

JUNEAU CRUISE SHIP DOCK

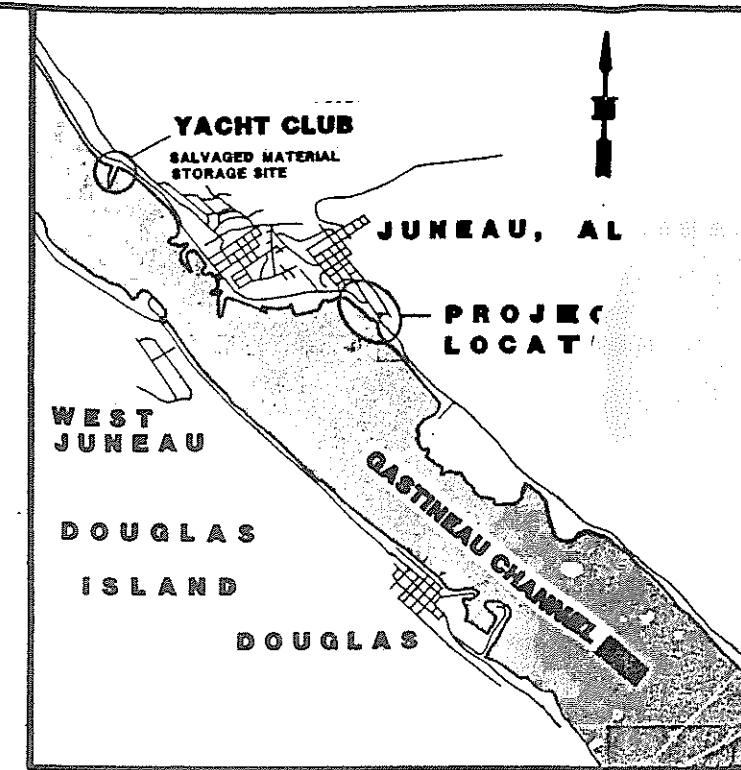
CITY & BOROUGH OF JUNEAU ENGINEERING DEPARTMENT

CONTRACT NO. E91-137

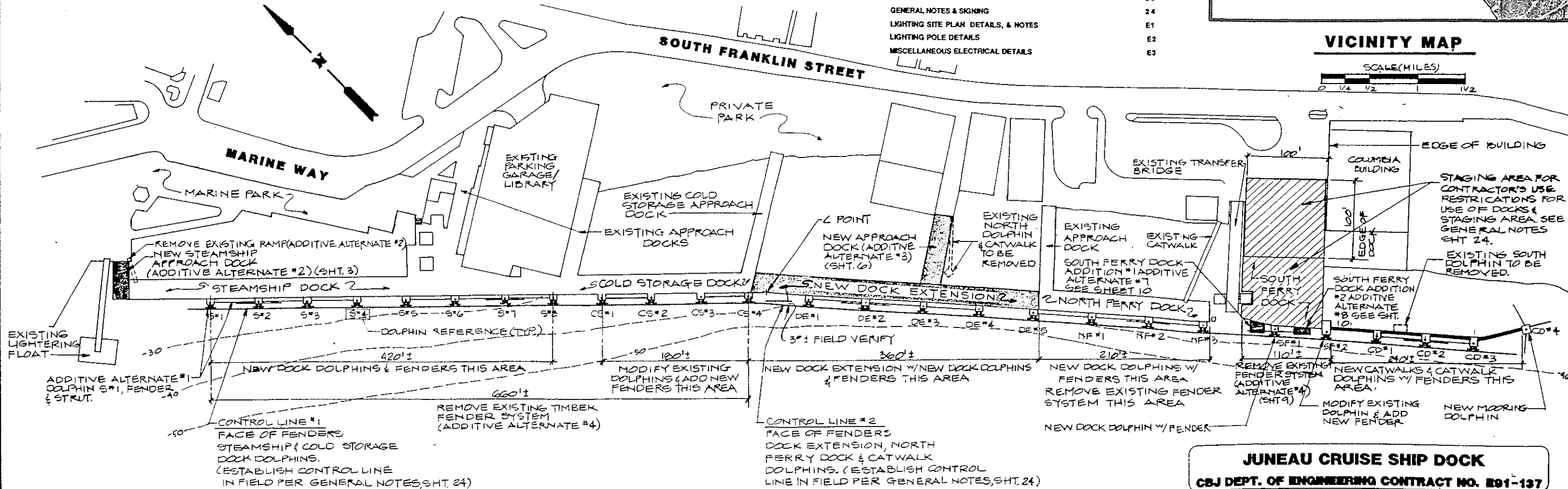
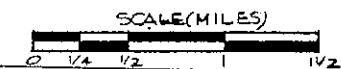
CIP NO. H-02

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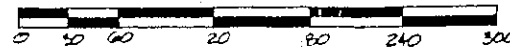


VICINITY MAP



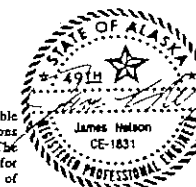
SITE PLAN

SCALE (FEET)



NOTE: CONTOURS SHOWN ARE APPROXIMATE AND BASED ON M.L.L.W. = 0.0

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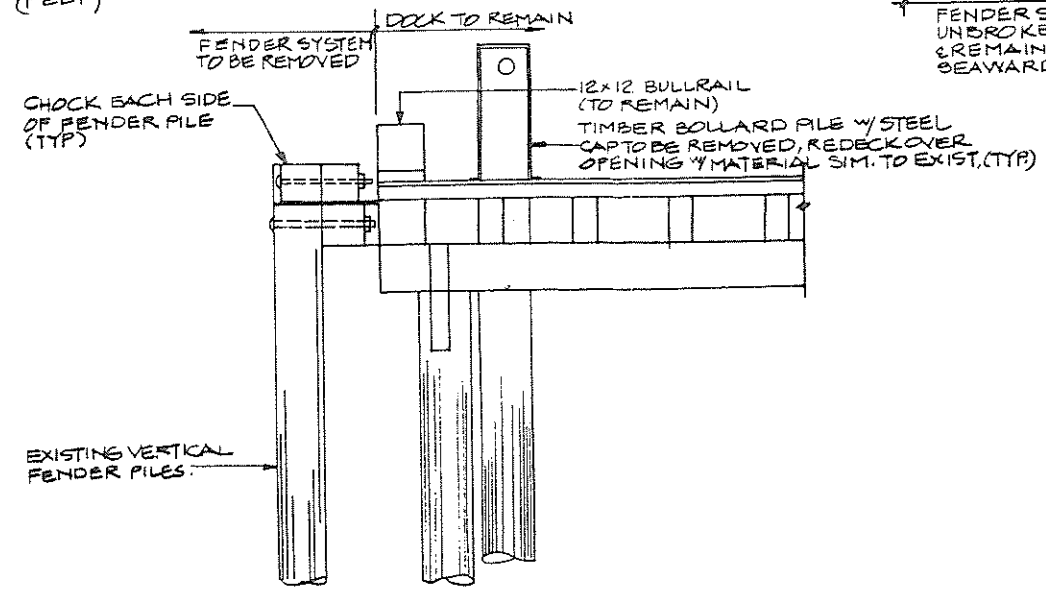
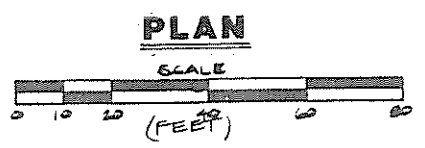
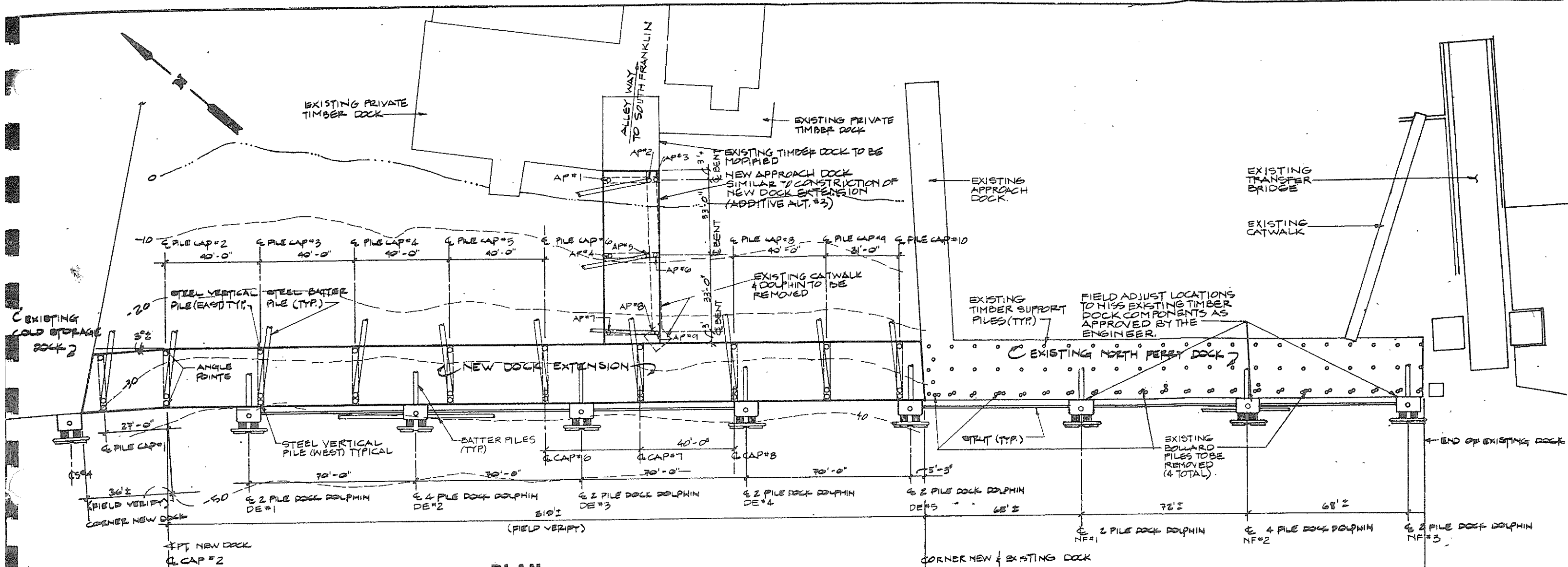
Designed: J.N.
 Drawn: K.K.
 Checked: J.L.N.
 Project No: 9237.01
 Date: 2/91
 Scale:

JUNEAU CRUISE SHIP DOCK
 CBJ DEPT. OF ENGINEERING CONTRACT NO. E91-137

Peratrovich, Nottingham & Drage, Inc.
 Engineering Consultants
 2205 North Jordan Avenue, JUNEAU, AK 99801
 (907) 789-5006

TITLE SHEET AND SITE PLAN
 sheet 1-24

APPROVED BY:
 HARBORMASTER
Joseph L. Gabor 11/14/91
 SIGNATURE DATE
 DIRECTOR OF ENGINEERING
David P. Harman 4/11/91
 SIGNATURE DATE



REMOVE EXISTING FENDER SYSTEM ALONG FACE OF DOCK IN ITS ENTIRETY THIS AREA. FENDER SYSTEM INCLUDES APPROXIMATELY 70 TIMBER FENDER PILES (BROKEN & UNBROKEN) & VARIOUS CHOCKS, BLOCKS & OTHER TIMBERS. REPAIR ALL HOLES & REMAINING DAMAGED TIMBERS. THE FENDER SYSTEM INCLUDES ALL MATERIAL SEAWARD OF THE EDGE OF DECK.

TYPICAL EXISTING NORTH FERRY DOCK SECTION

JUNEAU CRUISE SHIP DOCK
 CEJ DEPT. OF ENGINEERING CONTRACT NO. E01-137

Peratrovich, Nottingham & Drage, Inc.
 Engineering Consultants
 2205 North Jordan Avenue, JUNEAU, AK 99801
 (907) 789-5006



Designed: JH
 Drawn: JWG
 Checked: _____
 Project No. 103212

Date: 2/91
 Scale: _____

DOCK EXTENSION, APPROACH DOCK & N. FERRY DOCK PLAN sheet 6 of 24

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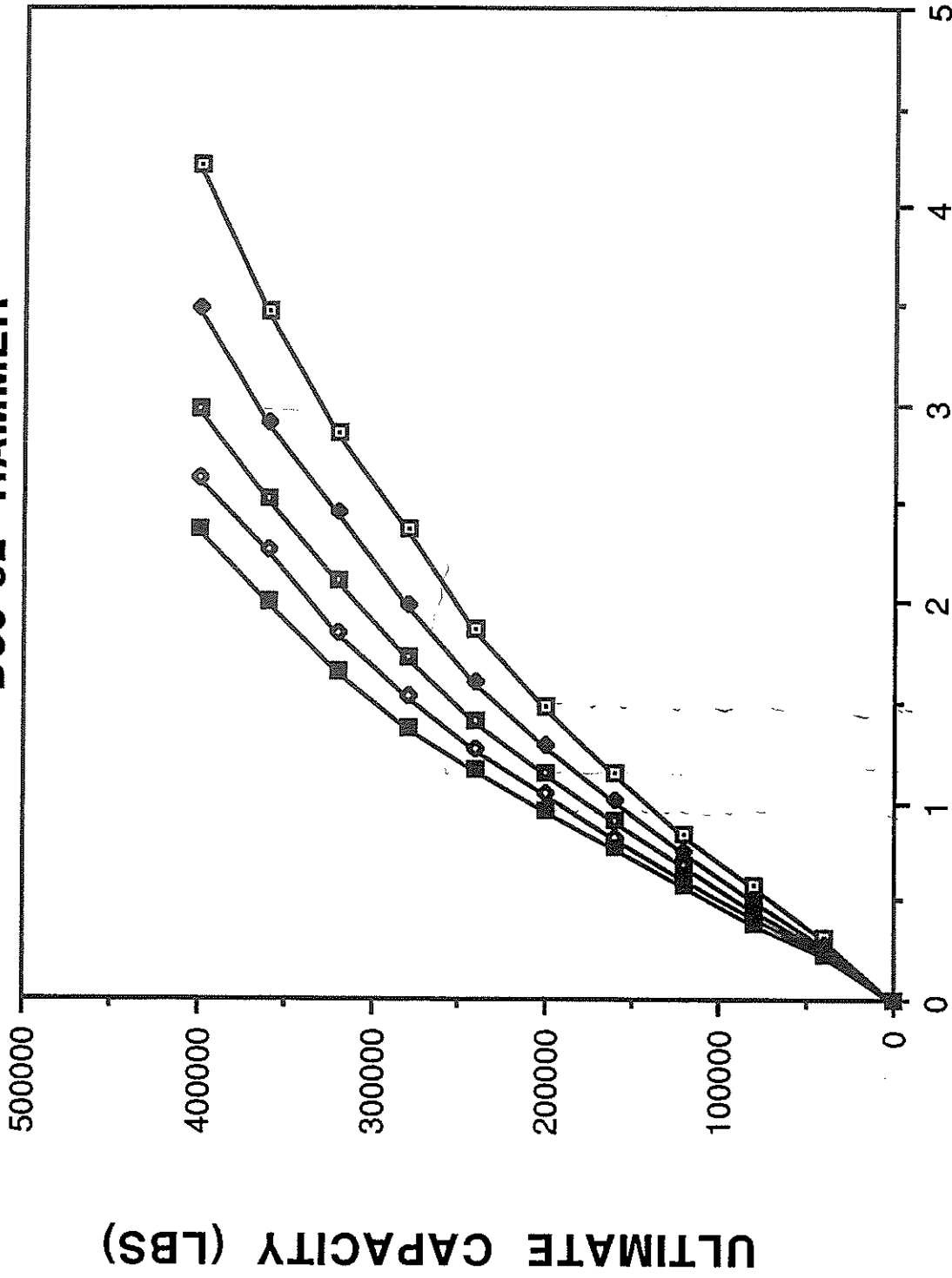
PILE SCHEDULE

PILE #	STRUCTURE DESIGNATION	PILE DESIGNATION	PILE SIZE	REQUIRED FURNISHED LENGTH	TIP TYPE	DESIGN COMPRESSIVE LOAD (KIPS)	DESIGN TENSILE LOAD (KIPS)	ROCK ANCHOR
1	SP1 2-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	120	SPIN FIN	200	340	
2	SP1 2-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	120	SPIN FIN	380	220	
3	SP2 4-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	120	SPIN FIN	80	130	
4	SP2 4-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	120	SPIN FIN	380	220	
5	SP2 4-PILE DOCK DOLPHIN	NW BATTER	20" Ø, 0.625" t	130	SPIN FIN	120	120	
6	SP2 4-PILE DOCK DOLPHIN	SE BATTER	20" Ø, 0.625" t	130	SPIN FIN	120	120	
7	SP3 2-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	120	SPIN FIN	200	340	
8	SP3 2-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	120	SPIN FIN	380	220	
9	SP4 2-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	120	SPIN FIN	200	340	
10	SP4 2-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	120	SPIN FIN	380	220	
11	SP5 2-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	110	SPIN FIN	200	340	
12	SP5 2-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	110	SPIN FIN	380	220	
13	SP6 2-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	100	CUTTING SHOE	200	340	1
14	SP6 2-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	100	CUTTING SHOE	380	220	1
15	SP7 4-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	90	CUTTING SHOE	200	340	1
16	SP7 4-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	90	CUTTING SHOE	380	220	1
17	SP7 4-PILE DOCK DOLPHIN	NW BATTER	20" Ø, 0.625" t	100	CUTTING SHOE	220	0	
18	SP7 4-PILE DOCK DOLPHIN	SE BATTER	20" Ø, 0.625" t	100	CUTTING SHOE	220	0	
19	SP8 2-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	90	CUTTING SHOE	200	340	1
20	SP8 2-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	100	CUTTING SHOE	380	220	1
21	CS#1 MODIFICATION	VERTICAL	24" Ø, 0.625" t	90	CUTTING SHOE	NA	NA	
22	CS#2 MODIFICATION	VERTICAL	24" Ø, 0.625" t	100	CUTTING SHOE	NA	NA	
23	CS#3 MODIFICATION	VERTICAL	24" Ø, 0.625" t	100	CUTTING SHOE	NA	NA	
24	CS#4 MODIFICATION	VERTICAL	24" Ø, 0.625" t	100	CUTTING SHOE	NA	NA	
25	DE#1 2-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	110	CUTTING SHOE	200	340	1
26	DE#1 2-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	110	SPIN FIN	380	220	
27	DE#2 4-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	110	SPIN FIN	80	130	
28	DE#2 4-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	120	SPIN FIN	380	220	
29	DE#2 4-PILE DOCK DOLPHIN	NW BATTER	20" Ø, 0.625" t	120	SPIN FIN	120	120	
30	DE#2 4-PILE DOCK DOLPHIN	SE BATTER	20" Ø, 0.625" t	120	SPIN FIN	120	120	
31	DE#3 2-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	110	CUTTING SHOE	200	340	1
32	DE#3 2-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	120	CUTTING SHOE	380	220	1
33	DE#4 2-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	110	CUTTING SHOE	200	340	1
34	DE#4 2-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	120	SPIN FIN	380	220	
35	DE#5 2-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	110	CUTTING SHOE	200	340	1
36	DE#5 2-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	110	SPIN FIN	380	220	
37	NF#1 2-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	100	CUTTING SHOE	200	340	1
38	NF#1 2-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	110	SPIN FIN	380	220	
39	NF#2 4-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	100	CUTTING SHOE	80	340	1
40	NF#2 4-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	110	CUTTING SHOE	380	220	1
41	NF#2 4-PILE DOCK DOLPHIN	NW BATTER	20" Ø, 0.625" t	110	CUTTING SHOE	220	0	
42	NF#2 4-PILE DOCK DOLPHIN	SE BATTER	20" Ø, 0.625" t	110	CUTTING SHOE	220	0	
43	NF#3 2-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	100	CUTTING SHOE	200	340	1
44	NF#3 2-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	100	CUTTING SHOE	380	220	1
45	SF#1 4-PILE DOCK DOLPHIN	VERTICAL	20" Ø, 0.625" t	90	CUTTING SHOE	200	340	1
46	SF#1 4-PILE DOCK DOLPHIN	BACK BATTER	20" Ø, 0.625" t	100	SPIN FIN	380	220	
47	SF#1 4-PILE DOCK DOLPHIN	NW BATTER	20" Ø, 0.625" t	100	CUTTING SHOE	220	0	
48	SF#1 4-PILE DOCK DOLPHIN	SE BATTER	20" Ø, 0.625" t	100	CUTTING SHOE	220	0	
49	SF#2 MODIFICATION	VERTICAL	20" Ø, 0.625" t	100	CUTTING SHOE	NA	NA	
50	CD#1 2-PILE CAT. DOLPHIN	VERTICAL	20" Ø, 0.625" t	100	CUTTING SHOE	200	340	1
51	CD#1 2-PILE CAT. DOLPHIN	BACK BATTER	20" Ø, 0.625" t	100	SPIN FIN	380	220	
52	CD#2 4-PILE CAT. DOLPHIN	VERTICAL	20" Ø, 0.625" t	100	SPIN FIN	80	130	
53	CD#2 4-PILE CAT. DOLPHIN	BACK BATTER	20" Ø, 0.625" t	110	SPIN FIN	380	220	
54	CD#2 4-PILE CAT. DOLPHIN	NW BATTER	20" Ø, 0.625" t	110	SPIN FIN	120	120	
55	CD#2 4-PILE CAT. DOLPHIN	SE BATTER	20" Ø, 0.625" t	110	SPIN FIN	120	120	
56	CD#3 2 PILE SPEC. CAT. DOLP.	VERTICAL	20" Ø, 0.625" t	100	SPIN FIN	200	340	
57	CD#3 2 PILE SPEC. CAT. DOLP.	BACK BATTER	20" Ø, 0.625" t	100	SPIN FIN	380	220	
58	CD #4 MOORING DOLPHIN	VERTICAL A	20" Ø, 0.625" t	100	SPIN FIN	50	50	
59	CD #4 MOORING DOLPHIN	BATTER B	20" Ø, 0.625" t	110	SPIN FIN	50	170	
60	CD #4 MOORING DOLPHIN	BATTER C	20" Ø, 0.625" t	100	SPIN FIN	50	170	
61	CD #4 MOORING DOLPHIN	BATTER D	20" Ø, 0.625" t	120	CUTTING SHOE	170	0	
62	CATWALK SUPPORT	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	30	15	
63	CATWALK SUPPORT	BATTER	16" Ø, 0.500" t	90	CUTTING SHOE	20	20	
64	S#1 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
65	S#1 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
66	S#2 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
67	S#2 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
68	S#3 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
69	S#3 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
70	S#4 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
71	S#4 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
72	S#5 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
73	S#5 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
74	S#6 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
75	S#6 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
76	S#7 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
77	S#7 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
78	S#8 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
79	S#8 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
80	CS#1 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
81	CS#1 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
82	CS#2 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
83	CS#2 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	

PILE #	STRUCTURE DESIGNATION	PILE DESIGNATION	PILE SIZE	REQUIRED FURNISHED LENGTH	TIP TYPE	DESIGN COMPRESSIVE LOAD (KIPS)	DESIGN TENSILE LOAD (KIPS)	ROCK ANCHOR
84	CS#3 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
85	CS#3 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
86	CS#4 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
87	CS#4 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
88	DE#1 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
89	DE#1 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
90	DE#2 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
91	DE#2 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
92	DE#3 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
93	DE#3 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
94	DE#4 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
95	DE#4 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
96	DE#5 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
97	DE#5 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
98	NF#1 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
99	NF#1 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
100	NF#2 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
101	NF#2 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
102	NF#3 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
103	NF#3 FENDER	VERTICAL	16" Ø, 0.500" t	100	CUTTING SHOE	NA	NA	
104	SF#1 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
105	SF#1 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
106	SF#2 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
107	SF#2 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
108	CD#1 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
109	CD#1 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
110	CD#2 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
111	CD#2 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
112	CD#3 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
113	CD#3 FENDER	VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	NA	NA	
114	STEAMSHIP APPROACH	SA #1 VERTICAL	16" Ø, 0.500" t	70	CUTTING SHOE	50	0	
115	STEAMSHIP APPROACH	SA #2 VERTICAL	16" Ø, 0.500" t	70	CUTTING SHOE	50	0	
116	STEAMSHIP APPROACH	SA #3 VERTICAL	16" Ø, 0.500" t	80	CUTTING SHOE	50	0	
117	STEAMSHIP APPROACH	SA #4 BATTER	16" Ø, 0.500" t	80	CUTTING SHOE	30	30	
118	STEAMSHIP APPROACH	SA #5 VERTICAL	16" Ø, 0.500" t	80	CUTTING SHOE	50	0	
119	STEAMSHIP APPROACH	SA #6 VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	50	0	
120	STEAMSHIP APPROACH	SA #7 BATTER	16" Ø, 0.500" t	90	CUTTING SHOE	30	30	
121	STEAMSHIP APPROACH	SA #8 VERTICAL	16" Ø, 0.500" t	90	CUTTING SHOE	50	0	
122	DOCK EXTENSION	CAP #1 FRONT VERT.	16" Ø, 0.500" t	110	CUTTING SHOE	120	0	
123	DOCK EXTENSION	CAP #1 BATTER	16" Ø, 0.500" t	110	CUTTING SHOE	30	30	
124	DOCK EXTENSION	CAP #1 BACK VERT.	16" Ø, 0.500" t	110	CUTTING SHOE	120	0	
125	DOCK EXTENSION	CAP #2 FRONT VERT.	16" Ø, 0.500" t	110	CUTTING SHOE	120	0	
126	DOCK EXTENSION	CAP #2 BATTER	16" Ø, 0.500" t	120	CUTTING SHOE	30	30	
127	DOCK EXTENSION	CAP #2 BACK VERT.	16" Ø, 0.500" t	110	CUTTING SHOE	120	0	
128	DOCK EXTENSION	CAP #3 FRONT VERT.	16" Ø, 0.500" t	110	CUTTING SHOE	120	0	
129	DOCK EXTENSION	CAP #3 BATTER	16" Ø, 0.500" t	120	CUTTING SHOE	30	30	
130	DOCK EXTENSION	CAP #3 BACK VERT.	16" Ø, 0.500" t	110	CUTTING SHOE	120	0	
131	DOCK EXTENSION	CAP #4 FRONT VERT.	16" Ø, 0.500" t	110	CUTTING SHOE	120	0	
132	DOCK EXTENSION	CAP #4 BATTER	16" Ø, 0.500" t	120	CUTTING SHOE	30	30	
133	DOCK EXTENSION	CAP #4 BACK VERT.	16" Ø, 0.500" t	110	CUTTING SHOE	120	0	
134	DOCK EXTENSION	CAP #5 FRONT VERT.	16" Ø, 0.500" t	110	CUTTING SHOE	120	0	
135	DOCK EXTENSION	CAP #5 BATTER	16" Ø, 0.500" t	120	CUTTING SHOE	30	30	
136	DOCK EXTENSION	CAP #5 BACK VERT.	16" Ø, 0.500" t	110	CUTTING SHOE	120	0	
137	DOCK EXTENSION	CAP #6 FRONT VERT.	16" Ø, 0.500" t	110	CUTTING SHOE	120	0	
138	DOCK EXTENSION	CAP #6 BATTER	16" Ø, 0.500" t	120	CUTTING SHOE	30	30	
139	DOCK EXTENSION	CAP #6 BACK VERT.	16" Ø, 0.500" t	110	CUTTING SHOE	120	0	
140	DOCK EXTENSION	CAP #7 FRONT VERT.	16" Ø, 0.500" t	110	CUTTING SHOE	120	0	
141	DOCK EXTENSION	CAP #7 BATTER	16" Ø, 0.500" t	120	CUTTING SHOE			

**CRUISE SHIP DOCK IMPROVEMENTS
16" DIA., 0.5" THICK PIPE PILE X 100'**

D30-32 HAMMER

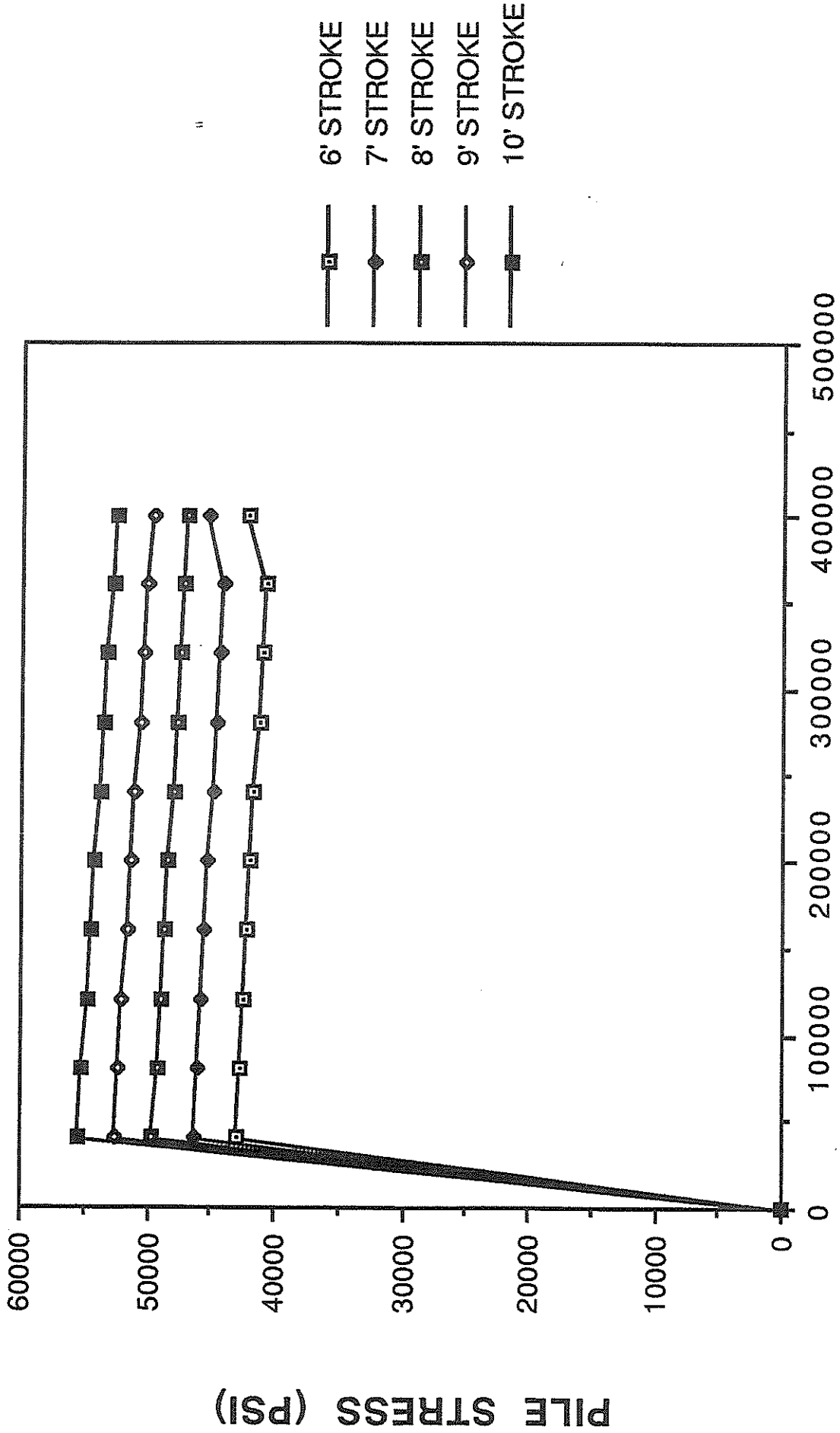


BLOWS PER INCH

ULTIMATE CAPACITY (LBS)

- E=37,000
- ◆— E=43,000
- ▲— E=49,000
- E=55,000
- E=61,100

**CRUISE SHIP DOCK IMPROVEMENTS
 16" DIA., 0.500" THICK PIPE PILE
 D30-32 HAMMER**

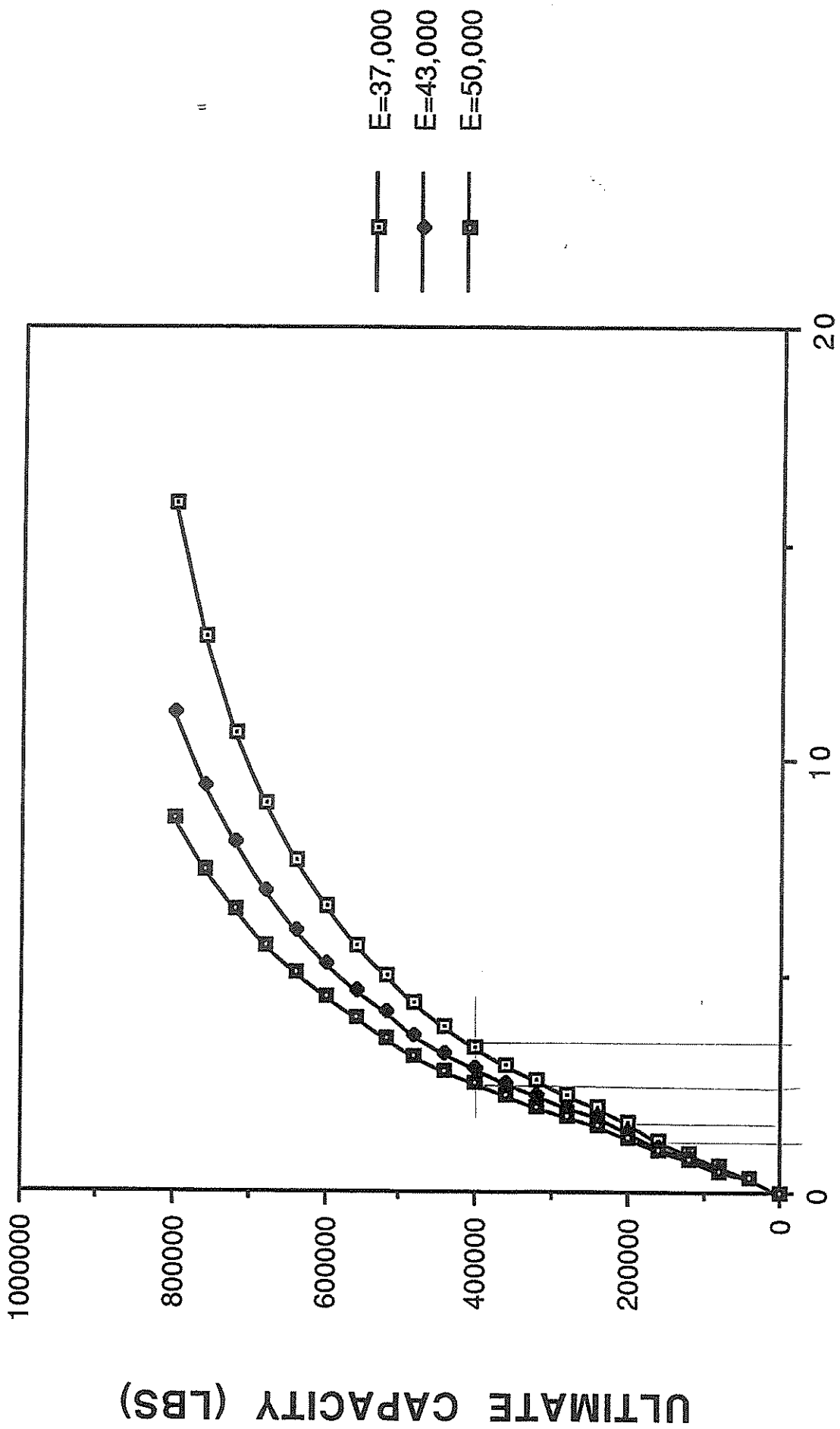


PILE CAPACITY (LBS)

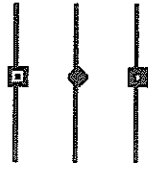
PILE STRESS (PSI)

6' STROKE
 7' STROKE
 8' STROKE
 9' STROKE
 10' STROKE

**CRUISE SHIP DOCK IMPROVEMENTS
 20" DIA., 0.625" THICK PIPE PILE X 100'
 D30-32 HAMMER**



E=37,000
 E=43,000
 E=50,000



PILE DRIVING RECORDS

STEAMSHIP DOLPHIN PILES

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

91224

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			
8		PRESSED INTO MUD	
9	3		
10	4		
11	4		
12	5		
13	5		
14	8		
15	9	8'	
16	8		
17	9		
18	11		
19	17		
20	22	42/min (8')	
21	26	~2/min	
22	30		
23	36		
24	43	42/min	
25	45		

PILE LOCATION S#1 VERTICAL

DATE DRIVEN 12/4/91

REDRIVEN AFTER SPLICE —

PILE TYPE 20" Ø

TIP TYPE OPEN, SPIN FIN

HAMMER TYPE DELMAG 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11

INITIAL LENGTH 120'

CUTOFF 19'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 91' (ROUGH)

CUTOFF ELEV 27' (ROUGH)

GROUND ELEV -24

TIP ELEV -64

COMMENTS 1/2 RETENTION

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			PRESSED INTO MUD
11	4	6' (DRY)	
12	5		
13	3		
14	4		
15	4		
16	5	8'	
17	5		
18	6		
19	6		
20	8		
21	11		
22	17		
23	17	38/MIN (5')	E = 52,000 FT LBS
24	20		
25	25	39/MIN	

#2

PILE LOCATION S#1 BATTER

DATE DRIVEN 12/4/91

REDRIVEN
AFTER SPLICE ---

PILE TYPE 20"Ø

TIP TYPE OPEN, SPIN FIN

HAMMER
TYPE DELMAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 18'

SPLICE LENGTH ---

CUTOFF ---

FINAL LENGTH 52' (AS BUILT)

CUTOFF ELEV 27'

GROUND ELEV -17

TIP ELEV -46

COMMENTS 2:1 BATTER
1/3 ROTATION

LOCATION OF S#1 SHIFTED
APPROX. 8' SOUTH.

USED 100' PILE INSTEAD OF 120
CAL. OFF 2.1 PINS. (SUBSTITUTED
PILE #58)

JGM

PAGE 1 OF 2

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2	1		
3	1		
4	1		
5	1		
6	1		
7	SETTING + DAY FIELD		PILE
8			
9			
10			
11			
12	1		
13	1		
14	2		
15	3		
16	3		
17	3		
18	3		
19	10		
20	10		
21	10		
22	10		
23	12		
24	16		
25	15		

②

PILE LOCATION S. #1 BACK BATTERY

DATE DRIVEN 11-9-91

REDRIVEN
AFTER SPLICE —

PILE TYPE 20" I STEEL

TIP TYPE OPEN, SAW FIN

HAMMER
TYPE DECAWG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11

INITIAL LENGTH 120'

CUTOFF —

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH —

CUTOFF ELEV 27' (HOUR 4)

GROUND ELEV -12

TIP ELEV —

COMMENTS PILE DRIVEN
OFF-LOCATION.
S 1/2 TO 6' AWAY
FROM DOCK

TIN/

PAGE 1 of 2

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1	1		
2	↓		
3	5 (TOTAL)		
4	4		
5	5		
6	7		
7	7		
8	10		
9	10		
10	14		
11	15	9'	
12	21		
13	25	40/MIN = 9' = 59,500 FT LBS	
14	24		
15	24	41/MIN = 8.5' = 56,757	
16	23		
17	24		
18	24		
19	25		
20	26	42/MIN = 8.2' = 54,000	
21	34		
22	36	41/MIN = 8.5'	
23	35		
24	40	40/MIN = 9' = 59,500	
25	50		

③

PILE LOCATION S#2 VERTICAL

DATE DRIVEN 11-11-91

REDRIVEN
AFTER SPLICE —

PILE TYPE 20" Ø STEEL

TIP TYPE OPEN SPIN FIN

HAMMER
TYPE DELMAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 120'

CUTOFF 25'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 95' (ROUGH)

CUTOFF ELEV 27' (ROUGH)

GROUND ELEV -25'

TIP ELEV -69

COMMENTS 40 MIN DRIVING
TIME
1/2 ROTATION WHILE DRIVING
PULLED 0.5' HW. WHEN
HAMMER WAS PULLED OFF

[Signature]

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			DRIVEN AT 2:1 BATTER
2	}		ACTUAL ENERGY
3			(STROKE) NOT
4			CALCULATED WHILE
4	7 (TOTAL)		DRIVING
5	11	8'	
6	12		
7	18	6.5	41 BL/MIN = 45,000
8	22		FT/LS
9	24		
10	26	9'	40/MIN = 47,356 ± 160
11	28		
12	28		
13	30	9	40/min = 47,356
14	39	9.5	39/min = 49,816
15	39		
16	44		
17	49		39/min = 49,816
18	50		
19	54		
20	54		
21	54		39/min = 49,816
22	56		
23	57		
24	54		39/min "
25	55		

PILE LOCATION #4
5⁺ 2 BACK BATTER

DATE DRIVEN 11-11-91

REDRIVEN
AFTER SPLICE —

PILE TYPE 20" d STEEL

TIP TYPE OPEN. SPIN FIN

HAMMER
TYPE DELMAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11

INITIAL LENGTH 120'

CUTOFF 29'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 91' (ROUGH)

CUTOFF ELEV 27' (ROUGH)

GROUND ELEV -18

TIP ELEV -54'

COMMENTS START TIME 12:37
END - 1:20 43 MIN. DRIVING

2/3 ROTATION

2:1 BATTER HELD WHEN
HAMMER CAME OFF.

DAY

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			
8		PRESSED	THROUGH MUD
9	1		ENERGY FOR
10	2		2:1 BATTER
11	4		↓
12	4		
13	7	8'	43,000
14	11		
15	13		
16	16		
17	20	38/min	52,000
18	25		
19	28		
20	32	38/min	52,000
21	43		
22	50	37/min	55,000
23	53		
24	54	36/min	58,000
25	60	36/min	58,000

⑤

PILE LOCATION S^F2 NW BATTER

DATE DRIVEN 11/12/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 20" STEEL

TIP TYPE "PEN. SPIN FIN

HAMMER
TYPE DEL MAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 120' *

CUTOFF 30'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 90' (ROUGH)

CUTOFF ELEV 27 (ROUGH)

GROUND ELEV -24'

TIP ELEV -53

COMMENTS 2:1 BATTER
DRIVING TIME APPROX 35 MIN
1/2 ROTATION WHILE DRIVING.

* CUT 10' OFF 130' PILE

PAGE 1 of 2

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			ENERGY AT 2:1 BATTER
4			
5			
6			
7			PRESSED INTO MUD.
8	3		
9	5	8'	42,954 ft. lbs
10	6		
11	7	9'	47,356
12	11		
13	14		
14	15		
15	28	40/min	47,356
16	27	39/min	49,816
17	26		
18	30		
19	36	39/min	
20	30		
21	32		
22	49	38/min	52,472
23	53	38/min	
24	57		
25	60		

PILE LOCATION #6 S*2. SW BATTER

DATE DRIVEN 11/12/91

REDRIVEN AFTER SPLICE —

PILE TYPE 20" Ø STEEL

TIP TYPE OPEN. SPIN FIN

HAMMER TYPE DECMAG 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11

INITIAL LENGTH 120' ±

CUTOFF 13'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 107 (ROUGH)

CUTOFF ELEV 27' (ROUGH)

GROUND ELEV -26

TIP ELEV -68

COMMENTS 2:1 BATTER
START 1:35pm, END 2:30pm

2/3 ROTATION WHILE DRIVING.

191

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
26	59		
27	60	37/MIN	55,347 ft lbs
28	62		
29	60		
30	63		
31	55		
32	55	38/MIN	52,472
33	55		
34	58		
35	59		
36	60		
37	60	37/MIN	
38	60		
39	56		
40	55		
41	54		
42	54	37/MIN	
43	61		
44	67		
45	61		
46	78		
47	95	37/MIN	E=55,347 ft lbs

PILE LOCATION #6 SF2 SW BATTER

DATE DRIVEN 11/12/91

REDRIVEN AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER TYPE _____

RATED ENERGY _____

HAMMER STROKE AT RATED ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS SEE PAGE 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			
8			PRESSED INTO MUD
9	2		
10	3		
11	3		
12	4		
13	7		
14	11	8'	
15	14		
16	16		
17	25	41/MIN	(8.5') = 56,757 F. LBS.
18	35		
19	40	41/MIN	
20	40	8'	
21	45		
22	50	42/MIN = 8' = 54,000 F. LBS.	
23	56		
24	60	42/MIN	
25	47		

⑦

PILE LOCATION S#3 VERTICAL

DATE DRIVEN 11/21/91

REDRIVEN
AFTER SPLICE

PILE TYPE 20' Ø STEEL

TIP TYPE OPEN, SAW FIN

HAMMER
TYPE DELMAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 125'

CUTOFF 25'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 95' (ROUGH)

CUTOFF ELEV 27'

GROUND ELEV -26

TIP ELEV -68

COMMENTS 33 MIN. DRIVING TIME
1/2 ROTATION

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3		PRESSED INTO MUD	
4	3	DAY	
5	6	DAY	
6	—		
7	4		
8	6	8'	
9	9		
10	11		
11	13		
12	17		
13	20		
14	28	9	
15	37		
16	41		
17	53	39/MIN	
18	68	39/MIN	
19	80	5'	
20	89		
21	99	39/MIN	
22	98		
23	110	39/MIN	
24	120		
25	112	38/MIN	

#8
 PILE LOCATION 5#3 BACK BATTIES
 DATE DRIVEN 11/21/91
 REDRIVEN AFTER SPLICE —
 PILE TYPE 20" Ø STEEL
 TIP TYPE OPEN SPUN PILE
 HAMMER TYPE DECATAG 30-32
 RATED ENERGY 70,000
 HAMMER STROKE AT RATED ENERGY 11
 INITIAL LENGTH 120'
 CUTOFF 35'
 SPLICE LENGTH —
 CUTOFF —
 FINAL LENGTH 85' (ROUGH)
 CUTOFF ELEV 27'
 GROUND ELEV -20
 TIP ELEV -50
 COMMENTS 50 MIN DRIVING TIME 1/2 ROT APPROX.
UJM
 PAGE 1 of 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			
8			
9	3		
10	17		
11	22	8'	
12	30	41/min	
13	41		
14	38	41/min	
15	40		
16	45	8'	
17	40	40/min	
18	50	40/min	
19	50	9'	
20	42	39/min	
21	50		
22	53	8.5	
23	55		
24	48	40/min	
25	50		

#10

PILE LOCATION 5th BATTERY

DATE DRIVEN 11/22/91

REDRIVEN
AFTER SPLICE

PILE TYPE 20" 6 STEEL

TIP TYPE OPEN END

HAMMER
TYPE DESMOND 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY

INITIAL LENGTH 120'

CUTOFF 32'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 88' (ROUGH)

CUTOFF ELEV 27'

GROUND ELEV -21

TIP ELEV -51

COMMENTS DRIVEN AT 21 BATTERY
40 MIN. DRIVING TIME.
1/2 ROTATION

Y.A.A.

PAGE 1 of 2

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES	
1			MUDLINE -28'	
2				
3				
4				
5				
6				
7				
8		PRESSED		INTO MUD
9	4			
10	3			
11	4	8'	54,000 ft. lbs.	
12	4			
13	7	8'	54,000	
14	17	9'	59,535	
15	21			
16	24	40/MIN	59,535	
17	21			
18	24	40/MIN		
19	23			
20	20			
21	22	40/MIN		
22	21			
22'6"	25	11'		70,000 ft. lbs. BEDROCK

PILE LOCATION #13 S#16 VERTICAL

DATE DRIVEN 11/13/91

REDRIVEN AFTER SPLICE

PILE TYPE 20" Ø STEEL

TIP TYPE OPEN CUTTING EDGE

HAMMER TYPE DECMAG 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 21'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 79' (ROUGH)

CUTOFF ELEV 27'

GROUND ELEV -28'

TIP ELEV (52) -50.5

COMMENTS 10 MIN DRIVING TIME. STARTED 7:00 PM

JAM

PAGE 1 of 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17	↳		PRESSED IN TO MUD

#21

PILE LOCATION CS #1 VERTICAL

DATE DRIVEN 11/18/91

REDRIVEN
AFTER SPLICE ---

PILE TYPE 24" Ø STEEL

TIP TYPE OPEN CUTTING SHOE

HAMMER
TYPE DELMAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 90

CUTOFF 12

SPLICE LENGTH ---

CUTOFF ---

FINAL LENGTH 78'

CUTOFF ELEV 29'

GROUND ELEV -33'

TIP ELEV -49

COMMENTS PILE WITNESSED
AND ACCEPTED BY TODD
NOTTINGHAM

CAF

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
25			BEDROCK

#24

PILE LOCATION CS #4 VERTICAL

DATE DRIVEN 11/20/91

REDRIVEN
AFTER SPLICE

PILE TYPE 24 Ø STEEL

TIP TYPE OPEN CUTTING EDGE

HAMMER
TYPE DECIMAL 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY

INITIAL LENGTH 100'

CUTOFF 7'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 93'

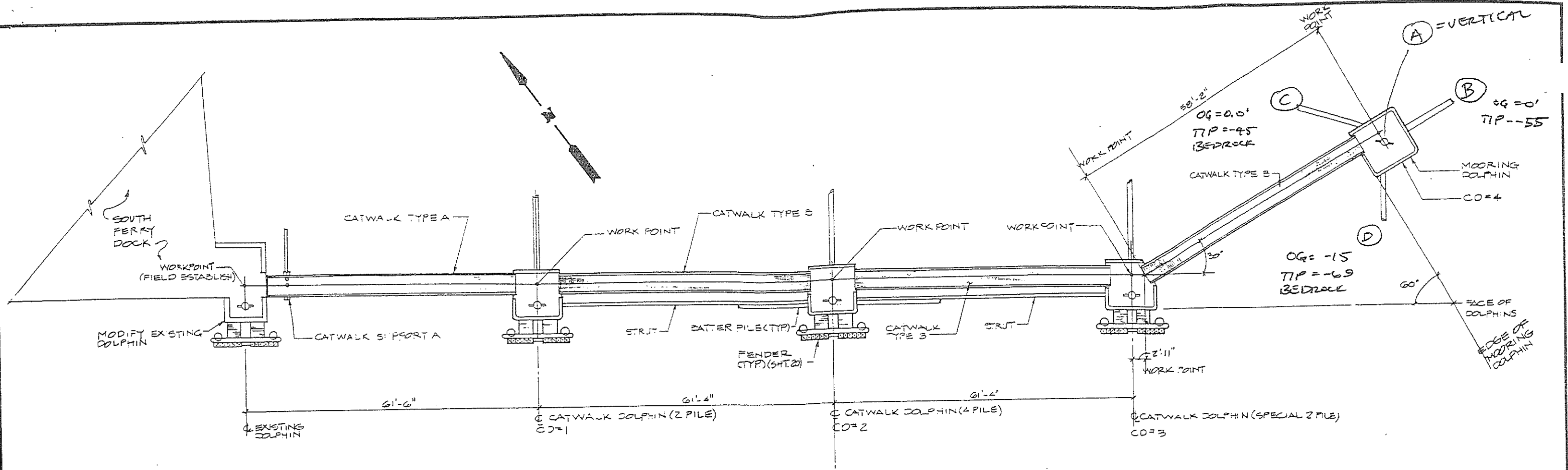
CUTOFF ELEV 29'

GROUND ELEV -39

TIP ELEV -64

COMMENTS


DOCK EXTENSION DOLPHINS



CATWALK & DOLPHIN PLAN

JUNEAU CRUISE SHIP DOCK
 CBJ DEPT. OF ENGINEERING CONTRACT NO. E91-137

Designed: TN
 Drawn: KK
 Checked: JLN
 Project No. 902310

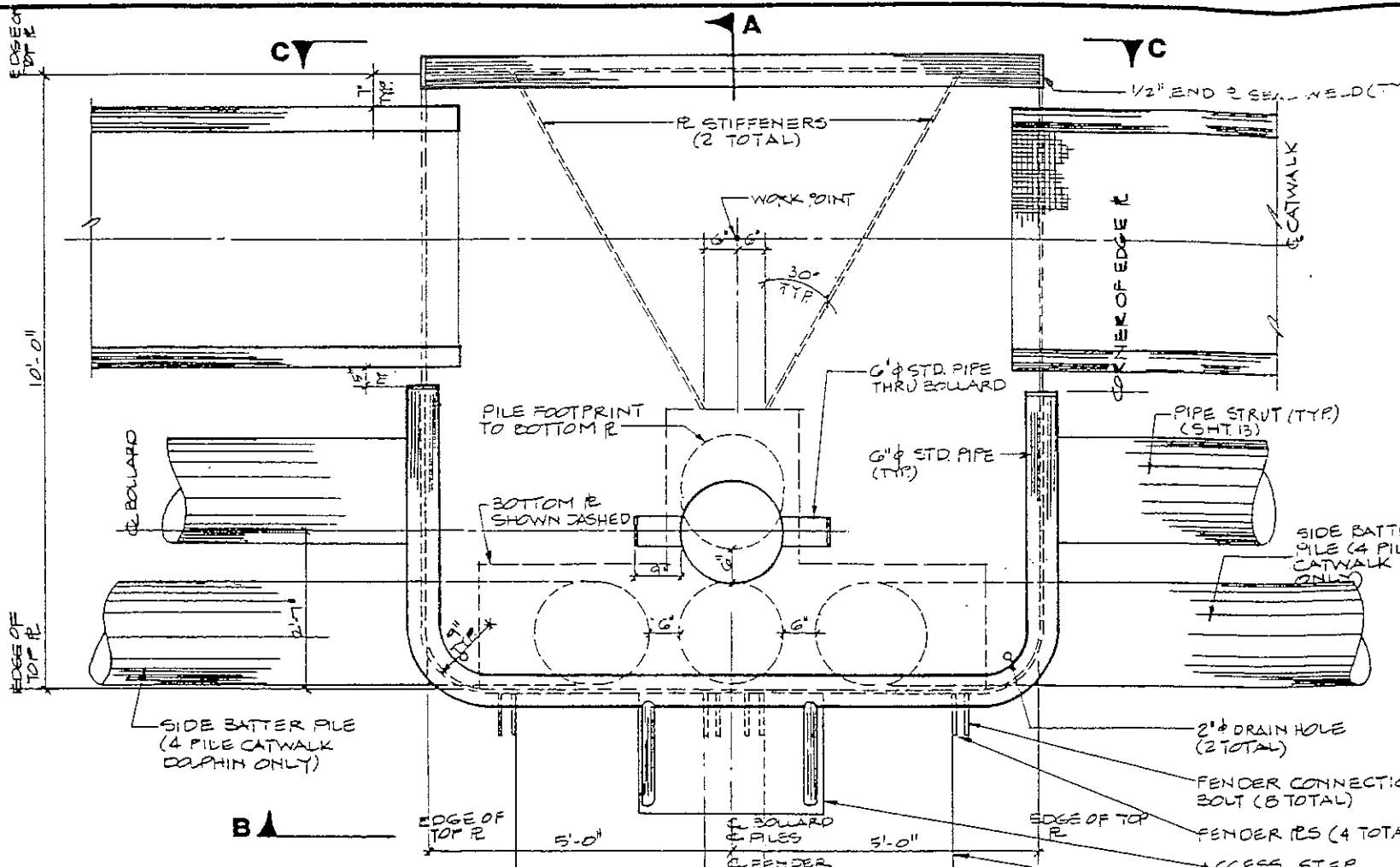

Peratrovich, Nottingham & Drage, Inc.
 Engineering Consultants
 2205 North Jordan Avenue, JUNEAU, AK 99801
 (907) 789-5006



Date: 2/91
 Scale: NTS

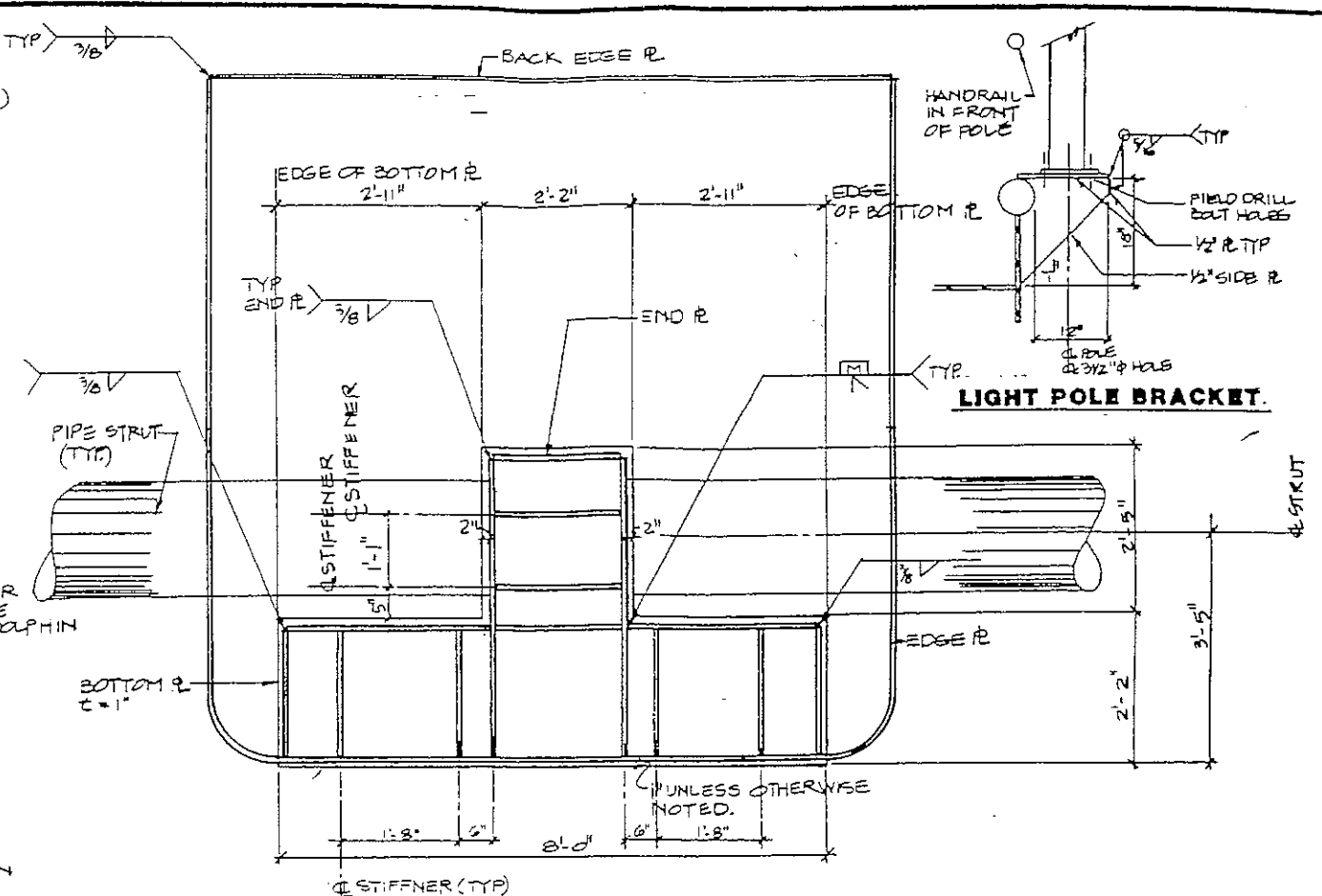
CATWALK & DOLPHIN PLAN 14-24

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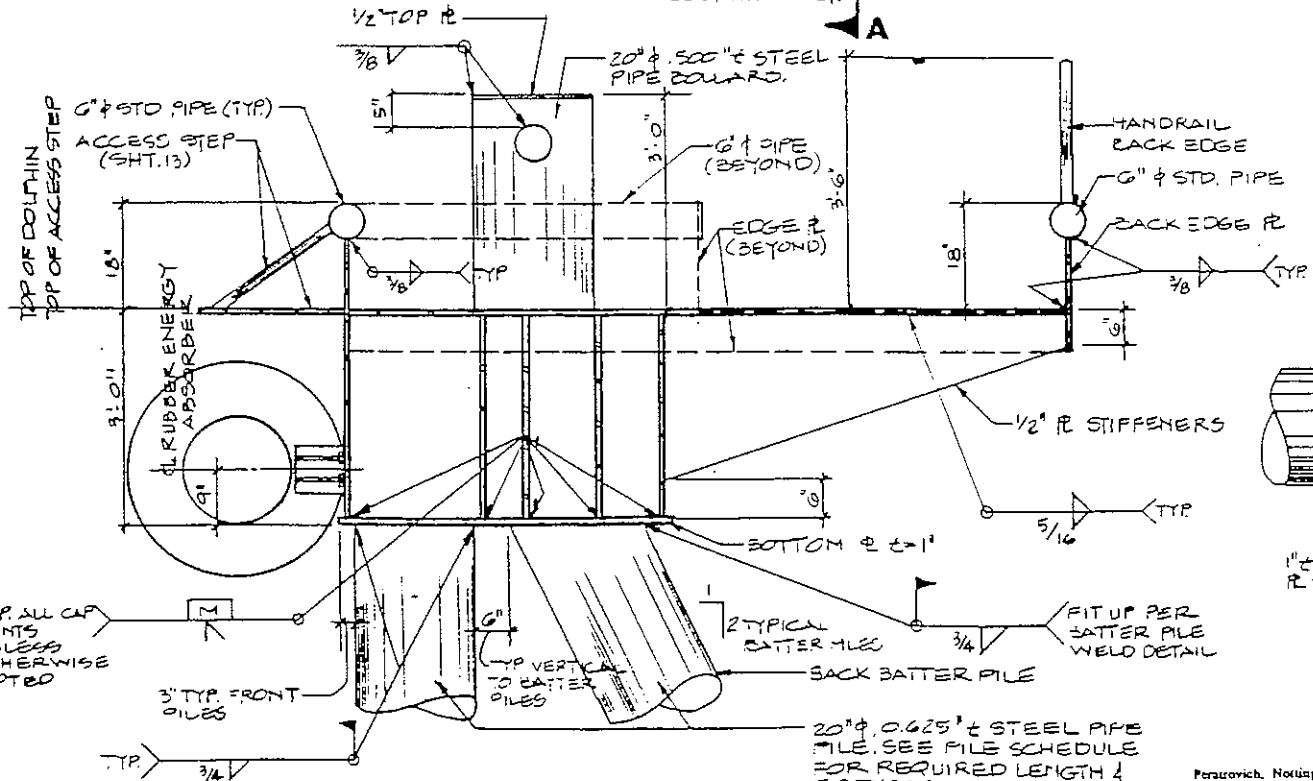
CATWALK DOLPHIN PLAN

NOTE: ALL R ± 1/2' UNLESS OTHERWISE NOTED.
NOTE: SIDE BATTER PILES FOR 4 PILE CATWALK DOLPHIN ONLY.

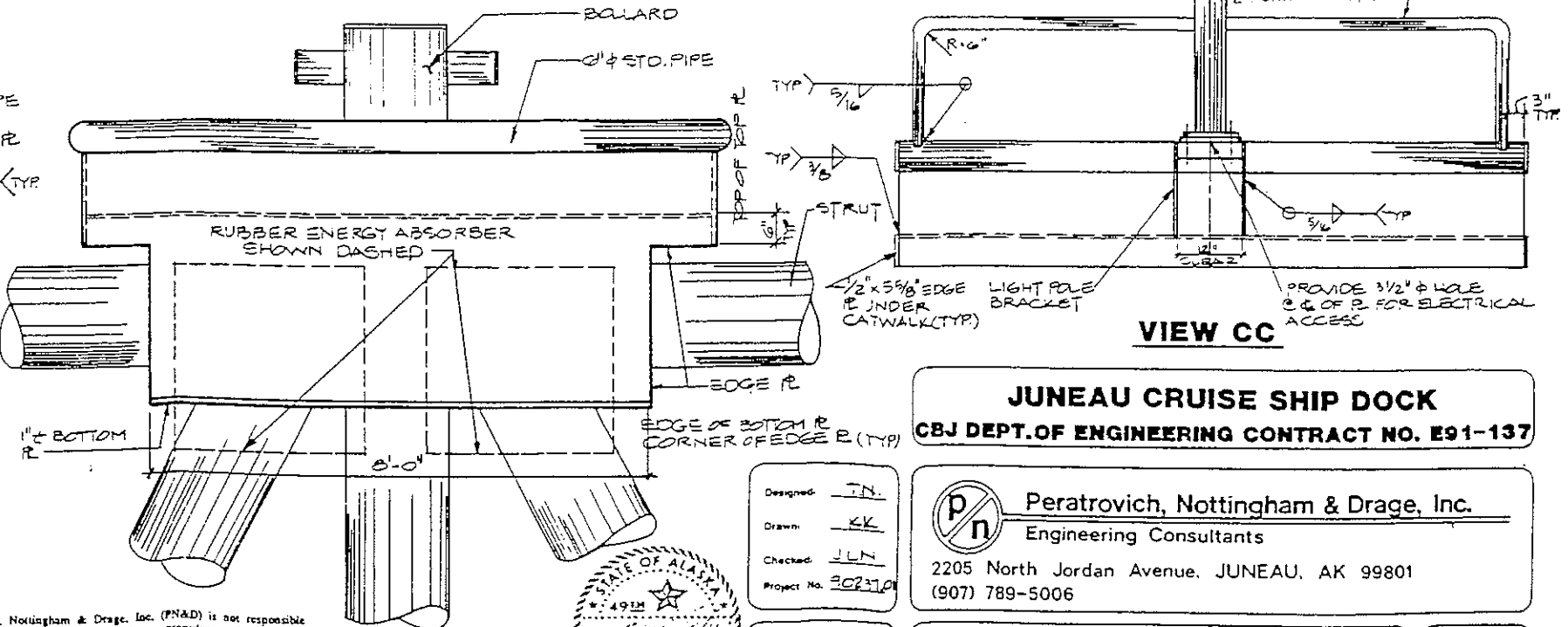


BOTTOM PLATE PLAN

NOTE: TOP R NOT SHOWN FOR CLARITY



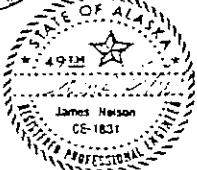
SECTION AA



VIEW BB

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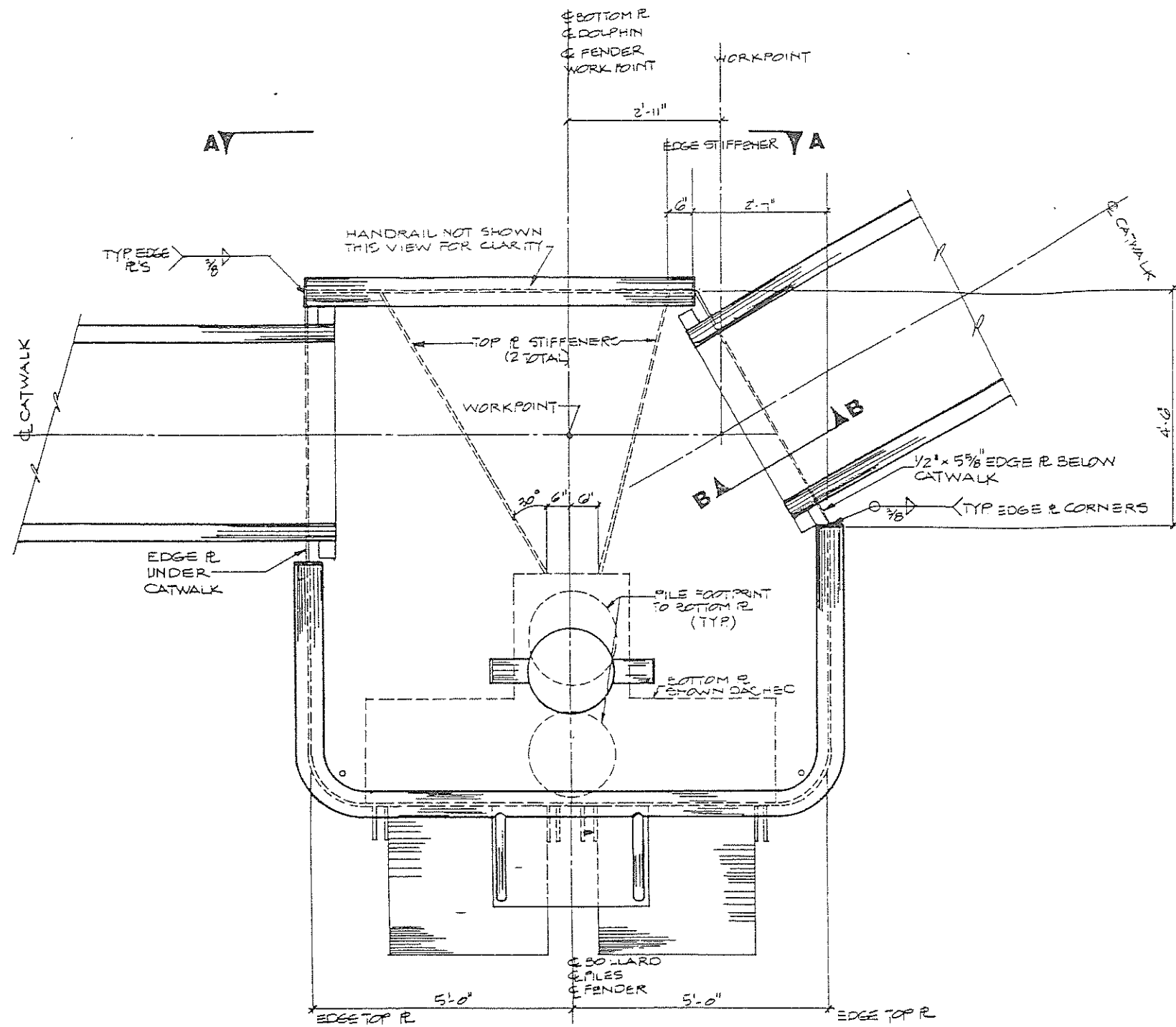
JUNEAU CRUISE SHIP DOCK
CBJ DEPT. OF ENGINEERING CONTRACT NO. E91-137

Peratrovich, Nottingham & Drage, Inc.
Engineering Consultants
2205 North Jordan Avenue, JUNEAU, AK 99801
(907) 789-5006

Designed: JN
Drawn: KK
Checked: JLN
Project No: 202310

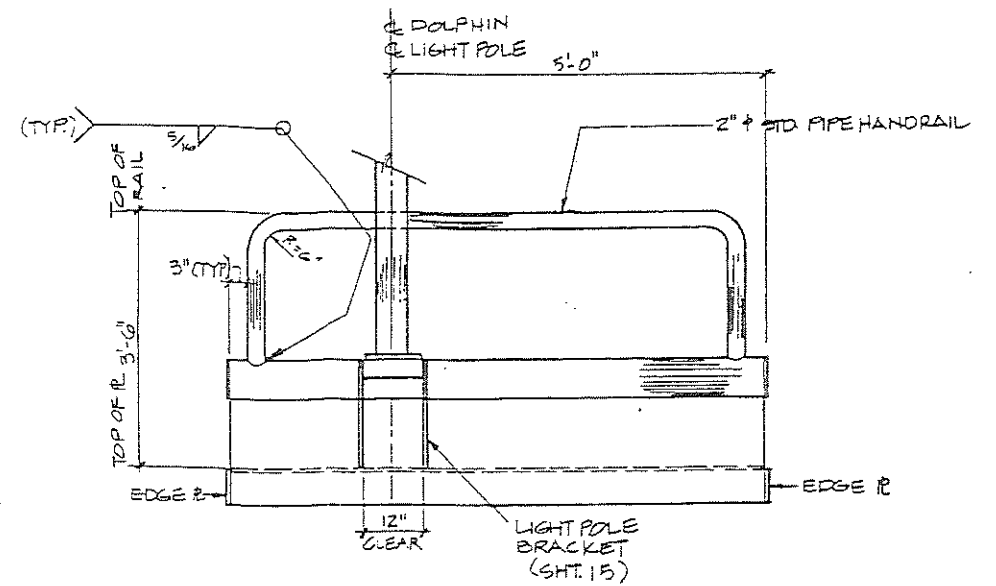
Date: 2/7/11
Scale: _____

CATWALK DOLPHIN Sheet **15 of 24**

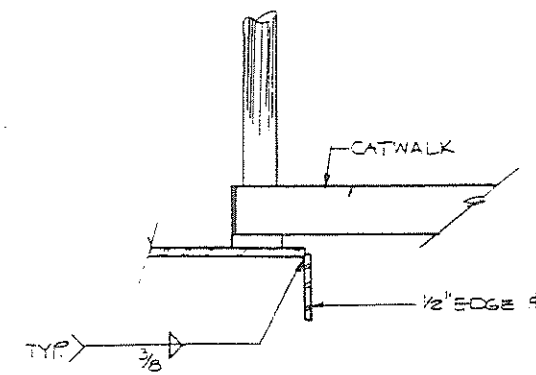


SPECIAL CATWALK DOLPHIN

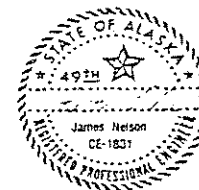
NOTE: DETAILS SHOWN SIMILAR TO 3-PILE CATWALK DOLPHIN.



VIEW AA




SECTION BB



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JUNEAU CRUISE SHIP DOCK
 CBJ DEPT. OF ENGINEERING CONTRACT NO. E91-137

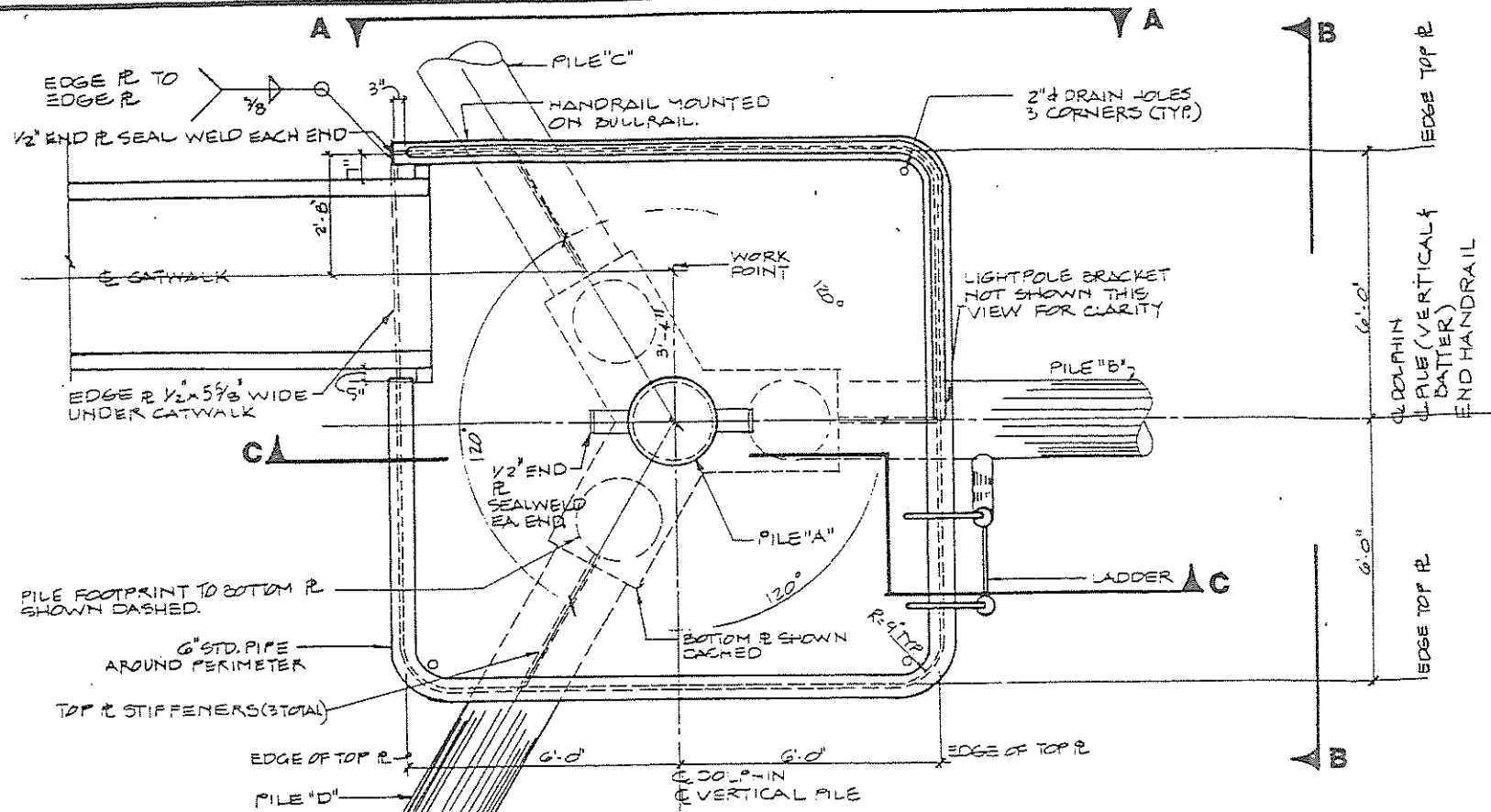
Designed: TN
 Drawn: KK
 Checked: JLN
 Project No. 9023701

 **Peratovich, Nottingham & Drage, Inc.**
 Engineering Consultants
 2205 North Jordan Avenue, JUNEAU, AK 99801
 (907) 789-5006

Date: 2/91
 Scale:

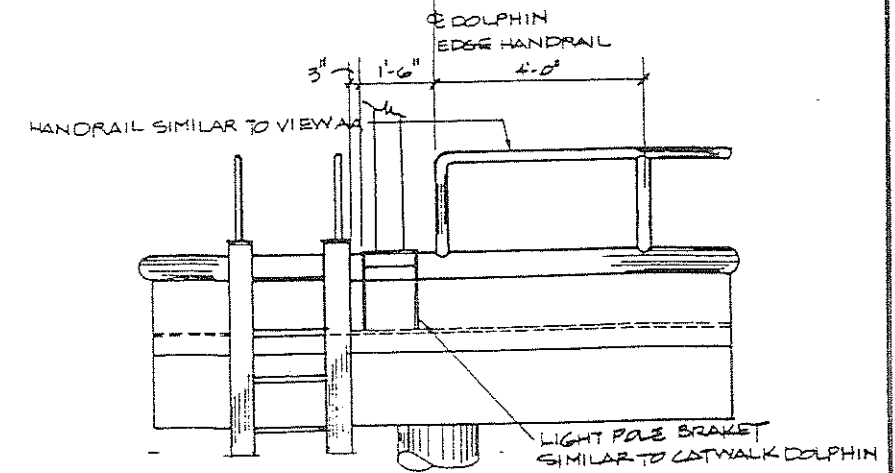
SPECIAL CATWALK DOLPHIN

sheet
18-24

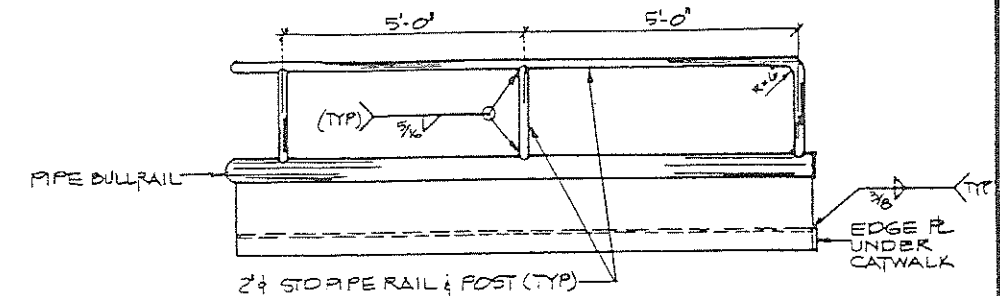


MOORING DOLPHIN PLAN

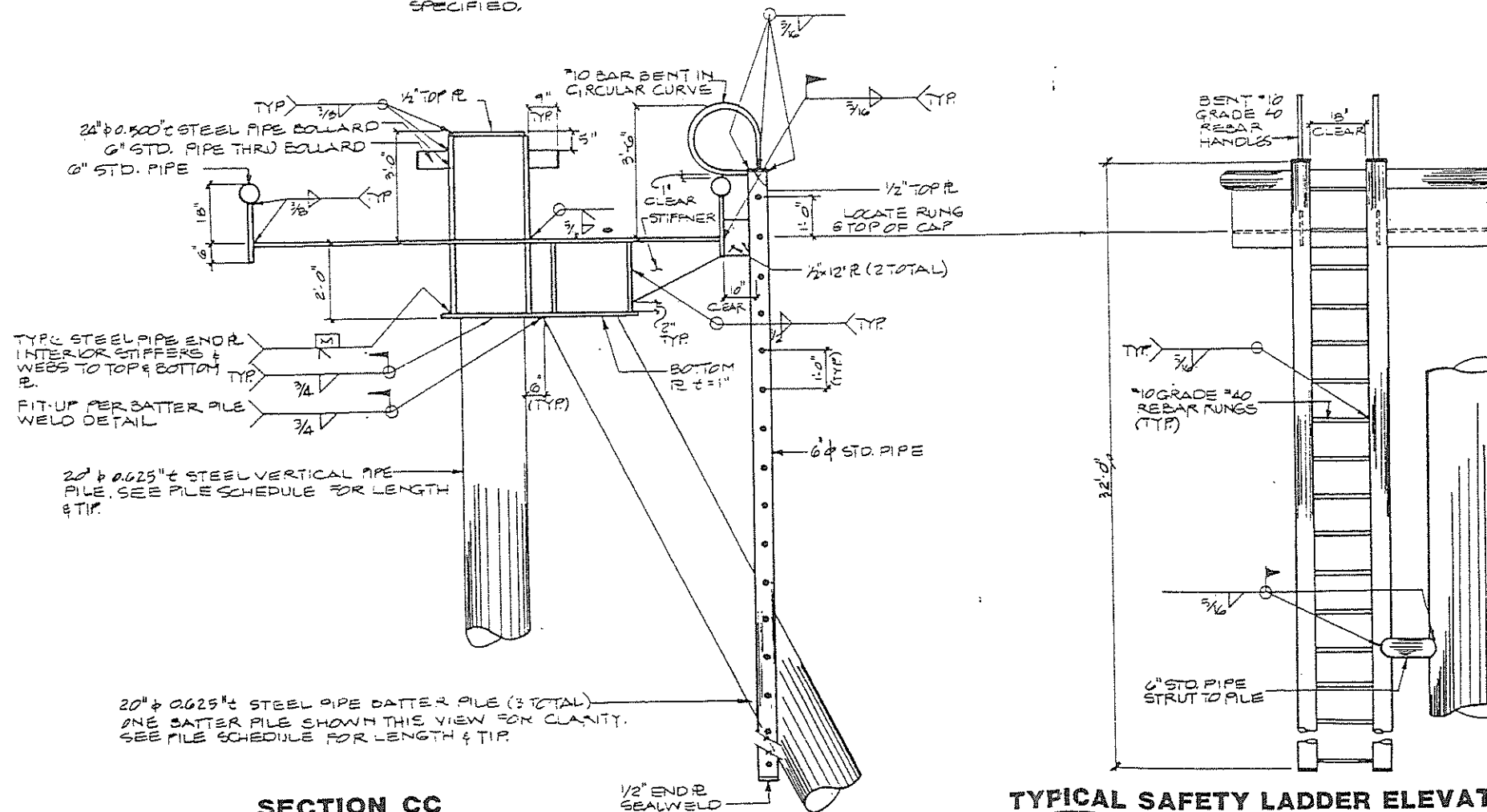
NOTE: ALL R = 1/2" UNLESS OTHERWISE SPECIFIED.



VIEW BB HANDRAIL

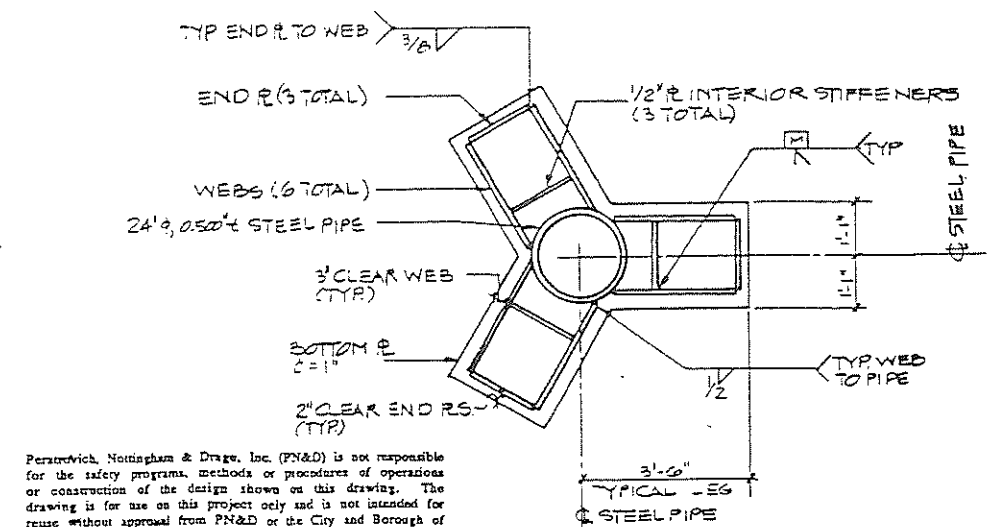


VIEW AA HANDRAIL



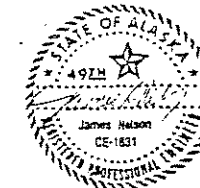
SECTION CC

TYPICAL SAFETY LADDER ELEVATION



BOTTOM PLATE PLAN

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Designed: JH
 Drawn: KK
 Checked: JLN
 Project No. 2037-01

Date: 2/90
 Scale:

JUNEAU CRUISE SHIP DOCK
 CSJ DEPT. OF ENGINEERING CONTRACT NO. E91-137

Peratrovich, Nottingham & Drage, Inc.
 Engineering Consultants
 2205 North Jordan Avenue, JUNEAU, AK 99801
 (907) 789-5006

MOORING DOLPHIN

sheet
19 of 24

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES	
1	}			
17			PRESSED INTO MUD	
18		1		
19		1		
20		1		
21		1		
22		1		
23		1		
24		1		
25		1		
26	1			
27	1			
28	1			
29	1			
29'4"	17	10'	BEDROCK	

#25

PILE LOCATION DE#9 WEST

DATE DRIVEN 11/25/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE 20" φ

TIP TYPE OPEN, CUTTING SHOE

HAMMER
TYPE DELMAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 110

CUTOFF 13'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 97' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -44

TIP ELEV -73

COMMENTS _____

JGA

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5		PRESSED INTO MUD	
6	1	6'	
7			
8			
9			
10			
11	1		
12	1		
13			
14	1		
15	1		
16	2		
17	2		
18	4		
19	5		
20	5		
21	5		
22	6'		
23	5		
24	5		
25	3		

#26

PILE LOCATION DE #1 BATTER

DATE DRIVEN 11/25/91

REDRIVEN AFTER SPLICE

PILE TYPE 20" φ

TIP TYPE OPEN, SPIN FIN

HAMMER TYPE DECMAG 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 110'

CUTOFF 17'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 93' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -33

TIP ELEV -60

COMMENTS 2:1 BATTER

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
26	3		
27	2		
28	2		
29	2		
30	12		
31	13	9	
31'3"	40	39/MIN	E = 65,545 Ft./11s.

#26

PILE LOCATION DE#1 BATTERY

DATE DRIVEN 11/25/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER
TYPE _____

RATED
ENERGY _____

HAMMER
STROKE AT RATED
ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS SEE PAGE 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17	1	PRESSED	INTO MUD
18	2	DRY	
19	2		
20	2		
21	2		
22	1	7'	
23			
24			
25	1	7'	

PILE LOCATION ^{#27} DE#2 VERTICAL

DATE DRIVEN 11/26/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 20" φ

TIP TYPE OPEN, SPIN FIN

HAMMER
TYPE DECMAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11

INITIAL LENGTH 110'

CUTOFF 4'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 106' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -43

TIP ELEV -82

COMMENTS 1/3 ROTATION

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
26			
27			
28	1	7'	
29			
30			
31			
32			
33	3	8'	
34	4		
35	4		
36	4		
37	5		
38	4		
39	7	9'	BEDROCK
39'0"	22	10	

#27

PILE LOCATION DE #2 VERTICAL

DATE DRIVEN 11/26/91

REDRIVEN AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER TYPE _____

RATED ENERGY _____

HAMMER STROKE AT RATED ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS SEE PAGE 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			
8		PRESSED INTO MUD	
9	1		
10	1		
11			
12			
13	1		
14	3		
15	7		
16	7		
17	8		
18	15		
19	15		
20	18	41/MIN	
21	24		
22	29		
23	30		
24	35	39/MIN	
25	30		

#28

PILE LOCATION DE #2 BACK BATTER

DATE DRIVEN 11/25/91

REDRIVEN AFTER SPLICE

PILE TYPE 20"Ø

TIP TYPE OPEN, SPIN FIN

HAMMER TYPE DELMAG 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 120

CUTOFF 27

SPLICE LENGTH

CUTOFF

FINAL LENGTH 93' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -30

TIP ELEV -60

COMMENTS 2:1 BATTER
DOCK SHOOK HARD EACH BLOW
UNTIL -28'. PILE WALKED APPROX
2.5' NORTH. IT WAS PULLED
BACK AND DRIVING CONTINUED
THE PILE SPRANG BACK 12.5'
NORTH WHEN HAMMER WAS PULLED
OFF.
POSSIBLE OLD PILE STUBS IN
AREA

J.M.

PAGE 1 of 2

CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
26	31	39/MIN	E = 50,000
27	31		
28	31		
29	28		
30	25		
31	23	40/MIN	E = 47,000
32	20		
33	10		
34	10		
35	50	9'	E = 55,000 4-1/2
35'0"	20	37/MIN	BEDROCK

#28
 PILE LOCATION DE #2 BACK BA
 DATE DRIVEN 11/25/91
 REDRIVEN AFTER SPLICE _____
 PILE TYPE _____
 TIP TYPE _____
 HAMMER TYPE _____
 RATED ENERGY _____
 HAMMER STROKE AT RATED ENERGY _____
 INITIAL LENGTH _____
 CUTOFF _____
 SPLICE LENGTH _____
 CUTOFF _____
 FINAL LENGTH _____
 CUTOFF ELEV _____
 GROUND ELEV _____
 TIP ELEV _____
 COMMENTS SEE PAGE 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
26	2		
27	1		
28	1		
29	2		
30	1		
31	}		
32			
33			
34			
35	1		
36	1		
37	1		
38	1		
39	3	9'	BEDROCK
39'2"	20	10.5'	

#29

PILE LOCATION DE #2 NU 847

DATE DRIVEN 11/26/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER
TYPE _____

RATED
ENERGY _____

HAMMER
STROKE AT RATED
ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS SEE PAGE 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			PRESSED INTO MUD
8	3	6' (Dry)	
9	2		
10	3		
11	1		
12	1		
13	1		
14	3		
15	1		
16			
17			
18			
19	3		
20	1		
21			
22			
23			
24	1		
25	1		

#30

PILE LOCATION DE #2 SE BATTER

DATE DRIVEN 11/26/91

REDRIVEN
AFTER SPLICE

PILE TYPE 20" φ

TIP TYPE OPEN, SPIN FIN

HAMMER
TYPE DECLMAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 120'

CUTOFF 3'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 117' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -44

TIP ELEV -82


COMMENTS 2:1 BATTER

JM

CRUISE SHIP DOCK IMPROVEMENTS

PILE DRIVING RECORD

CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
26	1		
27			
28			
29			
30			
31			
32	2		
33	7		
34	13	8'	
34'6"	33	10.5'	E=55,000 Ft. Lbs BEDROCK

#30

PILE LOCATION DE#2 SE BAY

DATE DRIVEN 11/26/91

REDRIVEN AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER TYPE _____

RATED ENERGY _____

HAMMER STROKE AT RATED ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS SEE PAGE 1

CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
32			
33	10	Dry (6')	
34	10	" "	HAMMER BROKE DOWN 11/27/91
35	10	8'	11/27/91 - AFTERNOON
36	13	8'	
37	13	8'	
37' 4"	15	10'	BEDROCK

#31
 PILE LOCATION DE #3 VERTICAL
 DATE DRIVEN 11/27/91
 REDRIVEN AFTER SPLICE —
 PILE TYPE 20" ϕ
 TIP TYPE OPEN, CUTTING SHOE
 HAMMER TYPE DELMAG 30-32
 RATED ENERGY 70,000
 HAMMER STROKE AT RATED ENERGY 11'
 INITIAL LENGTH 110'
 CUTOFF 7'
 SPLICE LENGTH —
 CUTOFF —
 FINAL LENGTH 103' (ROUGH)
 CUTOFF ELEV 24'
 GROUND ELEV -42
 TIP ELEV -79
 COMMENTS _____

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			PRESSED INTO MUD
8	3	DRY	
9	2		
10	3		
11	1		
12	1		
13	1		
14	3		
15	1		
16	1		
17			
18			
19	1		
20	3		
21			
22			
23			
24	1		
25	1		

#32
 PILE LOCATION DE#3 BATTER
 DATE DRIVEN 11/26/91
 REDRIVEN
 AFTER SPLICE
 PILE TYPE 20" Ø
 TIP TYPE OPEN, CUTTING EDGE
 HAMMER
 TYPE DECMAG 30-32
 RATED
 ENERGY 70,000
 HAMMER
 STROKE AT RATED
 ENERGY 11'
 INITIAL LENGTH 120'
 CUTOFF 28'
 SPLICE LENGTH
 CUTOFF
 FINAL LENGTH 92' (ROUGH)
 CUTOFF ELEV 24'
 GROUND ELEV -28
 TIP ELEV -59
 COMMENTS 2:1 BATTER

CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
26	1		
27	1		
28	1		
29	1		
30	1		
31	1		
32	2		
33	7	8'	
34	13	8'	BEDROCK
34'6"	33	10.5'	

#32
PILE LOCATION DE #3 BATTER
DATE DRIVEN 11/26/91
REDRIVEN AFTER SPLICE _____
PILE TYPE _____
TIP TYPE _____
HAMMER TYPE _____
RATED ENERGY _____
HAMMER STROKE AT RATED ENERGY _____
INITIAL LENGTH _____
CUTOFF _____
SPLICE LENGTH _____
CUTOFF _____
FINAL LENGTH _____
CUTOFF ELEV _____
GROUND ELEV _____
TIP ELEV _____
COMMENTS SEE PAGE 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
			PRESSED INTO MUD
12	1	6' (DRY)	
13	2		
14	4		
15	3		
16	1		
17	1		
18	1		
19	1		
20	1		
21	1		
22	1		
23	3		
24	2		
25	2		
26	1		
27	2		
28	2		
29	6	8'	
30	6	9'	
31	30	10'	BEDROCK

31' 0" 30 10.5' CALLED DRIVING OFF AT 20 BLOWS.

#33
 PILE LOCATION DE^{F4} VERTICAL
 DATE DRIVEN 11/29/91
 REDRIVEN AFTER SPLICE ---
 PILE TYPE 20" ϕ
 TIP TYPE OPEN, CUTTING SHOE
 HAMMER TYPE DELMAG 30-32
 RATED ENERGY 70,000
 HAMMER STROKE AT RATED ENERGY 11"
 INITIAL LENGTH 110'
 CUTOFF 13'
 SPLICE LENGTH ---
 CUTOFF ---
 FINAL LENGTH 97' (ROUGH)
 CUTOFF ELEV 24'
 GROUND ELEV -42
 TIP ELEV -73
 COMMENTS _____

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

#34

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
11	2	PRESSED INTO MUD	
12	2		
13	1		
14	2		
15	2		
16	2		
17	2		
18	1		
19	1		
20	1		
21	1		
22	1		
23	2		
24	3	9	
25	4		
26	4		
27	5		
28	10	10	
29	11	10	
30	33	10.5	BEDROCK E=65,600
31	55	10.5	

PILE LOCATION DE #4 BATTER

DATE DRIVEN 11/29/91

REDRIVEN
AFTER SPLICE

PILE TYPE 20" φ

TIP TYPE OPEN SPIN FIN

HAMMER
TYPE DELTA MAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 120'

CUTOFF 25'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 95' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -34

TIP ELEV -62

COMMENTS 2:1 BATTER
1/3 ROTATION

31'0" 20 35/min

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
5			
15			PRESSED INTO MUD
16	1		
17	5		
18	1		
19	5		
20	1		
21	5		
22	1		
23	1		
24	1		
25	1		
26	2	7'	
27	5		
28	2		
29	2		
30	2		
31	2		
32	1		
33	2		
34	3		
35	23	9'	BEDROCK
35'0"	13	10.5	

#35
PILE LOCATION DE #5 VERTICAL

DATE DRIVEN 12/2/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 20" φ

TIP TYPE OPEN, CUTTING SHOE

HAMMER
TYPE DECLMAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 110'

CUTOFF 13'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 97' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -39'

TIP ELEV (-73) -74

COMMENTS —

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			
8		PRESSED	INTO MUD
9	5	6' (DRY)	
10	2		
11	3		
12	3		
13	3		
14	5	8'	
15	4		
16	5		
17	5		
18	3		
19	4		
20	3		
21	3		
22	3		
23	3		
24	2		
25	2		

#36
 PILE LOCATION DE #5 BATTER
 DATE DRIVEN 12/2/91
 REDRIVEN AFTER SPLICE —
 PILE TYPE 20" φ
 TIP TYPE OPEN, SPIN FIN
 HAMMER TYPE DECLMAG 30-32
 RATED ENERGY 70,000
 HAMMER STROKE AT RATED ENERGY 11'
 INITIAL LENGTH 110'
 CUTOFF 15'
 SPLICE LENGTH —
 CUTOFF —
 FINAL LENGTH 95' (ROUGH)
 CUTOFF ELEV 24'
 GROUND ELEV -25
 TIP ELEV -62
 COMMENTS 2:1 BATTER
1/3 ROTATION

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
26	3	8'	
27	3		
28	3		
29	4		
30	3		
31	2		
32	3		
33	3		
34	4		
35	6		9'
36	22		
37	22	38/MIN	
38	24		
39	22	38/MIN	E=52,000
40	25		
40"8"	35	36/MIN	E=58,000 Ft. lbs. BEDROCK

#36

PILE LOCATION DE #5 BATTER

DATE DRIVEN 12/2/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER
TYPE _____

RATED
ENERGY _____

HAMMER
STROKE AT RATED
ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS SEE PAGE 1

NORTH FERRY

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			
8			
9			
10		PRESSED INTO MUD	
11	1		
12	5		
13	1		
14	5		
15	1		
16	5		
17	1		
18	5		
19	1		
20	2		
21	1		
22	2	8'	
23	9	9'	
23' 6"	20	10.5'	BEDROCK

PILE LOCATION #37 NF #1 VENTH

DATE DRIVEN 12/2/91

REDRIVEN AFTER SPLICE ---

PILE TYPE 20"Ø

TIP TYPE OPEN POINTS SHIP

HAMMER TYPE DECAWING 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 15'

SPLICE LENGTH ---

CUTOFF ---

FINAL LENGTH 85' (100' - 15')

CUTOFF ELEV 24'

GROUND ELEV -33'

TIP ELEV -61'

COMMENTS ---

Y. J. J.

PAGE 1 of 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			
8			
9			
10	1		
11	1		
12	2		
13	1		
14	2		
15	3		
16	3		
17	4	8'	
18	5		
19	4		
20	5		
21	4		
22	4		
23	4		
24	4		
25	4		

#38

PILE LOCATION NF #1 BATT

DATE DRIVEN 12/2/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 20" d

TIP TYPE OPEN SPIN FIN

HAMMER
TYPE DELANO 30-52

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 40'

CUTOFF 21'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 99' MEASURE

CUTOFF ELEV 1'

GROUND ELEV -24'

TIP ELEV -74'

COMMENTS 2.1 BATTEN
1/2 ROTATION

3/21

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
26	3		
27	4		
28	11		
29	13	8'	
30	12		
31	12		
32	14	39/min	
33	30		
34	41	37/min	
35	40		
36	55	36/min	E=58,000 ft lbs
36'D	10	10.5'	BE Drive

38

PILE LOCATION NE #1 BATER

DATE DRIVEN 12/1/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER
TYPE _____

RATED
ENERGY _____

HAMMER
STROKE AT RATED
ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS See 10/25/91

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			PRESSED INTO MUD
7			
8			
9			
10			
11			
12			
13	1		
14	5		
15	1		
16	5		
17	1		
18	1		
19	1		
20	1		
21	10		
22	20		
1'	10 Blows		SETTING 4

#39 2
PILE LOCATION NF#3 VERTICAL
DATE DRIVEN 12/7/91
REDRIVEN AFTER SPLICE -
PILE TYPE 20" Ø
TIP TYPE OPEN LUTING SHO
HAMMER TYPE D30-32
RATED ENERGY 70,000 FT-LB
HAMMER STROKE AT RATED ENERGY 11"
INITIAL LENGTH 100'
CUTOFF 17
SPLICE LENGTH _____
CUTOFF _____
FINAL LENGTH 83' THROUGH
CUTOFF ELEV 24'
GROUND ELEV -37
TIP ELEV -59
COMMENTS PILE KICKED OVER 2-3' AFTER DRIVING. IT WAS PUSHED BACK INTO LOCATION AND TRIED OFF

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
9	2		
10	5		
11	6	6'	
12	6		
13	7	7'	
14	5		
15	7		
16	5		
17	4		
18	5		
19	5		
20	5		
21	3		
22	3		
23	4		
24	4		
25	4		
26	3		
27	2		
28	2		
29	3		
30	13	8.5'	
31	10		

#40
PILE LOCATION NF #2 BACK B

DATE DRIVEN 12/17/91

REDRIVEN
AFTER SPLICE ---

PILE TYPE 20" Ø

TIP TYPE OPEN CUTTING SHOE

HAMMER
TYPE DEWALT 30-32

RATED
ENERGY 70,500

HAMMER
STROKE AT RATED
ENERGY 11

INITIAL LENGTH 110'

CUTOFF 25'

SPLICE LENGTH ---

CUTOFF ---

FINAL LENGTH 85' (ROUND)

CUTOFF ELEV 24'

GROUND ELEV -19'

TIP ELEV -53'

COMMENTS 2:1 BATTER

UAM

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
32	9	8'	
33	9		
34	8		
35	6		
36	6		
37	7		
37'0"	12	10.5	BEDROCK

PILE LOCATION #40 NF #2 E. LATER

DATE DRIVEN 12/7/91

REDRIVEN AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER TYPE _____

RATED ENERGY _____

HAMMER STROKE AT RATED ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS SEE PAGE 1

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
22	1		
23	1		
24	1		
25	1		
26	1		
27	1		
28	1		
29	1		
30	1		
31	1		
32	1		
33	1		
34	1		
35	1		
36	5		
37	10		
38	20		
4	30 blows	10'	

#41

PILE LOCATION N#2 N. BATTLE

DATE DRIVEN 12-8-71

REDRIVEN
AFTER SPLICE _____

PILE TYPE 20" Ø

TIP TYPE Open Sp. End

HAMMER
TYPE D30-32

RATED
ENERGY 70000 ± 10%

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 110'

CUTOFF 11'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 99' Recheck

CUTOFF ELEV _____

GROUND ELEV -35

TIP ELEV -64

COMMENTS _____

TN.

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
9			
20		PRESSED	INTO MUD
21	2		
22	4		
23	2		
24	1		
25	2		
26	2		
27	5		
27.0'	10	10.5	BEDROCK

#42

PILE LOCATION NF #3 SE BATT

DATE DRIVEN 12/7/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 20" Ø

TIP TYPE OPEN POINT TYPE

HAMMER
TYPE DELMAR 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11

INITIAL LENGTH 45' *

CUTOFF 2'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 73' (ROUGH)

CUTOFF ELEV 24

GROUND ELEV -35

TIP ELEV -60

COMMENTS 211 BATTER
* PLANS CALLED FOR 110' PILE
INADVERTENTLY SET AT #44
LOCATION.

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1	} PRESS INTO MUD		
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16	2		
17	1		
18	1		
19	2		
20	2		
21	2		
22	2		
23	2	8'	
24	4		
25	5		
25'-6"	16 ^{BLOWS}	10.5'	BEDROCK NO MOVEMENT

#43

PILE LOCATION NF #3 VERTICAL

DATE DRIVEN 12/7/91

REDRIVEN AFTER SPLICE _____

PILE TYPE 20" φ

TIP TYPE OPEN CUTTING SHOE

HAMMER TYPE D30-32

RATED ENERGY 70,000 FT-10

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100

CUTOFF 15'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 85' ^{ROUGH}

CUTOFF ELEV 24'

GROUND ELEV -33

TIP ELEV -59

COMMENTS _____

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12		PRESSED	INTO MUD
13	2		
14	2		
15	1		
16	1		
17	1		
18	1		
19	3		
20	2		
21	4		
22	3	6'	
23	3		
24	4		
25	4		

#44

PILE LOCATION NF #3 BACK END

DATE DRIVEN 12/1/91

REDRIVEN AFTER SPLICE —

PILE TYPE 20" Ø

TIP TYPE OPEN CUTTING SHOULDER

HAMMER TYPE DECAW 70-32

RATED ENERGY 10,000

HAMMER STROKE AT RATED ENERGY 1

INITIAL LENGTH —

CUTOFF 27'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 81' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -15

TIP ELEV -49

COMMENTS 2:1 RATIO

PLANS CALLED FOR 100' PILE
PILE SWAPPED WITH #43 BY
MISTAKE.

PILE SPANNING SEVERAL FEET
SOUTH SIDE OF THE DOCK AND
BACK TO THE DOCK BY THE
WATER AND TIE OFF
W/

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
26	3	6'	
27	3	1	
28	2		
29	1		
30	2		
31	3		
32	2		
33	3		
34	2		
35	4	8'	
36	15	9'	
37	23		
38	29		
39	35		BEDROCK
39'0"	15	10.5'	

#44
 PILE LOCATION NF #3 BATTERY
 DATE DRIVEN 12/7/91
 REDRIVEN AFTER SPLICE _____
 PILE TYPE _____
 TIP TYPE _____
 HAMMER TYPE _____
 RATED ENERGY _____
 HAMMER STROKE AT RATED ENERGY _____
 INITIAL LENGTH _____
 CUTOFF _____
 SPLICE LENGTH _____
 CUTOFF _____
 FINAL LENGTH _____
 CUTOFF ELEV _____
 GROUND ELEV _____
 TIP ELEV _____
 COMMENTS SEE PAGE 1

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1	2		out of Hammer
5	5		
6			
7	2	7'	
8	2		
9	3		
10	3		
11	3	7'	
12	1	6'	
13	1		
14	1		
15	1		
16	7		
17	1		
19		0'	
20	2	7'	
21	3		
22	5		
23	6		
24	5		
25	4		
26	5		
27	5	7'	
28	5	7'	
29	8	8'	
30	9	8'	

#96
 PILE LOCATION SF#1 BACK BAY
 DATE DRIVEN 12-8-91
 REDRIVEN AFTER SPLICE _____
 PILE TYPE 20" Ø
 TIP TYPE SPIN FIN W/ CUTTINGS
 HAMMER TYPE D30-32
 RATED ENERGY 70,000 FT-10
 HAMMER STROKE AT RATED ENERGY _____
 INITIAL LENGTH 100'
 CUTOFF 22'
 SPLICE LENGTH _____
 CUTOFF _____
 FINAL LENGTH 78' Rough (D&C)
 CUTOFF ELEV _____
 GROUND ELEV -13
 TIP ELEV -48
 COMMENTS _____

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
18		PRESSED	INTO MUD
19	4	6 (Dry)	
20	3		
21	4		
22	2		
23	2		
24	2		
25	3		
26	3		
27	2		
28	3		
29	2		
30	3		
31	4		
32	7		
33	7		
34	9		
35	11		
36	23		
36'6"	20	35/mud	E = 61,800 ft lbs

#47

PILE LOCATION SF #1 NW BA

DATE DRIVEN 12/19/91

REDRIVEN AFTER SPLICE —

PILE TYPE 20" ϕ

TIP TYPE OPEN CUTTING SPA.

HAMMER TYPE DELMAG 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 6'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 94' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -28

TIP ELEV -61

COMMENTS 2:1 BATTEN

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
(
(R-STOPPED IN MUD		
20			
21			
(1		
27			
28			
(1		
33			
34	1		
35	1		
36	1		
37	1		
38	1		
39	1		
40	1		
41	1		
42	6		
43	6		
44	9		
45	9		
46	9		
47	9		
19'	30 Blows 10,5' STROKE		

#98

PILE LOCATION SP-1 S Bridge

DATE DRIVEN 12-5-91

REDRIVEN AFTER SPLICE _____

PILE TYPE 20" Ø

TIP TYPE OPEN-CURVED

HAMMER TYPE D30-92

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 1'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 99' (2000)

CUTOFF ELEV 25'

GROUND ELEV -22

TIP ELEV _____

COMMENTS _____

TN

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
26		PRASSED	INTO MUD
27	32	8'	
28	24	9'	
29	35		
30	38		
31	50	42 W	
32	70	5'	E = 59.500

49

PILE LOCATION SE#2 VERTIC

DATE DRIVEN 12/9/91

REDRIVEN AFTER SPLICE ---

PILE TYPE 70" O

TIP TYPE OPEN POINTING TYPE

HAMMER TYPE DELWAG 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY ---

INITIAL LENGTH 10'

CUTOFF 14'

SPLICE LENGTH ---

CUTOFF ---

FINAL LENGTH 55' (ROUGH)

CUTOFF ELEV 20

GROUND ELEV -30

TIP ELEV -62

COMMENTS ---

CATWALK DOLPHIN PILES

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
32			PRESSED INTO MUD
33	2		
34	3		
35	2		
36	5		
37	5		
38	7	8	
39	13	9'	
40	25	10'	
40' 1"	15	10.5'	BEDROCK

#50

PILE LOCATION CD #1 VERTICAL

DATE DRIVEN 12/10/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 20" ϕ

TIP TYPE OPEN, CUTTING SIDE

HAMMER
TYPE DECMAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 11'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 89' (ROUGH)

CUTOFF ELEV 25'

GROUND ELEV -24'

TIP ELEV -64'

COMMENTS —

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—

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—

—

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**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3			
4			
5			
6			
7		PRESSED	INTO MUD
8	3		6120 ft
9	5		
10	7		
11	8		
12	13		
13	15		
14	20		
15	17		
16	11		
17	12		
18	14		
19	16		
20	16		
21	22		
22	12		
23	12	40/MIN	
24	10		
25	30		E = 65,500
1"	60	34/MIN	BEDROCK

#51

PILE LOCATION CD #1 BATTER

DATE DRIVEN 12/9/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 20" φ

TIP TYPE OPEN. SPIN FIN

HAMMER
TYPE DELMAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11

INITIAL LENGTH 150'

CUTOFF —

SPLICE LENGTH —

CUTOFF 29'

FINAL LENGTH 71' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -17

TIP ELEV -40

COMMENTS 2:1 BATTER
1/3 ROTATION

DRIVEN AT NIGHT IN HEAVY
RAIN. WIND TO 25 mph.
UNABLE TO SEE HAMMER
STROKE.

9 M

PAGE 1 of 1

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1	1		
5 17	1	PRESSED	INTO MUD
18	2		
19	1		
20	1		
21	2		
22	2		
23	4	8'	
24	2		
25	2		
26	3		
27	2		
28	2		
29	2		
30	3		
31	2		
32	2		
33	3		
34	3		
35	10	9'	
35'0"	11	11'	BEDROCK

#52

PILE LOCATION CD #2 VERTICAL

DATE DRIVEN 12/10/19

REDRIVEN AFTER SPLICE ---

PILE TYPE 20" φ

TIP TYPE OPEN. SPIN FIN

HAMMER TYPE DECMAG 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 19'

SPLICE LENGTH ---

CUTOFF ---

FINAL LENGTH 91' (LENGTH)

CUTOFF ELEV 24'

GROUND ELEV -22

TIP ELEV -57

COMMENTS 1/2 ROTATION

JM

PAGE 1 of 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
16		PRESSED INTO MUD	
17	1		
18	2		
19	2		
20	1		
21	2		
22	2		
23	2		
24	1		
25	2		
26	2		
27	2		
28	1		
29	2		
30	1		
31	2		
32	2		
33	2		

#54

PILE LOCATION CD"2 NW BATH

DATE DRIVEN 12/10/91

REDRIVEN
AFTER SPLICE

PILE TYPE 20" d

TIP TYPE OPEN, SPIN FIN

HAMMER
TYPE DEEMAG 20-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11

INITIAL LENGTH 110

CUTOFF 6

SPLICE LENGTH

CUTOFF

FINAL LENGTH 134' (ROUGH)

CUTOFF ELEV 24

GROUND ELEV -23

TIP ELEV -70

COMMENTS 2'1 BATTER
DRIVEN AT NIGHT WITH
MINIMAL LIGHTING -
CRANE LIGHTS OUT.

1/3 ROTATION

PAGE 1 of 3

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
34	2		
35	2		5:10 STOPPED TO REMOVE STRAP
36	2		
37	2		
38	2		
39	1		
40	2		
41	3		
42	3		
43	7		
44	7		
45	8		
46	21	40/MIN	
47	24		
48	31	38/MIN	
49	36	37/MIN	
50	44	36/MIN	
51	47	}	
52	50		
52' 0"	15	11'	BED ROCK 5:30 PM

#54
PILE LOCATION CD#2 NW BATE

DATE DRIVEN 12/10/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER
TYPE _____

RATED
ENERGY _____

HAMMER
STROKE AT RATED
ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS SEE PAGE 1

CRUISE SHIP DOCK IMPROVEMENTS

PILE DRIVING RECORD

CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
35	6		
36	3		
37	2		
38	2		
39	2		
40	2		
41	30	9'	
41' 4"	40	36/MIN	E= 59,000 ft lbs

#55
PILE LOCATION CD#2 SE BATE

DATE DRIVEN 12/11/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER
TYPE _____

RATED
ENERGY _____

HAMMER
STROKE AT RATED
ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS SEE PAGE 1

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
34	3		
35	10		
35' 5"	39	10.5	BEDROCK

#56

PILE LOCATION CD #3 VERTICAL

DATE DRIVEN 12/11/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER
TYPE _____

RATED
ENERGY _____

HAMMER
STROKE AT RATED
ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS SEE PAGE 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
2			
3		PRESSED	INTO MUD
4	4		
5	6		
6	7	8'	
7	10		
8	11		
9	11		
10	12	9'	
11	14	37/min	
12	15		
13	9	8'	
14	8		
15	7		
16	11		
17	12		
18	12		
19	11	40/min	
20	9		
21	8		
22	7		
23	6		
24	5		
25	6		

PILE LOCATION ^{#57} CJ #3 BATTER

DATE DRIVEN 12/11/91

REDRIVEN AFTER SPLICE —

PILE TYPE 20" φ

TIP TYPE OPEN, SPIN FIN

HAMMER TYPE DECMAG 30-35

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 26'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 74' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -14

TIP ELEV -43

COMMENTS 2:1 BATTER
1/3 ROTATION

THIS PILE WAS MARKED 5' LOW ON ONE SIDE WHEN CLEANED OUT TO BED ROCK THE ROUGH CUT PILE IS 80'. PRESSED 8' INTO MUD INITIALLY. JAM 4/9/92

CRUISE SHIP DOCK IMPROVEMENTS

PILE DRIVING RECORD

CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
26	7	8'	
27	7		
28	2		
29	2		
30	3		
31	17	9'	
32	50	36/MIN	
32'2"	30	35/MIN	

#57

PILE LOCATION CD #3 BATTERY

DATE DRIVEN 12/11/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER
TYPE _____

RATED
ENERGY _____

HAMMER
STROKE AT RATED
ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS SEE PAGE 1

37'2"
SEE COMMENTS
PAGE 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1	1		
5	1		
6	1		
7	1		
8	1		
18			
19	3		
20	3		
21	2		
22	3		
23	3		
24	5		
25	5		
26	6		
27	5		
28	5		
29	7		
30	7		
31	9		
32	9		
33	13		
34	8		

#59
 PILE LOCATION CD #4 B. BATTER
 DATE DRIVEN 12/12/91
 REDRIVEN AFTER SPLICE —
 PILE TYPE 20" Ø
 TIP TYPE OPEN SPIN FIN
 HAMMER TYPE DELMAG 30-32
 RATED ENERGY 70,000
 HAMMER STROKE AT RATED ENERGY 11'
 INITIAL LENGTH 110*
 CUTOFF 22*
 SPLICE LENGTH —
 CUTOFF —
 FINAL LENGTH 88' (ROUGH)
 CUTOFF ELEV 25'
 GROUND ELEV 0'
 TIP ELEV -55
 COMMENTS 2:1 BATTER
2/3 ROTATION
 * 10' TRIMMED OFF PILE BEFORE DRIVING. CUT-OFF IS TWO PIECES (10' & 12') CONTRACTOR AGREED TO SPLICE PIECES
8/2/91
 PAGE 1 of 2

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
35	3		
36	2		
37	2		
38	2		
39	3		
40	2		
41	2		
42	3		
43	2		
44	2		
45	2		
46	3		
47	3		
48	3		
49	3		
50	3		
51	3		
52	3		
53	8	9'	
54	8		
55	10	9.5'	
56	16		
57	28		
58	31	36/MIN	
59	34	36/MIN	
60	48	35/MIN	

#59

PILE LOCATION CD#4 B. BATTER

DATE DRIVEN 12/12/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER
TYPE _____

RATED
ENERGY _____

HAMMER
STROKE AT RATED
ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS SEE PAGE 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1	1		
2	1		
3	1		
4	1	PRESSED	INTO MUD
5	1		
6	3		
7	2		
8	3		
9	3		
10	1		
11	2		
12	1		
13	2		
14	3		
15	4		
16	5		
17	4		
18	4		
19	3		
20	4		
21	4		
22	4		
23	6	5'	
24	4		
25	5		

#60

PILE LOCATION CD #4 C
BATTER

DATE DRIVEN 12/12/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 20" Φ

TIP TYPE OPEN SPIN FIN

HAMMER
TYPE REC MAG 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 22'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 78' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV 0'

TIP ELEV ~~45~~

COMMENTS 2:1 BATTER
3/4 ROTATION

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
26	5	8'	
27	6	↓	
28	7	↓	
29	5		
30	4		
31	4		
32	3		
33	2		
34	2		
35	2		
36	3		
37	2		
38	3		
39	2		
40	3		
41	3		
42	3		
43	4		
44	10		
45	17	9 (36/min)	
10" → 46	105	10.5' 35/min	(2,000 ft lbs)

#60

PILE LOCATION CD#4 C BAT

DATE DRIVEN 12/12/91

REDRIVEN AFTER SPLICE _____

PILE TYPE _____

TIP TYPE _____

HAMMER TYPE _____

RATED ENERGY _____

HAMMER STROKE AT RATED ENERGY _____

INITIAL LENGTH _____

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH _____

CUTOFF ELEV _____

GROUND ELEV _____

TIP ELEV _____

COMMENTS SEE PAGE 1

91224

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
13			
14	1		
15	1		
		LESS THAN 1 BLOW/FT	
29	1		
		LESS THAN 1 BLOW/FT	
58			
59	50	36/min	
59'2"	32	35/min	BEDROCK (HAMMER BOUNCING)

#61

PILE LOCATION CD #4 D. BAT.

DATE DRIVEN 12/12/95

REDRIVEN AFTER SPLICE

PILE TYPE 20" d

TIP TYPE OPEN, CUTTING SHA.

HAMMER TYPE DELMAG 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 120'

CUTOFF 17'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 103' (ROUGH)

CUTOFF ELEV 25'

GROUND ELEV -15'

TIP ELEV -69'

COMMENTS 2:1 BATTER

J.M.

-69

71224

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
34			
34' 1"	1	6' (DRY)	E = 35,000 ft lbs.

#62 --
WEST
PILE LOCATION CATWALK SUPPORT
DATE DRIVEN 12/13/91
REDRIVEN
AFTER SPLICE —
PILE TYPE 16" φ
TIP TYPE OPEN, CUTTING EDGE
HAMMER
TYPE D 30-32
RATED
ENERGY 70,000
HAMMER
STROKE AT RATED
ENERGY 11'
INITIAL LENGTH 90*
CUTOFF 0
SPLICE LENGTH —
CUTOFF —
FINAL LENGTH 90' (ROUGH)
CUTOFF ELEV 26
GROUND ELEV -30
TIP ELEV -62
COMMENTS 6:1 BATTER
* PLANS CALLED FOR A 100'
PILE. THE 100' PILE WAS
MISTAKENLY DRIVEN AS A
FENDER PILE.
TIP ELEVATION INDICATES
BEDROCK WITH 1 FOOT. PILE
APPEARED STABLE AND SOLID.

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
19			
20	6		
21	7		
22	6		
23	5		
24	3		
25	3		
26	3		
27	2		
28	2		
29	3		
30	2		
31	5		
31'4"	20		

#63
EAST

PILE LOCATION CATWALK SUPPLY

DATE DRIVEN 12/13/91

REDRIVEN
AFTER SPLICE

PILE TYPE 16" ϕ

TIP TYPE OPEN, CUTTING SHAPE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 13'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 77' (ROUGH)

CUTOFF ELEV 26'

GROUND ELEV -20

TIP ELEV -49

COMMENTS 6:1 BATTER

FENDER PILES

CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
31			

#64

PILE LOCATION ST#1 N. FENDER

DATE DRIVEN 12/16/91

REDRIVEN
AFTER SPLICE

PILE TYPE 16" Ø

TIP TYPE OPEN, CUTTING EDGE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100

CUTOFF 17'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 83' (ROUGH)

CUTOFF ELEV 27'

GROUND ELEV -25'

TIP ELEV -56'

COMMENTS

J.M.

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
27			

#65

PILE LOCATION S#1 S. FENDEK

DATE DRIVEN 12/6/91

REDRIVEN
AFTER SPLICE

PILE TYPE 16" φ

TIP TYPE OPEN, CUTTING SHOE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100

CUTOFF 21'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 79' (ROUGH)

CUTOFF ELEV 27'

GROUND ELEV -25

TIP ELEV -52

COMMENTS HAMMER AT
SETTING #2.

JM

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
42	15-20	8'	54,000

#66

PILE LOCATION S#2 S. FENDER

DATE DRIVEN 11/13/91

REDRIVEN
AFTER SPLICE

PILE TYPE 16" φ STEEL

TIP TYPE OPEN CUTTING SHOE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 5'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 95' ROUGH

CUTOFF ELEV 27'

GROUND ELEV -26'

TIP ELEV -6.8

COMMENTS NO BLOW COUNT
TAKEN, MINIMUM PENETRATION
30'

JM

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

#67

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
42	15	8'	54,000

PILE LOCATION 5[#]2 N. FENDER

DATE DRIVEN 11-13-91

REDRIVEN AFTER SPLICE —

PILE TYPE 16" Φ STEEL

TIP TYPE OPEN, CUTTING SHOE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 5'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 95' (ROUGH)

CUTOFF ELEV 27'

GROUND ELEV -26

TIP ELEV -68

COMMENTS NO BLOW COUNT TAKEN. MINIMUM PENETRATION 30'.

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
37	15	7.5'	

#60

PILE LOCATION S#3 S. FENDER

DATE DRIVEN 11/21/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 16" Ø STEEL

TIP TYPE OPEN

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 9'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 91' (ROUGH)

CUTOFF ELEV 27'

GROUND ELEV -27

TIP ELEV -64

COMMENTS _____

CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
38	15	7.5	

#69

PILE LOCATION S#3 N. FENDER

DATE DRIVEN 11/21/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE 16" Ø STEEL

TIP TYPE OPEN

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 8'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 92' (ROUGH)

CUTOFF ELEV 27'

GROUND ELEV -27

TIP ELEV -65

COMMENTS _____

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES	
{				
	32	30	7'	

#70

PILE LOCATION #4 N. Fender

DATE DRIVEN 11-23-91

REDRIVEN
AFTER SPLICE _____

PILE TYPE 16" ϕ

TIP TYPE OPEN CUTTING SHOES

HAMMER
TYPE D30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100'

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 89' Revert

CUTOFF ELEV _____

GROUND ELEV -28

TIP ELEV -62

COMMENTS _____

TW/

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
26	10 / LAST 6"	7' STROKE	

#71
 PILE LOCATION #4-S, F-208
 DATE DRIVEN 11-23 91
 REDRIVEN AFTER SPLICE _____
 PILE TYPE 16" ϕ
 TIP TYPE OPEN CUTTING EDGE
 HAMMER TYPE D30-32
 RATED ENERGY 70,000
 HAMMER STROKE AT RATED ENERGY 11'
 INITIAL LENGTH 100'
 CUTOFF _____
 SPLICE LENGTH _____
 CUTOFF _____
 FINAL LENGTH 82 (PUSH)
 CUTOFF ELEV _____
 GROUND ELEV -28
 TIP ELEV -59
 COMMENTS _____

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
24	60	44 Blows/min	59,000 Ft-lb

#72

PILE LOCATION S#5-N, Fender

DATE DRIVEN 11-23-91

REDRIVEN
AFTER SPLICE _____

PILE TYPE 16" ϕ

TIP TYPE OPEN CUTTING EDGE

HAMMER
TYPE D30-32

RATED
ENERGY 70,000 FT-LB

HAMMER
STROKE AT RATED
ENERGY _____

INITIAL LENGTH 100'

CUTOFF _____

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 76' Right

CUTOFF ELEV _____

GROUND ELEV - 27

TIP ELEV - 51

COMMENTS _____

TJN/

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
29	20	44 blow/min	50,000 FT-110

#73
 PILE LOCATION S #5 S. Fence
 DATE DRIVEN 11-23-91
 REDRIVEN AFTER SPLICE _____
 PILE TYPE 16" Ø
 TIP TYPE OPEN CUTTING EDGE
 HAMMER TYPE D30-32
 RATED ENERGY 70,000 FT-110
 HAMMER STROKE AT RATED ENERGY _____
 INITIAL LENGTH 100'
 CUTOFF _____
 SPLICE LENGTH _____
 CUTOFF _____
 FINAL LENGTH 82' RUGH
 CUTOFF ELEV _____
 GROUND ELEV -27
 TIP ELEV -56
 COMMENTS _____

CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
20	14	8'	
21	15	8'	
22	15	8'	
23	17	8'	BEDROCK

PILE LOCATION ~~77A~~ 5^{#6} N. FENDER

DATE DRIVEN 11/14/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 16" ϕ STEEL

TIP TYPE OPEN, CUTTING SHOE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100

CUTOFF 12'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 88 (ROUGH)

CUTOFF ELEV 27

GROUND ELEV -29

TIP ELEV -52

COMMENTS —
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**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
23	17	8'	BEDROCK

775

PILE LOCATION S^{#6} S FENDER
 DATE DRIVEN 11/14/91
 REDRIVEN AFTER SPLICE
 PILE TYPE 16" ϕ STEEL
 TIP TYPE OPEN CUTTING SHOE
 HAMMER TYPE D 30-32
 RATED ENERGY 70,000
 HAMMER STROKE AT RATED ENERGY 11'
 INITIAL LENGTH 100
 CUTOFF 22'
 SPLICE LENGTH
 CUTOFF
 FINAL LENGTH 78' (ROUGH)
 CUTOFF ELEV 27'
 GROUND ELEV -28
 TIP ELEV -51
 COMMENTS _____

CRUISE SHIP DOCK IMPROVEMENTS

PILE DRIVING RECORD

CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
14		11'	70,000 ft. lbs. BEDROCK

#76

PILE LOCATION S#7 N. FENDER

DATE DRIVEN 11/15/91

REDRIVEN AFTER SPLICE —

PILE TYPE 16" Ø STEEL

TIP TYPE OPEN, CUTTING EDGE

HAMMER TYPE D-30 32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 20

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 70' (ROUGH)

CUTOFF ELEV 27'

GROUND ELEV -29'

TIP ELEV -43

COMMENTS —

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**CRUISE SHIP DOCK IMPROVEMENTS
 PILE DRIVING RECORD
 CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
10		11'	BEDROCK
			70,000 ft. lbs

#77

PILE LOCATION S#7 S. FENDER

DATE DRIVEN 11/15/91

REDRIVEN AFTER SPLICE —————

PILE TYPE 16" ϕ STEEL

TIP TYPE OPEN, CUTTING SHOE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 24'

SPLICE LENGTH —————

CUTOFF —————

FINAL LENGTH 66' (ROUGH)

CUTOFF ELEV 27

GROUND ELEV -30

TIP ELEV -39

COMMENTS —————

—————

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—————

—————

—————

—————

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
22	10	9'	BEDROCK

#80

PILE LOCATION CS #1 S. FENDER

DATE DRIVEN 11/18/91

REDRIVEN AFTER SPLICE

PILE TYPE 16" Ø STEEL

TIP TYPE OPEN. CUTTING EDGE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 92

CUTOFF 12'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 80'

CUTOFF ELEV 24'

GROUND ELEV -34

TIP ELEV -56

COMMENTS

JEH

**CRUISE SHIP DOCK IMPROVEMENTS
 PILE DRIVING RECORD
 CBJ PROJECT E 91-137**

781

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
22			
22.5	9	9'	BEDROCK

PILE LOCATION CS# 1 N. FENDE

DATE DRIVEN 11/18/91

REDRIVEN AFTER SPLICE —

PILE TYPE 16" Ø STEEL

TIP TYPE OPEN, CUTTING SHOE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 10.5'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 79.5'

CUTOFF ELEV 24'

GROUND ELEV -34

TIP ELEV -55.5'

COMMENTS _____

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

① #83 —

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
32			BEDROCK

PILE LOCATION CS #2 SFENDER

DATE DRIVEN 11/20/91

REDRIVEN AFTER SPLICE —

PILE TYPE 16"φ STEEL

TIP TYPE OPEN, CUTTING SHOE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 13

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 87' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -3.1

TIP ELEV -6.3

COMMENTS —

JW

CRUISE SHIP DOCK IMPROVEMENTS

PILE DRIVING RECORD

CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
23			BEDROCK

#84

PILE LOCATION CS #3 N. FENDER

DATE DRIVEN 11/20/91

REDRIVEN
AFTER SPLICE

PILE TYPE 16" Ø STEEL

TIP TYPE OPEN, CUTTING SHOE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100'

CUTOFF

SPLICE LENGTH

CUTOFF

FINAL LENGTH 85' (ROUGH)

CUTOFF ELEV 24

GROUND ELEV -38

TIP ELEV -61

COMMENTS

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
24			BEDROCK

(785)

PILE LOCATION CS #3 S. FENDER

DATE DRIVEN 11/20/91

REDRIVEN AFTER SPLICE

PILE TYPE 16" ϕ STEEL

TIP TYPE OPEN, CUTTING SHOE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 13

SPLICE LENGTH

CUTOFF

FINAL LENGTH 87' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -39

TIP ELEV -63

COMMENTS

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES	
1				
	20			BEDROCK

PILE LOCATION #86 CS#4 N. FENDER
 DATE DRIVEN 11/20/91
 REDRIVEN AFTER SPLICE —
 PILE TYPE 16" Ø STEEL
 TIP TYPE OPEN, CUTTING EDGE
 HAMMER TYPE D 30-32
 RATED ENERGY 70,000
 HAMMER STROKE AT RATED ENERGY 11'
 INITIAL LENGTH 100'
 CUTOFF 10'
 SPLICE LENGTH —
 CUTOFF —
 FINAL LENGTH 90'
 CUTOFF ELEV 24'
 GROUND ELEV -46
 TIP ELEV -68
 COMMENTS _____

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
29		PILE SUPPORTED THE WEIGHT OF THE HAMMER	

#88

PILE LOCATION DE-#1 N. FENDE

DATE DRIVEN 11/27/91

REDRIVEN
AFTER SPLICE

PILE TYPE 16" ϕ

TIP TYPE OPEN, CUTTING EDGE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100

CUTOFF 1'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 99' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -45'

TIP ELEV -74

COMMENTS

JM

PAGE 1 of 1

CRUISE SHIP DOCK IMPROVEMENTS

PILE DRIVING RECORD

CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
29.5			PILE SUPPORTED WEIGHT OF THE HAMMER

#89

PILE LOCATION DE#1 S. FENDER

DATE DRIVEN 11/27/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 16" φ

TIP TYPE OPEN, SPIN FIN

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100

CUTOFF 1'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 99' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -45

TIP ELEV -75

COMMENTS —
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—
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—
—
—
—
—

JAM

CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
33		PILE SUPPORTED THE	
		WEIGHT OF THE HAMMER	

#92 —

PILE LOCATION DE#3 N. FENDE

DATE DRIVEN 11/27/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE 16" ϕ

TIP TYPE OPEN, CUTTING SHOE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100

CUTOFF 0'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 100' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -43

TIP ELEV -76

COMMENTS _____

J ml

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
26			PILE SUPPORTED
			WEIGHT OF HAMMER

#93

PILE LOCATION DE #3 S. FENDER

DATE DRIVEN 11/27/91

REDRIVEN AFTER SPLICE _____

PILE TYPE 16" φ

TIP TYPE OPEN. CUTTING SHOE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100

CUTOFF 7'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 93'

CUTOFF ELEV 24'

GROUND ELEV -43

TIP ELEV -69

COMMENTS _____

JML

PAGE 1 of 1

CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
30			1 DEAD DROP TOOK THE PILE DOWN THE LAST 4'

#94

PILE LOCATION DE#4 N. FENDER

DATE DRIVEN 11/29/90

REDRIVEN
AFTER SPLICE

PILE TYPE 16" ϕ

TIP TYPE OPEN, CUTTING SHOE

HAMMER
TYPE D. 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100

CUTOFF

SPLICE LENGTH

CUTOFF

FINAL LENGTH 97' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -43'

TIP ELEV -73

COMMENTS

JAM
PAGE 1 of 1

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
25			
26	2		
27	1		
28	1		
29	2		
30	2		

#95

PILE LOCATION DE^{#4} S. FENDER

DATE DRIVEN 11/29/91

REDRIVEN AFTER SPLICE _____

PILE TYPE 16" ϕ

TIP TYPE OPEN, CUTTING SHOE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 3'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 97' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -43

TIP ELEV -73

COMMENTS _____

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
31			

#96

PILE LOCATION DE #5 N. FENDER

DATE DRIVEN 12/2/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 16" φ

TIP TYPE OPEN, CUTTING SHOE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100

CUTOFF 5'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 95' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -40

TIP ELEV -70

COMMENTS NOT ON BEDROCK.
CALLED OFF AT 31.'
HAMMER ON SETTING #2

JSM

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
30			

#97

PILE LOCATION DE #5 S. FENDER

DATE DRIVEN 12/2/91

REDRIVEN
AFTER SPLICE

PILE TYPE 16" ϕ

TIP TYPE OPEN, CUTTING

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 6'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 94' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -40

TIP ELEV -69

COMMENTS NOT ON BEDROCK.
CALLED OFF DRIVING AT
30'. HAMMER ON SETTING
#2.

CRUISE SHIP DOCK IMPROVEMENTS
 PILE DRIVING RECORD
 CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
25			BEDROCK

#98

PILE LOCATION NF#1 S Fender

DATE DRIVEN 12/2/91

REDRIVEN AFTER SPLICE _____

PILE TYPE 16"φ

TIP TYPE OPEN, CUTTING SHOES

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 13'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 87' (ROUGH)

CUTOFF ELEV 29'

GROUND ELEV -38

TIP ELEV -63

COMMENTS HAMMER AT SETTING #2

JM

CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
25			BEDROCK

#99

PILE LOCATION N F #1 N FEND

DATE DRIVEN 12/2/91

REDRIVEN AFTER SPLICE —

PILE TYPE 16" ϕ

TIP TYPE OPEN, CUTTING EDGE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 13'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 87' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -38

TIP ELEV -63

COMMENTS HAMMER AT SETTING #2

JM

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
24			
25	5		
26	5		
27	5		

WT OF HAMMER

10 BLOW NO MOVEMENT

#100
PILE LOCATION NF #2 N. FASOD

DATE DRIVEN 12-8-91

REDRIVEN AFTER SPLICE _____

PILE TYPE 16" ϕ

TIP TYPE OPEN CUTTING SHOE

HAMMER TYPE D30-82

RATED ENERGY 70,000 FT-LB

HAMMER STROKE AT RATED ENERGY _____

INITIAL LENGTH 100'

CUTOFF 16'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 89' ²⁶/₁₆

CUTOFF ELEV _____

GROUND ELEV -35

TIP ELEV -62

COMMENTS _____

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
23			
24	5		
25	5		
	10 Blows		NO MOVEMENT

#01

PILE LOCATION NF#2 S. FOND OF

DATE DRIVEN 12-8-91

REDRIVEN AFTER SPLICE _____

PILE TYPE 16" ϕ

TIP TYPE OPEN CUTTING EDGE

HAMMER TYPE D30-3Z

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 100'

CUTOFF 14'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 86' REJECT

CUTOFF ELEV _____

GROUND ELEV -35

TIP ELEV -60

COMMENTS _____

CRUISE SHIP DOCK IMPROVEMENTS

PILE DRIVING RECORD

CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
26			BEDROCK

#103

PILE LOCATION NF#3 N. FENDE

DATE DRIVEN 12/7/91

REDRIVEN
AFTER SPLICE

PILE TYPE 16" ϕ

TIP TYPE OPEN, SPIN FIN

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11

INITIAL LENGTH 100'

CUTOFF 16'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 84' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -34

TIP ELEV -60

COMMENTS

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
35			BEDROCK

104

PILE LOCATIONS SF #1 S. FENDER

DATE DRIVEN 12/9/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 16" ϕ

TIP TYPE OPEN, CUTTING SHOE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 6'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 84' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -25

TIP ELEV -60

COMMENTS —

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CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
36			BEDROCK

#105

PILE LOCATION SF #1 N FENDE

DATE DRIVEN 12/9/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 16" ϕ

TIP TYPE OPEN, CUTTING SHE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11

INITIAL LENGTH 100' *

CUTOFF 15'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 85' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -25'

TIP ELEV -61

COMMENTS * PLANS CALLED
OUT 90' PILE.

JMT

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
30			

#106
PILE LOCATION SF#2 N. FENDER

DATE DRIVEN 12/9/91

REDRIVEN AFTER SPLICE —

PILE TYPE 16" Φ

TIP TYPE OPEN, CUTTING SHE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 5'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 86' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -31

TIP ELEV -6'

COMMENTS _____

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
33			

#108

PILE LOCATION CD#1 N. FENDER

DATE DRIVEN 12/10/91

REDRIVEN
AFTER SPLICE

PILE TYPE 16" ϕ

TIP TYPE OPEN CUTTING SHOE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 3'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 88' (ROUGH)

CUTOFF ELEV 25'

GROUND ELEV -25'

TIP ELEV -63'

COMMENTS

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
33			

#109

PILE LOCATION CD #1 S. FENDER

DATE DRIVEN 12/10/91

REDRIVEN AFTER SPLICE —

PILE TYPE 16" φ

TIP TYPE OPEN CUTTING EDGE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 3'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 88' (ROUGH)

CUTOFF ELEV +25'

GROUND ELEV -25'

TIP ELEV -63'

COMMENTS —

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**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
36			BEDROCK

#110

PILE LOCATION D#2 N FENDER

DATE DRIVEN 12/11/91

REDRIVEN AFTER SPLICE

PILE TYPE 16" φ

TIP TYPE OPEN, CUTTING SHOES

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 7'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 83' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -23

TIP ELEV -59

COMMENTS

JM

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
34			BEDROCK

#111

PILE LOCATION CD#2 S.FEND

DATE DRIVEN 12/11/91

REDRIVEN
AFTER SPLICE

PILE TYPE 16" φ

TIP TYPE OPEN CUTTING 516

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 90

CUTOFF 9'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 81' (ROUGH)


CUTOFF ELEV 24'

GROUND ELEV -23

TIP ELEV -57

COMMENTS

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES	
1				
				
	34			BEDROCK

#112

PILE LOCATION CD#3 N. FENDES

DATE DRIVEN 12/11/91

REDRIVEN AFTER SPLICE

PILE TYPE 16" φ

TIP TYPE OPEN, CUTTING SHOE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11

INITIAL LENGTH 90

CUTOFF 8'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 82' (ROUGH)

CUTOFF ELEV 24' (ROUGH)

GROUND ELEV -29

TIP ELEV

COMMENTS

CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/FT.	ENERGY (STROKE)	NOTES
1			
34			

#113
PILE LOCATION CD#3 S. FENDER
DATE DRIVEN 12/12/91
REDRIVEN AFTER SPLICE _____
PILE TYPE 16" ϕ
TIP TYPE OPEN, CUTTING SHOE
HAMMER TYPE D 30-32
RATED ENERGY 70,000
HAMMER STROKE AT RATED ENERGY 11'
INITIAL LENGTH 90'
CUTOFF 8'
SPLICE LENGTH _____
CUTOFF _____
FINAL LENGTH 82' (ROUGH)
CUTOFF ELEV 24'
GROUND ELEV -24
TIP ELEV -58
COMMENTS _____

_____ *DM* _____

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			NO BLOW COUNT WITH
			VIBRATORY HAMMER
45			

#114

PILE LOCATION SA #1

DATE DRIVEN 10-28-91

REDRIVEN AFTER SPLICE

PILE TYPE 16" Ø STEEL SUMPACT

TIP TYPE OPEN, CUTTING SHOE

HAMMER TYPE ICE VIBRATORY (BIR)

RATED ENERGY

HAMMER STROKE AT RATED ENERGY

INITIAL LENGTH 20'

CUTOFF 15'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 55 (ROUGH)

CUTOFF ELEV ± 24'

GROUND ELEV +14

TIP ELEV -31

COMMENTS NO BEDROCK. HAMMER SLOWED TO LESS THAN 1 FT./MIN.

APPROX. 15 MIN DRIVING TIME

CRUISE SHIP DOCK IMPROVEMENTS

PILE DRIVING RECORD

CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
S			
53			

#115

PILE LOCATION SA #2

DATE DRIVEN 10-28-91

REDRIVEN
AFTER SPLICE

PILE TYPE 3/6" STAINLESS STEEL

TIP TYPE OPEN CUTTING EDGE

HAMMER
TYPE ICE 812 VIBRATORY

RATED
ENERGY _____

HAMMER
STROKE AT RATED
ENERGY _____

INITIAL LENGTH 70'

CUTOFF 5'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 61' (ROUGH)

CUTOFF ELEV ±24'

GROUND ELEV ±16'

TIP ELEV -37'

COMMENTS APPROX 15 MIN DRIVING TIME NO BEDROCK

HAMMER SLOWED TO LESS THAN 1" / MIN.

JM

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
48			

#116

PILE LOCATION SA #3

DATE DRIVEN 10-28-91

REDRIVEN AFTER SPLICE —

PILE TYPE 16" Ø STEEL SUPPORT

TIP TYPE OPEN, CUTTING SHOE

HAMMER TYPE ICE 812 VIBRATORY

RATED ENERGY —

HAMMER STROKE AT RATED ENERGY —

INITIAL LENGTH 80'

CUTOFF 8'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 72' (ROUGH)

CUTOFF ELEV ±27'

GROUND ELEV 3'

TIP ELEV -45'

COMMENTS PILE WAS DRIVEN VERTICAL AT SA #4 POSITION (UNDER STIFFENER) DUE TO CONFLICT WITH EXISTING STEEL DOLPHIN.

PILE SLOWED TO LESS THAN 1" / MIN.

JAM.

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
36			

#117

PILE LOCATION SA #4

DATE DRIVEN 10-28-91

REDRIVEN AFTER SPLICE _____

PILE TYPE 16" ϕ STEEL BATTEN

TIP TYPE OPEN, CUTTING SHOE

HAMMER TYPE ICE 812 VIBRATORY

RATED ENERGY _____

HAMMER STROKE AT RATED ENERGY _____

INITIAL LENGTH 80'

CUTOFF 19'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 61' (ROUGH)

CUTOFF ELEV -27'

GROUND ELEV +6'

TIP ELEV -26

COMMENTS DRIVING TIME APPROX 25 MIN.
STOPPED WHEN RUBBER CONNECTIONS IN HAMMER BEGAN SMOKING.

PILE DRIVEN OFF LOCATION DUE TO SA #3 (SEE COMMENTS)
SHOULD FIT UP 6" FROM SA #3.

J M

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
55			

① #118

PILE LOCATION SA #5

DATE DRIVEN 10-28-91

REDRIVEN
AFTER SPLICE

PILE TYPE 16"Ø STEEL SUPPORT

TIP TYPE OPEN, CUTTING SHOE

HAMMER
TYPE ICE 812 VIBRATORY

RATED
ENERGY

HAMMER
STROKE AT RATED
ENERGY

INITIAL LENGTH 80'

CUTOFF 4'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 76' (ROUGH)

CUTOFF ELEV +27

GROUND ELEV +6'

TIP ELEV -49

COMMENTS DRIVING TIME
APPROX. 20 MIN.

HAMMER SLOWED TO LESS
THAN 1" / MIN.

J M

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
48			

#120

PILE LOCATION SA #7

DATE DRIVEN 10-28-91

REDRIVEN AFTER SPLICE —

PILE TYPE 16" Ø STEEL SUPPORT *

TIP TYPE OPEN, CUTTING SHOES

HAMMER TYPE ICE B12 VIBRATORY

RATED ENERGY _____

HAMMER STROKE AT RATED ENERGY _____

INITIAL LENGTH 80'

CUTOFF 5'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 75' (ROUGH)

CUTOFF ELEV 527'

GROUND ELEV 0'

TIP ELEV -48

COMMENTS DRIVING SLOWED TO LESS THAN 1" / MIN.

*PILE DRIVEN VERTICAL UNDER STIFFNER. SA #6 DELETED BY CHANGE ORDER.

JAM

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			NO BLOW COUNT
S			WITH VIBRATORY HAMMER
51			

#121

PILE LOCATION SA #8

DATE DRIVEN 10-28-91

REDRIVEN AFTER SPLICE

PILE TYPE 16" Ø STEEL SUPPORT

TIP TYPE OPEN, CUTTING SHO.

HAMMER TYPE ICE 812 VIBRATORY

RATED ENERGY

HAMMER STROKE AT RATED ENERGY

INITIAL LENGTH 90'

CUTOFF 10'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 80' (ROUGH)

CUTOFF ELEV ±27'

GROUND ELEV -2'

TIP ELEV -5.3

COMMENTS TOTAL DRIVING TIME 20 MIN.

DRIVING SLOWED TO LESS THAN 1" / MIN.

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1	WEIGHT OF HAMMER		MUDLINE = +4.5'
	PRESSING PILE		
			±20 6' DRY BLOWS
55			
56	23	8'	
56.5	35	8'	BEDROCK

#152

PILE LOCATION AP #1

DATE DRIVEN 9/25/91

REDRIVEN AFTER SPLICE —

PILE TYPE 16" Ø STEEL SUPPORT

TIP TYPE OPEN, CUTTING SHOE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 15'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 75' (ROUGH)

CUTOFF ELEV 22.5"

GROUND ELEV 4.5'

TIP ELEV -52.5' - 52

COMMENTS _____

JM

CRUISE SHIP DOCK IMPROVEMENTS

PILE DRIVING RECORD

CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1	WEIGHT OF HAMMER PRESSING PILE		MUDLINE = +4.5
			AVERAGE LESS THAN 1' PER BLOW (6' DROP)
47			
48	4	6'	
49	5	6'	
50	2	6'	
51	8	8'	
52	23	8'	
53	40	8'	

#153 ✓

PILE LOCATION AP.#2

DATE DRIVEN 9/25/91

REDRIVEN AFTER SPLICE

PILE TYPE 16" Ø STEEL BATTER

TIP TYPE OPEN, CUTTING SHOE

HAMMER TYPE D 30-32

RATED ENERGY 70,000

HAMMER STROKE AT RATED ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 6.5'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 83.5'

CUTOFF ELEV 22.5' (ROUGH)

GROUND ELEV 4.5'

TIP ELEV -52'

COMMENTS BATTER SET AT 5":12" FOR DRIVING. USED 90' PILE RATHER THAN 100' PILE CALLED OUT IN PLANS FOR CONTRACTORS CONVENIENCE.

PAGE 1 of 1

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1	WEIGHT OF HAMMER		MUDLINE = -9'
	PRESSING PILE		
20			
21	5	6'	
22	4		
23	4		
24	4		
25	4		
26	4		
27	6		
28	6		
29	5		
30	3		
31	2		
32	2		
33	2		
34	2		
35	2		
36	3		
37	2		
38	3		
39	2		
40	2	6'	

#157

PILE LOCATION AP #6

DATE DRIVEN 9/26/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 16" φ STEEL SUPPORT

TIP TYPE OPEN, CUTTING SHOE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 110'

CUTOFF 27'

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 83' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -9'

TIP ELEV -59

COMMENTS _____

JML

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
29			
30	6		
31	8		
32	15	8'	E = 54,000
32'0"	6	1	BEDROCK

#161

PILE LOCATION SFDA # 1

DATE DRIVEN 12/13/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE 16" ϕ

TIP TYPE OPEN, CUTTING SHAPE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 6'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 84' (ROUGH)

CUTOFF ELEV 25'

GROUND ELEV -27

TIP ELEV -59

COMMENTS _____

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
29			
30	4		
31	10		
32	10		
32'4"	10	8'	BEDROCK

#162

PILE LOCATION SFDA #2

DATE DRIVEN 12/13/91

REDRIVEN
AFTER SPLICE

PILE TYPE 16" ϕ

TIP TYPE OPEN, SPIN FIN

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 90

CUTOFF 8'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 82' (ROUGH)

CUTOFF ELEV 25'

GROUND ELEV -25

TIP ELEV -57

COMMENTS

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
30			
31	4		
32	4		
33	5		
33' 10"	16	8'	BEDROCK

#164

PILE LOCATION SFDA #4

DATE DRIVEN 12/13/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE 16" φ

TIP TYPE OPEN, CUTTING SHAPE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 5'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 85' (ROUGH)

CUTOFF ELEV 25'

GROUND ELEV -26

TIP ELEV -60

COMMENTS _____

[Signature]

**CRUISE SHIP DOCK IMPROVEMENTS
 PILE DRIVING RECORD
 CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
33			
34	2		
35	2		
36	2		
37	12		
38	17	8'	

165

PILE LOCATION SFDA #5

DATE DRIVEN 12/11/91

REDRIVEN
AFTER SPLICE _____

PILE TYPE 16" φ

TIP TYPE OPEN, CUTTING SHAPE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 3'

SPLICE LENGTH _____

CUTOFF _____

FINAL LENGTH 87' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -25'

TIP ELEV -63'

COMMENTS _____

[Signature]

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
31			
32	3		
33	4		
34	9		
35	20	8'	

#166

PILE LOCATION SFDA #6

DATE DRIVEN 12/11/91

REDRIVEN
AFTER SPLICE

PILE TYPE 16" φ

TIP TYPE OPEN, CUTTING EDGE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 90'

CUTOFF 7'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 83' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -24

TIP ELEV -59

COMMENTS

**CRUISE SHIP DOCK IMPROVEMENTS
PILE DRIVING RECORD
CBJ PROJECT E 91-137**

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
19		PRESSED INTO MUD	
32	LESS THAN 1 BLOW/FT		
33	3		
33	4		
34	13		
35	17		
36	22	8'	

#167

PILE LOCATION SFDA #7

DATE DRIVEN 12/11/91

REDRIVEN
AFTER SPLICE

PILE TYPE 16" φ

TIP TYPE OPEN, CUTTING SHOE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 90

CUTOFF 4'

SPLICE LENGTH

CUTOFF

FINAL LENGTH 86' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -26

TIP ELEV -62

COMMENTS

CRUISE SHIP DOCK IMPROVEMENTS PILE DRIVING RECORD CBJ PROJECT E 91-137

PENETR. (FT)	BLOWS/ FT.	ENERGY (STROKE)	NOTES
1			
19	—	PRESSED	INTO MUD
31	LESS THAN 1 BLOW/FT.		
32	3		
33	7		
34	12		
35	15		
36	19	8'	

#168

PILE LOCATION SFDA #8

DATE DRIVEN 12/11/91

REDRIVEN
AFTER SPLICE —

PILE TYPE 16" Ø

TIP TYPE OPEN, CUTTING SIDE

HAMMER
TYPE D 30-32

RATED
ENERGY 70,000

HAMMER
STROKE AT RATED
ENERGY 11'

INITIAL LENGTH 90

CUTOFF 3

SPLICE LENGTH —

CUTOFF —

FINAL LENGTH 87' (ROUGH)

CUTOFF ELEV 24'

GROUND ELEV -27

TIP ELEV -63

COMMENTS _____

ROCK ANCHOR INSPECTIONS

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

13

ROCK ANCHOR LOCATION: S#6 VERTICAL DATE STARTED: 11/26/91 DATE COMPLETED: 3/17/92

PILE CLEANOUT: 11/26/91

2/7/92

ADDITIONAL CLEAN-OUT 2-12-92. ADDITIONAL CLEANOUT 3/2/92

CASING INSTALLED: SET IN 2/7/92

RE-SET 2/25/92

PRESSED 3' FURTHER 3/2/92

DRILLING: DRILLED 35' 2/28/92 - UNABLE TO VERIFY THIS AS THE HOLE APPEARS TO HAVE SIPTED BACK IN.

VERIFIED 39' INTO BEDROCK - 3/3/93

STRAND INSTALLATION: 3/4/92 OK

LEFT STEEL BANDING ON ALL THE WAY TO THE TOP OF STRAND

PRIMARY GROUT: 14 BAGS - 34' 3/6/92

PROOF LOADING AND LOAD LOCK OFF: 3/10/92

4100 PSI FOR 1 HR

LOCK-OFF AT 1900 PSI

SECONDARY GROUT: 3/17/92

ANCHORAGE AND PUP GROUT: 3/17/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#14

ROCK ANCHOR LOCATION: 5#6 BATTER DATE STARTED: 2/23/92 DATE COMPLETED: 3/17/92

PILE CLEANOUT: 2/23/92
CLEANED AGAIN 3/2/92

CASING INSTALLED: 2/25/92
CASING PRESSED \pm 5' FURTHER AFTER DRILLING. - 3/2/92

DRILLING: DRILLED 35' \pm 2/29/92 MEASURED 23' \pm - MUCK IN HOLE
VERIFIED 40' INTO BEDROCK 3/3/92

STRAND INSTALLATION: 3/4/92

PRIMARY GROUT: 14 BAGS 3/6/92

PROOF LOADING AND LOAD LOCK OFF: 3/10/92

SECONDARY GROUT: 3/16/92

ANCHORAGE AND PUP GROUT: 3/16/92
ADDED ONE BAG 3/17/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

15

ROCK ANCHOR LOCATION: S#7 VERTICAL DATE STARTED: 11/25/91 DATE COMPLETED: 3/21/92

PILE CLEANOUT: 11/25/91

CASING INSTALLED: 11/29/91

COULD NOT DRILL TODAY DUE TO LOW TIDE DURING THE AFTERNOON.
63' INSTALLED

DRILLING: 34' ± 12/2/91

31.5' MEASURED 2/20/92

STRAND INSTALLATION: 3/14/92

PRIMARY GROUT: 14 BAGS 3/16/92
34'

PROOF LOADING AND LOAD LOCK OFF: 3/11/92 1" AT 4100 PSI
LOCK-OFF AT 1900 PSI

SECONDARY GROUT: 3/21/92

ANCHORAGE AND PUP GROUT: 3/21/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

16

ROCK ANCHOR LOCATION: ~~S~~[#] 7 BACK BATTER DATE STARTED: 11/25/91 DATE COMPLETED: 3/21/92

PILE CLEANOUT: 11/25/91

CASING INSTALLED: SET 2/25/92

66' INSTALLED

DRILLING: 35' 3/3/92

STRAND INSTALLATION: 3/4/92

PRIMARY GROUT: 14 BAGS 3/6/92

PROOF LOADING AND LOAD LOCK OFF: 3/11/92

SECONDARY GROUT: 3/21/92

ANCHORAGE AND PUP GROUT: 3/21/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

(19)

ROCK ANCHOR LOCATION: S*8 VERTICAL DATE STARTED: 2/17/92 DATE COMPLETED: 3/21/92

PILE CLEANOUT: 2/17/92 CLEANED TO WITHIN 0.5' OF TIP

CASING INSTALLED: SET IN 2/17/92
RE-SET 2/25/92
DRIVEN ± 18" 3/4/92

DRILLING: 32° BELOW PILE TIP - MEASURED 3/10/92

STRAND INSTALLATION: 3/12/92 MEASURED

PRIMARY GROUT: 3/13/92 14 BAGS - UP ± INTO CASING

PROOF LOADING AND LOAD LOCK OFF: 3/16/92

SECONDARY GROUT: 3/16/92 TO TOP OF CASING

ANCHORAGE AND PUP GROUT: 3/21/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#20

ROCK ANCHOR LOCATION: S#8 BATEX DATE STARTED: 2/23/92 DATE COMPLETED: 3/21/92

PILE CLEANOUT: 2/23/92

CASING INSTALLED: 2/25/92
DRIVEN 31' 3/10/92

DRILLING: 35' BELOW TIP OF PILE - MEASURED 3/10/92

STRAND INSTALLATION: 3/12/92 MEASURED

PRIMARY GROUT: 3/13/92 13 BAGS - DID NOT USE LAST 4 GAL. BUCKET OF GROUT
AS GROUT LEVEL IN S#8 VERTICAL APPEARED HIGH

PROOF LOADING AND LOAD LOCK OFF: 3/16/92

SECONDARY GROUT: 3/16/92 - TO TOP OF CASING

ANCHORAGE AND PUP GROUT: 3/21/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#25

ROCK ANCHOR LOCATION: DE #1 VERTICAL DATE STARTED: 2/16/92 DATE COMPLETED: 3/25/92

PILE CLEANOUT: 2/16/92 CLEANED OUT COMPLETELY

CASING INSTALLED: SET IN 2/17/92
RE-SET ON 2/24/92
DRIVEN ± 6" 3/19/92

DRILLING: 3/19/92
MEASURED 34' BELOW PILE TIP 3/10/92

STRAND INSTALLATION: 3/12/92 140'

PRIMARY GROUT: 12 BAGS 3/13/91

PROOF LOADING AND LOAD LOCK OFF: 3/17/92

SECONDARY GROUT: 3/17/92 UP TO TOP OF CASING.

ANCHORAGE AND PUP GROUT: 3/25/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#26

ROCK ANCHOR LOCATION: DE #1 BATTER DATE STARTED: 2-25-92 DATE COMPLETED: 3/25/92

PILE CLEANOUT: COMPLETED 2/23/92

CASING INSTALLED: SET 2/24/92
SET ±12" BELOW PILE TIP 3/10/92

DRILLING: 3/10/92 ±34' BELOW CASING

STRAND INSTALLATION: 3/12/92 140'

PRIMARY GROUT: 12 BAGS 3/13/92

PROOF LOADING AND LOAD LOCK OFF: 3/17/92

SECONDARY GROUT: 3/17/92 FILLED TO TOP OF CASING.

ANCHORAGE AND PUP GROUT: 3/25/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
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#27

ROCK ANCHOR LOCATION: DE #2 VERTICAL DATE STARTED: 2-6-92 DATE COMPLETED: 3/31/92

PILE CLEANOUT: 2-6-92 CLEANED TO WITHIN 16" OF TIP
2-15-92 COMPLETE CLEANOUT TO BOTTOM OF PILE

CASING INSTALLED: SET IN 2/7/92
RE-SET 2/24/92
DRIVEN 12" BELOW PILE TIP 3/11/92

DRILLING: 3/11/92 MEASURED 29' BELOW CASING

STRAND INSTALLATION: 3/12/92 150'

PRIMARY GROUT: 12 BAGS 3/13/92

PROOF LOADING AND LOAD LOCK OFF: 3/18/92
PUMPED SECONDARY GROUT BEFORE TENSIONING. BEGAN TENSION TEST APPROX.
1 HOUR AFTER SECONDARY GROUTING COMPLETED

SECONDARY GROUT: 3/18/92

ANCHORAGE AND PUP GROUT: 3/31/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
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#31

ROCK ANCHOR LOCATION: DE #3 VERTICAL DATE STARTED: 2-6-92 DATE COMPLETED: 3/31/92

PILE CLEANOUT: 2-6-92 CLEANED TO WITHIN 3' OF TIP
2-14-92 COMPLETED CLEANOUT

CASING INSTALLED: SET IN 2/8/92
RE-SET 2/24/92
DROVE 3' 3/12/92

DRILLING: 3/12/92 UNABLE TO MEASURE DEPTH ON 3/13/92 - FEELS SICTED UP,
CLEANED HOLE WITH DRILL ON 3/13/92
32' BELOW CASING 3/13/92

STRAND INSTALLATION: 140' 3/15/92

PRIMARY GROUT: 12 BAGS 3/18/92

PROOF LOADING AND LOAD LOCK OFF: 3/23/92

SECONDARY GROUT: 3/23/92 PUMPED PRIOR TO TENSION TEST - APPROX. 1 HOUR BETWEEN
LAG TIME AFTER SECONDARY GROUTING - BEFORE TENSIONING.

ANCHORAGE AND PUP GROUT: 3/31/92 COMPLETE

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
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PN&D PROJECT NO. 91224

#32

ROCK ANCHOR LOCATION: DE #3 BATTER DATE STARTED: 2/14/92 DATE COMPLETED: 3/31/92

PILE CLEANOUT: COMPLETED 2-20-92

CASING INSTALLED: SET 2/24/92

DROVE 0.5' 3/13/92

DRILLING: 3/13/92 45.5' BELOW CASING

STRAND INSTALLATION: 140' 3/15/92

PRIMARY GROUT: 12 BAGS 3/18/92

PROOF LOADING AND LOAD LOCK OFF: 3/24/92

SECONDARY GROUT: 34 BAGS - PUMPED UNDER CASING, 14' UP INTO PILE AROUND CASING,
ON 3/23/92. ADDITIONAL 16 BAGS (9416s DRY) PUMPED ON 3/24/92 BEFORE PROOF LOADING
AND LOCK OFF.

ANCHORAGE AND PUP GROUT: COMPLETE 3/31/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#33

ROCK ANCHOR LOCATION: DE #4 VERTICAL DATE STARTED: 2/5/92 DATE COMPLETED: 3/31/92

PILE CLEANOUT: STARTED 2/5/92
COMPLETED 2/6/92
(COULD NOT GET TO BOTTOM OF
PILE - 2' SHORT - FINISHED
2/6/92)

CASING INSTALLED: SET IN 2/8/92
RE-SET 2/24/92
DROVE 1.5' 3/14/92

DRILLING: * 34.5' BELOW CASING 3/14/92

STRAND INSTALLATION: 140' 3/15/92

PRIMARY GROUT: 12 BAGS 3/18/92

PROOF LOADING AND LOAD LOCK OFF: 3/24/92

SECONDARY GROUT: 3/24/92

ANCHORAGE AND PUP GROUT: COMPLETE 3/31/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#34

ROCK ANCHOR LOCATION: DE #4 BATTER DATE STARTED: 2/20/92 DATE COMPLETED: 3/31/92

PILE CLEANOUT: COMPLETED 2/23/92

CASING INSTALLED:
SET 2/24/92

DROVE 2' 3/14/92

DRILLING: 31' BELOW CASING 3/14/92

STRAND INSTALLATION: 140' 3/15/92

PRIMARY GROUT: 12 BAGS 3/18/92

PROOF LOADING AND LOAD LOCK OFF: STRESS TEST 3/24/92

SECONDARY GROUT: 3/25/92

ANCHORAGE AND PUP GROUT: COMPLETE 3/31/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#35

ROCK ANCHOR LOCATION: DE #5 VERTICAL DATE STARTED 2-6-92 DATE COMPLETED: 4/8/92

PILE CLEANOUT: 2/6/92 CLEANED TO WITHIN 6' OF TIP
2/13/92 REMOVED CASING + CONTINUED CLEAN-OUT
2/14/92 COMPLETED CLEANOUT

CASING INSTALLED: SET ON 2/8/92
RE-SET 2/24/92
DROVE CASING 2' 3/15/92

DRILLING: 33' BELOW CASING 3/15/92

STRAND INSTALLATION: 140' 3/15/92

PRIMARY GROUT: 12 BAGS 3/18/92

PROOF LOADING AND LOAD LOCK OFF: TENSION TESTED 3-24-92
LOCKOFF 3-25-92 AFTER SECONDARY GROUTING.

SECONDARY GROUT: 3-25-92

ANCHORAGE AND PUP GROUT: COMPLETE 4/8/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#37

ROCK ANCHOR LOCATION: NF#1 VERTICAL DATE STARTED: 3/18/92 DATE COMPLETED: 4/10/92

PILE CLEANOUT: 3/18/92

CASING INSTALLED: 3/23/92 DRIVEN 1' INTO BEDROCK

DRILLING: 3/24/92 40' BELOW CASING

STRAND INSTALLATION: 140' 3/28/92

PRIMARY GROUT: 3/31/92 13 BAGS (1/2 HOUR START TO FINISH)
(5516 BAG)

PROOF LOADING AND LOAD LOCK OFF: 4/4/92

PROOF LOADED - SECONDARY GROUTED, THEN LOCKED OFF.

SECONDARY GROUT: 4/4/92

ANCHORAGE AND PUP GROUT:

4/10/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#39

ROCK ANCHOR LOCATION: NF #2 VERTICAL DATE STARTED: 3/18/92 DATE COMPLETED: 4/11/92

PILE CLEANOUT: 3/18/92

CASING INSTALLED: 3/23/92 DRIVEN 18" INTO BEDROCK

DRILLING: 3/24/92 35.5' BELOW CASING.

STRAND INSTALLATION: 4/3/92

PRIMARY GROUT: 4/3/92 2-BAGS

PROOF LOADING AND LOAD LOCK OFF: PROOF LOADED 4/7/92
LOCK OFF 4/8/92

SECONDARY GROUT: 4/8/92 PRIOR TO LOCK OFF

ANCHORAGE AND PUP GROUT: 4/11/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#40

ROCK ANCHOR LOCATION: NF #2 BATTER DATE STARTED: 3/18/92 DATE COMPLETED: 4/11/92

PILE CLEANOUT: 3/18/92 - INCOMPLETE

CASING INSTALLED: 3/23/92 - 7' TO 8' OFF BEDROCK

4/2/92

DRILLING: 3/25/92 BEGAN DRILLING THROUGH WOOD, HIT SOMETHING DIFFERENT(?)
AND PULLED OUT.

COMPLETED 4/8/92 30' BELOW CASING

STRAND INSTALLATION: 4/3/92

PRIMARY GROUT: 4/3/92 11 BAGS

PROOF LOADING AND LOAD LOCK OFF: PROOF LOADED 4/7/92
LOCKED OFF 4/8/92

SECONDARY GROUT: 4/8/92 PRIOR TO LOCK OFF.

ANCHORAGE AND PUP GROUT: 4/11/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
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PN&D PROJECT NO. 91224

#43

ROCK ANCHOR LOCATION: *NF #3* VERTICAL DATE STARTED: *3/19/92* DATE COMPLETED: *4/15/92*

PILE CLEANOUT: *COMPLETE 3/19/92*

CASING INSTALLED: *3/23/92* DRIVEN *1'* INTO BEDROCK

DRILLING: *3/25/92* *34'* BELOW CASING

STRAND INSTALLATION: *130'* *3/28/92*

PRIMARY GROUT: *4/1/92* *12 BAGS*

PROOF LOADING AND LOAD LOCK OFF: *PROOF LOADED 4/4/92*
LOCKED OFF 4/4/92

SECONDARY GROUT: *4/4/92*

ANCHORAGE AND PUP GROUT: *4/15/92*

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

44

ROCK ANCHOR LOCATION: NF #3 BATER DATE STARTED: 3-19-92 DATE COMPLETED: 4/15/92

PILE CLEANOUT: 3-19-92 - INCOMPLETE
3-20-92 ✓

CASING INSTALLED: 3/23/92

DRILLING: 3/26/92 - UNABLE TO GET A TAPE DOWN FOR VERIFICATION
± 35'

3/30/92 CA @ 77, 20' STRAND LEFT, CASING DRIVEN 1', = 32' HOLE UNDER CASING.

STRAND INSTALLATION: 130' 3/28/92

PRIMARY GROUT: 4/1/92 12 BAGS

PROOF LOADING AND LOAD LOCK OFF: 4/6/92 LOCKED OFF IMMEDIATELY AFTER
PUMPING SECONDARY GROUT.

SECONDARY GROUT: 4/6/92

ANCHORAGE AND PUP GROUT: 4/15/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#45

ROCK ANCHOR LOCATION: SF#1 VERTICAL DATE STARTED: 3/21/92 DATE COMPLETED: 4/30/92

PILE CLEANOUT: 3/22/92 18" FROM BOTTOM - RAN INTO WOOD (?)

CASING INSTALLED: 3/23/92 CASING UP ± 18' OFF BEDROCK.

3/27/92 CASING ± 6' INTO BEDROCK.

DRILLING: 3/27/92 36' BELOW CASING

STRAND INSTALLATION: 4/1/92

PRIMARY GROUT: 4/1/92 12 BAGS

PROOF LOADING AND LOAD LOCK OFF: 4/6/92 SECONDARY GROUTED BEFORE LOCK OFF

SECONDARY GROUT: 4/6/92

ANCHORAGE AND PUP GROUT: 4/15/92 - WELDED OUT 4/24/92

GROUTED 4-30-92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#46

ROCK ANCHOR LOCATION: SF #1 BATTER DATE STARTED: 3/21/92 DATE COMPLETED: 4/30/92

PILE CLEANOUT: 3/22/92 - 5' FROM BOTTOM OF PILE - RAN INTO WOOD(?)

CASING INSTALLED: 3/23/92 CASING SET 5' ABOVE BEDROCK
3/26/92 - TOP OF BEDROCK

DRILLING: 32' BELOW CASING 3/26/92

STRAND INSTALLATION: 4/1/92

PRIMARY GROUT: 4/1/92 12 BAGS

PROOF LOADING AND LOAD LOCK OFF: 4/7/92 ONE STRAND SLIPPED WHILE COMING UP TO TENSION - STRIPPED SOME OF THE EPOXY COATING OFF. THEY WERE ABLE TO RE-SEAT THE SARK AND COMPLETE TEST.

SECONDARY GROUT: 4/7/92

ANCHORAGE AND PUP GROUT: WELDED OUT - 4/27
PUP GROUT COMPLETED 4/30/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#50

ROCK ANCHOR LOCATION: CD #1 VERTICAL DATE STARTED: 3/30/92 DATE COMPLETED: 4/21/92

PILE CLEANOUT: 3/30/92 COMPLETE

CASING INSTALLED: 4/2/92

DRIVEN 1' 4/4/92

DRILLING: 4/4/92

STRAND INSTALLATION: 4/9/92

PRIMARY GROUT: 12 BAG - 4/10/92

PROOF LOADING AND LOAD LOCK OFF: 4-14-92 M/
↓ PRIOR TO SECONDARY GROUT

SECONDARY GROUT: 4-14-92 M/
10 BAGS 99 lbs eSGM mix

ANCHORAGE AND PUP GROUT: COMPLETE 4/21/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

ROCK ANCHOR LOCATION: CD #1 BATTER DATE STARTED: 3/30/92 DATE COMPLETED: 4/27/92

PILE CLEANOUT: 3/30/90 - WOOD STUCK INSIDE. INCOMPLETE

4/1/92 DRILLED + DROVE CASING THROUGH

CASING INSTALLED: 4/1/92

DRIVEN 6' 4/5/92

DRILLING: COMPLETED 4/5/92

STRAND INSTALLATION: 4/9/92

PRIMARY GROUT: 12 BAGS - 4/10/92

PROOF LOADING AND LOAD LOCK OFF: 4-14-92 ✓

LOCKED OFF AFTER SECONDARY GROUT (WITHIN 1/2
HOUR) 4/15/92

SECONDARY GROUT: ~~4 BAGS~~ 15 BAGS ✓

4/15/92

ANCHORAGE AND PUP GROUT: PUP GROUT 4/21/92

WELDED ON 4/25/92
WELDED OUT 4/27/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
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PN&D PROJECT NO. 91224

#33

ROCK ANCHOR LOCATION: *CD #2* ^{DACK} *BATER* DATE STARTED: *3/31/92* DATE COMPLETED: *4/23/92*

PILE CLEANOUT: *3/31/92*

CASING INSTALLED: *4/1/92*

DRILLING: *4/8/92*

STRAND INSTALLATION: *4/9/92*

PRIMARY GROUT: *12 BAGS - 4/10/92*

PROOF LOADING AND LOAD LOCK OFF: *PROOF LOAD 4/15/92*

LOCK OFF AFTER SECONDARY GROUT 4/15/92
(WITHIN 12 HOURS)

SECONDARY GROUT: *4/15/92*

ANCHORAGE AND PUP GROUT: *COMPLETED 4/23/92*

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#56

ROCK ANCHOR LOCATION: CD #3 VERTICAL DATE STARTED: 3/31/92 DATE COMPLETED: 4/25/92

PILE CLEANOUT: 3/31/92 COMPLETE

CASING INSTALLED: 4/2/92

DRILLING: 4/6/92

STRAND INSTALLATION: 4/9/92

PRIMARY GROUT: 12 BAGS ON 4/10/92

PROOF LOADING AND LOAD LOCK OFF: PROOF LOAD 4/16/92

LOCKED OFF AFTER SECONDARY GROUT (WITHIN 1/2 HR.)

SECONDARY GROUT: 4/16/92

ANCHORAGE AND PUP GROUT: WELDED OUT 4/23/92
GROUTED ON TOP 4/25/92

CRUISE SHIP DOCK IMPROVEMENTS
ROCK ANCHOR INSPECTION CHECKLIST
CBJ CONTRACT NO. E 91-137
PN&D PROJECT NO. 91224

#57

ROCK ANCHOR LOCATION: CD #3 BATTER DATE STARTED: 3/31/92 DATE COMPLETED: 4/25/92

PILE CLEANOUT: 3/31/92

CASING INSTALLED: 4/2/92

DRILLING: 4/7/92
4/8/92 (COMPLETED)

STRAND INSTALLATION: 4/9/92 20' BELOW CASING. THE CONTRACTOR DRILLED A 35' HOLE BUT COULD NOT GET THE STRAND TO GO DOWN FURTHER. THEY ARE GROUTING AGAINST OUR ADVICE AS IS.

PRIMARY GROUT: 4/10/92 3 BAGS AS A PLUG - PRIMARY TUBE PLUGGED UP - INSERTED 1/2" PLASTIC TUBE TO THE BOTTOM OF STRAND FOR GROUTING. PULLED IT UP WHEN FINISHED.

PROOF LOADING AND LOAD LOCK OFF: PASSED 1st TEST 4/20/92
THE FULL LOAD WAS BROUGHT UP SLOWER ON THIS TEST. THE REST OF THE TEST WAS TYPICAL OF ALL OTHERS, LOCKED OFF AFTER SECONDARY GROUTING.

SECONDARY GROUT: 4/20/92

ANCHORAGE AND PUP GROUT: COMPLETED WELDING 4/23/92
GROUTED TOP 4/25/92

* 4-13-92 - MEASURED GROUT LEVEL w/ 100' PLASTIC TUBE
OBSTRUCTION ENCOUNTERED 8' BELOW PILE
TOP, I.E. 4' BELOW 80' ^{PILE} ~~PILE~~. THIS INDICATES
IT IS ~~OF LEVEL~~ ABOVE ~~PRESENT~~ PREVIOUS GROUT
LEVEL w/ 3 BAGS. [15' = 3 BAGS SOMETHING ODD]

**PERATROVICH, NOTTINGHAM
& DRAGE, INC.**

2205 North Jordan Avenue
JUNEAU, ALASKA 99801
(907) 789-5006 FAX (907) 789-9369

SHEET NO. _____ OF _____

CALCULATED BY _____ DATE _____

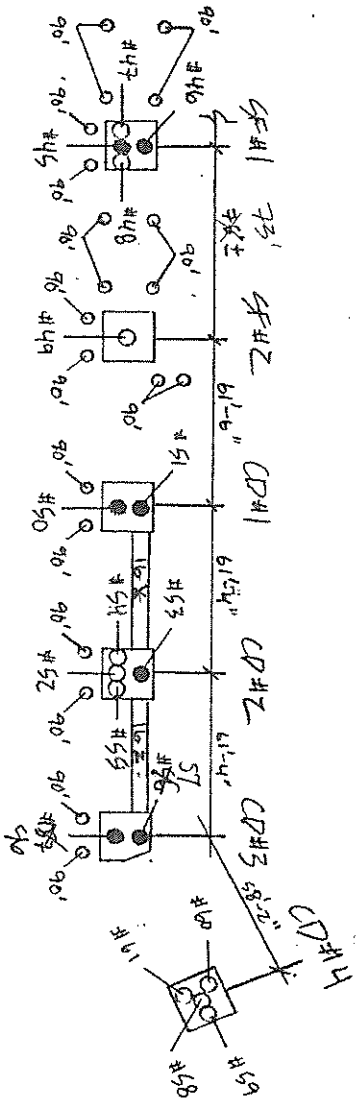
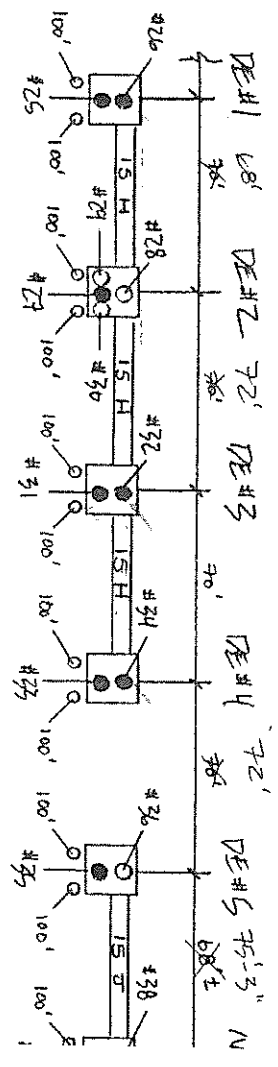
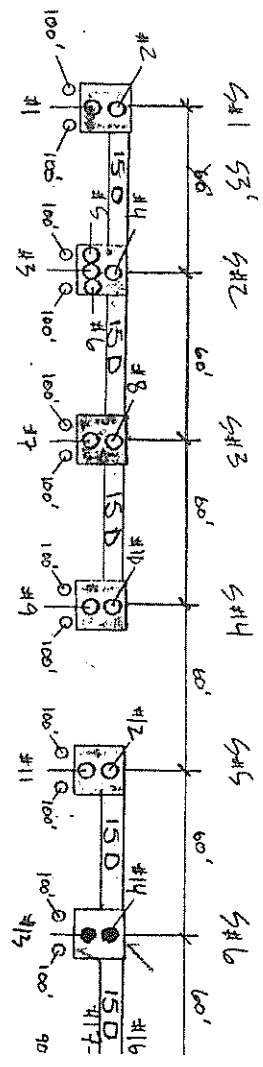
CHECKED BY _____ DATE _____

SCALE _____

ROCK ANCHORS

LOCATION	TYPE	STARTED	COMPLETED
13 S#6	VERT	11-26-91	3/17/92
14 S#6	BATT	2-24-92	3/17/92
15 S#7	VERT	11-25-91	3/21/92
16 S#7	BATT	11-25-91	3/21/92
19 S#8	VERT	2/7/92	3/21/92
20 S#8	BATT	2-24-92	3/21/92
25 DE#1	VERT	2/6/92	3/25/92
* 26 DE#1	BATTER	2/14/92	3/25/92
* 27 DE#2	VERT	2-6-92	3/3/92
31 DE#3	VERT	2-6-92	3/31/92
32 DE#3	BATTER	2-14-29	3/31/92
33 DE#4	VERTICAL	2-5-92	3/31/92
* 34 DE#4	BATTER	2-20-92	3/31/92
35 DE#5	VERTICAL	2-6-92	4/8/92
37 NF#1	VERT	3-18-92	4/10/92
39 NF#2	VERT	3-18-92	4/11/92
40 NF#2	BATTER	3-18-92	4/11/92
43 NF#3	VERT	3-19-92	4/15/92
44 NF#3	BATTER	3-19-92	4/15/92
45 SF#1	VERT	3-21-92	4/30/92
* 46 SF#1	BATTER	3-21-92	4/30/92
50 CD#1	VERTICAL	3-30-92	4/21/92
* 51 CD#1	BATTER	3-30-92	4/25/92
* 53 CD#2	BATTER	3-30-92	4/23/92
* 56 CD#3	BATTER	2-31-92	4/25/92
* 57 CD#3	VERTICAL	2-31-92	4/25/92

* = ADDITIONAL



3	120
06	130
57	140
	140
	180

Rock Anchors

PILE SCHEDULE LAYOUT
 105#5337
 170 11-8-91