORKMANSHIP AND CONFIGURATION:			FOREMAN INITIAL/DATE		Q.C. DATE & INITIAL
A. Components and Dimensions Comply W/Dwg. & Mat'l. List			JJ 8-4-83	✓	
B. Pipe Clearance in Accordance with Drawing		8-15-83	~~JJ 8-4-83~~	✓	N/A
C. Riser Clamp Bears upon Lug			NA	✓	N/A
D. Hanger is Level and Plumb			JJ 8-4-83	✓	8-15-83
E. All Bolts/Nuts Installed and Tight		NA 8-15-83	NA JJ 8-4-83		8-15-83
F. Wall & Ceiling Plates Shimmed where Necessary			N/A	✓	N/A
G. Grout Request Submitted				✓	N/A
H. Lug Clearance within Tolerance				✓	N/A
12. NPS Strut	A. Installed per Separate Process Sheet	SBF-24	JJ 8-4-83	✗	8-15-83
	B. Grinnell Fig.# & Size	C. PSA Size	D. TYPE: HF NON-HF		
13. SUPPORT ACCEPTED BY Q.C. (Complete Installation Review) Q.C. SIGNATURE					
		DATE			

280

SIDE 1267

PREINSPECTION CHECKLIST	CHECKED Q.C.	ENGINEERING
1. ALL MEMBERS INSTALLED		
2. WELDS; Inaccessible and/or Undersize		
3. GAPS; U-Bolts, Tee Shoes and Lugs		
4. GROUTED PLATES; Grout damaged or Holes in Plate		
5. SHIMS; Tack Welds		
6. NUTS NOT FULLY ENGAGED		
7. ARC STRIKES		
8. MATERIAL SIZE		
9. OVERSIZED HOLES IN PLATE; Washers		
10. WARPED BASE PLATES/MEMBERS		

PREINSPECTION REMARKS

Refer to TC-1-8648 to work to Rev 1. OK to work HW 7/6/83

PG&E PREINSPECT FINAL PKG REVIEW COMPLETE 7-7-83

Work to TC-1-9575 & TC-1-9143 7/17/83

FINAL INSPECTION COMMENTS: INSPECTOR DATE

ACC FITUP ITEM #1 TO #2 ON BOTH SIDES & BOTTOM — TOP WELD CALLED AS FULL PEN — NEED CLARIFICATION OF WHAT CONSTITUTES FULL PEN ON MATERIALS BEVEL WELDS — SHOULD THIS NOT BE CALLED A SKEWED T JOINT? 7-22-83

ACC FITUP ON TOP #1 TO #2 7-22-83 CLARIFIED PER TC-9672 7-25-83

Pipe clamp is fitting and is that is attached to beam under clamp 8-16-83

Rejected! Zero Clearance all around Not Obtained between SCH 160 Pipe sleeve and Firewater Line 8667 BY 8-18-83

CONDITION HAS BEEN CORRECTED 8-20-83

85'-0" | FIRE PROTECTION SYSTEM 1B TURB. BLDG 1 LOOP HDR. CON. | HGR No. 384/141R | LOC ON DWG 500120

ISSUE DATE	DESCRIPTION OF CHANGES	PREPARATION DSGN	DWN	CHKD	APPROVAL DUS	ENGR	SUPV ENGR
6-27-83	ORIGINAL ISSUE NEW DESIGN REQUIRED PER REANALYSIS (BY EDS)	L.D	COL	RTC	N/A	[illegible]	[illegible]
	ACCEPTED BY PROJECT ENGINEERING FOR CONSTRUCTION.					[illegible]	DRC
	ADDED DESIGN & CODE CLASS TO DWG.	S.T.	S.T.	LE	[illegible]	DRC	CPS
	REVISED TO INCORPORATE EDS CHANGES: "REVISED TO REPLACE ITEM #1 AND ADD ITEMS #6, #7, & #8 BY EDS REV. A 5-28-83" DRAFTING CHANGES, CLARIFIED WELDING BETWEEN ITEMS 1 & 2, AND ITEMS 3 & 6 TO EXISTING STEEL. REMOVED LOADING. ADDED PIPING LOCATION DRAWING. CLARIFIED EDS CHANGES: CHANGED ITEM 5, INCREASED NO OF ITEM 4 TO 2, ADDED ITEM 9. REFER TO CALC. SEQ. # 5-4843 REV. 1 FOR EDS SIGNATURES. FIELD MODIF. - REQ'D DCN. DC-1-E-P-5060	Dfm	Dfm	J.L	N/A	DRC	CPS
2 8-15-83	REVISED TO SHOW X, Z, RESTRAINT W/ HGR NO. 384/141R IN THE HGR. SYMBOL BLOCK. NO FIELD WORK IS REQ'D. (IMPELL REV. A 8/3/83)	[illegible]	[illegible] 18 FP	PE	N/A	[illegible]	[illegible]
	ACCEPTED BY PROJECT ENGINEERING NO FIELD WORK REQUIRED					[illegible]	[illegible]
			FOR CONSTRUCTION INFORMATION ONLY				

NOTES:

NO PIPING PROCESS SHEETS REQUIRED

PR I 20

SUPERCEDED BY REV.

APPROVED FOR CONSTRUCTION
8/24/83 DATE
WNW ENGR

CONTROLLED COPY

SHEETS ASSIGNED TO THIS HANGER SYMBOL (TOTAL 3 SHEETS)

372A | 372B | 372X

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

DSGN L. D.
DWN C. DE LUCA
CHKD RTC

DRAWING NO 060384

PROJECT: DIABLO CANYON | UNIT: ONE | 372X OF SHS | P G & E CO | ISSUE 2 | REV

85-C-3 | FIRE PROTECTION SYSTEM 1B TURB. BLDG 1LOOP HDR. CON. | X-RESTRAINT
EL. 85'-0" | | LOC ON DWG 500120

REV	ISSUE DATE	DESCRIPTION OF CHANGES	PREPARATION DSGN	PREPARATION DWN	PREPARATION CHKD	APPROVAL DUS	APPROVAL ENGR	APPROVAL SUPV ENGR
1	6-27-83	ORIGINAL ISSUE NEW DESIGN REQUIRED PER REANALYSIS (BY EDS)	L.D.	CDL	[illegible]	U/A	[illegible]	[illegible]
		ACCEPTED BY PROJECT ENGINEERING FOR CONSTRUCTION.					[illegible]	DRC
		ADDED DESIGN & CODE CLASS TO DWG.	S.T.	S.T.	KE	[illegible]	DRC	GPS
		REVISED TO INCORPORATE EDS CHANGES: "REVISED TO REPLACE ITEM #1 AND ADD ITEMS #6, #7, & #8 BY EDS REV A 3-28-83" DRAFTING CHANGES, CLARIFIED WELDING BETWEEN ITEMS 1 & 2, AND ITEMS 3 & 6 TO EXISTING STEEL. REMOVED LOADING. ADDED PIPING LOCATION DRAWING. CLARIFIED EDS CHANGES: CHANGED ITEM 5, INCREASED NO. OF ITEM 4 TO 2, ADDED ITEM 9. REFER TO CALC SEQ# S-4843 REV. 1 FOR EDS SIGNATURES. FIELD MODIF. REQ'D DCN: DC-1-E-P-5060	[illegible]	[illegible] 18 FP	J.L.	U/A	DRC	GPS
2	8/23/83	ADDED ITEMS 10, 11, 12, & 13; & SHT. # 372C PER CIVIC REQUEST. REVISED ITEM 8 & ITS WELD SIZE. REF. HGR. LOCATION; APPROVED FOR CONSTRUCTION PER DCN-DC-1-E-P-5060.	VKW	VHT	[illegible]	[illegible]	HST	[illegible]
3	09 30 83	~~REVISED TO UPGRADE DWG. ISSUE REVISION NO. OF VALID MODIFIED SUPPORT DATED 8-23-83 SINCE REV. 2 WAS ISSUED TWICE W/ TWO DIFF. DESCRIPTION OF CHANGES. NO FIELD WORK REQD. PAPER FIX ONLY. DCN NO # DC-1-E-P-5060~~	JR	JR	W.T.S.	[illegible]	[illegible]	[illegible]

APPROVED FOR CONSTRUCTION 10/4/83 WNW DATE ENGR

REINSPECT ONLY

CONTROLLED COPY

[illegible] 10-7-83 Special I.D. 400

SHEETS ASSIGNED TO THIS HANGER SYMBOL (TOTAL 5 SHEETS)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
372	372A	372B	372C	373X															

[redacted]
FL
BK
TBL
MECH
(4)

RM INDEXED REV.

DSGN L. D.	DRAWING NO.	
DWN C. DE LUCA	060384	
CHKD [illegible]		
PROJECT: DIABLO CANYON	UNIT: ONE	372X OF SHS	P G & E CO	ISSUE

MICROFILM

[VER]IFICATION POINTS. | GENERAL FIELD SUPPORT PROCESS SHEET F.E. [illegible]

[LO]CATION OF SUPPORT COMPLIES WITH DRAWING.

[2.] DRAWING CHANGES NOTED AND COMPONENTS COMPLY WITH MATERIAL LIST

3. ANCHORS INSTALLED AND WITNESSED BY Q.C. — A. Holes drilled to tolerance and Check adjacent anchors

B. Shield/Plug Driven to Tolerance			TYPE: Hilti/Phillips
C. Type Stud Installed	SIZE	MIN. EMB.	TYPE: Hilti/Phillips
D. Anchors Torqued	SIZE	VALUE	WRENCH SERIAL NUMBER
E. Unused holes dry packed			

4. BACK OFF BOLTS PRIOR TO WELDING ON BASE PLATES

5. FIT-UPS: A. Pipe attachments installation:	(1) Heat No:
	(2) P.O. No:

B. Support Members:	ITEMS	SPECIAL INSTRUCTIONS
(1) Groove & Full Pen Welds		

C. Purge Established where required

6. WELD PREP ZONES CLEAN OF PAINT, OIL

7. WELDING OF PIPE ATTACHMENTS (PER SEPARATE PROCESS SHEET) F.W.#

8. WELDING OF HANGER SUPPORT MEMBERS ONLY:	℄ IDENTIFICATION	WELD CODE
SPECIAL WELDING INSTRUCTIONS:		CS/CS 7/8
		↓ 88/89
		SS/SS 129
		↓ 15/16
		CS/SS

9. OTHER INSTRUCTIONS:

10. FINAL WELD CONDITION-SUPPORT MEMBERS:	A. Weld Surface Clean
	B. Arc Strikes Removed/Minimized
	C. Weld Size Complies with drawing

	FOREMAN INITIAL/DATE	Q.C. DATE & INITIAL
11. REVIEW FOR GENERAL WORKMANSHIP AND CONFIGURATION:		
A. Components and Dimensions Comply W/Dwg. & Mat'l. List		
B. Pipe Clearance in Accordance with Drawing		
C. Riser Clamp Bears upon Lug		
D. Hanger is Level and Plumb		
E. All Bolts/Nuts Installed and Tight		
F. Wall & Ceiling Plates Shimmed where Necessary		
G. Grout Request Submitted		
H. Lug Clearance within Tolerance		

12. SNUBBERS:	A. Installed per Separate Process Sheet		
	B. Grinnell Fig.# & Size	C. PSA Size	D. TYPE: NF NON-NF

13. SUPPORT ACCEPTED BY Q.C. (Complete Installation Review) Q.C. SIGNATURE ________

DATE ________

REINSPECT ONLY

WORKMANSHIP ACCEPTED ON REV 1. NO WORK PERFORMED ON REV. 2. ACCEPT PER ATTACHED PROCESS SHEET. 4-8-83

ISOMETRIC 28 | DATE 8-20-83 | DRAWING 384-3224

1. A) Strut size: (08, 14, 20, etc.) N/A

   B) Clamp size: (enter pipe dia.)

   C) Coupling type: solid/socket weld

CHECK MARK INDICATES ACCEPTANCE

2. Clamp bolts installed and tight
3. Clamp spacer installed and tight
4. Load pin holes aligned in both clamp halves
5. Rod eye threads visible through sight holes
6. Jam nut tight
7. Strut axis within ± 5° of optimum or within special requirements noted on drawing/memos
8. 1/16" pull back in socket weld verified on process sheet *
9. Solid coupling installed concentrically within 1/8" *
10. Spherical bearings free of paint and not pushed out
11. Cotter pins fully spread
12. Spherical bearing washes/spacers installed where required, reducing total side clearance to less than one washer thickness and greater than 0".
13. Clamp ears parallel ± 1/8" at load pin side of clamp
14. Comments and/or explanations

WORK SIGNED OFF UNDER REV # 1. NO ADDITIONAL FIELD WORK WAS REQUIRED BY REV # 2. 8-24-85

* Items 8 and 9 apply to field-fabricated struts, per NPS 11-9 procedure

1C
B5-C-3

EL 85'-0"

LINE 1-K-2667-6" 3754 '83/09/30

FIRE PROTECTION SYSTEM IB TURB. BLDG 1 LOOP HDR. CON.

X-RESTRAIN

LOC ON DWG

REV	ISSUE DATE	DESCRIPTION OF CHANGES	PREPARATION DSGN	DWN	CHKD
1	2-21-83	ORIGINAL ISSUE — NEW DESIGN REQUIRED PER REANALYSIS (BY EDS)	L.D	CDL	EC
		ACCEPTED BY PROJECT ENGINEERING FOR CONSTRUCTION.			
		ADDED DESIGN & CODE CLASS TO DWG.	S.T.	S.T.	EE
		REVISED TO INCORPORATE EDS CHANGES: "REVISED TO REPLACE ITEM #1 AND ADD ITEMS #6, #7, & #8 BY EDS REV. A 5-25-83" DRAFTING CHANGES, CLARIFIED WELDING BETWEEN ITEMS 1 & 2, AND ITEMS 3 & 6 TO EXISTING STEEL. REMOVED LOADING. ADDED PIPING LOCATION DRAWING. CLARIFIED EDS CHANGES: CHANGED ITEM 5, INCREASED NO. OF ITEM 4 TO 2, ADDED ITEM 9. REFER TO CALC. SEQ.# S-4843 REV. 1 FOR EDS SIGNATURES. FIELD MODIF. REQ'D DCN: DC-1-E-P-5060		18 FP	J.L.
2	8/23/83	ADDED ITEMS 10, 11, 12, & 13; & SHT. #372C PER CIVIL REQUEST. REVISED ITEM 8 & ITS WELD SIZE. REF. HGR. LOCATION; APPROVED FOR CONSTRUCTION PER DCN-DC-1-E-P-5060.	VKK	VHT	
3	9-30-83	REVISED TO UPGRADE DWG TO ISSUE REVISION NO. OF VALID MODIFIED SUPPORT DATED 8-23-83 SINCE REV 0 WAS ISSUED TWICE W/ TWO DIFF. DESCRIPTION OF CHANGES. NO ADD'L WORK REQ'D. PAPER FIX ONLY. DCN NO. DC-1-E-P-5060	JR	JR	W.T.S

RM INDEXED REV.

SHEETS ASSIGNED TO THIS HANGER SYMBOL (TOTAL 5 SHEETS)

372	372A	372B	372C	373X											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

DSGN L. D.
DWN C. DE LUCA
CHKD RTL

DRAWING 060

PROJECT: DIABLO CANYON

UNIT: ONE

372X OF SHTS

PG&

PIPE SUPPORT INSTALLATION WORKSHEET

1-K-2667-6'
System # 18

HANGER NO.: 384-322R1

UNIT: 85 AREA: C DWG. NO. D66384 SHT. 372X

DCN NO. _____ REV. 3

PEP ENGINEER: _____ DATE: _____

PG&E ENGINEER: Dan Hoang DATE: 10-5-83

THE FOLLOWING WORK IS REQUIRED TO COMPLETE THIS PIPE SUPPORT:

PG&E FIELD TO REWORK PER TC-1-13380 AS
REQ'D & CLEAN UP ALL WELD, ADD FILLER WHERE IT'S
FOR FINAL Dan 10-5-83

REQ'D		TYPE	DATE INIT.	DATE RET.
YES	NO	C-51		
	✓	INS.RMV.		
	✓	IDT		
	✓	G 108		
✓		PSDTC-	= 13380	=
✓		MATL AVAL		

REMARKS
No weld ATT'S REQ'D

LINE CLEARANCE REQ'D _____

SCHEDULE UPDATE FORM

HANGER SYMBOL 321-3228 REV. 3 ☒ L.B. ☐ S.B.
UNIT 1 AREA C SYSTEM 18

SENT BY	RECEIVED BY
NAME [illegible]	NAME
EXT. DATE	EXT. DATE

FROM	DRAWING LOCATIONS	TO
1 ☐	P.G.& E.	☐
2 ☐	P.P.P. OFFICE	☐
3 ☐	FLD. ENGR.	☐
4. X ☐	FOREMAN	☐
5 ☐	Q.C./INSPECTION	☐
6 ☐	FLD. ENGR./AS-BUILTING	☐
7 ☐	Q.C./FINAL INSPECTION	☐
8 ☐	Q.A./FINAL CHECKING	☐
9 ☐	AS-BUILT TO P.G.& E.	☐

INFORMATION ONLY

☐ PLACE DWG. ON HOLD ____ CODE ____
☐ REMOVE HOLD
☐ OTHER

REMARKS ____

☐ OVER

A

WORKLIST
1-K-2667-6'
System # 18

372 X

10-5-83

E THIS PIPE SUPPORT:

PG&E FIELD TO REWORK PER TC-1-13380.
& CLEAN UP ALL WELD, ADD FILLER WHERE IT
REQ'D FOR FINAL Dtd 10-5-83

REQ'D		TYPE	DATE INIT.	DATE RET.
YES	NO	C-51		
	✓	INS.RMV.		
	✓	IDI		
	✓	G 108		
✓		PSDTC	# 13380	
✓		MATL.AVAL		

REMARKS
No weld ATT'S REQ'D

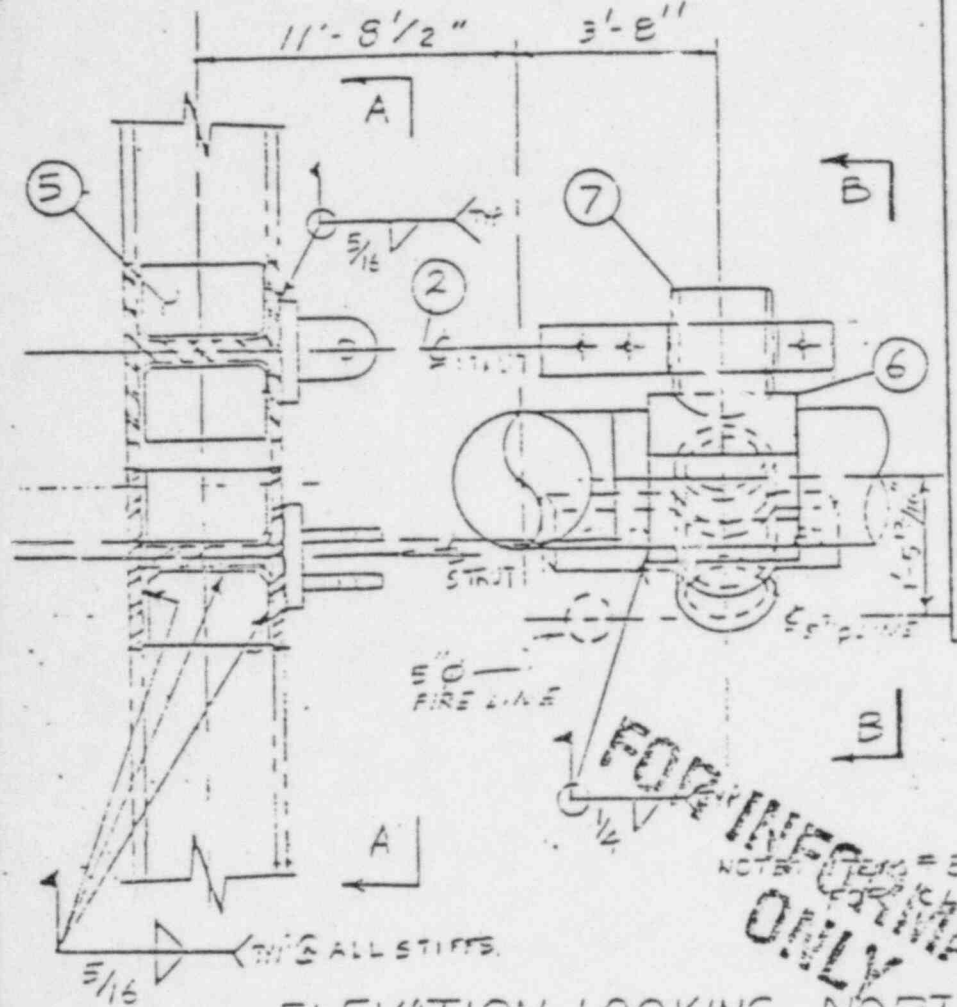
LINE CLEARANCE REQ'D ____

A

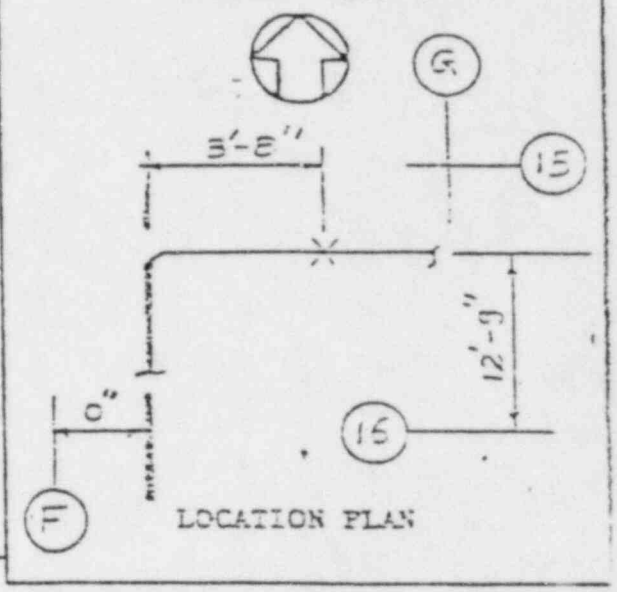
AREA 1-D | LINE 1-K-2277-20 C | HANGER SYMBOL 18/17R

EL 85'-0" | CCW SUPPLY HDR C | AXIAL - RESTRAINT | LOC ON DWG 50018

DESIGN CLASS 1
CODE CLASS C



ELEVATION LOOKING NORTH



FOR INFORMATION ONLY

NOTE: PIPE COVER RE. NOT SHOWN FOR CLARITY

EXIST FW# x 1353A-0 ITEM #6

NO OF ASSEMBLIES REQUIRED - 1

14 CCS

NO	REQD	MATERIALS PER ASSEMBLY
~~1~~	~~2~~	~~GEAR BRKT, SCRD, SIZE 36~~ DELETED
2	2	SRS TYPE PC, SWAY STRUT SIZE 36 C/L = 12'-5"
		WITH STC-36-140 PIPE CLAMP FOR 1.7 Ø PIPE.
~~3~~	~~2~~	~~16"Ø STAINLESS PIPE SCH/STD. 7'-2 1/4" LG. (CUT TO FIT)~~ DELETED
~~4~~	~~2~~	~~PL 1/4" x 3.9" x 1'-7" COVER PL~~ DELETED
5	12	PL. 1" x 7 1/2" x 1'-1" LG. STIFFENER PL. (CUT TO FIT)
6	2	PL. 9/16" x 21" x 2'-8 3/8" LG. (BEND TO FIT PIPE O D)
7	2	14" Ø STAINLESS PIPE SCH./STD. 2'-2" LG. (CUT TO FIT)
8	2	PL. 1/2" x 15" x 1'-3" LG. CONN PL.
9	1	W 14 x 91 x 5'-6" LG. (FLD CUT TO FIT)
10	4	STIFF PL 1/2" x (BY FIELD)

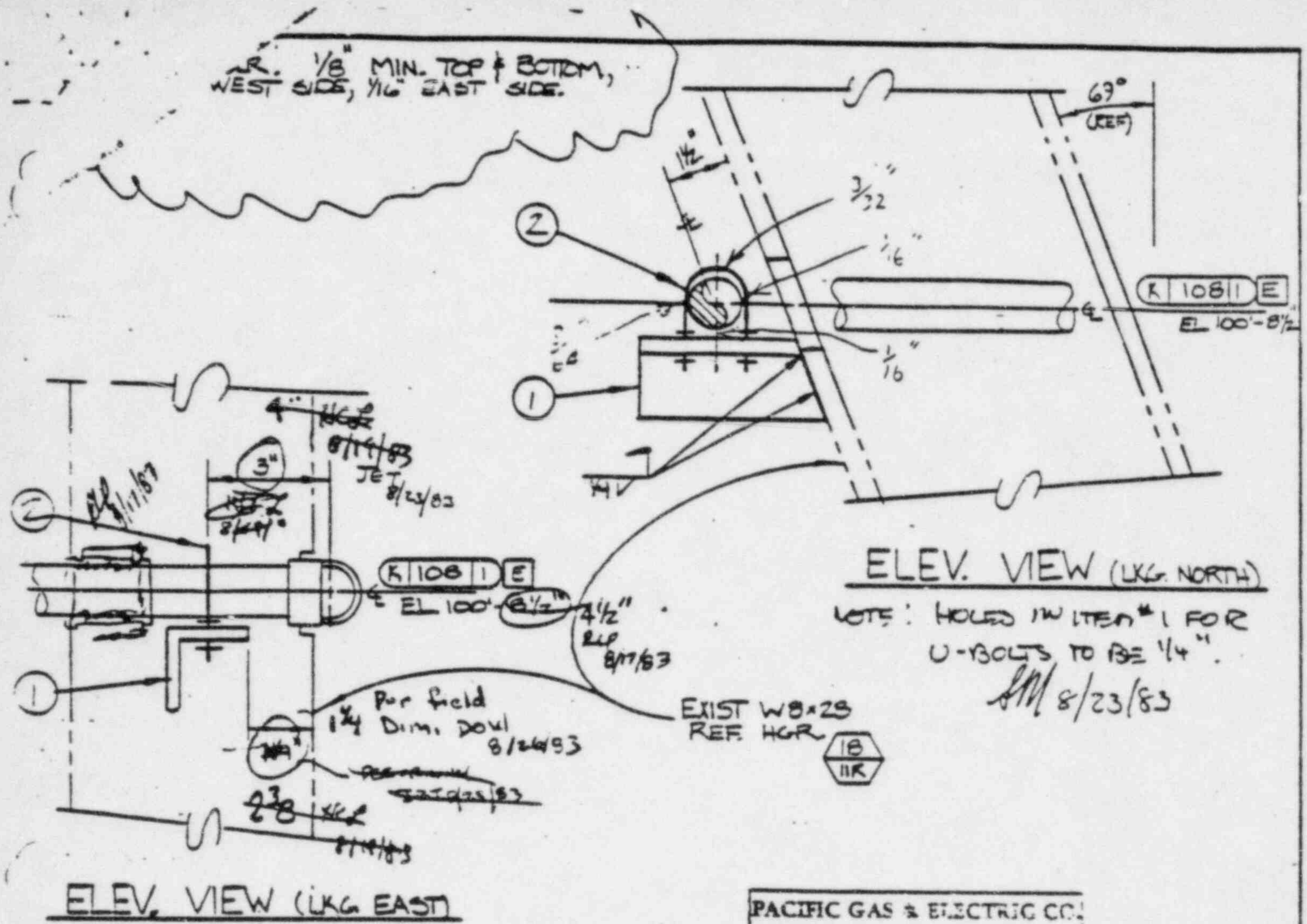
DSGN S. Gan
DWN S. Gan
CHKD [illegible]

DRAWING NO SK-18-17R

28

PROJECT: DIABLO CANYON | UNIT: ONE | SHT 35 OF SHTS | P G & E CO

ISSUE 2 | REV



PACIFIC GAS & ELECTRIC CO.
APPROVED FOR CONSTRUCTION
ENGINEERING DEPARTMENT
DATE 8/8/83 8-12-83
BY G2S

APPROVED FOR CONSTRUCTION
8/17/83 WAW
DATE ENGR
8-18-83

CONTROLLED COPY

UNLESS OTHERWISE SPECIFIED		PIPE SUPPORT
~~u-bolts field fit, cut each side. Horiz pipe clearances are: 0" bottom and 1/16" two sides and top.~~	REF. DWG. 500547 SYS 14	282
	CLASS C/E UNIT 1 AREA D	
	ELEV 85' DESIGN G.R. SHAH	DWG. No. 547-17 REV. No. 0
	ISO 14-250 DATE 7-21-83	2-RSTR SHT 2 OF 2

PULLMAN POWER PRODUCTS

GENERAL FIELD SUPPORT PROCESS SHEET

SUPPORT NO. 547-17 | DRAWING NO.: [illegible] REV. NO. 0

PREPARED BY F.[illegible] DATE 9/1/27

POINTS				FITTER/WELDER BADGE NUMBER		Q.C. DATE & INITIAL
SUPPORT COMPLIES WITH DRAWING.				2271	✓	TJO 10/17/83
[illegible] AS NOTED ALL COMPONENTS COMPLY WITH MATERIAL LIST					✓	
INSTALLED AND WITNESSED BY Q.C.	A. Holes drilled to tolerance and Check adjacent anchors				✗	NA
Shield/Plug Driven to Tolerance	TYPE: Hilti/Phillips				✗	NA
Type Stud Installed	SIZE	MIN. EMB.	TYPE: Hilti/Phillips		✗	NA
[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
D. Anchors Torqued	SIZE	VALUE	WRENCH SERIAL NUMBER			NA
[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
E. Unused holes inspected [illegible]					✗	[illegible]
BACK OFF BOLTS PRIOR TO WELDING ON BASE PLATES					✗	NA
5. FIT-UPS: A. Pipe attachments installation:	(1) Heat No:				✓	NA
	(2) P.O. No:				✓	NA
B. Support Members:	ITEMS	SPECIAL INSTRUCTIONS				
(1) Groove & Full Pen Welds					✗	NA
					✗	NA
C. Purge Established where required					✗	NA
6. WELD PREP ZONES CLEAN OF PAINT, OIL						
7. WELDING OF PIPE ATTACHMENTS (PER SEPARATE PROCESS SHEET) F.W.#				X	✗	NA CL 55E
8. WELDING OF HANGER SUPPORT MEMBERS ONLY:	IDENTIFICATION	WELD CODE				
SPECIAL WELDING INSTRUCTIONS:		CS/CS 7/81				
		88/89				
		SS/SS - 12/9				
		15/16				
		CS/SS				
9. OTHER INSTRUCTIONS:						
10. FINAL WELD CONDITION-SUPPORT MEMBERS:	A. Weld Surface Clean			2271	✓	TJO 10/17/83
	B. Arc Strikes Removed/Minimized			2271	✓	TJO 10/17/83
	C. Weld Size Complies with drawing			2271	✓	TJO 10/17/83
11. REVIEW FOR GENERAL WORKMANSHIP AND CONFIGURATION:				FOREMAN INITIAL/DATE		Q.C. DATE & INITIAL
A. Components and Dimensions Comply W/Dwg. & Mat'l. List				H.S. 10-17-83	✓	
B. Pipe Clearance in Accordance with Drawing				HS 10-17-83	✓	TJO 10/17/83
C. Riser Clamp Bears upon Lug				N/A	✓	NA
D. Hanger is Level and Plumb				AS 10-17-83	✓	TJO 10/17/83
E. All Bolts/Nuts Installed and Tight				AS. 10-17-83	✓	TJO 10/17/83
F. Wall & Ceiling Plates Shimmed where Necessary				NA	✓	NA
G. Grout Request Submitted				NA	✓	NA
H. Lug Clearance within Tolerance				NA	✓	NA
12. SNUBBERS: A. Installed per Separate Process Sheet				N/A	✗	NA
B. Grinnell Fig.# & Size	C. PSA Size	D. TYPE: NF NON-NF				

13. SUPPORT ACCEPTED BY Q.C. (Complete Installation Review) Q.C. SIGNATURE

DATE

NA 10/19/83 [illegible]

FORM P-65
BACKSIDE

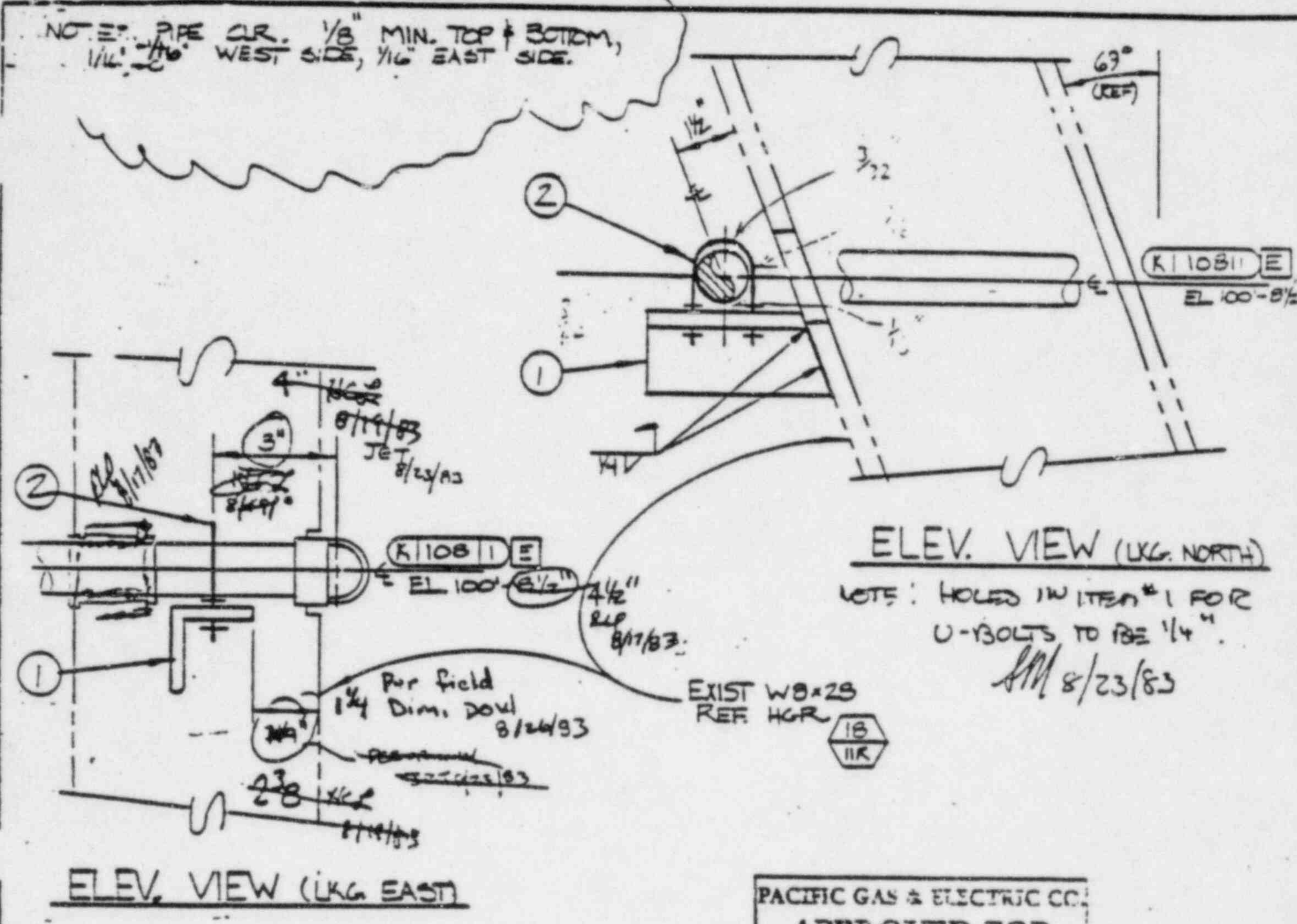
PREINSPECTION CHECKLIST	CHECKED Q.C.	CHECKED ENGINEERING
1. ALL MEMBERS INSTALLED		
2. WELDS: Inaccessible and/or Undersized		
3. GAPS; U-Bolts, Tee Shoes and Lugs		
4. GROUTED PLATES; Grout damaged or Holes in Plate		
5. SHIMS; Tack Welds		
6. NUTS NOT FULLY ENGAGED		
7. ARC STRIKES		
8. MATERIAL SIZE		
9. OVERSIZED HOLES IN PLATE: Washers		
10. WARPED BASE PLATES/MEMBERS		

PREINSPECTION REMARKS:

FINAL INSPECTION COMMENTS: INSPECTOR DATE

DCN 1604-015 VOIDED AS PIPE GAPS ARE NOW WITHIN
DESIGN TOLERANCES - FINAL WORKMANSHIP ACCEPTED TJO 10/17/83

GAPS WERE INCORRECTLY TRANSPOSED EAST AND WEST.
WEST GAP-IS 0". DCN 1604-022 WRITTEN TO REWORK TJO 10/22/83



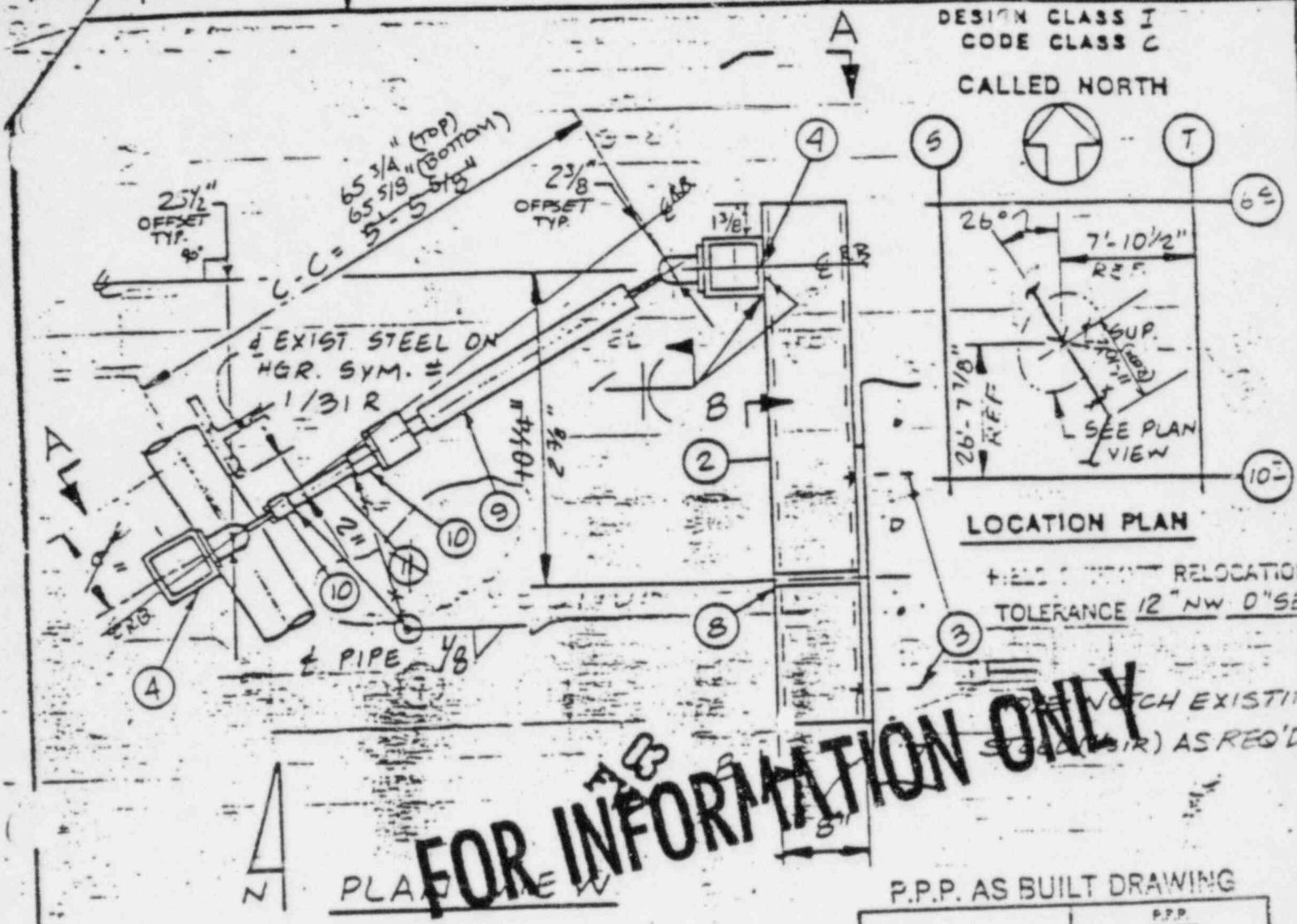
FOR INFORMATION ONLY

APPROVED FOR CONSTRUCTION 8/17/83 DATE ENGR

CONTROLLED COPY

UNLESS OTHERWISE SPECIFIED	REF. DWG. 500642 SYS. 14	PIPE SUPPORT
	CLASS Q/E UNIT 1 AREA D	
~~pipe clearances are 0" bottom~~	ELEV 85' DESIGN G.R. SHAH	DWG. No. 549-12 REV. No. 0
	ISO 14-220 DATE 7-21-83	E-FSTR SHT 6 OF 6

EL 115'-0" | AUX. FEEDWATER | LOC ON DWG [illegible]



FOR INFORMATION ONLY

P.P.P. AS BUILT DRAWING

DATE	P.P.P. VERIFIED
9-10-83	jma

NO OTHER OFFSETS

NO	REQD	MATERIALS PER ASSEMBLY [1]
1	~~2~~	~~S.M.A., SIZE 1, TYPE 5A, SHOCK ARRESTOR, 4" STROKE,~~
		~~S.C. = 5'-5 5/8", C.S. = 2 1/4", H.S. = 1 11/16", LOAD = 1168#~~ (DELET
2	1	T.S. 8 x 4 x 3/8", ~~2'-0" LG.~~ 11 1/2" LG. ✓
3	4	3/4" ϕ HILTI SHELL TYPE CONC. ANCHOR ✓
4	2	T.S. 4 x 4 x 1/4, ~~45" LG.~~ 15 1/8" ✓ CONTROLLED COPY
5	1	FIG. 137S, U-BOLT, A = 1/2", B = 4 1/2", C = .5", D = 8 3/4",
		E = 7 1/4" W/(6) HEX NUTS ✓

	DSGN [illegible]	DRAWING NO	283
	DWN C. DELUCA	049308	
	CHKD [illegible]		
PROJECT: DIABLO CANYON	UNIT: ONE	SHT 177 OF SHTS	PG&E CO ISSUE

Pullman Power Products

FIELD PROCESS SHEET

N/A = NOT APPLICABLE

SYSTEM	NO & SYSTEM	ISOMETRIC DRAWING NO.	DETAIL DRAWING NO.	SHEET NO.
PG&E	N/A	N/A		1 OF 2

PREPARED BY	JOB NO.	DATE	CODE	CLASS	MARK NO.
RDC	7177	4-7-83	N/A	I	10-1365C

OPER. NO.	OPERATION	HOLD FOR AUTH. INSP.	HOLD FOR ??? INSP.	PROC. NO.	OPER.	DATE COMP.	??? INSP. & DATE	AUTH. INSP. & DATE
	FABRICATION OF NPS TRANSITION KIT							
1	Cut "T" to dimension required. 4-1/4"				2677	4/7/83	Rec 4/13/83	
2	Center punch & drill 1/4" Ø sight hole @ dimension "T" from end 3/16"		*		2677	4/13/83	Rec 4/13/83	
3	Clean barrel and coupling nut for welding							
4	Thread coupling nut into jig and tack weld pipe to coupling.			718				
5	Remove assembly from jig and complete weld to fillet size "T" 3/16"		*		51	4/13/83	Rec 4/13/83	
6	Metal stamp coupling nut. I.D. No. 041				2673	4/13/83	Rec 4/13/83	

FOR INFORMATION ONLY

FOR INFORMATION ONLY

REV. 5-11-82
FORM F-65
• HOLD POINTS
✓ QC VERIFICATION POINTS

PULLMAN POWER PRODUCTS
GENERAL FIELD SUPPORT PROCESS SHEET

SUPPORT NO. 74 WSL
DRAWING NO. SR-144 [illegible] 1
PREPARED BY / DATE [illegible] /83

Item		FITTER/WELDER BADGE NUMBER		Q.C. DATE & INITIAL
1. LOCATION OF SUPPORT COMPLIES WITH DRAWING.		2171	✓	JS 7-25-83
2. DRAWING CHANGES NOTED AND COMPONENTS COMPLY WITH MATERIAL LIST		2171	✓	CK 9/12/83
3. ANCHORS INSTALLED AND WITNESSED BY Q.C.	A. Holes drilled to tolerance and Check adjacent anchors	2171	•	7-20-83
B. Shield/Plug Driven to Tolerance	TYPE: Hilti/Phillips	N/A	•	N/A
C. Type Stud Installed — SIZE — MIN. EMB.	TYPE: (Hilti)/Phillips	2171	•	7-20-83
(10) 1¼ x 15 Kwiks Hilti Drove & Set. — 1¼" — 10½"	See QC note on Back.			
D. Anchors Torqued — SIZE — VALUE	WRENCH SERIAL NUMBER	2171	•	7-22-83
Torqued (10) 1¼ x 15 Kwiks to 225 ft/lb 7-22-83 — 1¼ — 225#	PPP #102 DUE 8-14-83			
E. Unused holes dry packed	(4) Holes Need Dry Packing (2) 1¼ & (2) ½"	2171	•	JS 7-19-83
4. BACK OFF BOLTS PRIOR TO WELDING ON BASE PLATES	All nuts backed off prior to welding	2171	•	GRW 7/21/83
5. FIT-UPS: A. Pipe attachments installation: Item 7 to pipe	(1) Heat No: L41491	2171/2419	✓	SPS 7-2-83
	(2) P.O. No: 12237	2171/2419	✓	SPS 7-2-83
B. Support Members: — ITEMS	SPECIAL INSTRUCTIONS			
(1) Groove & Full Pen Welds		N/A	•	N/A
		N/A	•	N/A
C. Purge Established where required		N/A	•	N/A
6. WELD PREP ZONES CLEAN OF PAINT, OIL				
7. WELDING OF PIPE ATTACHMENTS (PER SEPARATE PROCESS SHEET) [illegible] X 1300		X	•	SPS 7-2-83
8. WELDING OF HANGER SUPPORT MEMBERS ONLY: — IDENTIFICATION	WELD CODE			
SPECIAL WELDING INSTRUCTIONS:	CS/CS (3/81)	2419		JS 7-25-83
	↓ 88/89			
	SS/SS 129			
	↓ 15/16			
	CS/SS			
9. OTHER INSTRUCTIONS:				
QC verify actual embedment of item 8		2171	•	7-22-83
QC verify epoxy grout start time DATE 6-10-83		2171	•	6-17-83
10. FINAL WELD CONDITION-SUPPORT MEMBERS:	A. Weld Surface Clean	2171	✓	JS 7-25-83
	B. Arc Strikes Removed/Minimized	2171	✓	JS 7-25-83
	C. Weld Size Complies with drawing	2419	✓	JS 7-25-83

See back of TCY-8940 for Emb chart 7-22-83

11. REVIEW FOR GENERAL WORKMANSHIP AND CONFIGURATION:	FOREMAN INITIAL/DATE		Q.C. DATE & INITIAL
A. Components and Dimensions Comply W/Dwg. & Mat'l. List	AQP 7-25-83	✓	CK 9/12/83
B. Pipe Clearance in Accordance with Drawing	NA	✓	N/A
C. Riser Clamp Bears upon Lug	NA	✓	N/A
D. Hanger is Level and Plumb	AQP 7-25-83	✓	JS 7-25-83
E. All Bolts/Nuts Installed and Tight	AQP 7-25-83	✓	JS 7-25-83
F. Wall & Ceiling Plates Shimmed where Necessary	AQP 7-25-83	✓	JS 7-25-83
G. Grout Request Submitted	NA	✓	N/A
H. Lug Clearance within Tolerance	NA	✓	N/A
12. SNUBBERS: A. Installed per Separate Process Sheet	AQP 7-25-83	•	JS 7-25-83
B. Grinnell Fig.# & Size — C. Size PS 100 — E. TYPE: N/A			

13. SUPPORT ACCEPTED BY Q.C. (Complete Installation Review) Q.C. SIGNATURE Chuck Keskey

DATE 9/12/83

A NO INSPECTION 3031

FORM J-65
BACKSIDE

PREINSPECTION CHECKLIST	CHECKED	
	Q.C.	ENGINEERING
1. ALL MEMBERS INSTALLED	N/A NEW RAQ 7/3/83	
2. WELDS; Inaccessible and/or Undersized		
3. GAPS; U-Bolts, Tee Shoes and Lugs		
4. GROUTED PLATES; Grout damaged or Holes in Plate		
5. SHIMS; Tack Welds		
6. NUTS NOT FULLY ENGAGED		
7. ARC STRIKES		
8. MATERIAL SIZE		
9. OVERSIZED HOLES IN PLATE; Washers		
10. WARPED BASE PLATES/MEMBERS		

FROM BURN DRAWING 31. JMB 7/26/83

PREREVIEW COMPLETE. 5/13/83 AC / MATERIALS REVIEW COMPLETE. 5/14/83

PREINSPECTION REMARKS:

QC* VERIFIED holes in wall for 1¼ x 15 Kwiks as good all (10) Holes. Also 4 holes need DE Packing (2) 1¼ x 2 & (2) ½" Holes. [signature] 7-13-83

QC* Item 4 needs shimming around PL to over 25% PL [signature] 7-22-83

PLL ENG. & P.G.&E. TO TRANSFER ORIGINAL COMMENTS TO THIS PROCESS SHEET OR EXPLAIN WHY NOT. Q.C. 7-27-83

FOR INFORMATION ONLY

FINAL INSPECTION COMMENTS	INSPECTOR	DATE
OVERALL LENGTH OF [illegible] PIPE IS 50½". J.S. 7-23-83		
VERIFIED ½" PULLBACK FOR BOTH ENDS ITEM (3). J.S. 7-23-83		
Verified that snubber was disassembled prior to welding socket end & adapter end of extension tube JBD 7/23/83. Line 1.K.95.30 is resting directly on Line #X.32.20		
NO CLEARANCE JBD 7/23/83		

P.G. and E. DHO 7-27-83

R-2 6-16-80

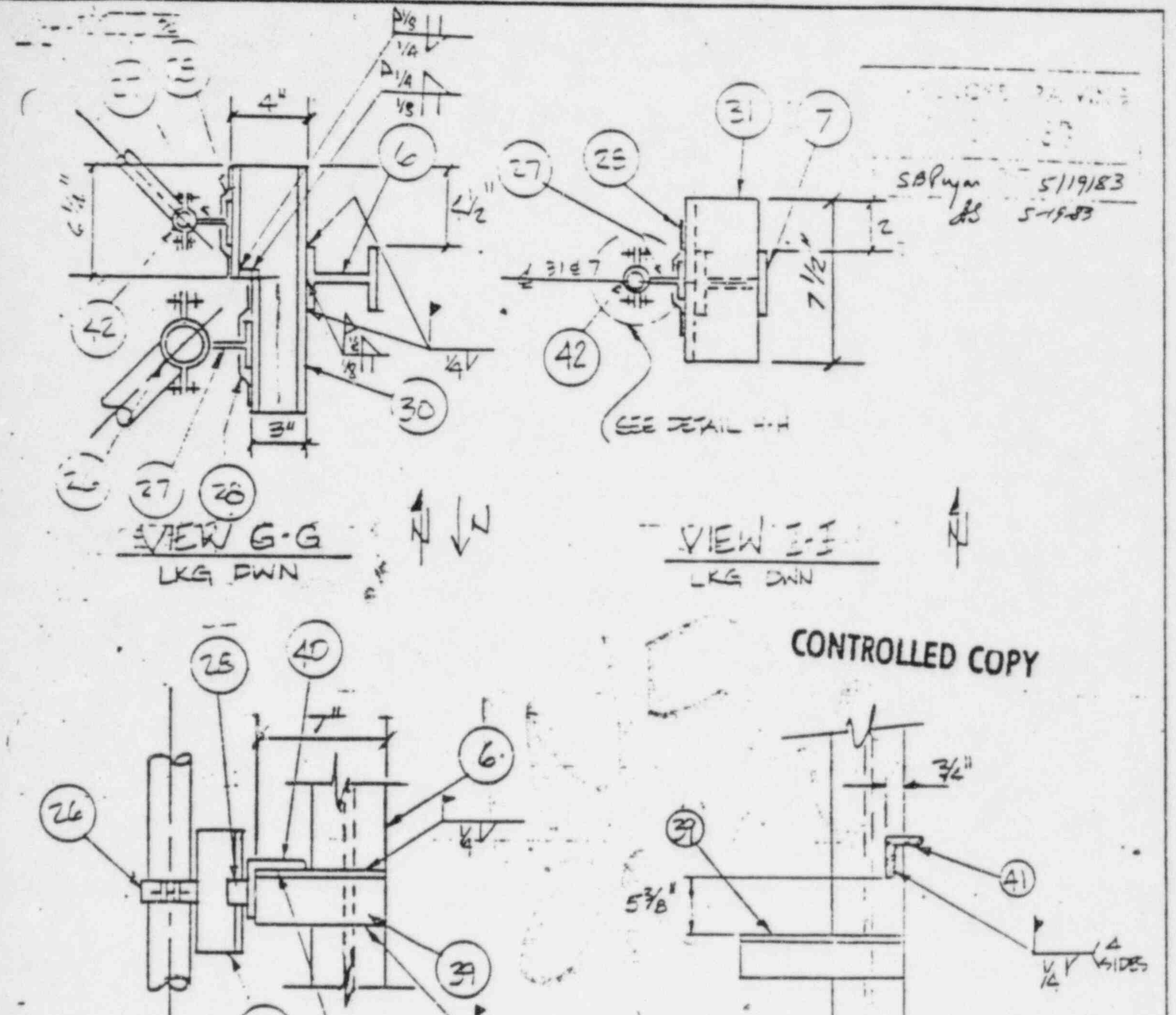
DATE: 8-25-83 INSPECTOR: Jere Ayers

NE NO. 373 SYS: 3 DRWNG. NO: 049308 SHT: 177

	Top	Bott
	INDICATES ACCEPTABILITY Top	Bot
SNUBBER AXIS WITHIN 10° OF OPTIMUM (NO INTERFERENCE AT REAR BRACKET OR FORWARD ADAPTER)	✓	✓
COLD SETTING WITHIN FIELD TOLERANCE (± 1/4 in) 1 15/16" req 9/1/83 *	1 15/16 J 9-1-83	1-23/16 J 9-1-
Transition Tube bolts/cap screws tightened, Torque sealed, and Safety Wired (if applicable) at final inspection	✓	✓
Bolt/cap screw lock washers installed (if applicable)	NA	NA
REAR BALL JOINT NOT LOOSE OR PUSHED OUT	✓	✓
REAR BRACKET COTTER PINS SPREAD	✓	✓
REAR BRACKET WASHERS INSTALLED CORRECTLY	✓	✓
PSA SNUBBER CLAMP INSTALLED	NA	NA
CLAMP LINED IF REQUIRED	NA	NA
CLAMP SHORTENED IF REQUIRED	NA	NA
GRADE 5 BOLT INSTALLED IN PROPER HOLE	NA	NA
LOCK NUT INSTALLED ON GRADE 5 BOLT	NA	NA
1-3 BOLT THREADS EXPOSED BEYOND NUT ON ALL CLAMP BOLTS	NA	NA
ALL CLAMP NUTS TIGHTENED	✓	✓
NEW-STYLE LOCK NUT NOT BACKED OFF OR REMOVED ONCE TIGHTENED	NA	NA
* SPACER INSTALLED IN PROPER LOCATION	NA	NA
FORWARD ADAPTER BALL JOINT NOT LOOSE OR PUSHED OUT	✓	✓
WASHERS INSTALLED EACH SIDE OF FORWARD ADAPTER	✓	✓
EXTRA REAR BRACKET WASHERS INSTALLED CORRECTLY	NA	NA
EXTRA REAR BRACKET COTTER PINS SPREAD	NA	NA
SNUBBER NOT DAMAGED INTERNALLY	✓	✓
ACCEPTABLE BOOT INSTALLED	NA	NA

NOTE: IF THERE IS MORE THAN A SMALL AMOUNT OF PLAY WHEN ONE END OF THE SNUBBER IS TWISTED WITH RESPECT TO THE OTHER, THE SNUBBER IS BROKEN INTERNALLY AND MUST BE REPLACED.

QA HOLD POINT DURING BOOT INSTALLATION ONLY.



P.P.P. AS BUILT DRAWING

DATE	P.P.P. VERIFIED
7/24/83	[illegible]

UNLESS OTHERWISE SPECIFIED

~~U-bolts: field-fit, nut each side. Horiz. pipe clearances are: 0" bottom and 1/16" two sides and top~~

REF. DWG. 5000090	SYS E/a		
CLASS 1	UNIT 1	AREA K	
ELEV 120'	DESIGN PUJARI-LAB		
ISO MULTI	DATE 2-16-83		

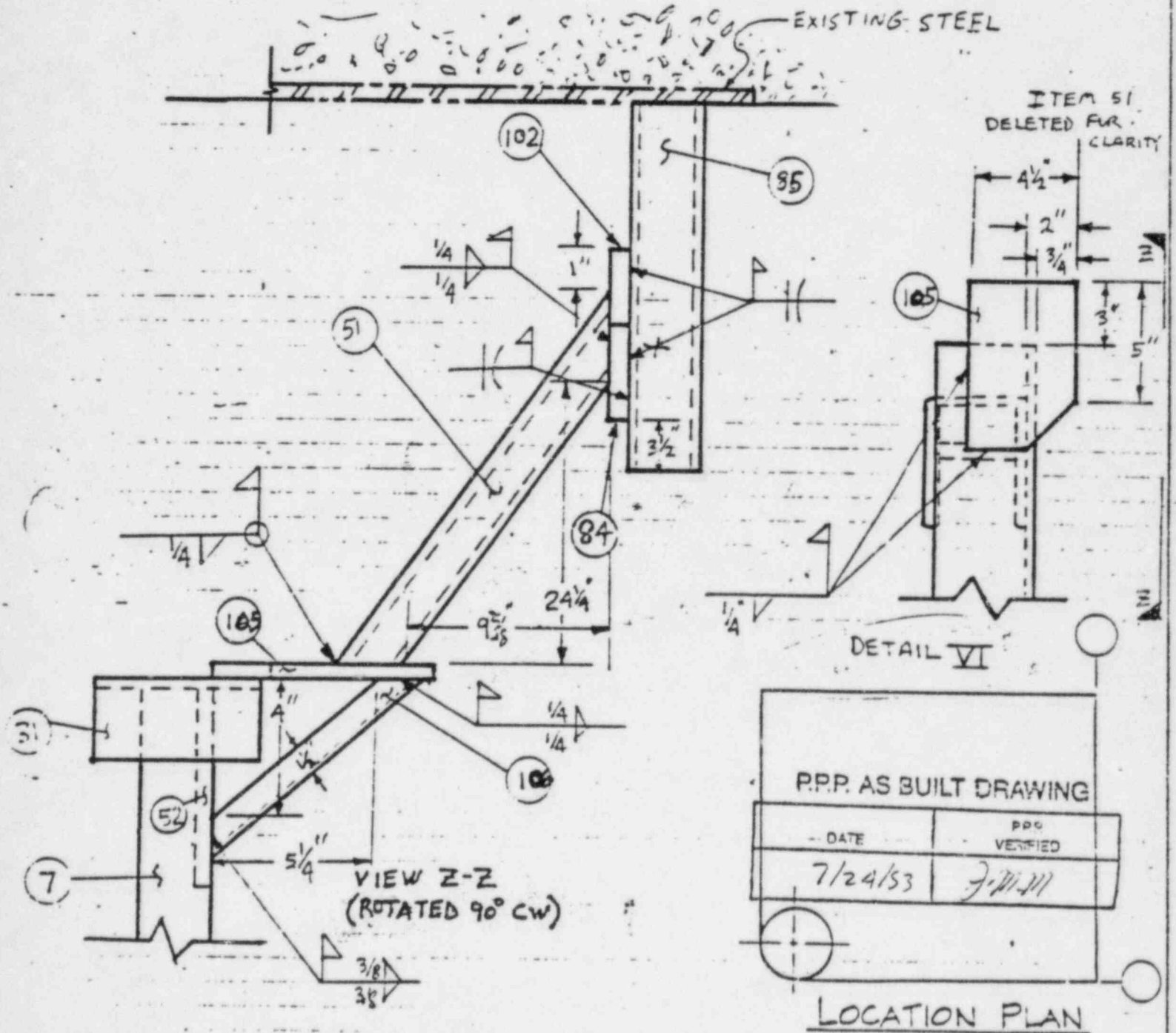
PIPE SUPPORT

284

DWG No. SC-11 REV No. 7

BILAT SHT 10 OF 35

105	1	½" PL 4½ x 7" ✓ CUT AS SHOWN
106	1	1" PL 1½" x ~~10"~~ 7/15/83 7½" LG. CUT AS SHOWN
84	2	PL 3/4 x 5 ~~8"~~ ~~4"~~ ~~5~~ 5" LG
7	1	T.S. 4"X4" x 3/8" 20" LG LENGTH
2	1	PL 3/4 x 5 x 4" LG.



UNLESS OTHERWISE SPECIFIED

U .s: field-fit, nut each side. Horiz. pipe clearances are: 0" bottom and 1/16" two sides and top.

REF. DWG. 500099 SYS 8/9

GLASS 1 UNIT 1 AREA V

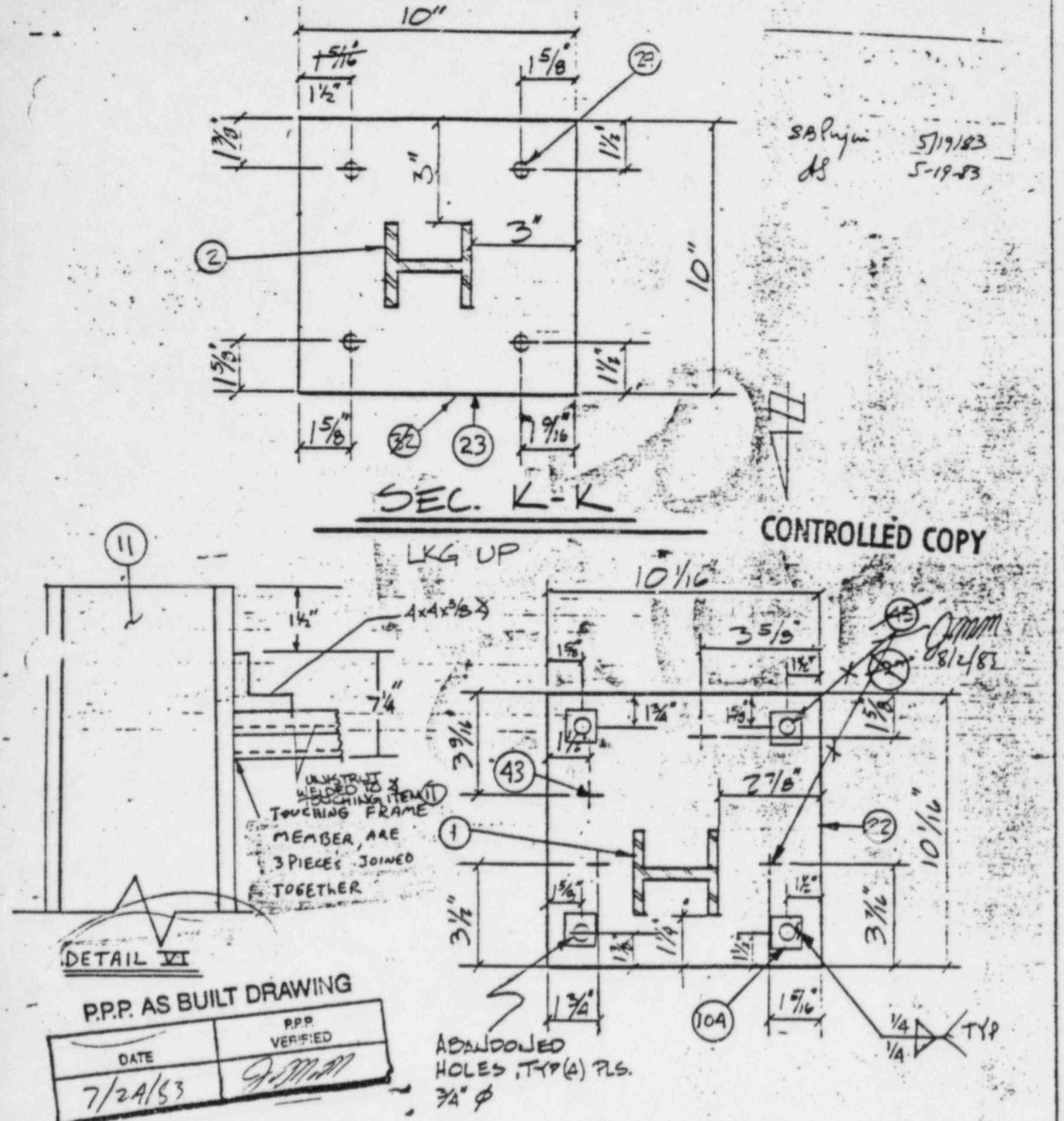
ELEV 100' DESIGN D.P.M.

ISO MULTI DATE 7/24/53

PIPE SUPPORT

DWG. No. 99-11 REV No. 7

SHT 3 OF 3



P.P.P. AS BUILT DRAWING

DATE	P.P.P. VERIFIED
7/24/83	[signature]

UNLESS OTHERWISE SPECIFIED

~~Unistrut field fit nut each side Horiz pipe clearances are: 0" bottom and 1/16" two sides and top~~

REF. DWG. 500099 SYS E/G

CLASS 1 UNIT 1 AREA K

ELEV 100' DESIGN PL221/JB

ISO MULTI DATE 2-16-83

PIPE SUPPORT

DWG. No. 99-11 (17) REV. No. 7

BILLT SHT 12 OF 35

REV. 5-11-82 ___
FORM F-65
○ HOLD POINTS
✓ QC VERIFICATION POINTS

PULLMAN POWER PRODUCTS

GENERAL FIELD SUPPORT PROCESS SHEET

SUPPORT No. 49-11 | DRAWING No. 2600 49 — 7 | 8

PREPARED BY / DATE | FITTER/WELDER BADGE NUMBER | QC DATE & INITIAL

1. LOCATION OF SUPPORT COMPLIES WITH DRAWING.		2245	✓ 7/11/83
2. DRAWING CHANGES NOTED AND COMPONENTS COMPLY WITH MATERIAL LIST		2245	✓ 8-2-83
3. ANCHORS INSTALLED AND WITNESSED BY Q.C.	A. Holes drilled to tolerance and Check adjacent anchors	2245	✓ 6/30/83 Plate 58
B. Shield/Plug Driven to Tolerance	TYPE: Hilti/Phillips	~~2245~~ N/A	✓ N/A 7/11/83
C. Type Stud Installed | SIZE | MIN. EMB.	TYPE: (Hilti) Phillips	3080	✓ 7/11/83
1"X9" Hilti | 1X9" | 4½"		3080	✓ 6/30/83 Plate 58
D. Anchors Torqued | SIZE | VALUE	WRENCH SERIAL	2245	✓ 7/10/83
5/8" | 3/4" 100 ft lb | ½" | 40 ft-lb	PPP 97 4-½" NPI plate #96	2245	DUE 7-27-83
E. Unused holes dry packed | 1" | 220 ft.lb	PPP 74 DUE 7/17/83	2245	✓ 7/11/83
4. BACK OFF BOLTS PRIOR TO WELDING ON BASE PLATES		N/A	✓ N/A old work
5. FIT-UPS: A. Pipe attachments installation:	(1) Heat No:	N/A	✓ N/A
	(2) P.O. No:	N/A	✓ N/A
B. Support Members: | ITEMS	SPECIAL INSTRUCTIONS		
(1) Groove & Full Pen Welds	Fitter Signed in Error 7/11	~~3080~~	✓ NA 7/11/83
C. Purge Established where required		N/A	✓ N/A
6. WELD PREP ZONES CLEAN OF PAINT, OIL		2245	✓ 7/11/83
7. WELDING OF PIPE ATTACHMENTS (PER SEPARATE PROCESS SHEET) F.W.#		X	✓ N/A
8. WELDING OF HANGER SUPPORT MEMBERS ONLY: | IDENTIFICATION	WELD CODE	551	✓ 7/11/83
SPECIAL WELDING INSTRUCTIONS: | ITEM (80)	CS/CS (7/8)	3080	✓ 7/11/83
	↓ 88/89		
	SS/SS 129		
	↓ 15/16		
	CS/SS		
9. OTHER INSTRUCTIONS: All welds ok @ plate #96 as per QF.		3080	✓ 7/6/83
Items 96-97-98-10			
10. FINAL WELD CONDITION-SUPPORT MEMBERS:	A. Weld Surface Clean	2245	✓ 7/11/83
	B. Arc Strikes Removed/Minimized	2245	✓ 7/11/83
	C. Weld Size Complies with drawing	3080	✓ 7/11/83
11. REVIEW FOR GENERAL WORKMANSHIP AND CONFIGURATION:		FOREMAN INITIAL/DATE	Q.C. DATE & INITIAL
A. Components and Dimensions Comply W/Dwg. & Mat'l. List		DB 7/11/83	✓ 8-2-83
B. Pipe Clearance in Accordance with Drawing		DB 7/11/83	✓ 7/11/83
C. Riser Clamp Bears upon Lug		NA	✓ N/A
D. Hanger is Level and Plumb		DB 7/11/83	✓ 7/11/83
E. All Bolts/Nuts Installed and Tight		DB 7/11/83	✓ 7/11/83
F. Wall & Ceiling Plates Shimmed where Necessary		N/A	✓ N/A
G. Grout Request Submitted		N/A	✓ N/A
H. Lug Clearance within Tolerance		N/A	✓ N/A
12. SNUBBERS: A. Installed per Separate Process Sheet		N/A	✓ N/A
NONE | B. Grinnell Fig.# & Size	C. PSA Size | D. TYPE: HT, NON-HT		
13. SUPPORT ACCEPTED BY Q.C. (Complete Installation Review)	Q.C. SIGNATURE [signature]	DATE 8-2-83	

Left margin note: Set & Final Torque 1"x9" Hilti Wik Bolts ... #2 ...16-83 ... 7-16-83 20 ft/lbs 7/1/83

PREINSPECTION CHECKLIST

		ITEMS	
		Q.C.	ENGINEERING
1.	ALL MEMBERS INSTALLED	Pre-inspection was done by R. Noll (see rev 6) 5/23/83	NO RC 5-25-83
2.	WELDS: Inaccessible and/or Undersized		NO RC 5-25-83
3.	GAPS: T-Bolts, Tee Shoes and Lugs		✓ RC 5-25-83
4.	GROUTED PLATES: Grout damaged or Holes in Plate		✓ RC 5-25-83
5.	SHIMS: Tack Welds		N/A
6.	NUTS NOT FULLY ENGAGED		N/A
7.	ARC STRIKES		N/A
8.	MATERIAL SIZE		✓ RC 5-25-83
9.	OVERSIZED HOLES IN PLATE; Washers		N/A
10.	WARPED BASE PLATES/MEMBERS		N/A

PREINSPECTION REMARKS:

REMOVE EXISTING ½" PLATE AND INSTALL ¾" PLATES Items (19) & (20).
INSTALL ITEMS (44) THRU (54)

NOTE INSULATION REMOVAL REQUIRED TO INSTALL ITEM (48)
ALSO REQUIRED FOR 44, 45, 46 & 47

AN INTERFERENCE MAY EXIST WITH INSTALLATION OF ITEM (51)
RESOLVE IN PROCESS FOR CONVIRPIME

RELOCATE ITEM (53) 3" TO UTILIZE EMBED Rick Corer
SEE RED-LINED DIMENSION X1355

PG&E PI FINAL PKG REVIEW COMPLETE. MMC 6/1/83
WORK W/ TC-1-7142

FINAL INSPECTION COMMENTS: INSPECTOR DATE

#54 to #1 fillet gap 3/32 gap exists also #1 has been ground down to close same gap on South side LZ 6/27/83
fixed above w/ Quick Fix TC1-8222 LZ 6/28/83
QC Welds on TC1-8222 OK plus upper #53 at insert OK LZ 6/29/83

FINAL INSPECTION COMPLETE — AW 7-10-83

AS BUILT CHANGES AFTER QC FINAL ACCEPTANCE PER QA REQUEST WITH THE KNOWLEDGE & APPROVAL OF THE FIELD QA/QC MANAGER TJO 11/3/83
DCN 160A-025 WRITTEN FOR DEFICIENCIES TJO 11/3/83

P.G. and E. 84 7-12-83

PRE-INSPECTION ENGINEER - RICK CORER X1355

JANUARY 14, 1983,

NTT OFFICE CORRESPONDENCE

MARCH 9, 1983,
APRIL 25, 1983, AND
DATE JULY 21, 1983

TO ALL FIELD SUPERINTENDENTS

FROM P. STIEGER/R. FAULL

SUBJECT ARC STRIKES, GRINDER GOUGES AND PUNCH MARKS.

PLEASE CONDUCT A TRAINING SESSION WITH ALL CRAFT PERSONNEL CONCERNING THE FOLLOWING:

In the recent past we have had too many arc strikes and grinder gouges on pipes, hangers, rod assemblies, etc. In order to eliminate these conditions, each person must take the following precautions:

1) Do not ground to pipes, hangers, etc.

2) Protect surrounding pipe hangers and other equipment in work area from weld splatter, grinding and thermal debris.

3) Be careful not to let stingers arc pipe, hangers, etc., when hanging stingers, setting them down or during other movements of stinger.

4) Do not drag leads over pipes, etc: if they have bare spots or open connectors they may arc.

5) Disconnect all leads from grids before pulling or rolling them up.

6) Use extreme caution when grinding in close proximity of piping. Protect the pipe prior to grinding. It is your responsibility to follow these steps and to eliminate arc strikes and grinder gouges on piping and other members.

7) Be sure cables are connected with matching connectors. Do not use a Cam-lock connector with a Jackson as they do not fit properly.

8) Check cables for broken insulation on bare spots.

9) All welding arc starts shall be confined to weld preparation area.

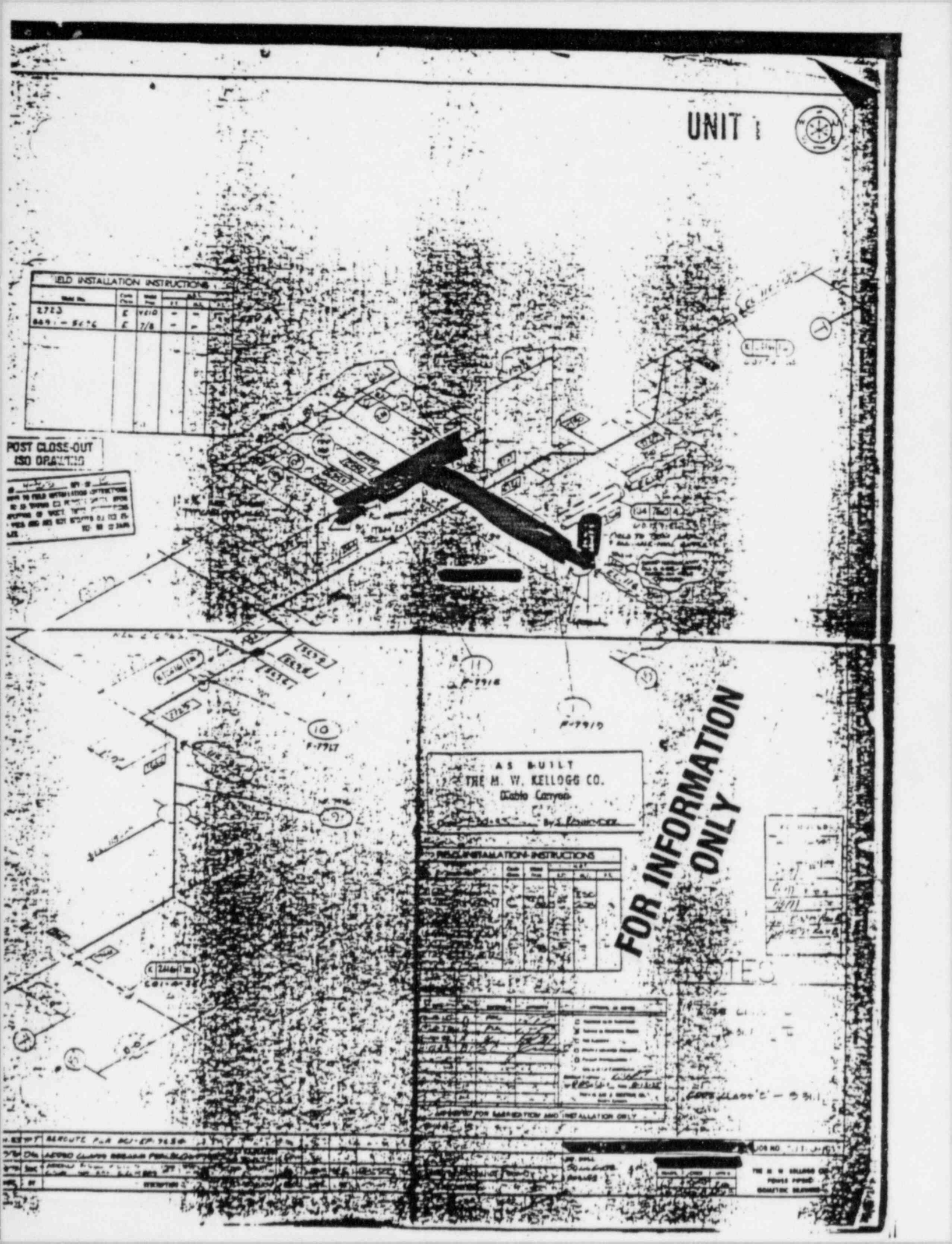
10) Center punches shall not be used on piping where the punch mark will not be removed by subsequent cutting or grinding. A low stress stamp or vibrotool is an acceptable method of marking.

P. Stieger/ep
P. Stieger
Resident Construction Manager

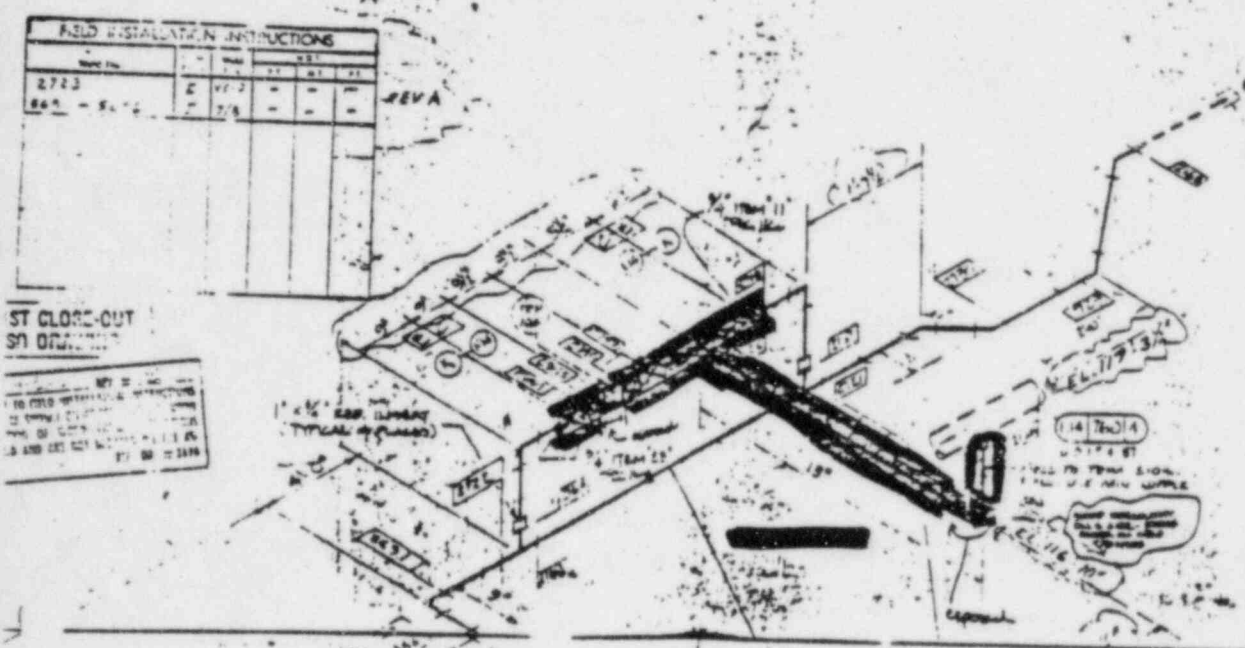
R. Faull
R. Faull
Assistant Resident Construction Manager

PS:sam

285


UNIT 1
FIELD INSTALLATION INSTRUCTIONS
POST CLOSE-OUT
ISO DRAWING
AS BUILT
THE M. W. KELLOGG CO.
Diablo Canyon
FOR INFORMATION
ONLY

UNIT



FIELD INSTALLATION INSTRUCTIONS

AS BUILT
THE M. W. KELLOGG CO.
Diablo Canyon

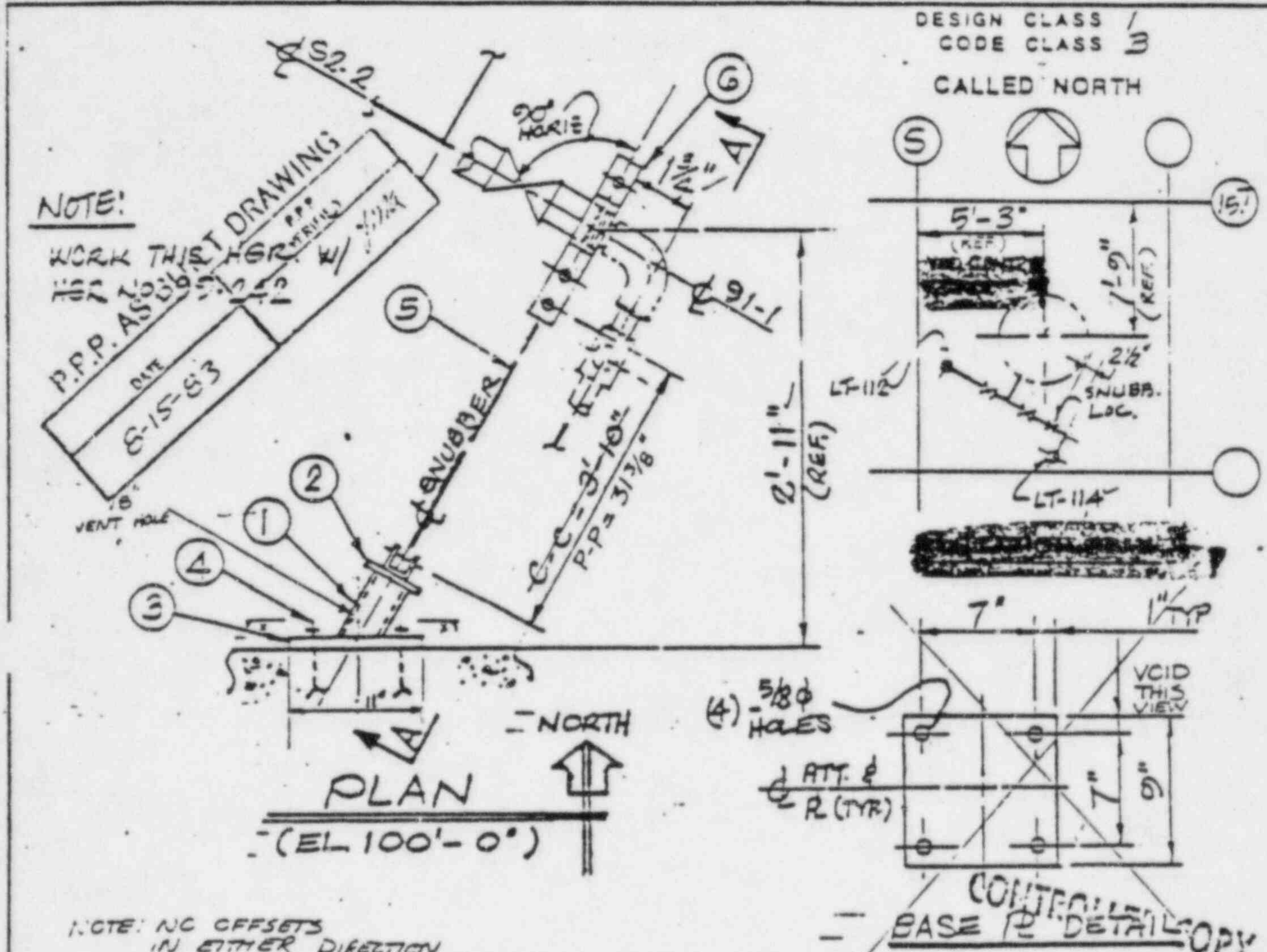
FIELD INSTALLATION INSTRUCTIONS

FOR INFORMATION ONLY

NOTE

AREA K EL 100'-0"	LINE 81-1 (LT-114 LC) ISO. H3-748 VOLUME CONTROL TANK	HANGER SYMBOL 2C LOC ON DWG 5C0099

DESIGN CLASS I
CODE CLASS 3



NO OF ASSEMBLIES REQUIRED 1

NO	REQD	MATERIALS PER ASSEMBLY
1	1	TS 3" x 3" x 0.25" x ~~1'-0 LG.~~ 7 3/4" LG.
2	2	PL 3/8 x 4 x 4
3	1	~~PL 1/2 x 9 x 9 (PER BASE PL DETAIL)~~ PL 3/4" x 11" x 9" LG.
4	4	1/2" ϕ HDI CONC. ANCHORS (STUD TYPE)
5	1	PSA-1/4 (PRE-NF), RET. STROKE = 1/3", CS = 2 1/6"
6	1	3/4" ϕ C.S. SCH. 40 PIPE x 2'-0" LG (FIELD TO SUIT)
7	1	PSA-1/4 SNUBBER PIPE CLAMP, FOR 2" ϕ PIPE (PER PSA DWG 502001)
8	2	3/8" FILLER PLATE (PER DETAIL '1')

CVCS

PROJECT: DIABLO CANYON	UNIT: 1	DSGN / DWN / CHKD SHT 333 OF SHTS	DRAWING NO 048315 P G & E CO

286

OUTSIDE AREA 1-P

EL 85'-0"

LINE 1-K-5148-36 [E]
AUX. BOILER FLUE GAS STACK

HANGER SYMBOL
X, Z RESTRAINT
229 / 61R

LOC ON DWG

REV	ISSUE DATE	DESCRIPTION OF CHANGES	PREPARATION			APPROVAL		
			DSGN	DWN	CHKD	DUS	ENGR	SUPV ENGR
01	6-25-83	ISSUED FOR FABRICATION & INSTALLATION	D.S.	RC	PS	JHO FOR A. SUMIDA	DRC	ASM

SEE #1-14001 T.C.'s & #1-13822
CEH 11/4/83

FOR INFORMATION ONLY

APPROVED FOR CONSTRUCTION
3/3/83 DATE
NWW ENGR

NPO CLEARANCE REQUIRED PRIOR TO WORK

NOTES:

NO PIPING PROCESS SHEETS REQUIRED

CONTROLLED COPY

06 AXS

PASS E

SHEETS ASSIGNED TO THIS HANGER SYMBOL (TOTAL 4 SHEETS)

287

64	64A	64B	64X																
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

DSGN D SURVEY
DWN RC
CHKD P. SATO

DRAWING NO 049229

PROJECT: DIABLO CANYON

UNIT: 1

64X OF SHS

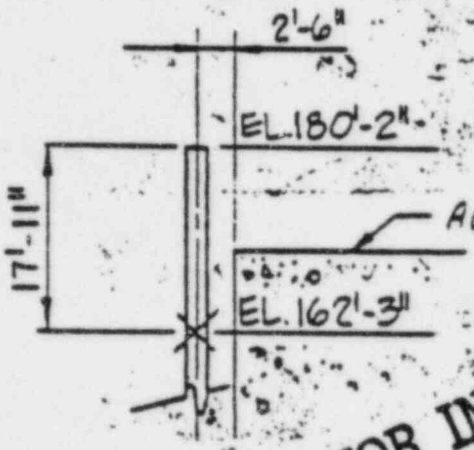
P G & E CO

ISSUE 01

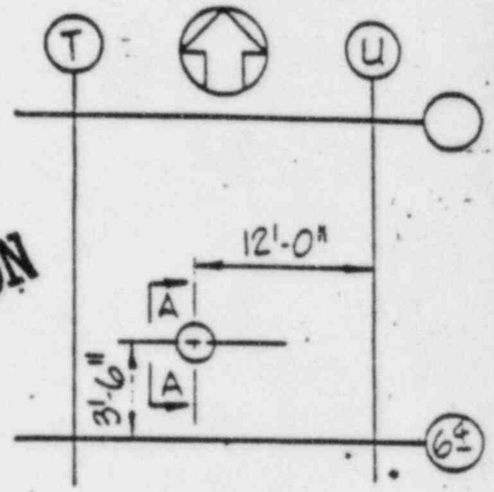
AREA 1-P.	LINE 1-K-5148-36 [E]	HANGER SYMBOL 229 / 61R
EL 85'-0"	AUX. BOILER FLUE GAS STACK	X, Z RESTRAINT
		LOC ON DWG

DESIGN CLASS II
CODE CLASS E

CALLED NORTH



SECT. A-A



LOCATION PLAN

FOR INFORMATION ONLY

SEC #1-14006
T.C.'s #1-13822
CE 11/1/83

APPROVED FOR CONSTRUCTION
9/?/83
DATE

NO. OF ASSEMBLIES REQUIRED [1]

NO	REQ'D	MATERIALS PER ASSEMBLY (PER ESD 6.3.3 (INCREASE PLATE SIZE) 10/21/83 PL 1")
1	2	C.S. PL ~~3/4~~" X 14" X 1'-2" LG.; W/(4) 1 1/16" ϕ HOLES (SEE ITEM 1 DET. SH. 64A)
2	8	1" ϕ HILTI KWIK BOLTS
3	2	W6X20; 4'-10" LG. EA.
4	4	T-SHOE (SEE DET. ON SH. 64A) C.S PL 06 AXS
5	~~2~~ 1	W6X20; LG BY FIELD (CUT TO FIT) T.C #1-13822 CEF 10/28/83
6	2	W6 X 20; 3'-8 1/8" LG. EA.
~~7~~	~~4~~	~~C.S. PL 3/4 X 12" X 1'-3" LG. W/(4) 13/16" ϕ HOLES (SEE DET. ITEM 7 SH 64A)~~
8	16	3/4" ϕ HILTI KWIK BOLTS
9	2	W6 X 20; LG. BY FIELD (CUT TO FIT)
10	2	C.S. PL 1/2" X 7" X 0'-10" LG. EA.
11	24	C.S. PL 5/8" X 2 3/4" X 0'-5 1/2" (CUT TO FIT)
12	1	T.S. 6" X 6" X 1/2" X 8'-0" LG. - A500 GR B (CUT TO SUIT)
13	2	T.S. 4" X 4" X 1/2" X 1'-3" LG - A500 GR B (CUT TO SUIT)

CONTROLLED COPY

SEC #1-14006 CEF 11/5/83

T.C. #1-13822 CEF 10/28/83

PROJECT: DIABLO CANYON	UNIT: 1	DSGN D.S. / DWN RC / CHKD P SATO / SHT 64 OF SHTS	DRAWING NO 049229 / P G & E CO	ISSUE

ITEM	QUANTITY	MATERIAL
14	8	FILLER ANGLE L"x4"x4" w/ 1 1/16" ø HOLE ON CENTER C.S. A-36
15	16	FISHPLATE 1/2 x 3" x 3" w/ 25/32 ø HOLE ON CENTER C.S. A-36 PER T.C. # 1-14001 CEM 11/5/87
7A	1	PLATE 1" x 13 1/2" x 16 3/4" C.S. A-36 PER ESD 223 SEC. 6.3.1 T.C. # 1-14001 CEM 11/5/87.
7B	1	PLATE 1" x 12 1/2" x 15 3/4" C.S. A-36 PER ESD 223 SEC. 6.3.3 CEM 11/4/87
7C	1	PLATE 1" x 13 3/4" x 15 3/8" C.S. A-36 PER ESD 223 SEC 6.3.3 CEM 11/4/87
7D	1	PLATE 1" x 13 3/4" x 15 1/4" C.S. A-36 PER ESD 223 SEC 6.3.3 CEM 11/5/87
16	2	PLATE 1/4" x 7" x 7" C.S. A-36 PER ESD 22 SEC. 66.2.1 CEM 11/23/87

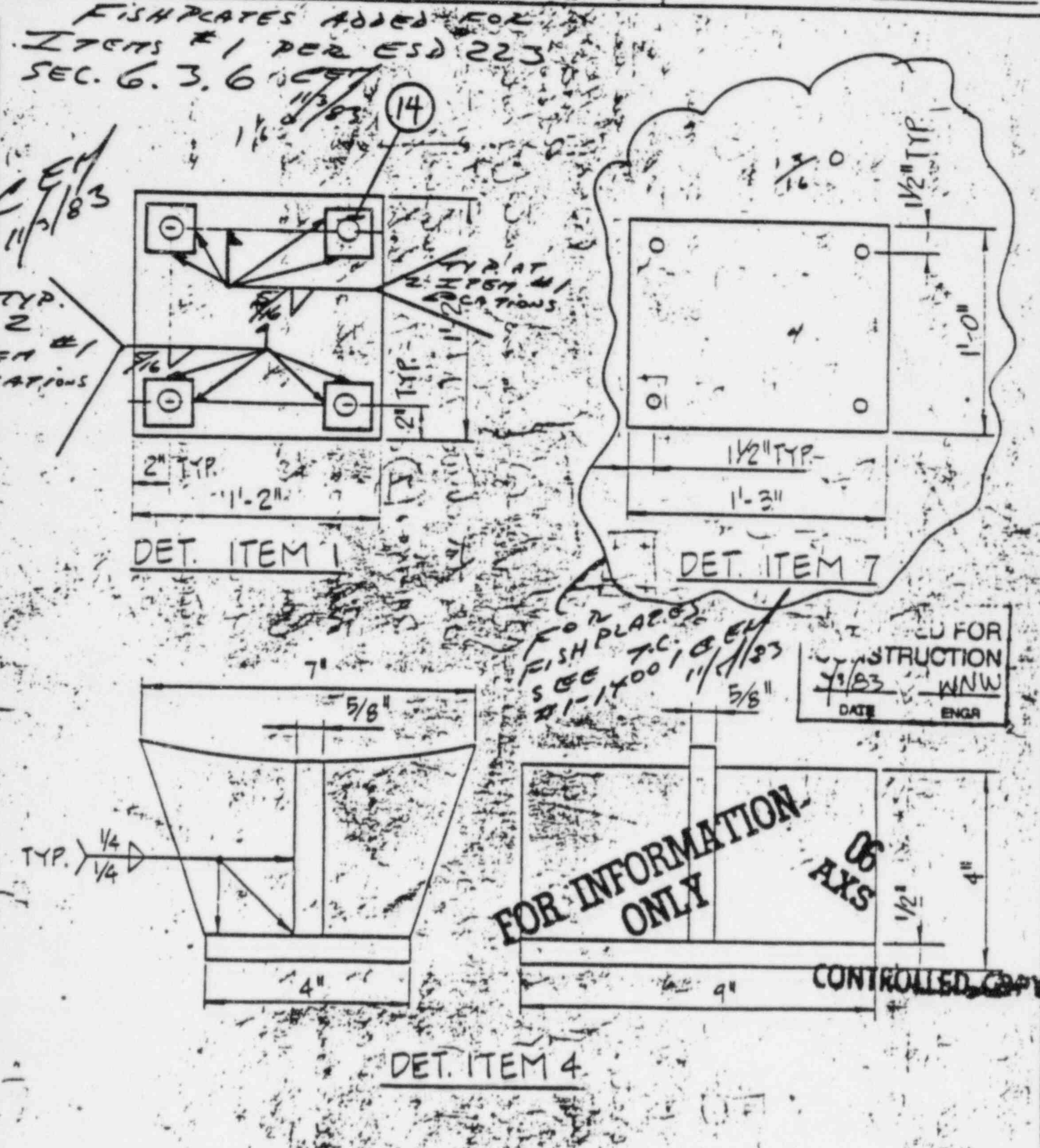
FOR INFORMATION ONLY

76-17 Rev 3-76

AREA 1-P. | LINE 1-K-5148-36 E | HANGER SYMBOL 229

EL 85'-0" | AUX. BOILER FLUE GAS STACK | X, Z RESTRAINT

LOC ON DWG



PROJECT: DIABLO CANYON	UNIT: 1	DSGN D S DWN RC CHKD P SATO SHT 64 OF SHTS	DRAWING NO 049229 P G & E CO	ISSUE	REV 01

Set all (16) 3/4" X 7" HKB'S with 3 to 5 turn of the nut.

A G Smart 11/7/83

This bolt hole with rebar Encountered acceptable only as per telecon & location inspection by civil direction KIRBELL.

A G Smart 11/4/83

(1) 1" X 9" HKB witnessed driving of (1) 1" X 9" HKB.

A G Smart 11/7/83

Unable to set (8) 1" X 9" HKB'S with min. 3 to 5 turns of the nut so as a result we torque tested all (8) 1" X 9" HKB's to 220 FT-LBS with ...

A G Smart 11/7/83

OKED (4) 3/4" holes in concrete.

Witnessed driving of (4) 3/4" X 7" HKB'S during driving of HKB'S the bolt circuled on the detail plt. (1) thread was damaged but should not be rejectable due to it will be exposed after final torques.

A G Smart 10/31/83

Checked (8) holes in concrete (7) holes OK to drive (7) 1" X 9" HKB's WITNESSED DRIVING (7) OF THE (8) concrete holes identified with a circle. Rebar was encountered need Eng. evaluation for acceptability prior to driving the kwik bolt.

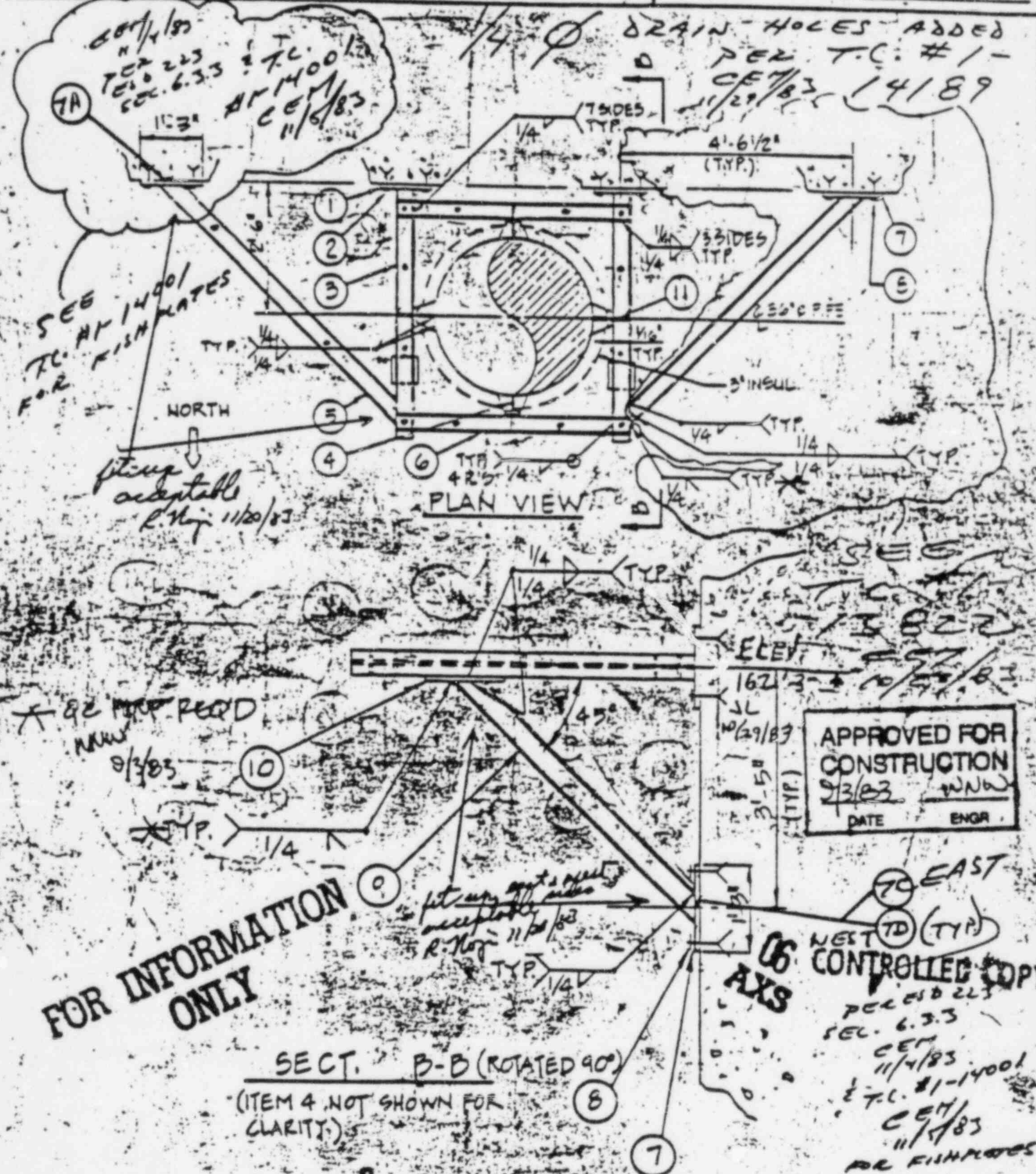
Also checked (12) 3/4" holes in concrete OK to Drive (12) 3/4" X 7" HKB'S WITNESSED DRIVING OF (12) 3/4" X 7" HKB's.

A G Smart 10/31/83

FOR INFORMATION ONLY

76-1117 Rev 3-

AREA 1-P	LINE 1-K-5148-36 E	HANGER SYMBOL 229 / 61R
EL 85'-0"	AUX BOILER FLUE GAS STACK	X, Z RESTRAINT
		LOC ON DWG



1/4 Ø DRAIN HOLES ADDED PER T.C. #1-14189 CEM 11/29/83
CEM 11/4/83 PER ESD 223 SEC. 6.3.3 & T.C. #1-14001 CEM 11/6/83
1'-3"
7 SIDES TYP.
4'-6 1/2" (TYP.)
3 SIDES TYP.
3" INSUL.
SEE T.C. #1-14001 FOR FISHPLATES
NORTH
fitup acceptable R. Nagy 11/20/83
PLAN VIEW
SEE T.C. #1-13822 CEM 10/27/83
ELEV 162'-3"
45°
X 9E TYP. REQD WNW 9/3/83
fit up acceptable R. Nagy 11/20/83
EAST
WEST
(TYP.)
SECT. B-B (ROTATED 90°)
(ITEM 4 NOT SHOWN FOR CLARITY.)
PER ESD 223 SEC. 6.3.3 CEM 11/4/83 & T.C. #1-14001 CEM 11/5/83 FOR FISHPLATES

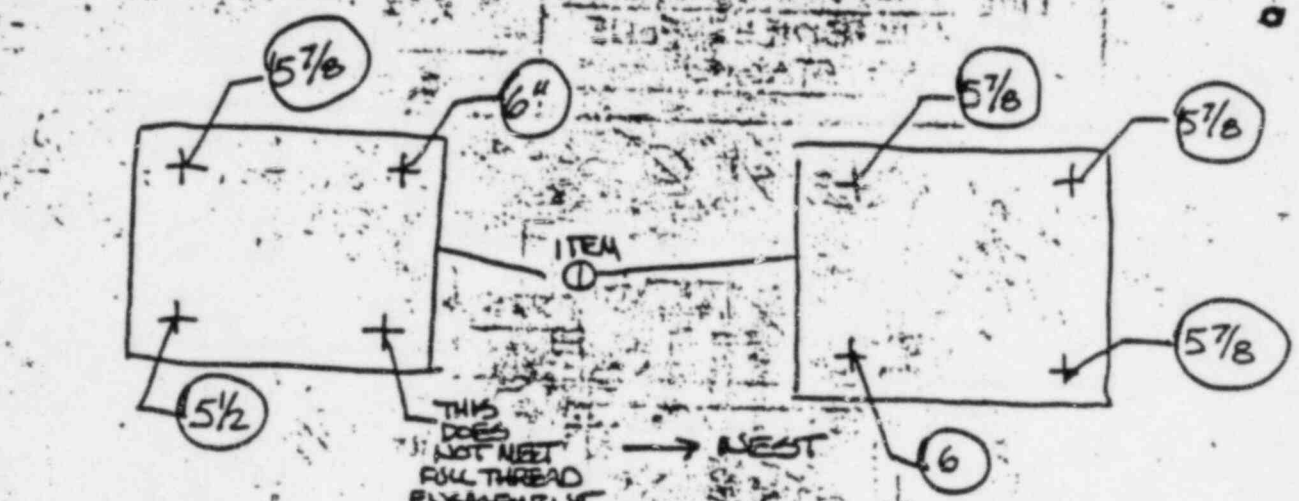
APPROVED FOR CONSTRUCTION 9/3/83 WNW
DATE ENGR

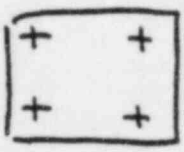
FOR INFORMATION ONLY

06 AXS CONTROLLED COPY

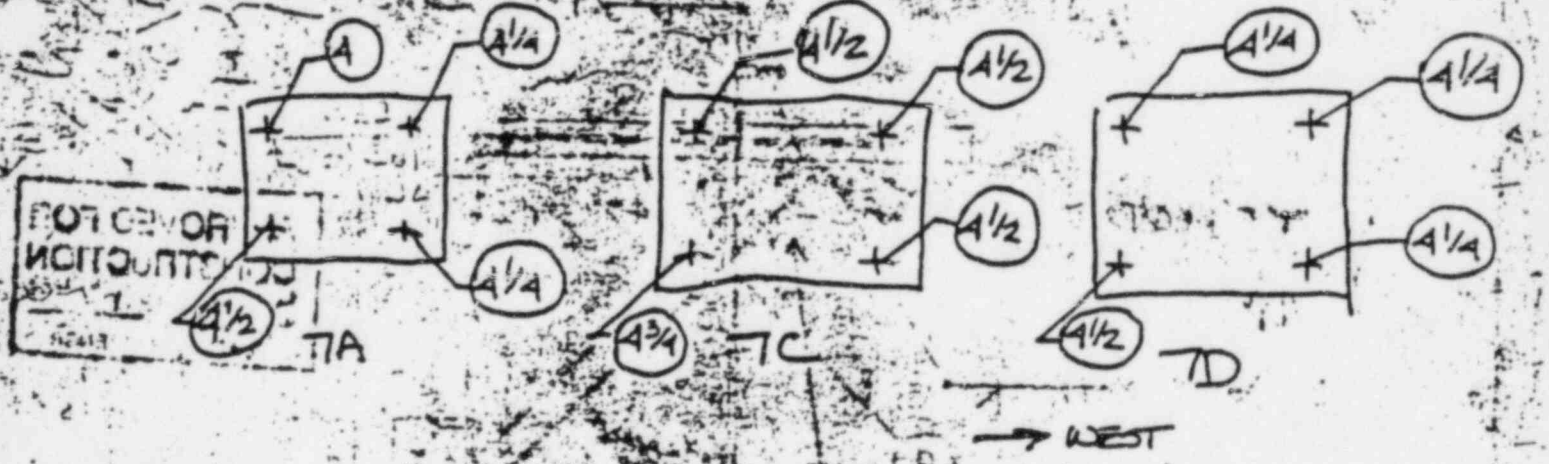
	DSGN D.S	DRAWING NO	
	DWN RC	049229	
	CHKD P. SATO		
PROJECT: DIABLO CANYON	UNIT: 1	SHT 64 B OF SHTS	P G & E CO	ISSUE 0 RE

EMBEDMENT DIAGRAM





TB → S
(REQUIRES SHIMMING & RETORQUE) NO EMB @ THIS TIME
TJO 4/29/03



TJO 11/29/03

FOR INFORMATION ONLY

INSTRUCTION NO. 12
ATTACHMENT A

PIPE SUPPORT DESIGN TOLERANCE CLARIFICATION FORM

SEQUENCE NUMBER IC-1-14189

SUBJECT 229/61R REV 1 CLASS IIE

LOCATION AREA 1-P ELEV: 85'-0"

pre-inspect ☐
in-work ☑
past work ☐
DR ☐ # ____

DESCRIPTION: DRAIN HOLES ARE REQUIRED IN ITEMS #3, #6, AND #5.

SOLUTION: PROVIDE 1/4" ϕ DRAIN HOLES IN ALL POCKET AREAS OF ITEMS #3, #6, AND #5 ALONG THE CENTERLINE BETWEEN THE FLANGES.

FOR INFORMATION ONLY

P.P.P. F.E. CEM 11/29/83

G.C. F.E. ____

REFERENCE DRAWING 049229 SH 64

ATTACHMENTS YES - (NO) PAGES (INC. THIS SHEET) 1

AREA ENGINEER:

CONSTRUCTION MAY PROCEED Stephen Bakey

DATE 11-29-83

CONSTRUCTION D.P. REQ'D ____

CONTRACTOR RECEIPT C. E. Tyo DATE 11-29-83

INSTRUCTION NO. 12
ATTACHMENT A

PIPE SUPPORT DESIGN TOLERANCE CLARIFICATION FORM

SEQUENCE NUMBER TC-1-14001

SUBJECT 229/61R REV 1 CLASS IIE

LOCATION AREA: 1-P ELEV: 162'-3 pre-inspect ☐
in-work ☑
past work ☐
QR ☐ 1

DESCRIPTION: THE ANCHOR LOCATIONS FOR THE UPPER EASTERN-MOST ITEM # 7 (#7A) COULD NOT BE MAINTAINED WITHIN ESD 223 TOLERANCES. ALSO, DUE TO CONSTRUCTION TOLERANCES, FISHPLATES WILL BE REQUIRED FOR ITEMS #7 (4 EACH). HOWEVER, DUE TO THE PROJECTIONS OF THE 3/4"Ø ANCHORS, ONLY 1/2" THICK FISHPLATES CAN BE USED.

SOLUTION: ACCEPT THE ANCHOR SPACINGS AS SHOWN FOR ITEM #7A. ADD ITEM #15 TO THE B.O.M AS FOLLOWS.

ITEM #15- 16 REQUIRED - PLATE 1/2" x 3" x 3" w/ A 25/32" Ø HOLE ON CENTER. C.S. A-36. WELD AS SHOWN ON SHEET 2 OF 2.

FOR INFORMATION ONLY

P.P.P. F.E. CEM 11/5/83
G.C. F.E. _____

REFERENCE DRAWING 04-9229 SH 64

ATTACHMENTS (YES) NO PAGES (INC. THIS SHEET) 2

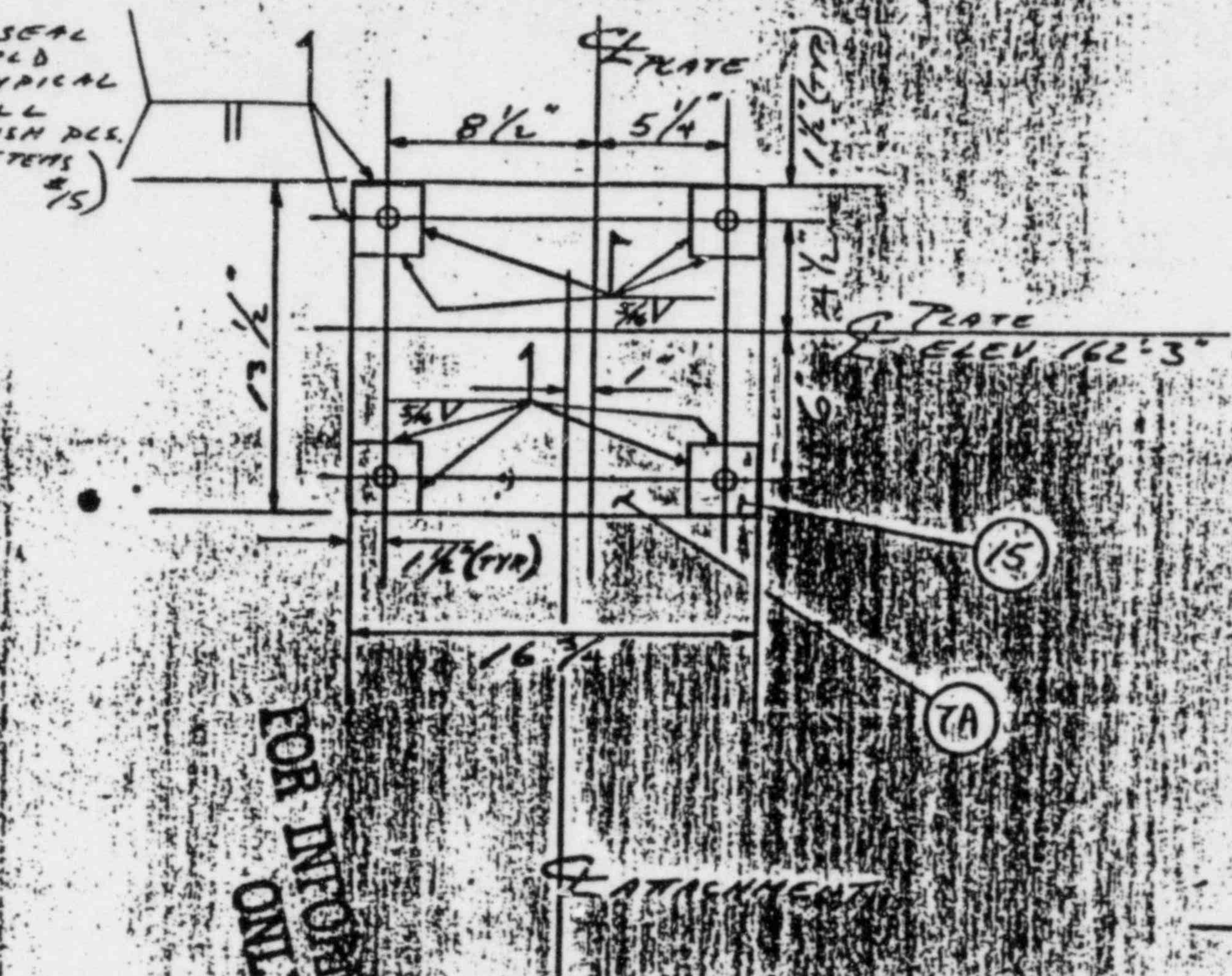
AREA ENGINEER:

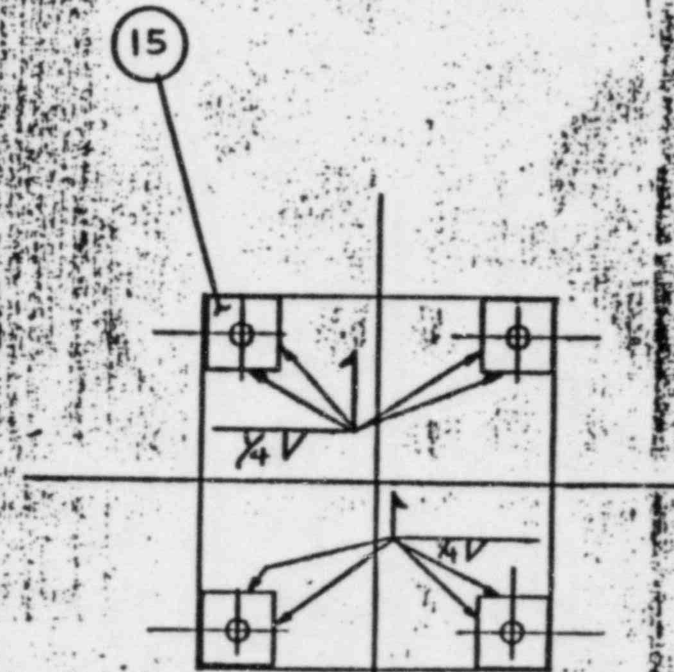
CONSTRUCTION MAY PROCEED Stephen Bakey
DATE 11-5-83

CONSTRUCTION D.P. REQ'D _____

CONTRACTOR RECEIPT E. Mo DATE 11-5-83

TC-1-14001
SHT 2 of 2
11/5/83





FISHPLATE DETAIL TYPICAL
FOR ITEMS 7B, 7C, 7D

INSTRUCTION NO. 12
ATTACHMENT A

PIPE SUPPORT DESIGN TOLERANCE CLARIFICATION FORM

SEQUENCE NUMBER TC-1-13822

SUBJECT 229/612 REV 1 CLASS IIE

LOCATION AREA: 1-7 ELEV: 85'-0" pre-inspect ☐
in-work ☑
past work ☐
DR ☐ #

DESCRIPTION: THE DESIGN DRAWING FOR SUPPORT 229/612 REQUIRES HORIZONTAL BRACES (ITEMS #5) AT ELEVATION 162'-3". HOWEVER, THE WALL ENDS AT APPROXIMATELY 15"-4" WEST OF COLUMN "U" AND DOES NOT ALLOW FOR PROPER INSTALLATION OF THE WESTERN MOST ITEMS #5 AND #8.

SOLUTION: ① DELETE ITEMS #5 AND #8 WEST SIDE ONLY.

FOR INFORMATION ONLY

② PERMIT THE INSTALLATION AS SHOWN ON ATTACHED SHEET 2 OF 2 & REVISE THE B.O.M. AS FOLLOWS: REVISE THE QUANTITY OF ITEMS #5 TO 1 REQ'D.

ADD ITEM #12 1 REQ'D = TS 6x6x1/2 x 8'-0 LG. A500 GR B (CUT FROM ITEM #5)

ADD ITEM #13 2 REQ'D = TS 4x4x1/2 x 1'-3" LG. A500 GR B (CUT FROM ITEM #8)

P.P.P. F.E. CET 10/28/83
G.C. F.E. ____

REFERENCE DRAWING 049229 SH 64

ATTACHMENTS (YES) NO PAGES (INC. THIS SHEET) 2

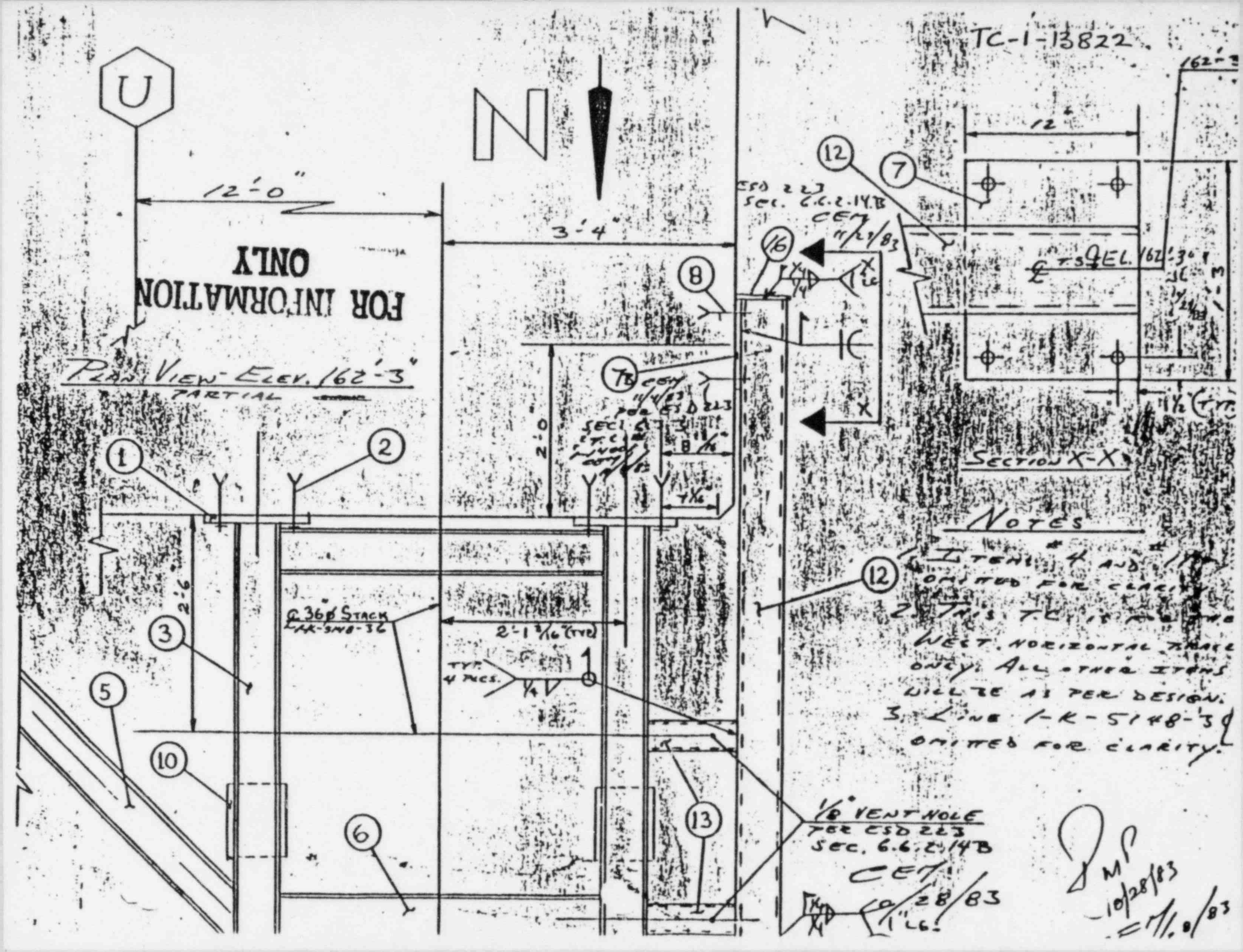
AREA ENGINEER:

CONSTRUCTION MAY PROCEED R M Patel

DATE 10/28/83

CONSTRUCTION D.P. REQ'D ____

CONTRACTOR RECEIPT C. E. Tho DATE 10/28/83


TC-1-13822
FOR INFORMATION ONLY
PLAN VIEW - ELEV. 162'-3"
PARTIAL
12'-0"
3'-4"
2'-6
2'-0
2'-1 3/16" (TYP)
C 36ø STACK
SECTION X-X
12
CESD 223 SEC. 6.6.2.14.B CEM 11/21/83
NOTES
1. ITEMS #4 AND 11 OMITTED FOR CLARITY.
2. THIS T.C. IS FOR THE WEST HORIZONTAL BRACE ONLY. ALL OTHER ITEMS WILL BE AS PER DESIGN.
3. LINE 1-K-5148-3 OMITTED FOR CLARITY.
1/8" VENT HOLE PER ESD 223 SEC. 6.6.2.14B
CEM 10/28/83
TYP. 4 PCS.
10/28/83

7.2

PULLMAN POWER PRODUCTS

ACCOUNTING REQUIREMENTS (A/R)

ATTN: Craft Foreman

Write the following code on the time sheet in the "Hanger No. or ISO No." of Hanger Time Sheets or in the "Piece No./Weld No." section of Piping Time Sheets when working on the attached work authorization:

229-61R-NONE

1-62/338-06

P105913-0505

Supplemental or additional work authorizations pertaining to this work authorization that were received in the field require recoding. No other detail, information or accounting is required in this section of the time sheets.

* *

The following pertains to the Pullman Accounting Office only:

DCN NO. _____

WORK REQUEST NO. _____

DRAWING NO. 049229

DATE ISSUED 8-30-83

CONTROLLED COPY

06 AXS

FOR INFORMATION ONLY

P G & E

MEMORANDUM

Date 11/1/83

TO F. RUSSELL/D PASENEAU Location DCPP Ext. 3478

FROM R TINKLE/J ARNOLD Location DCPP Ext. 3109

SUBJECT REBAR EXPOSURE 229/61R File No.

DRILLING FOR 1"ϕ HILTIS, EXPOSED RE-BAR @ THE WESTERN-MOST LOCATION OF ITEM # 1 IN THE LOWER EAST BOLT LOCATION.

PER YOUR REQUEST THE ATTACHED SUPPORT DWG LOCATES THE EXACT POSITION OF THE ENCOUNTER. IS THIS AN EXCEPTABLE CONDITION?

11/4/83

CC: BOB OLDENKAMP/K. BELL/SUPPORT PACKAGE W/REPLY

REPLY CHUCK MORRIS Date

Yes, this is within limits and will not be a structural problem

FOR INFORMATION ONLY

REPLY BY: P G and E EXT. NO.

INSTRUCTIONS – REMOVE YELLOW COPY AND SEND WHITE AND PINK COPIES WITH CARBON INTACT. WHITE COPY WILL BE RETURNED WITH REPLY. REMOVE SET FROM PAD BEFORE USING.

REV. 5-11-82
FORM F-65
HOLD POINTS...
✓ QC VERIFICATION POINTS

PULLMAN POWER PRODUCTS
GENERAL FIELD SUPPORT PROCESS SHEET

SUPPORT NO. 225-61P
PREPARED BY P. ENN DATE 9/6/83
DRAWING NO. 04529 REV. NO 01

					FITTER/WELDER BADGE NUMBER		Q.C. DATE & INITIAL
1. LOCATION OF SUPPORT COMPLIES WITH DRAWING.						✓	
2. DRAWING CHANGES NOTED AND COMPONENTS COMPLY WITH MATERIAL LIST.						✓	
3. ANCHORS INSTALLED AND WITNESSED BY Q.C.				Holes drilled to tolerance and Check adjacent anchors	7/90	✓	
B. Shield/Plug Driven to Tolerance				TYPE: Hilti/Phillips	n/a	*	n/a
C. Type Stud Installed	SIZE	MIN. EMB.		TYPE Hilti/Phillips	7/90	*	11/7/83
(16) 3/4x7" HKB's 3/4"	3 1/4"	1"	4 1/2"	See Board of Const over a... For SET of Bolts 11/7/83			
D. Anchors Torqued	SIZE	VALUE		WRENCH SERIAL NUMBER	7/12	*	
3/4" 100ft-lb	1"	220ft-lb		325... 11/19/83 DOE 12/19/83			
E. Unused holes dry packed						*	
4. BACK OFF BOLTS PRIOR TO WELDING ON BASE PLATES						*	
5. FIT-UPS: A. Pipe attachments installation:				(1) Heat No:		✓	
				(2) P.O. No:		✓	
B. Support Members:	ITEMS			SPECIAL INSTRUCTIONS		✓	
(1) Groove & Full Pen Welds	9, 5			(2) item 9, (1) item 5 both ends of all pieces	7/12	*	R. Hogi 11/20/83
C. Purge Established where required						*	
6. WELD PREP ZONES CLEAN OF PAINT, OIL						✓	
7. WELDING OF PIPE ATTACHMENTS (PER SEPARATE PROCESS SHEET) P.W.I					X	*	
8. WELDING OF HANGER SUPPORT MEMBERS ONLY:	IDENTIFICATION			WELD CODE			
SPECIAL WELDING INSTRUCTIONS				CS/CS 7/8			
				↓ 88/89			
				SS/SS 129			
				↓ 15/16			
				CS/SS			
9. OTHER INSTRUCTIONS: Verify 1 1/16" Ø holes in Items # 14 Per ESO 225 Sec. 6.3.6						*	R. Hogi 11/20/83
Verify 25/32" Ø holes in Items # 15						*	11-19-83
10. FINAL WELD CONDITION-SUPPORT MEMBERS:	A. Weld Surface Clean					✓	
	B. Arc Strikes Removed/Minimized					✓	
	C. Weld Size Complies with drawing					✓	
11. REVIEW FOR GENERAL WORKMANSHIP AND CONFIGURATION:					FOREMAN INITIAL/DATE		Q.C. DATE & INITIAL
A. Components and Dimensions Comply W/Dwg. & Mat'l. List						✓	
B. Pipe Clearance in Accordance with Drawing						✓	
C. Riser Clamp Bears upon Lug						✓	
D. Hanger is Level and Plumb						✓	
E. All Bolts/Nuts Installed and Tight						✓	
F. Wall & Ceiling Plates Shimmed where Necessary						✓	
G. Grout Request Submitted						✓	
H. Lug Clearance within Tolerance						✓	
12. SNUBBERS: A. Installed per Separate Process Sheet						*	
B. Grinnell Fig.# & Size		C. PSA Size		D. TYPE: NF NON-NF			

13. SUPPORT ACCEPTED BY Q.C. -(Complete Installation Review) Q.C. SIGNATURE ____________

DATE ____________

FOR INFORMATION ONLY

Margin notes: (8) 1" X 9" HKB; 11/7/83; 10/31/83; SEE BACK; CEM 11/7/83; T.C. #1-14001 CEM 11/5/83

FORM F-65
BACKSIDE

PREINSPECTION CHECKLIST	CHECKED Q.C.	CHECKED ENGINEERING
1. ALL MEMBERS INSTALLED		N/A PRE ENG ONLY NEW HOR 10/31/83
2. WELDS; Inaccessible and/or Undersized		
3. GAPS; U-Bolts, Tee Shoes and Lugs		
4. GROUTED PLATES; Grout damaged or Holes in Plate		
5. SHIMS; Tack Welds		
6. NUTS NOT FULLY ENGAGED		
7. ARC STRIKES		
8. MATERIAL SIZE		
9. OVERSIZED HOLES IN PLATE; Washers		
10. WARPED BASE PLATES/MEMBERS		

PREINSPECTION REMARKS:

Rebar encountered on (2) Bolt Hole. SEE BACK of CONSTRUCTION DWG for remarks [illegible] 10/31/83

PER TELECON & LOCATION INSPECTION WITH CIVIL - THE REBAR EXPOSURE IS ACCEPTABLE [illegible] Bell PS&S 11-3-83

FINAL INSPECTION COMMENTS: INSPECTOR DATE

Engineering should have QC review package & sign that [illegible] for construction applicable to proper [illegible] [illegible] date signed by KRC 11 is inaccurate [illegible] [illegible] 11/7/83

TORQUED (8) 1x9 HKB, 220 FT-LB; WRENCH PPP 103; CAL 11/19/83 DUE 12/19/83; SEE BACK OF CAR PG 64B FOR EMB. DIA TJO 11/29/83

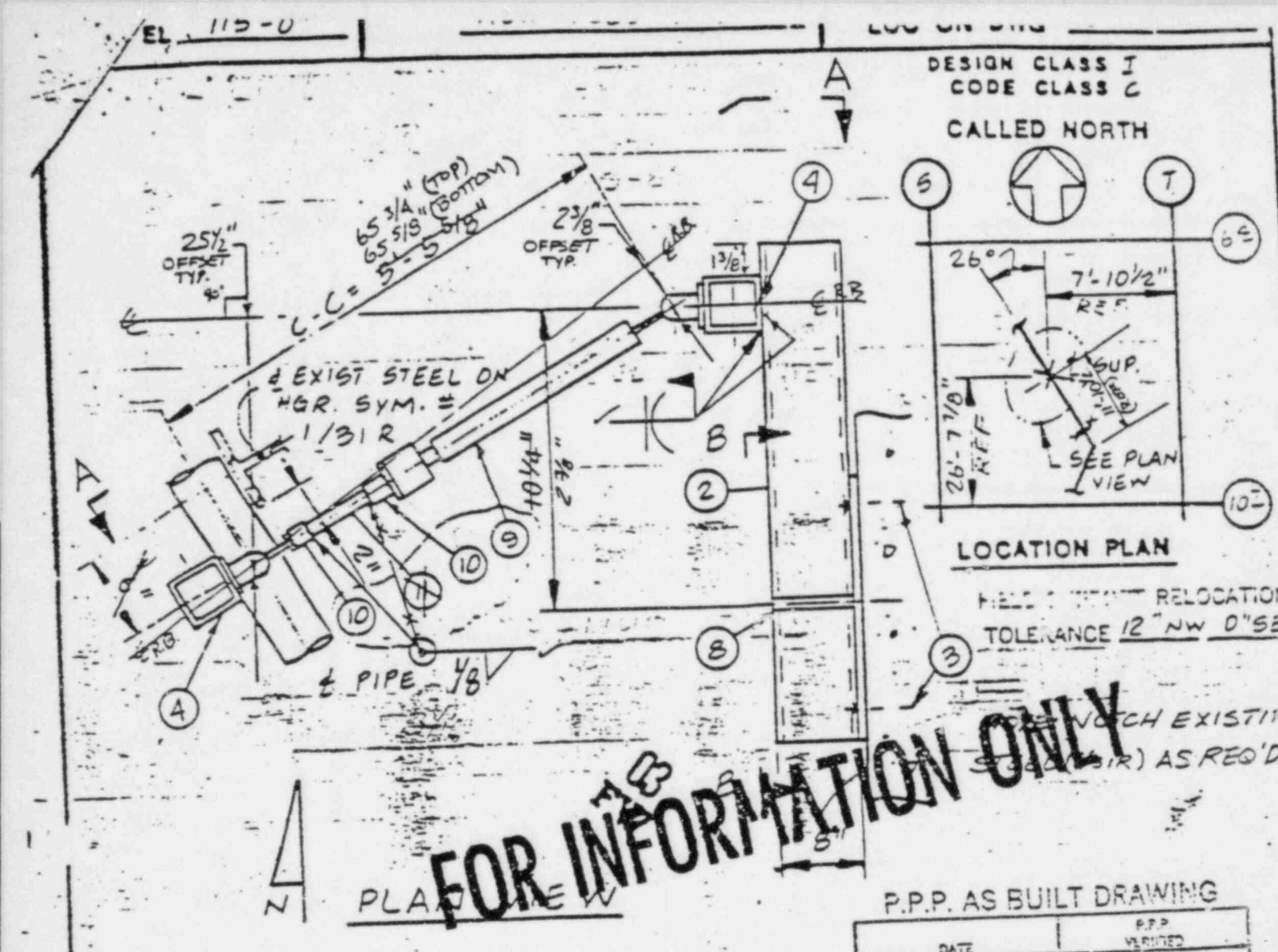
NO VERIFICATION OF BACKING OFF OF BOLTS PRIOR TO WELDING ON ALL ITEMS - DCN REQ. ITEM 7B BOTTOM, GAP > 1/8 IN - ENTIRE LENGTH REQUIRES SHIMMING TJO 11/29/83

ALSO TORQUED (16) 1x9 HKB, 100 FT-LB, PPP 103 AS ABOVE TJO 11/29/83

FOR INFORMATION ONLY

EL. 115'-0"

DESIGN CLASS I
CODE CLASS C



P.P.P. AS BUILT DRAWING

DATE	P.P.P. VERIFIED
9-10-83	jma

NO OTHER OFFSETS

NO	REQD	MATERIALS PER ASSEMBLY [1]
1	~~2~~	~~S.M.A., SIZE 1, TYPE 5A, SHOCK ARRESTOR, 4" STROKE,~~
		~~C-C = 5'-5 5/8", C.S. = 2 1/4", H.S. = 1 11/16", LOAD = 1168#~~ (DELETE
2	1	T.S. 8 x 4 x 3/8, ~~2'-0" LG.~~ 11½" LG. ✓
3	4	3/4" ϕ HILTI SHELL TYPE CONC. ANCHOR ✓
4	2	T.S. 4 x 4 x 1/4, ~~45" LG.~~ 15 1/8" ✓ CONTROLLED COPY
5	1	FIG. 137S, U-BOLT, A = 1/2", B = 4 1/2", C = 5", D = 8 3/4",
		E = 7 1/4" w/(6) HEX NUTS ✓

	DSGN [illegible]	DRAWING NO	
	DWN C. DELUCA	049308	
	CHKD [illegible]		
PROJECT: DIABLO CANYON	UNIT: ONE	SHT 177 OF SHTS	P G & E CO

ISSUE

Pullman Power Products

FIELD PROCESS SHEET

N/A : NOT APPLICABLE

PG&E	NO & SYSTEM N/A	ISOMETRIC DRAWING NO. N/A	DETAIL DRAWING NO. —	SHEET NO. 1 OF 2	
PREPARED BY RDC	JOB NO. 7177	DATE 4-7-83	CODE N/A	CLASS I	MARK NO. 10-1365L

OPER. NO.	OPERATION	HOLD FOR AUTH. INSP.	HOLD FOR ??? INSP.	PROC. NO.	OPER.	DATE COMP.	??? INSP. & DATE	AUTH. INSP. & DATE
	FABRICATION OF NPS TRANSITION KIT							
1	Cut "T" to dimension required. 9-1 1/4"				2673	4/1/83	RCM 4/3/83	
2	Center punch & drill 1/4" Ø sight hole @ dimension "T" from end 9 1/16".		*		2673	4/3/83	RCM 4/3/83	
3	Clean barrel and coupling nut for welding							
4	Thread coupling nut into jig and tack weld pipe to coupling.			7/8				
5	Remove assembly from jig and complete weld to fillet size-"F" 3/16".		*		1	4/13/83	RCM 4/13/83	
6	Metal stamp coupling nut. I.D. No. 041.				2673	4/13/83	RCM 4/13/83	

FOR INFORMATION ONLY

FOR INFORMATION ONLY

REV. 5-11-82
FORM F-85
— HOLD POINTS
✓ QC VERIFICATION POINTS

PULLMAN POWER PRODUCTS

GENERAL FIELD SUPPORT PROCESS SHEET

SUPPORT NO. 10-B6SL | DRAWING NO. 049308 SHT NO. 3
PREPARED BY: | DATE

	FITTER/WELDER BADGE NUMBER	Q.C. DATE & INITIAL
1. LOCATION OF SUPPORT COMPLIES WITH DRAWING.	3414	9.1.83
2. DRAWING CHANGES NOTED AND COMPONENTS COMPLY WITH MATERIAL LIST	3414	9-19-83
3. ANCHORS INSTALLED AND WITNESSED BY Q.C. A. Holes drilled to tolerance and Check adjacent anchors	NA	old work
B. Shield/Plug Driven to Tolerance TYPE: Hilti/Phillips.	NA	old work
C. Type Stud Installed / SIZE / MIN. EMB. / TYPE: Hilti/Phillips	NA	NA
D. Anchors Torqued / SIZE / VALUE / WRENCH SERIAL NUMBER	NA	old work
E. Unused holes dry packed	NA	NA
4. BACK OFF BOLTS PRIOR TO WELDING ON BASE PLATES	NA	NA
5. FIT-UPS: A. Pipe attachments installation: (1) Heat No:	NA	NA
(2) P.O. No:	NA	NA
B. Support Members: / ITEMS / SPECIAL INSTRUCTIONS		
(1) Groove & Full Pen Welds	NA	NA
	NA	NA
C. Purge Established where required	NA	NA
6. WELD PREP ZONES CLEAN OF PAINT, OIL	3414	
7. WELDING OF PIPE ATTACHMENTS (PER SEPARATE PROCESS SHEET) F.W.I	X	NA
8. WELDING OF HANGER SUPPORT MEMBERS ONLY: / IDENTIFICATION / WELD CODE		
SPECIAL WELDING INSTRUCTIONS: CS/CS (7/8)	2280	
↓ 86/69		
SS/SS 129		
↓ 15/26		
CS/SS		
9. OTHER INSTRUCTIONS:		
10. FINAL WELD CONDITION SUPPORT MEMBERS: A. Weld Surface Clean	2280/3414	9.1.83
B. Arc Strikes Removed/Minimized	2280/3414	9-1-83
C. Weld Size Complies with drawing	2280/3414	9.1.83

11. REVIEW FOR GENERAL WORKMANSHIP AND CONFIGURATION:	FOREMAN INITIAL/DATE	Q.C. DATE & INITIAL
A. Components and Dimensions Comply W/Dwg. & Mat'l. List	MWD 9/1	9-19-83
B. Pipe Clearance in Accordance with Drawing	NA	NA
C. Riser Clamp Bears upon Lug	NA	NA
D. Hanger is Level and Plumb	MWD 9/1	9.1.83
E. All Bolts/Nuts Installed and Tight	MWD 9/1	9.1.83
F. Wall & Ceiling Plates Shimmed where Necessary	NA	NA
G. Grout Request Submitted	NA	NA
H. Lug Clearance within Tolerance	NA	NA
12. SNUBBERS: A. Installed per Separate Process Sheet	MWD 9/1	9.1.83
B. Grinnell Fig.# & Size / C. PSA Size 1/2 / D. TYPE: (RF) NON-RF		

13. SUPPORT ACCEPTED BY Q.C. (Complete Installation Review) Q.C. SIGNATURE [signature]

DATE 9-19-83

[illegible]
 [illegible]
 • [illegible]
 ✓ [illegible]

PULLMAN POWER PRODUCTS
GENERAL FIELD SUPPORT PROCESS SHEET

SUPPORT: 70-1365L | DWG: 079308 — 2
PREPARED BY T.I. [illegible]

Item	Foreman badge number	Q.C. date & signature
1. LOCATION OF SUPPORT COMPLIES WITH DRAWING.	2836	[illegible] 3/3/83
2. DRAWING CHANGES NOTED AND COMPONENTS COMPLY WITH MATERIAL LIST	2836	[illegible] 4/10/83
3. ANCHORS INSTALLED AND WITNESSED BY Q.C. (4) A. Holes drilled to tolerance and check adjacent anchors	2836	MAF 26APR83
B. Shield/Plug Driven to Tolerance (4) 3/4" TYPE: Hilti/Phillips	2836	MAF 26APR83
C. Type Stud Installed | SIZE | MIN. EMB. | TYPE: Hilti/Phillips	NA	NA
D. Anchors Torqued | SIZE | VALUE [illegible] | [illegible] SERIAL NUMBER — SHELL | 3/4" ø | [illegible] PPP38 DUE 5/25/83	2836	[illegible] 4/30/83
E. Unused holes dry packed — ADJACENT [illegible] HOLES (CHECKED [illegible] HOLE [illegible])		[illegible] 4-27-83
4. BACK OFF BOLTS PRIOR TO WELDING OF BASE PLATES	2836	[illegible] 4/28/83
5. FIT-UPS: A. Pipe attachments installation: (1) Heat No:	NA	NA
(2) P.O. No:	NA	NA
B. Support Members: | ITEMS | SPECIAL [illegible]		
(1) Groove & Full Pen Welds	NA	NA
[illegible]	NA	NA
C. Purge Installation where required	NA	NA
6. WELD PREP [illegible] CLEAN OF PAINT, OIL-		
7. WELDING OF PIPE ATTACHMENTS ([illegible]) P.S.I.	X	NA
8. WELDING OF HANGER SUPPORT [illegible] | [illegible] | WELD [illegible]		
SPECIAL WELDING [illegible] — C/CS [illegible] 2914; [illegible] 38/39 [illegible]; SS/SS 129 [illegible]; [illegible]; C/SS		
9. [illegible] TORQUE SNUBBER CAPSCREWS TO 22 IN/# ± 2 IN/# [illegible] DUE 5/28/83	2836	[illegible] 5/2/83
QC TO VERIFY 1/16" FULL BACK & 1/2" INSERT LENGTH (ITEM #)		NA
10. FINAL WELD [illegible]-SUPPORT MEMBERS: A. Weld Surface Clean	2836	[illegible] 5/2/83
B. Arc Strikes Removed/[illegible]	2836	[illegible] 5/2/83
C. Weld Size Complies with drawing	2836	[illegible] 5/2/83
11. REVIEW FOR GENERAL WORKMANSHIP AND CONFIGURATION:	FOREMAN INITIAL/DATE	Q.C. DATE & [illegible]
A. Components and Dimensions Comply w/Dwg. & Mat'l. List	[illegible] 5-2	[illegible] 6/10/83
B. Pipe Clearance in Accordance with Drawing	[illegible] 5-2	[illegible] 5/2/83
C. Riser Clamp Bears upon Lug	N/A	NA
D. Hanger is Level and Plumb	[illegible] 5-2	[illegible] 5/2/83
E. All Bolts/Nuts Installed and Tight	[illegible] 5-2	[illegible] 5/2/83
F. Wall & Ceiling Plates Shimmed where Necessary	N/A	NA
G. Grout Request Submitted	N/A	NA
H. Lug Clearance within Tolerance	NA	NA
12. SNUBBERS: A. Installed per Separate Process Sheet	[illegible] 5-2	[illegible] 5/2/83 W/NF [illegible]
B. Grinnell Fig.# & Size | C. PSA Size 1/2 | D. [illegible] (3) [illegible]		

13. SUPPORT ACCEPTED BY Q.C. (Complete Installation Review) Q.C. SIGNATURE [illegible]

FOR INFORMATION ONLY

DATE: 8-25-83 INSPECTOR: Jare Ayers

SNUBBER NO. 373 SYS: 3 DRWNG. NO: 049308 SHT: 177

	Top	Bott
	INDICATES ACCEPTABILITY	
SNUBBER AXIS WITHIN 10° OF OPTIMUM (NO INTERFERENCE AT REAR BRACKET OR FORWARD ADAPTER)	✓	✓
COLD SETTING WITHIN FIELD TOLERANCE (± 1/4 ") 1 15/16" 8/26/83 *	1 15/16 9.1.83	1 15/16 9.1
Transition Tube bolts/cap screws tightened, Torque sealed, and Safety Wired (if applicable) at final inspection	✓	✓
Bolt/cap screw lock washers installed (if applicable)	NA	NA
REAR BALL JOINT NOT LOOSE OR PUSHED OUT	✓	✓
REAR BRACKET COTTER PINS SPREAD	✓	✓
REAR BRACKET WASHERS INSTALLED CORRECTLY	✓	✓
PSA SNUBBER CLAMP INSTALLED	NA	NA
CLAMP LINED IF REQUIRED	NA	NA
CLAMP SHORTENED IF REQUIRED	NA	NA
GRADE 5 BOLT INSTALLED IN PROPER HOLE	NA	NA
LOCK NUT INSTALLED ON GRADE 5 BOLT	NA	NA
1-3 BOLT THREADS EXPOSED BEYOND NUT ON ALL CLAMP BOLTS	NA	NA
ALL CLAMP NUTS TIGHTENED	✓	✓
NEW-STYLE LOCK NUT NOT BACKED OFF OR REMOVED ONCE TIGHTENED	NA	NA
* SPACER INSTALLED IN PROPER LOCATION	NA	NA
FORWARD ADAPTER BALL JOINT NOT LOOSE OR PUSHED OUT	✓	✓
WASHERS INSTALLED EACH SIDE OF FORWARD ADAPTER	✓	✓
EXTRA REAR BRACKET WASHERS INSTALLED CORRECTLY	NA	NA
EXTRA REAR BRACKET COTTER PINS SPREAD	NA	NA
SNUBBER NOT DAMAGED INTERNALLY	✓	✓
PROTECTIVE BOOT INSTALLED	NA	NA

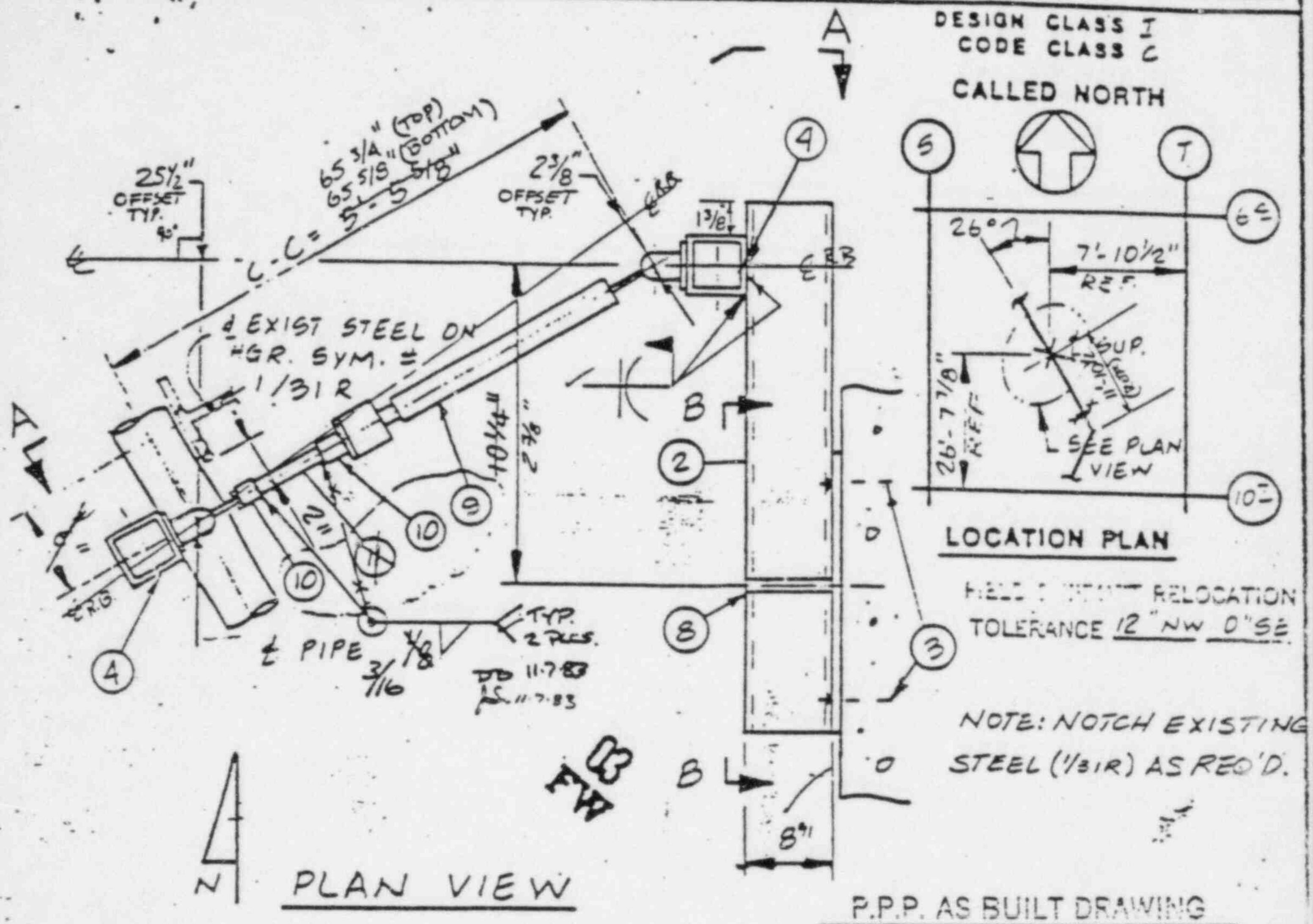
NOTE: IF THERE IS MORE THAN A SMALL AMOUNT OF PLAY WHEN ONE END OF THE SNUBBER IS TWISTED WITH RESPECT TO THE OTHER, THE SNUBBER IS BROKEN INTERNALLY AND MUST BE REPLACED.

*QA HOLD POINT DURING BOOT INSTALLATION ONLY.

FOR INFORMATION ONLY

AREA ______ EL 115'-0" | LINE ______ AUX. FEEDWATER | ⊥ H. RESTR. 136SL | LOC ON DWG 500041

DESIGN CLASS I
CODE CLASS C



FIELD CONTRACT RELOCATION TOLERANCE 12" NW 0" SE

NOTE: NOTCH EXISTING STEEL (1/31R) AS REQ'D.

P.P.P. AS BUILT DRAWING

DATE	P.P.P. VERIFIED
9-10-83	fma

NO OTHER OFFSETS

NO	REQD	MATERIALS PER ASSEMBLY 1
1	~~2~~	~~SMA, SIZE 1, TYPE BA, SHOCK ARRESTOR, 4" STROKE~~
		~~C-C = 5'-5 5/8", C.S. = 2 1/4", H.S. = 1 11/16", LOAD = 1168#~~ (DELETE)
2	1	T.S. 8 x 4 x 3/8, ~~2'-0" LG.~~ 11 1/2" LG. ✓
3	4	3/4" ϕ HILTI SHELL TYPE CONC. ANCHOR ✓
4	2	T.S. 4 x 4 x 1/4, ~~45" LG.~~ 15 1/8" ✓
5	1	FIG. 137S, U-BOLT, A = 1/2", B = 4 1/2", C = 5", D = 8 3/4",
		E = 7 1/4" w/(6) HEX NUTS ✓

CONTROLLED COPY

DSGN LmA | DWN C. DE LUCA | CHKD JBE

DRAWING NO 049308

PROJECT: DIABLO CANYON | UNIT: ONE | SHT 177 OF SHTS | P G & E CO | ISSUE | REV 3

R-2 6-16-80

DATE: 8-25-83 INSPECTOR: Jere Ayers

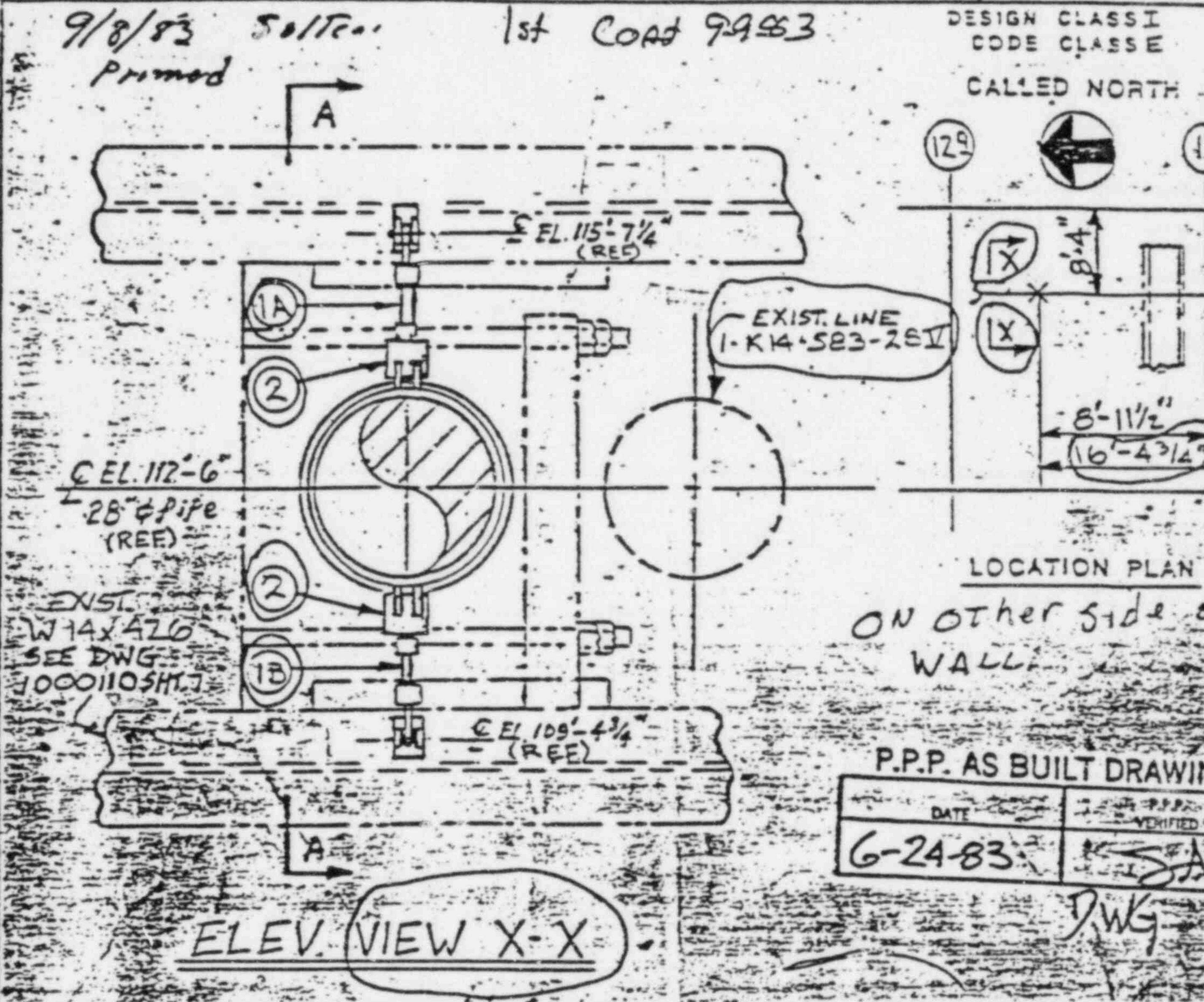
LINE NO. 373 SYS: 3 DRWNG. NO: 049308 SHT: 177

	Top	Bott
	✓ INDICATES ACCEPTABILITY	
SNUBBER AXIS WITHIN 10° OF OPTIMUM (NO INTERFERENCE AT REAR BRACKET OR FORWARD ADAPTER)	✓	✓
COLD SETTING WITHIN FIELD TOLERANCE (± 1/4 in) 1 15/16" [illegible] 8/26/83 *	1 15/16 JA 9-1-83	1 13/16 JA 9-1-83
Transition Tube bolts/cap screws tightened, Torque sealed, and Safety Wired (if applicable) at final inspection	✓	✓
Bolt/cap screw lock washers installed (if applicable)	NA	NA
REAR BALL JOINT NOT LOOSE OR PUSHED OUT	✓	✓
REAR BRACKET COTTER PINS SPREAD	✓	✓
REAR BRACKET WASHERS INSTALLED CORRECTLY	✓	✓
PSA SNUBBER CLAMP INSTALLED	NA	NA
CLAMP LINED IF REQUIRED	NA	NA
CLAMP SHORTENED IF REQUIRED	NA	NA
GRADE 5 BOLT INSTALLED IN PROPER HOLE	NA	NA
LOCK NUT INSTALLED ON GRADE 5 BOLT	NA	NA
1-3 BOLT THREADS EXPOSED BEYOND NUT ON ALL CLAMP BOLTS	NA	NA
ALL CLAMP NUTS TIGHTENED	✓	✓
NEW-STYLE LOCK NUT NOT BACKED OFF OR REMOVED ONCE TIGHTENED	NA	NA
SPACER INSTALLED IN PROPER LOCATION	NA	NA
FORWARD ADAPTER BALL JOINT NOT LOOSE OR PUSHED OUT	✓	✓
WASHERS INSTALLED EACH SIDE OF FORWARD ADAPTER	✓	✓
EXTRA REAR BRACKET WASHERS INSTALLED CORRECTLY	✓ ~~NA~~ JA 11-7-83	~~NA~~
EXTRA REAR BRACKET COTTER PINS SPREAD	✓ ~~NA~~ JA 11-7-83	✓ ~~NA~~
SNUBBER NOT DAMAGED INTERNALLY	✓	✓
PROTECTIVE BOOT INSTALLED	NA	NA

NOTE: IF THERE IS MORE THAN A SMALL AMOUNT OF PLAY WHEN ONE END OF THE SNUBBER IS TWISTED WITH RESPECT TO THE OTHER, THE SNUBBER IS BROKEN INTERNALLY AND MUST BE REPLACED.

*QA HOLD POINT DURING BOOT INSTALLATION ONLY.

AREA G.W | LINE 1-K14-504-28 II | 100-GW[illegible]
EL 100'-0" | M.S. LEAD #2 | X-RESTRAINT
LOC ON DWG 5001[illegible]



NO OF ASSEMBLIES REQUIRED 1

NO	REQD	MATERIALS PER ASSEMBLY
1	2	NF FIG C-201 S&S SUPPRESSOR 4" CYL x 10" S
		LESS PIPE CLAMP, W/ ADDITIONAL REAR BRACKET, W/
		RESERVOIR,
		W = 3'-2 1/2" TOP CPS = 5 1/16" HPS = 6 23/3[illegible]
		BOTTOM CPS = 5 23/32"
2	2	PL 1" x 5 1/2" x 7"

289

DSGN	DRAWING NO
DWN DWG	049182
CHKD SA	

PROJECT: DIABLO | UNIT: ONE | SHT 17 OF SHTS | P G & E CO

AREA GW

EL 112'-6"

LINE 1-K16-2479-24[illegible]

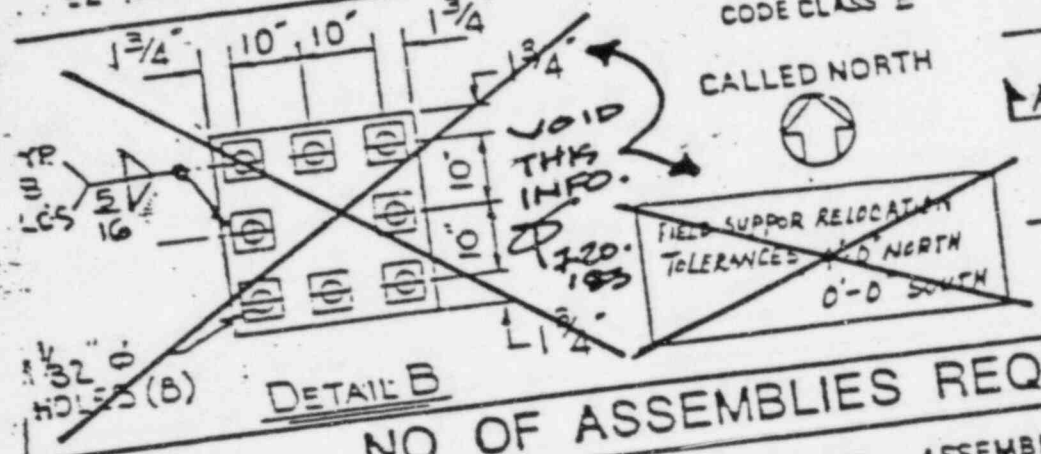
SYS 03 FS

STM GEN 1+2 FEED LEAD

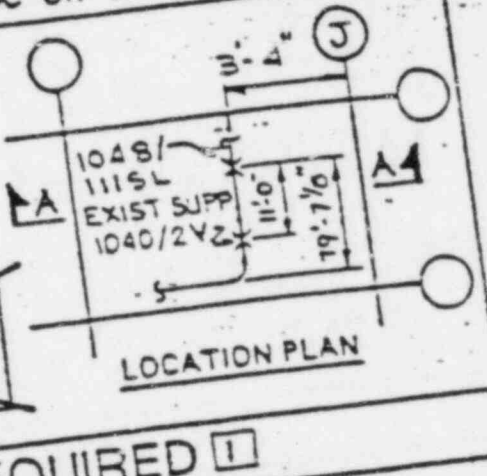
[illegible] Y RESTRAIN

LOC ON DWG 500164

100-



DETAIL B



NO OF ASSEMBLIES REQUIRED [1]

NO	REQ'D	MATERIALS PER ASSEMBLY
1	1	PSA-35 (NF) MECHANICAL SNUBBER STROKE = 6"
~~3~~	~~1~~	~~C.S. = 2 1/2" H.S. = 3 1/2 W/ 24" ϕ PIPE CLAMP~~
2	T.	EXTENSION PIPE 4" ϕ SCH. XXS (LENGTH BY FIELD)
~~5~~	~~1~~	~~T.S. 8 x 8 x 1/2, 3'-9" LG. W/ 1/4" ϕ VENT HOLE (CUT TO SUIT)~~
~~4~~	~~1~~	~~T.S. 8 x 4 x 3/8, 4'-9" LG. W/ 1/4" ϕ VENT HOLE (CUT TO SUIT) SEE DETAIL B~~
~~6~~	2	~~PL 1 x 23 1/2 x 1'-11 1/2" LG.~~
6	16	1" ϕ HILTI-KWIK-BOLT - 9" LG. (STUD TYPE) W/ NUT
7	6	PL 1/4 x 9" x 0'-9" LG
8	6	FISH PL 1" x 2 1/2" x 0'-2 1/2" LG
1	1	AD-5501-MECH. SNUBBER (SER # 68), W/ AD-5505 R
1	1	AD-5506-TRANS. TUBE KIT & NPS 3PC-24-240 PIPE
1	1	CLAMP. C.S. = 2 1/2" H.S. = 3".
3	1	T.S. 8" x 8" x 1/2", 3'-0" LG. W/ 1/4" ϕ VENTHOLE
4	1	T.S. 8" x 4" x 3/8", 44" LG. W/ 1/4" ϕ VENTHOLE (CUT AS SHO
5	2	(5A) (1) PL 1" x 23 1/2" x 25 1/2" LG.
		(5B) (1) PL 1" x 25" x 33 1/2" LG.

CONTROLLED COP

03

PW

P.P.P. AS BUILT DRAWING

DATE	VERIFIED
7-20-83	

WESTINGHOUSE NUCLEAR ENERGY SYSTEMS
PITTSBURGH PA.

DSG [illegible]
DWN T.C.M
CHKD JPB

DRAWING NO 049198

PROJECT: DIABLO CANYON

UNIT: ONE

SHT 45 OF SHTS

P G & E CO

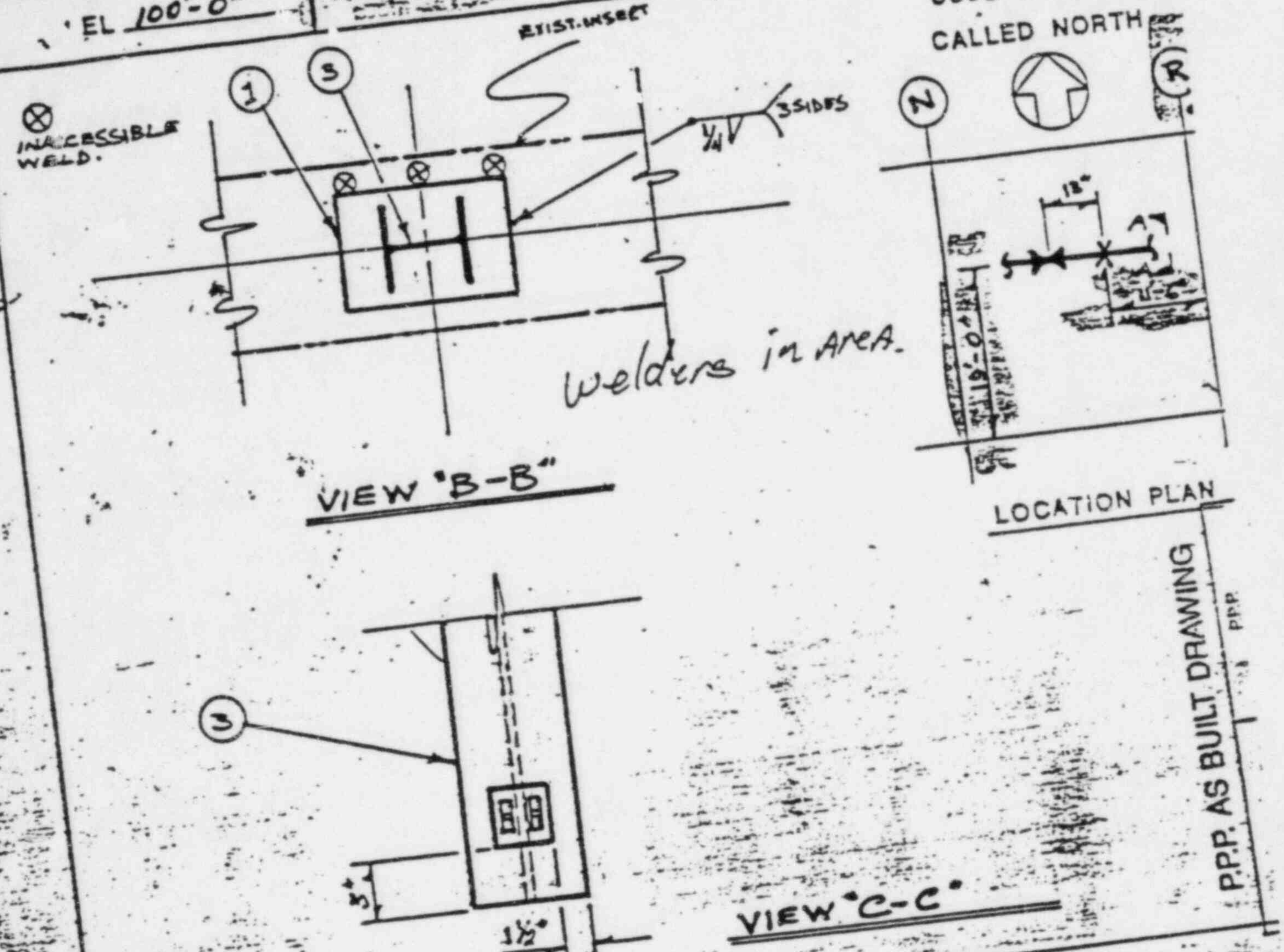
MICRO

100-GE-1

AREA GE | LINE 1-S5-3848 | LOC ON DWG 500056

EL 100'-0" | NOS. WASTE FILTER 0-2 DRAIN

DESIGN CLASS I
CODE CLASS B



NO OF ASSEMBLIES REQUIRED I

MATERIALS PER ASSEMBLY

NO	REQD	
1	1	PL 1/2" x 9" x 11". CUT AS SHOWN
2	1	4WF 13, 43 3/4" LG.
3	1	6WF20, 69 1/4" LG.
4	1	PSA-1/2 PRE-NF TYPE, 3/16" RET STROKE C.S.=1 1/8", H.S. SER# 1,176
5	1	W/ PRE-NF REAR BRACKET. 4"Ø WESTERN NON-SHORTENED PIPE CLAMP.
6	1	3/4" SCH. 40 PIPE ~~3 1/4" MTK.~~ LENGTH BY FIELD 7-25-83

DSGN	DRAWING NO SK-15-1656
DWN MAX-T	
CHKD	
SHT 25A OF SHTS	PG&E CO
UNIT: ONE	PROJECT: DIABLO CANYON

NRC Form 307 (11-82)

ALLEGATION DATA FORM

Instructions on reverse side

U.S. NUCLEAR REGULATORY COMMISSION

RECEIVING OFFICE

1. Facility(ies) Involved: (If more than 3, or if generic, write GENERIC)
   (Name) Diablo Canyon 1/2 — Docket Number (if applicable): 050 00275; 050 00323

2. Functional Area(s) Involved: (Check appropriate box(es))
   - [ ] operations
   - [x] construction
   - [ ] safeguards
   - [ ] other (Specify) _____
   - [ ] onsite health and safety
   - [ ] offsite health and safety
   - [ ] emergency preparedness

3. Description: (Limit to 100 characters)
   Foley and Pullman lost traceability on pipe width follow procedures Numbers 168 169 and 169

4. Source of Allegation: (Check appropriate box)
   - [ ] contractor employee
   - [ ] licensee employee
   - [ ] NRC employee
   - [ ] organization (Specify) _____
   - [x] other (Specify) Confidential
   - [ ] security guard
   - [ ] news media
   - [ ] private citizen

5. Date Allegation Received: MM DD YY — 01 - - 84

6. Name of Individual Receiving Allegation: (First two initials and last name) _____

7. Office: RV

ACTION OFFICE

8. Action Office Contact: (First two initials and last name) H.L. Canter

9. FTS Telephone Number: 463-3719

10. Status: (Check one)
    - [ ] Open, if followup actions are pending or in progress
    - [ ] Closed, if followup actions are completed

11. Date Closed: MM DD YY _____ 11.1 Document Nos. _____

12. Remarks: (Limit to 50 characters)

12.1 Man-hours/Date _____

13. Allegation Number: Office Year Number — RV-84-A-0022

290

Task: Allegation or Concern No. 168

FILE COPY

ATS No.: RV-84-A-0022 BN No.:

See allegation #123

Characterization

Foley did not properly grout base plate anchor bolts.

Implied Significance to Plant Design, Construction, or Operation

The staff's face value assessment is that this concern is of minimal safety significance and even if true would not seriously degrade the operability of the diesel fuel oil transfer system.

Assessment of Safety Significance

The alleger specifically referred to support No. 20/85R in the diesel generator fuel oil vault of Unit 1. Specifically, the alleger referred to an instance where a U-Bolt hole had been drilled through a weld attaching a shim plate to the support. Also, he stated that one of four anchor bolts in a baseplate had allegedly been improperly grouted, as evidenced by an excessively large amount of grout which had leaked out of the grout cap onto the surrounding floor area. Thus, the alleger concluded that the anchor bolt hole was not properly filled with grout. The alleger states that the first condition was wrongly accepted by field engineering and that Foley improperly accepted the anchor bolt grouting.

The staff considers that extensive evaluation of this concern is not likely to result in any significant new management or quality performance issues.

Action Required

This item will be turned over to PG&E for evaluation and ~~resolution~~ response. The licensee will be required to provide the results of their evaluations, and any necessary corrective actions, to the staff in writing.

FAX to H. Schierling
Phillips Bldg. @1344
3-15-84

291

Task: Allegation or Concern No. 169

FILE COPY

ATS No.: RV-84-A-0022 BN No.:

Characterization

Pullman failed to conduct support welds as required by procedures.

Assessment of Safety Significance

The alleger stated that two W14X90 wide flange beams were welded together on support Nos. 2/45R and 2/49R (on the diesel generator exhaust system) by use of an unqualified welding technique. Specifically, the alleger stated that Pullman welding procedure specification (WPS) 7/8 was used to join the steel shapes without the use of the procedure required backing bar; in place of which a back-gouging was performed, contrary to the qualified technique. The alleger further stated that the Pullman QA/QC Manager wrongly approved the technique utilized.

Staff Position

Because welding related allegations had been extensively examined by the staff, an exhaustive examination of these two specifics would in the staffs opinion, add little to the management or quality performance issue.

Action Required

This item will be turned over to PG&E for evaluation and ~~resolution.~~ response The licensee will be required to provide the results of their evaluation, and any necessary corrective actions, to the staff in writing.

FAX to H. Schierling.
Phillips Bldg.
1344
3-15-84

292

sent to PG&E

Allegation or Concern No. 170

Characterization

Pullman may have lost pipe traceability due to inadequate training of Fab Shop Inspectors.

It was alleged that a Pullman shop inspector was given an assignment and didn't know that copies of the Field Warehouse Requisition (FWR) form were to be routed to QA, and it was his perception that FWR's were being reconstructed by field inspection to verify material traceability.

Task: Allegation or Concern No.170

ATS No: RV84A022 BN No:

Characterization

Pullman lost pipe traceability due to inadequate training of fab shop inspectors.

Implied Significance to Plant Design, Construction, or Operation

Assessment of Safety Significance

Staff Position

Sensitive

Action Required

Problem Statement

Allegation #(s): 171 - 177

ATS No.(s): RV-84-0007

BN(s):

This document lists (or directly references) each allegation or concern brought to the attention of NRC personnel. The purpose of this statement sheet is to assure that all points raised by the alleger are covered.

If the problem statement is not clear as to who, what, where, when, or why regarding the issue, the commentary section will amplify the statement. The commentary section will also be used if there is apparent conflicting information or if there is no or very little original information available which describes the concern(s). (This can occur if, for example, a line concern was received in an interview).

Problem Statements (use extra sheets as necessary)

Allegation#	Verbatum Statement or Reference
#171 through #177	SEE ATTACHED SHEET

Commentary

Date This Statement was Completed 3-16-84 [signature]

Technical Reviewer Signature

NRC Form 307 (11-82)

ALLEGATION DATA FORM

Instructions on reverse side

U.S. NUCLEAR REGULATORY COMMISSION

RECEIVING OFFICE

1. Facility(ies) involved: (If more than 3, or if generic, write GENERIC)
   (Name) Diablo Canyon units 1+2 — Docket Number (if applicable): 050 00275; 050 00323
2. Functional Area(s) involved: (Check appropriate box(es))
   - [ ] operations
   - [X] construction
   - [ ] safeguards
   - [ ] other (Specify)
   - [ ] onsite health and safety
   - [ ] offsite health and safety
   - [ ] emergency preparedness
3. Description: (Limit to 100 characters)
   Inadequate AND improper construction practices involving Electric Cables, Anchor Bolts, RHR pumps
4. Source of Allegation: (Check appropriate box)
   - [ ] contractor employee
   - [ ] licensee employee
   - [ ] NRC employee
   - [ ] organization (Specify)
   - [X] other (Specify) unnamed person
   - [ ] security guard
   - [ ] news media
   - [ ] private citizen
5. Date Allegation Received: MM DD YY — 01 27 84
6. Name of Individual Receiving Allegation: (First two initials and last name) Copy of Ltr to Ben Hayes from D. C. Ebersele Chairman ACRS to D. B. Martin
7. Office: RV

ACTION OFFICE

8. Action Office Contact: (First two initials and last name) D. Kirsch
9. FTS Telephone Number: 463-3723
10. Status: (Check one)
    - [✓] Open, if followup actions are pending or in progress
    - [ ] Closed, if followup actions are completed
11. Date Closed: MM DD YY
    11.1 Document Nos.
12. Remarks: (Limit to 50 characters)
12.1 Man-hours/Date
13. Allegation Number: Office Year Number — RV-84-A-0007

#171-177 303

Task: Allegation or Concern No. 176

ATS No: RV-84-A-007 BN No:

Characterization

Anchor Bolts (torquing of "Red-Head Bolts).

Implied Significance to Plant Design, Construction, or Operation

See Task Allegation or Concern No. 25

Assessment of Safety Significance

See Task Allegation or Concern No. 25

Staff Position

See Task Allegation or Concern No. 25

Action Required

See Task Allegation or Concern No. 25

PROBLEM STATEMENT

Allegation No(s): 176

ATS No(s):

BN(s):

This document lists (or directly references) each allegation or concern brought to the attention of NRC personnel. The purpose of this statement sheet is to assure that ALL points raised by the alleger are covered.

If the problem statement is not clear as to who, what, where, when, of why regarding the issue, the commentary section will amplify the statement. The commentary section will also be used if there is apparent conflicting information or if there is NO or very little original information available which describes the concern(s). (This can occur if, for example, a one line concern was received in an interview).

PROBLEM STATEMENTS (use extra sheets as necessary)

ALLEGATION #	VERBATIM STATEMENT OR REFERENCE
176	Staff chacterization statement: Deficiencies in concrete anchor bolt installations. This allegation is a direct reference to allegation No. 58, transmitted to the NRC by Dr. Henry Myers and documented in a 1/23/84 memorandum from J.C. Ebersole to B.B. Hayes.

COMMENTARY
See allegation No. 58 files.

Date This Statement was Completed 3/09/84 D. Haist

Technical Reviewer
Signature

305