PORSF 11.3.307.1 v.1
4/11/08

Q. 13K

USEPA SF
1372998

QUESTION 13 K.

RECEIVED
JUN 11 2008
Environmental
Cleanup Office

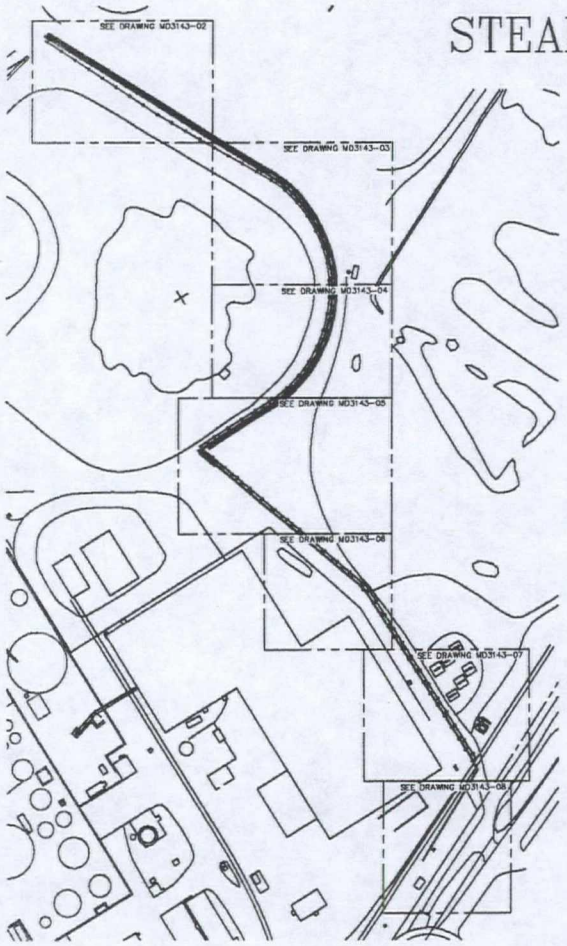
NW Natural

220 NW 2ND AVENUE

PORTLAND, OR 97209

STEAM AND PRODUCT LINE REPLACEMENT

DRAWING LIST



MECHANICAL PIPING				
DWG. NO.	SIZE	DESCRIPTION	DATE	CURRENT REVISION
MD3143 -01	D	KEY PLAN & DRAWING LIST		
MD3143 -02	D	PIPING PARTIAL PLAN		
MD3143 -03	D	PIPING PARTIAL PLAN		
MD3143 -04	D	PIPING PARTIAL PLAN		
MD3143 -05	D	PIPING PARTIAL PLAN		
MD3143 -06	D	PIPING PARTIAL PLAN		
MD3143 -07	D	PIPING PARTIAL PLAN		
MD3143 -08	D	PIPING PARTIAL PLAN		
MD3143 -09	D	PIPING MISC. PIPING DETAILS		
MD3143 -10	D	STEAM PIPING MISC. PIPING DETAILS		
MD3143 -11	D	PRODUCT PIPING MISC. PIPING DETAILS		
MD3143 -12	D	PIPING MISC. PIPING DETAILS		

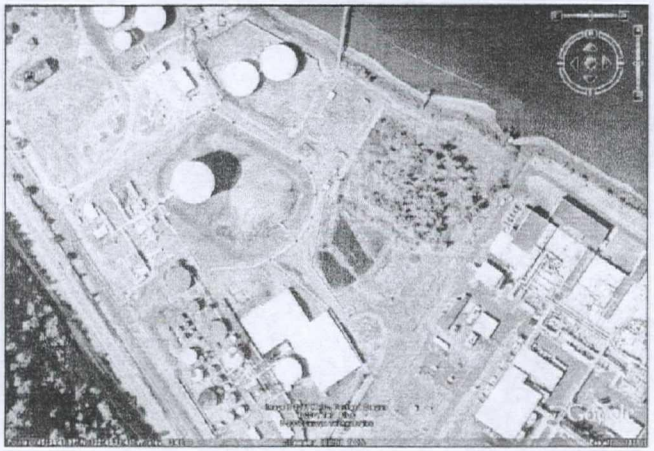
CODES AND STANDARDS

PRODUCT PIPELINES
- PIPELINES SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI B31.4 CODES.

STEAM PIPELINES
- PIPELINES SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI B31.1 CODES.

PIPING MATERIAL
- ANSI A53 GR. B ERW, CARBON STEEL

TUBING MATERIAL
- ANSI B31, 304SS WELDED TUBING (OR BETTER)



SITE MAP

ISSUED FOR CLIENT REVIEW ONLY

SAN JUAN INDUSTRIES, INC
1695 LEWIS RIVER ROAD WOODLAND, WA. 98674

NORWEST ENGINEERING
CONSULTING ENGINEERS PORTLAND, OREGON

N.E. # 3143

NW Natural
220 NW 2ND AVENUE
PORTLAND, OR 97209

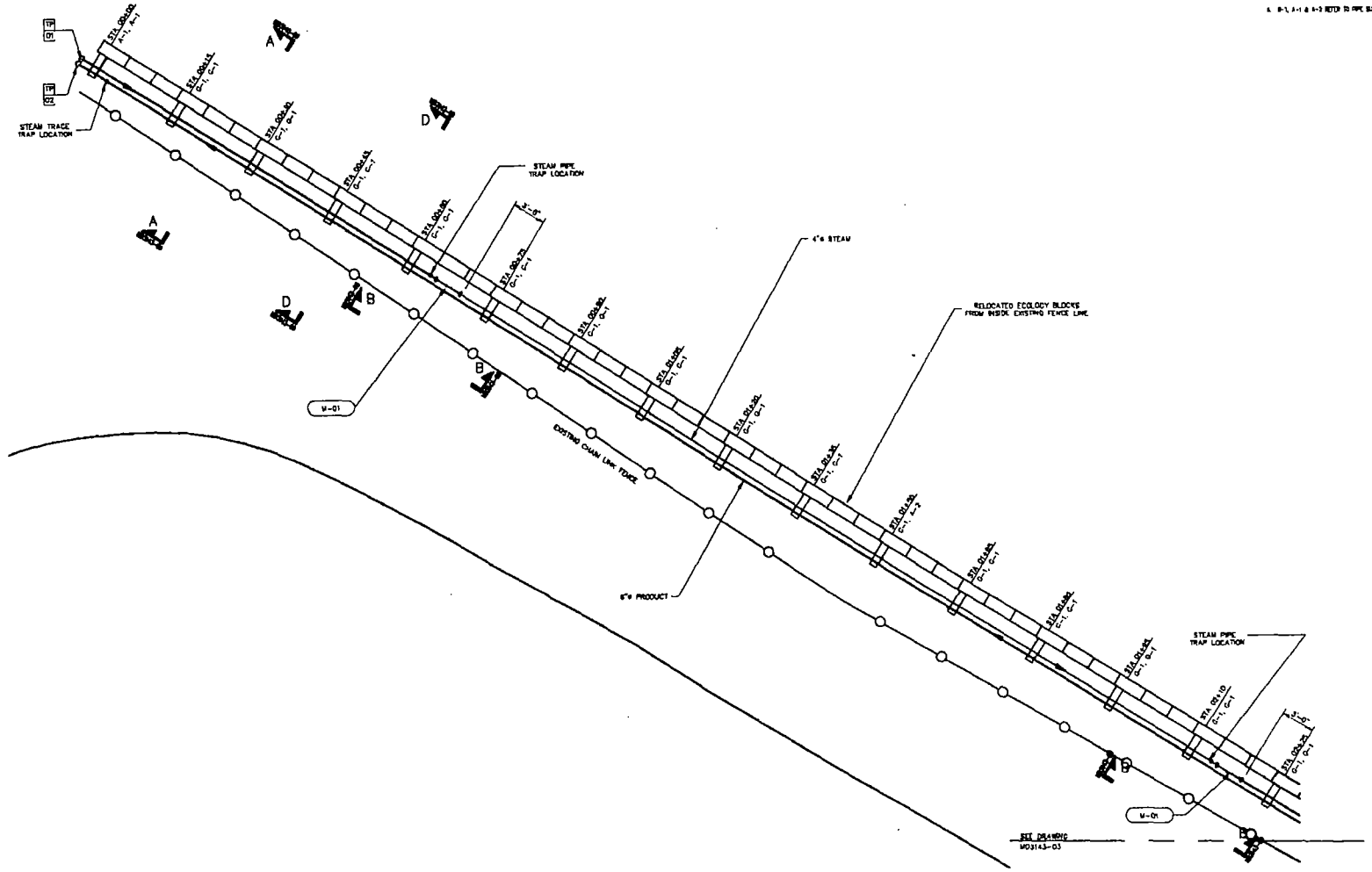
STEAM & PRODUCT LINE REPLACEMENT
KEY PLAN AND DRAWING LIST
COVER SHEET

MD3143-01

SHEET 1/1 SCALE N/A
DR. R. SIMONEAU DATE 12/12/07
PLAT NO.

GENERAL NOTES

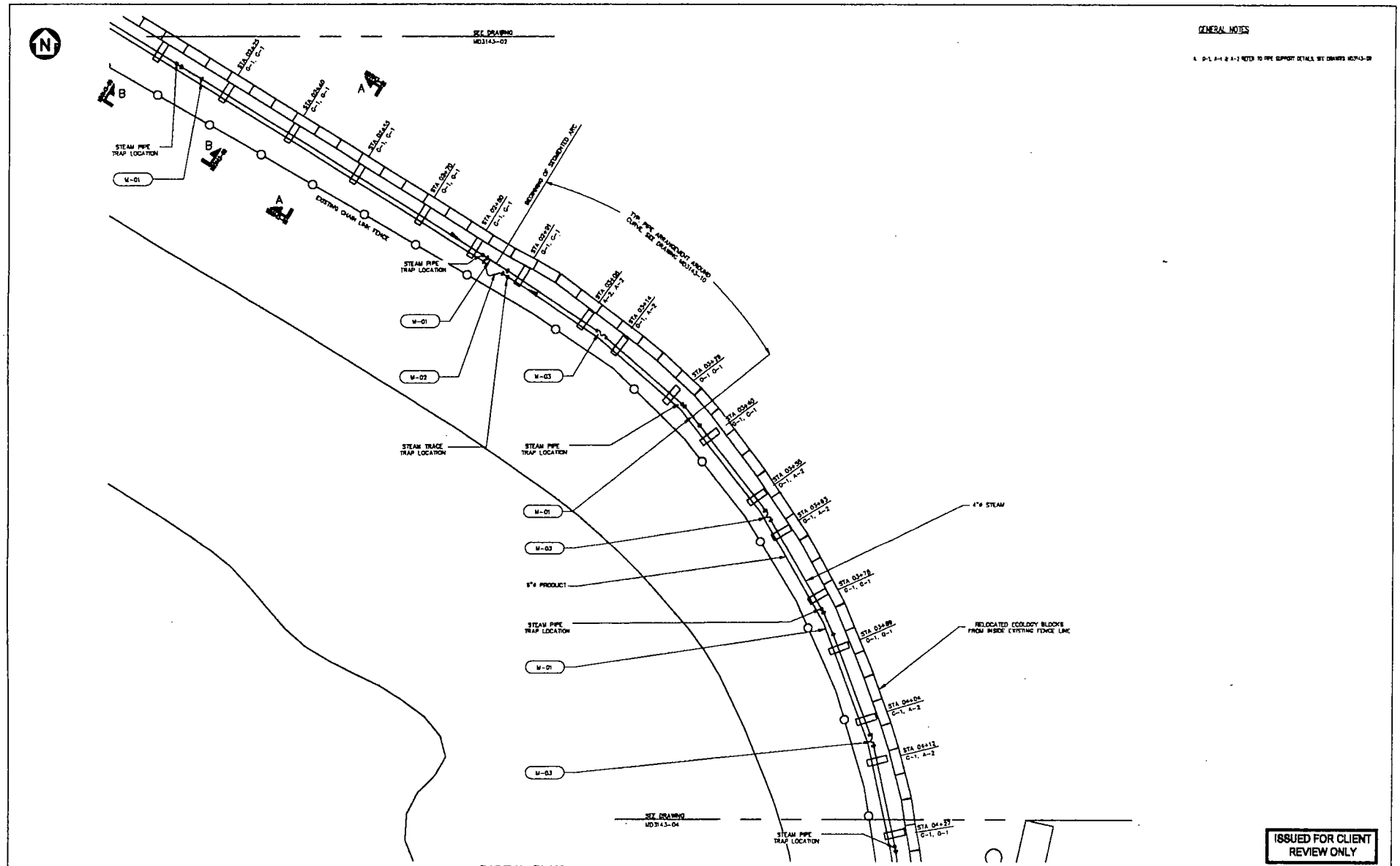
A. B-1, A-1 & A-2 REFER TO PIPE SUPPORT DETAILS. SEE DRAWING MD3143-11



PARTIAL PLAN

ISSUED FOR CLIENT REVIEW ONLY

SAN JUAN INDUSTRIES, INC 1000 LEGG RIVER ROAD WEDELAND, WA. 98874	NORWEST ENGINEERING CONSULTING ENGINEERS PORTLAND, OREGON	N.E. # 3143	KW Natural STEAM & PRODUCT LINE REPLACEMENT PIPING PARTIAL PLAN	MD3143-02 2/8 1/8" = 1'-0" R. SIMONEAU



PARTIAL PLAN

GENERAL NOTES

A. G-1, A-1 & A-2 REFER TO PIPE SUPPORT DETAILS, SEE DRAWING MD3143-09

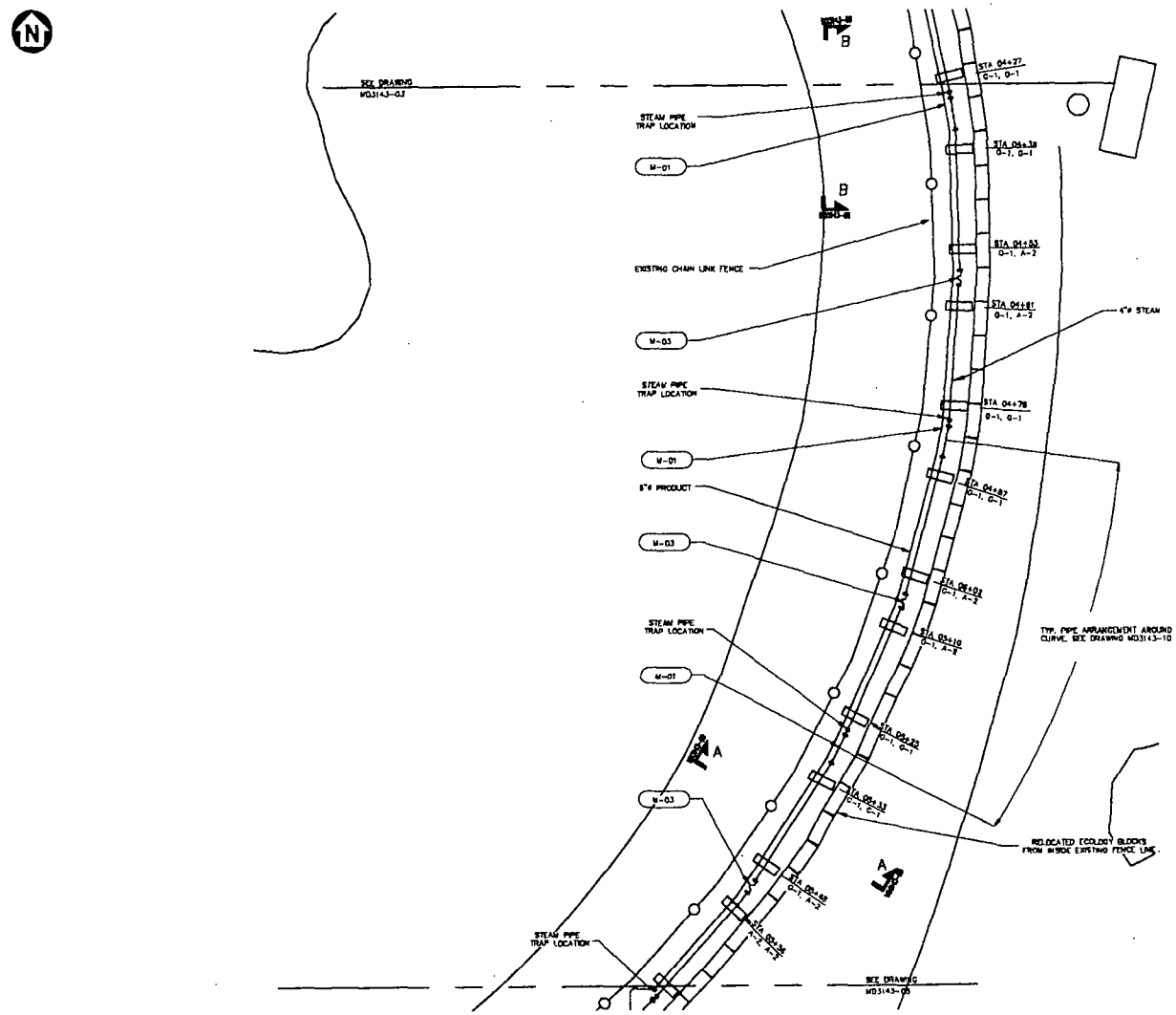
ISSUED FOR CLIENT REVIEW ONLY

SAN JUAN INDUSTRIES, INC 1686 LEWIS RIVER ROAD MOODLAND, WA. 98674	NORWEST ENGINEERING CONSULTING ENGINEERS PORTLAND, OREGON	N.E. # 3143	NW Natural STEAM A PRODUCT LINE REPLACEMENT PIPING PARTIAL PLAN

MD3143-03

3/8 1/8" = 1'-0"

R. SIMONEAU 12/12/07



PARTIAL PLAN

GENERAL NOTES

A. G-1, A-1 & A-2 REFER TO PIPE SUPPORT DETAILS. SEE DRAWING MD3143-11

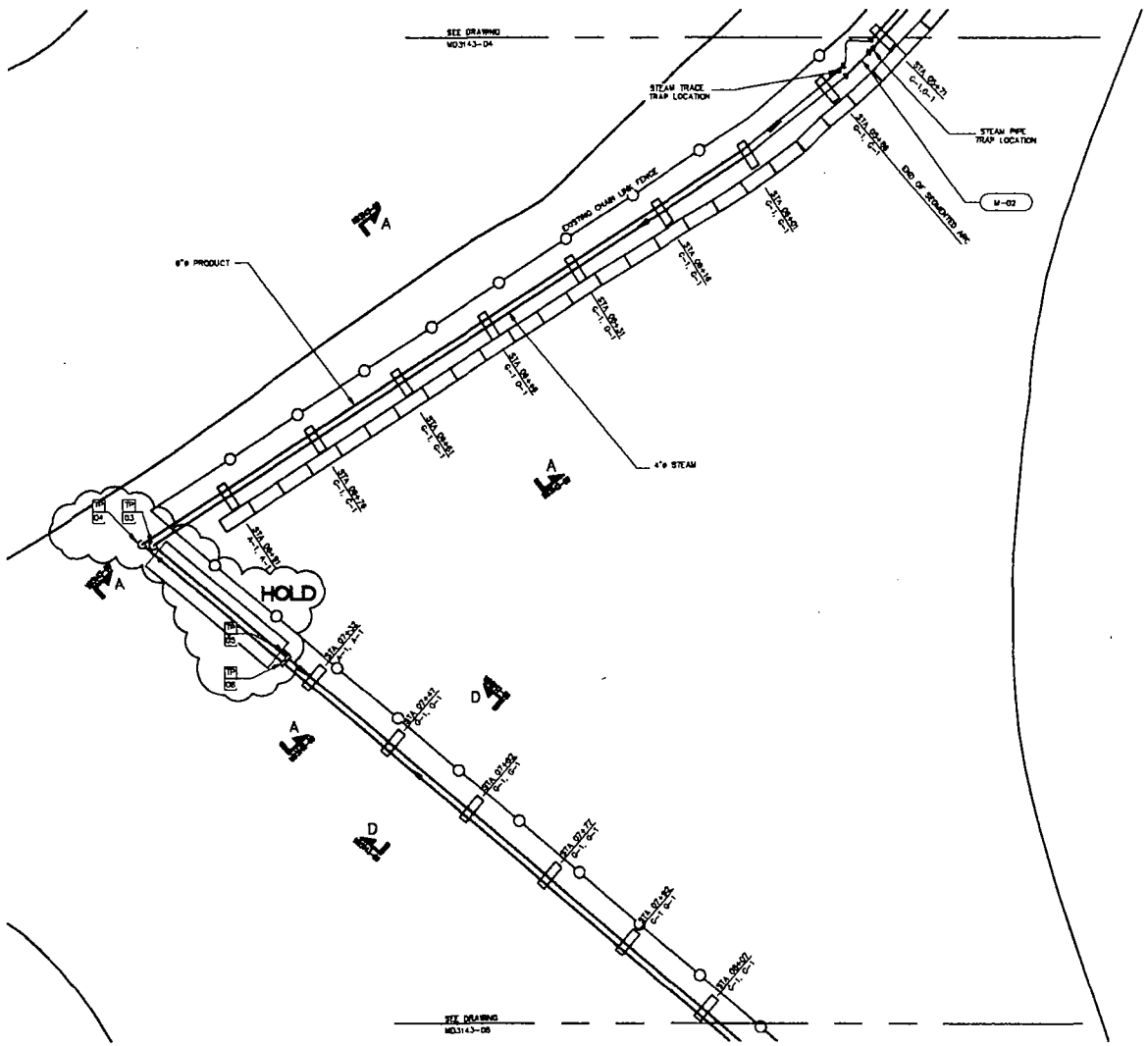
ISSUED FOR CLIENT REVIEW ONLY

SAN JUAN INDUSTRIES, NC 1600 LEWIS RIVER ROAD WOODLAND, WA. 98674	NORWEST ENGINEERING CONSULTING ENGINEERS PORTLAND, OREGON	N.E. # 3143	NW Natural STEAM & PRODUCT LINE REPLACEMENT PIPING PARTIAL PLAN

MD3143-04

4/8 1/8" = 1'-0"

R. SIMONEAU 12/12/97



PARTIAL PLAN

GENERAL NOTES

A. 0-1, A-1 & A-2 REFER TO DWG SUPPORT DETAILS SEE DRAWING MD3143-11

ISSUED FOR CLIENT REVIEW ONLY

SAIN JUAN INDUSTRIES, INC 1600 LEWIS RIVER ROAD WOODLAND, WA. 98674	NORWEST ENGINEERING CONSULTING ENGINEERS PORTLAND, OREGON	N.E. # 3143	NW Natural STEAM & PRODUCT LINE REPLACEMENT PIPING PARTIAL PLAN

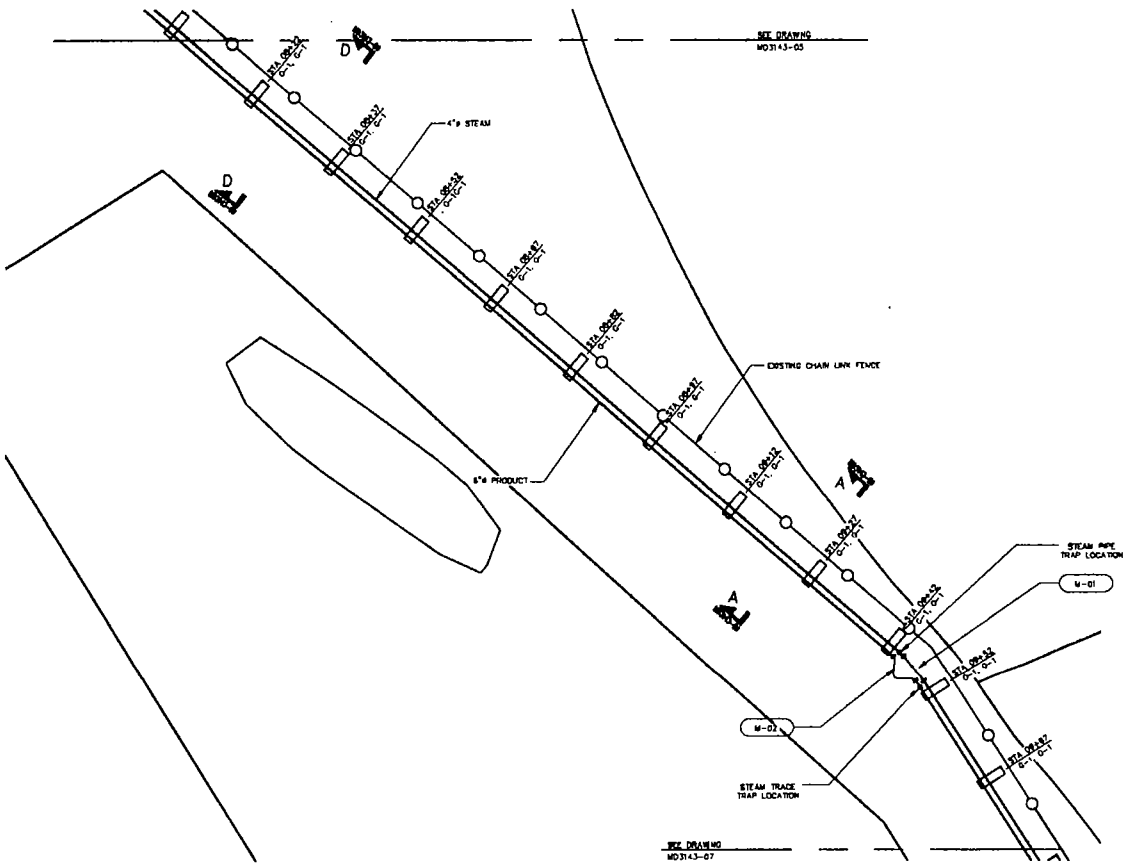
MD3143-05

1/8" = 1'-0"

R. EDMONSEAD 12/12/97

GENERAL NOTES

A. 0-1, 4-1 & 4-2 REFER TO PIPE SUPPORT DETAILS, SEE DRAWING MD3143-11

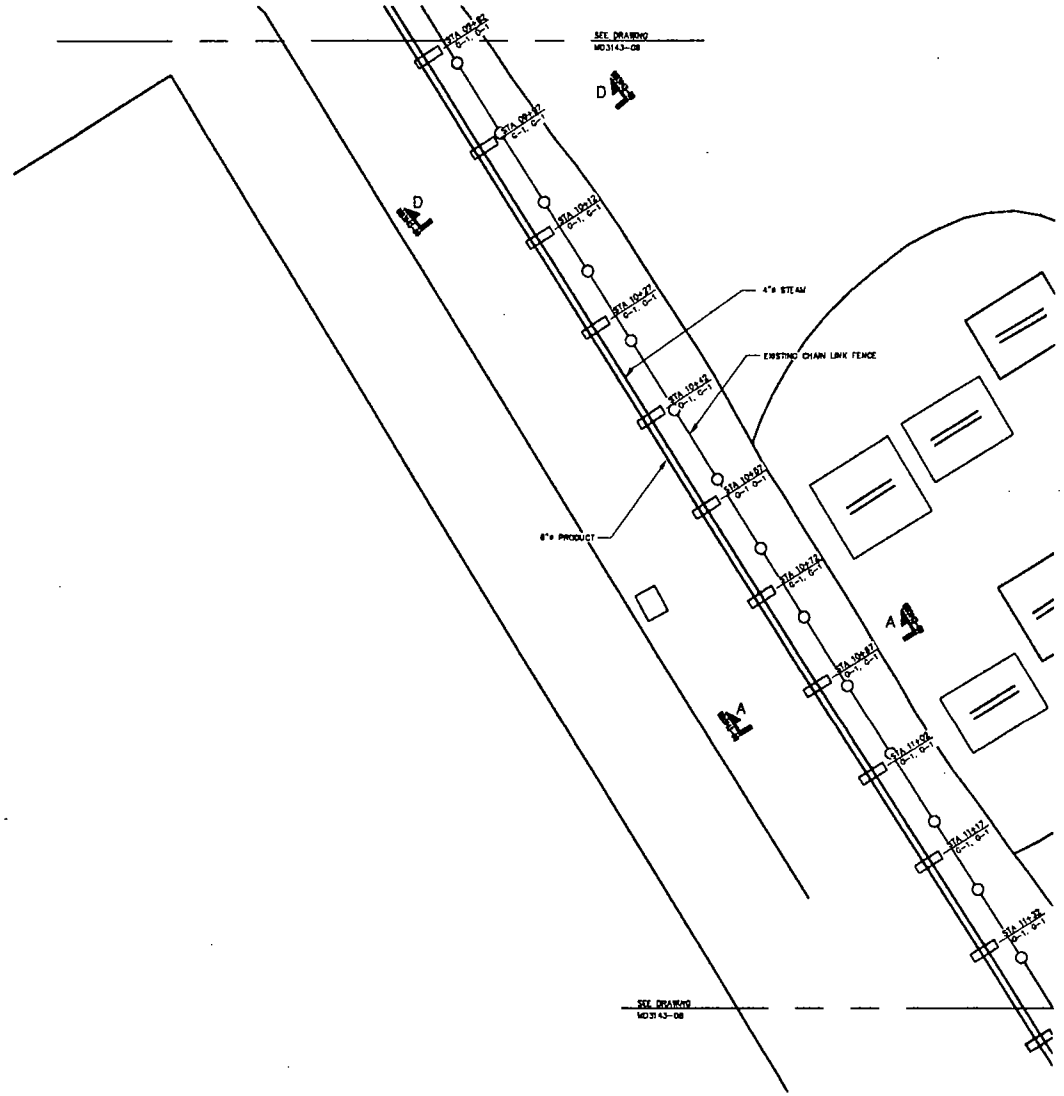


PARTIAL PLAN

1/8"=1'-0" MD3143-06

ISSUED FOR CLIENT REVIEW ONLY

SAN JUAN INDUSTRIES, INC 1695 LEWIS RIVER ROAD WOODLAND, WA. 98674	NORWEST ENGINEERING CONSULTING ENGINEERS PORTLAND, OREGON	N.E. # 3143	NW Natural STEAM & PRODUCT LINE REPLACEMENT FITTING PARTIAL PLAN	MD3143-06 SCALE 1/8" = 1'-0" DRAWN BY R. SIMONSAD DATE 12/12/07



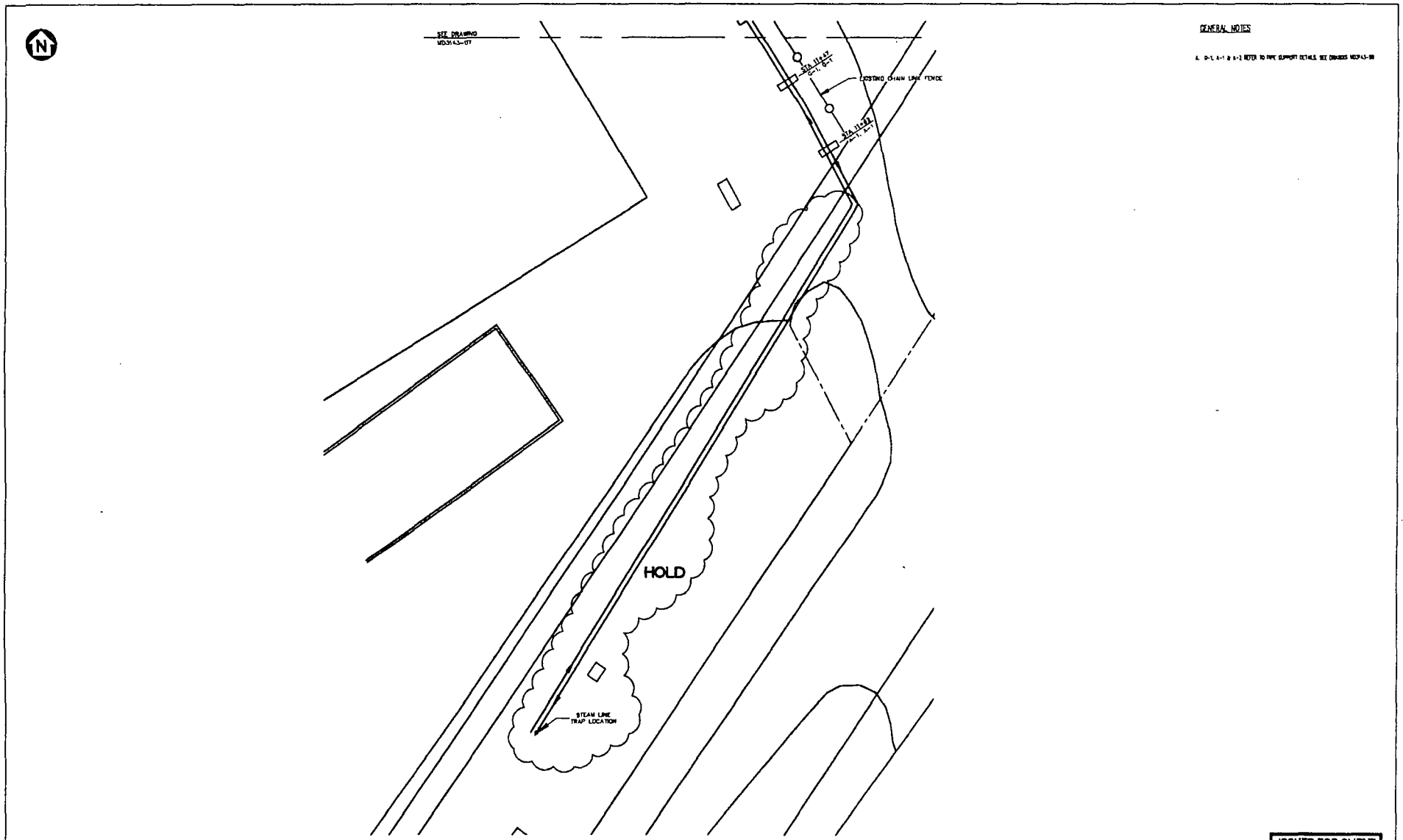
GENERAL NOTES

A. 0-1, 0-1 & 0-2 REFER TO PIPE SUPPORT DETAILS. SEE DRAWING MD3143-11

PARTIAL PLAN

ISSUED FOR CLIENT REVIEW ONLY

SAN JUAN INDUSTRIES, INC 1600 LEWIS RIVER ROAD WOODLAND, WA. 98674	NORWEST ENGINEERING CONSULTING ENGINEERS PORTLAND, OREGON	N.E. # 3143	NW Natural	STEAM & PRODUCT LINE REPLACEMENT PIPING PARTIAL PLAN	MD3143-07 7/8 1/8" = 1'-0" R. SIMONEAU 12/12/97

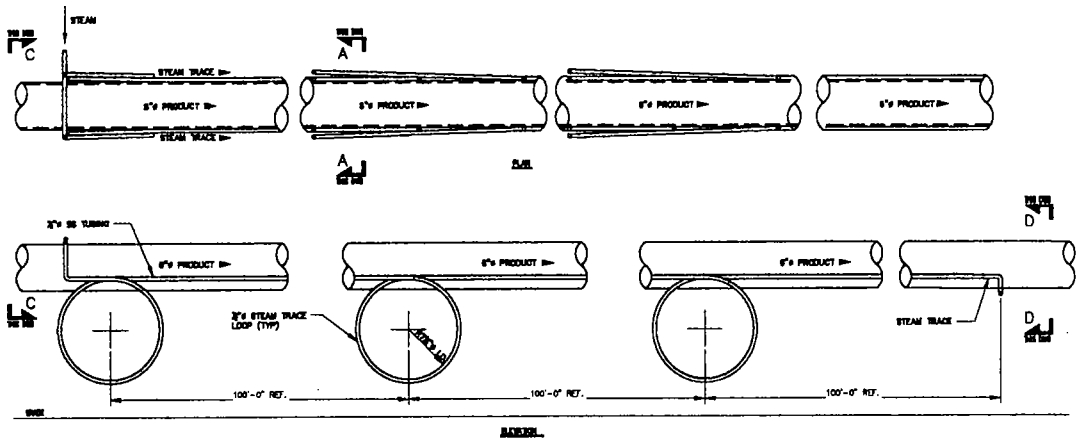


PARTIAL PLAN

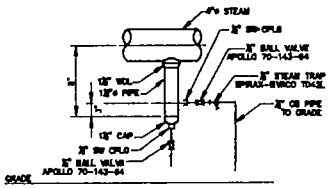
GENERAL NOTES

ISSUED FOR CLIENT REVIEW ONLY

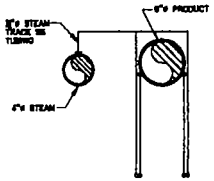
SAN JUAN INDUSTRIES, INC	NORWEST ENGINEERING	N.E. # 3143	NW Natural	MD3143-08
			STEAM & PRODUCT LINE REPLACEMENT SIDING PARTIAL PLAN	1/8" = 1'-0"



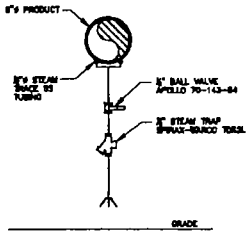
STEAM TRACE DETAIL (TYP)
1-1/2"=1'-0"



SECTION A–A
1-1/2"=1'-0"



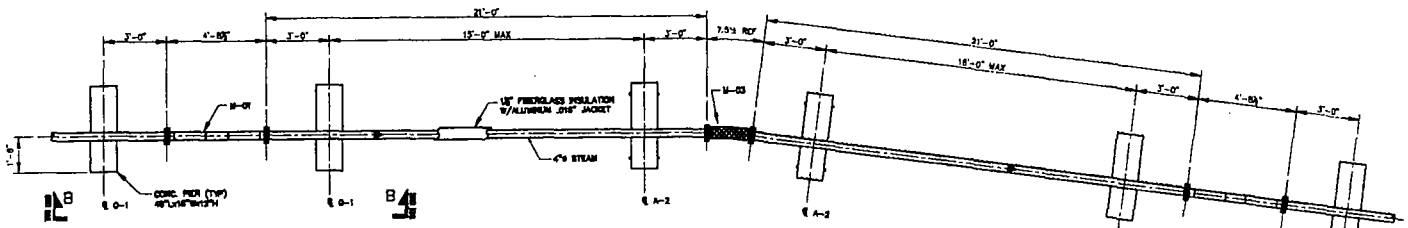
SECTION C–C
1-1/2"=1'-0"



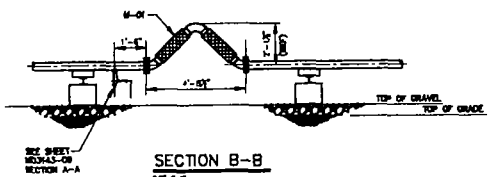
SECTION D–D
1-1/2"=1'-0"

ISSUED FOR CLIENT REVIEW ONLY

SAN JUAN INDUSTRIES, INC 1888 LEWIS RIVER ROAD WOODLAND, WA. 98674	NORWEST ENGINEERING CONSULTING ENGINEERS PORTLAND, OREGON	N.E. # 3143	NW Natural STEAM & SEWDUCT LINE REPLACEMENT PIPING MISC. PIPING DETAILS	MD3143-09 DRAWN LH DATE 01/14/97 DWG. NO. V01 SCALE AS NOTED	



STEAM PLAN (TYP)



SECTION B-B

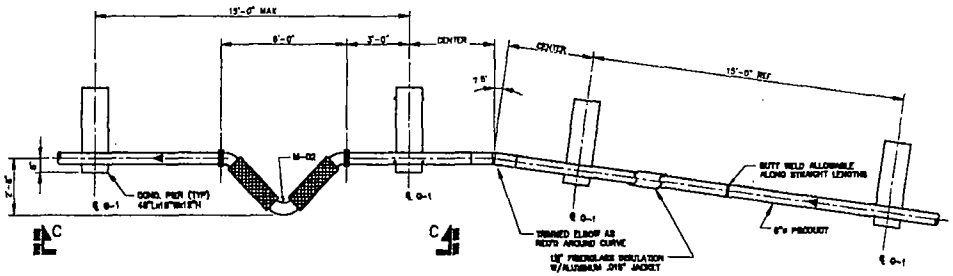
COMPONENT SPECIFICATIONS:

M-01 UNI-LOOP
MFG- UNISOURCE (PORTLAND, OR)
STYLE- UNI-LOOP V-SF21-400-47-47-33.5"LL
SIZE- 4"ø NOMINAL, 4" ALLOWABLE MOTION
4" WELD MEDIA, RAISED FACE FLANGES, 150# CLASS

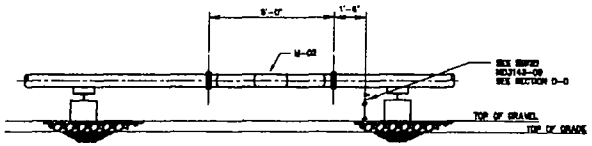
M-03 FLEX HOSE (ON SIGNAL)
MFG- UNISOURCE (PORTLAND, OR)
STYLE- SUPERFLEX SF22
SIZE- 4"ø NOMINAL
MATL- SS BIG, DOUBLE BRAIDS CRIMED
DIMENSIONS- 3' LENGTH - OA
4" SUP-ON RAISED FACE FLANGES, 150# CLASS

ISSUED FOR CLIENT REVIEW ONLY

SAN JUAN INDUSTRIES, INC 1000 LEWIS RIVER ROAD WOODLAND, WA. 98674	NORWEST ENGINEERING CONSULTING ENGINEERS PORTLAND, OREGON	N.E. # 3143	NW Natural STEAM & PRODUCT LINE REPRESENTATIVE STEAM PIPING MISC. PIPING DETAILS	MM073143-10 2/4 AS NOTED VR1 01/14/08



PRODUCT PLAN (TYP)



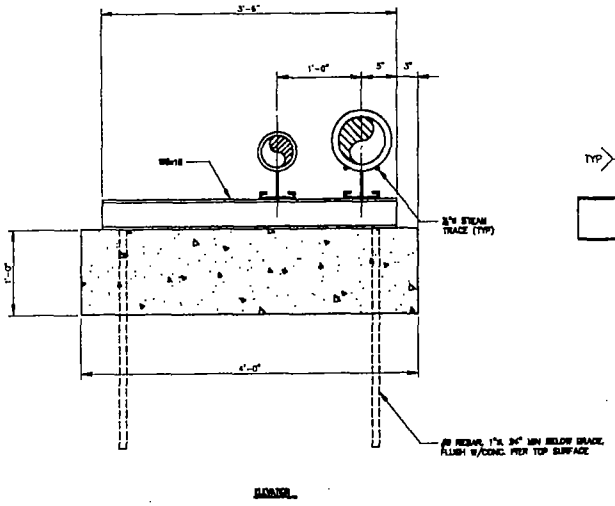
SECTION C-C

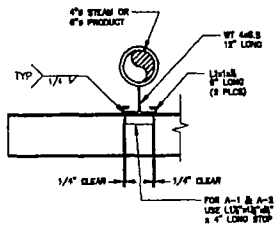
COMPONENT SPECIFICATIONS

M-02 LBB-LOOP
MFG- LESSOURES (PORTLAND, OR)
STYLE- LBB-LOOP V-920-920-47-47-30.5"LL
SIZE- 6"ø NOMINAL, 4" ALLOWABLE MOTION
6" BELD NECK, RAISED FIES, FLANGES, 100# CLASS

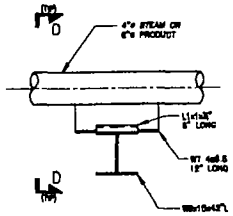
ISSUED FOR CUENT REVIEW ONLY

SAN JUAN INDUSTRIES, INC 1000 LEWIS RIVER ROAD WOODLAND, WA. 98674	NORWEST ENGINEERING CONSULTING ENGINEERS PORTLAND, OREGON	N.E. # 3143	NW Natural STEAM & PRODUCT LINE REPLACEMENT #20 DUCT PIPING MISC. PIPING DETAILS	MM073143-11 AS NOTED 01/14/08

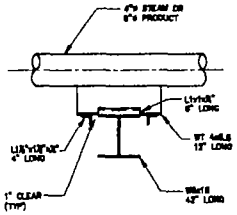




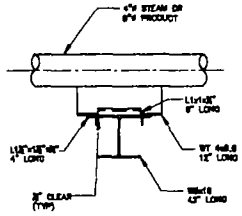
SECTION D-D



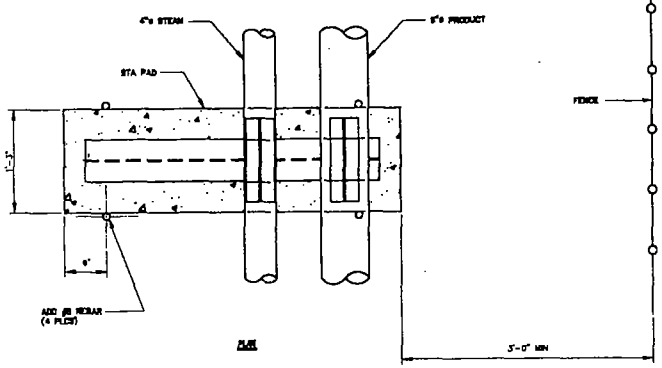
DETAIL G-1



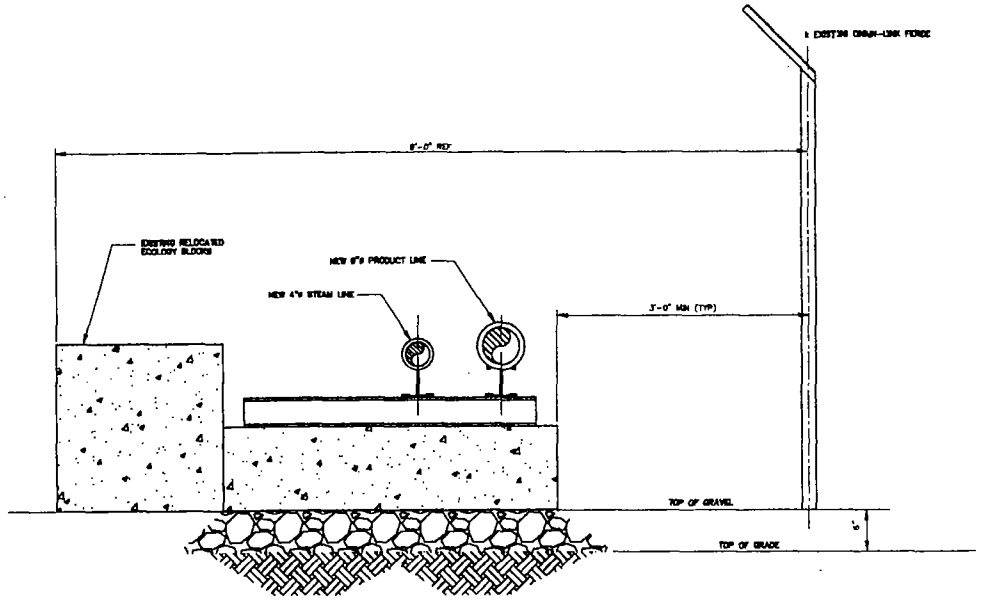
DETAIL A-1



DETAIL A-2



PIPING DETAIL (TYP)



AREA SECTION

ISSUED FOR CLIENT
REVIEW ONLY

SAN JUAN INDUSTRIES, INC 1480 LEWIS RIVER ROAD WOODLAND, WA. 98674	NORWEST ENGINEERING CONSULTING ENGINEERS PORTLAND, OREGON	N.E. # 3143	NW Natural STEAM & PRODUCT LINE REPLACEMENT PIPING MISC. PIPING DETAILS	MM073143-12 SHEET 4/4 SCALE AS NOTED DR. VBJ DATE 01/14/08