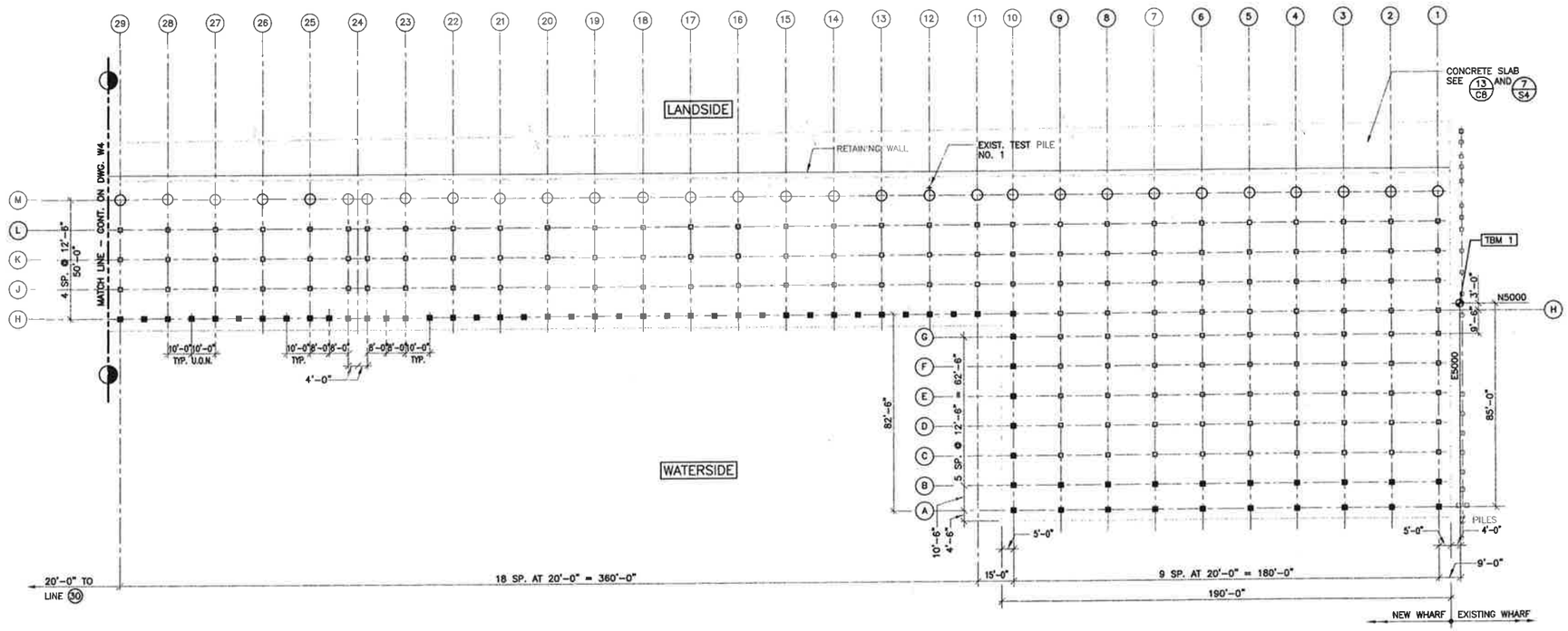
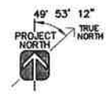


PILE PLAN – LINES 1 THRU 29

1" = 20'-0"

1/W3

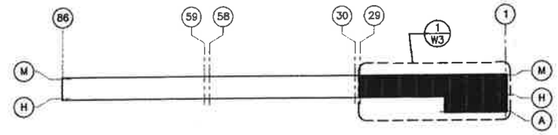


LEGEND

- ○ 54" DIAMETER HOLLOW PRESTRESSED CONCRETE PILE
- □ 20" SQUARE PRESTRESSED CONCRETE PILE
- ■ 24" SQUARE PRESTRESSED CONCRETE PILE
- \+ EXISTING 20" SQUARE TEST PILE

NOTES

1. FOR PILE SCHEDULE, SEE SHT. W7.
2. FOR PILE DETAILS, SEE SHT. W8.



KEY PLAN

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PORT ARTHUR
INTERNATIONAL
PUBLIC PORT

REVISIONS / ISSUES			
NO. 1	DATE 8/8/97	BY	APP'D
ISSUED FOR BID			
NO. 1	DATE 1/21/98	BY	APP'D
ISSUED FOR CONSTRUCTION PER ADDENDUM			
NO. 1	DATE 12/9/01	BY SGM	APP'D JJC
RECORD SET			
NO. 1	DATE	BY	APP'D

CONSULTANTS

STRUCTURAL – WHARF

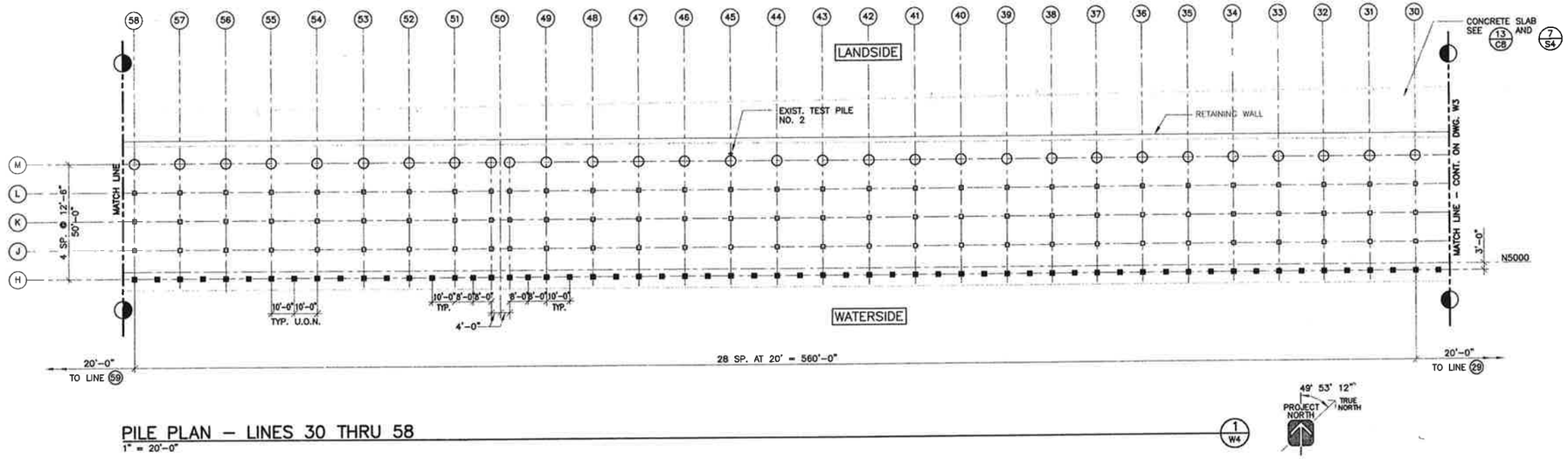
BEN C. GERWICK, INC
601 MONTGOMERY ST., SUITE 400
SAN FRANCISCO, CA. 94111

ELECTRICAL/MECHANICAL

DAMTT

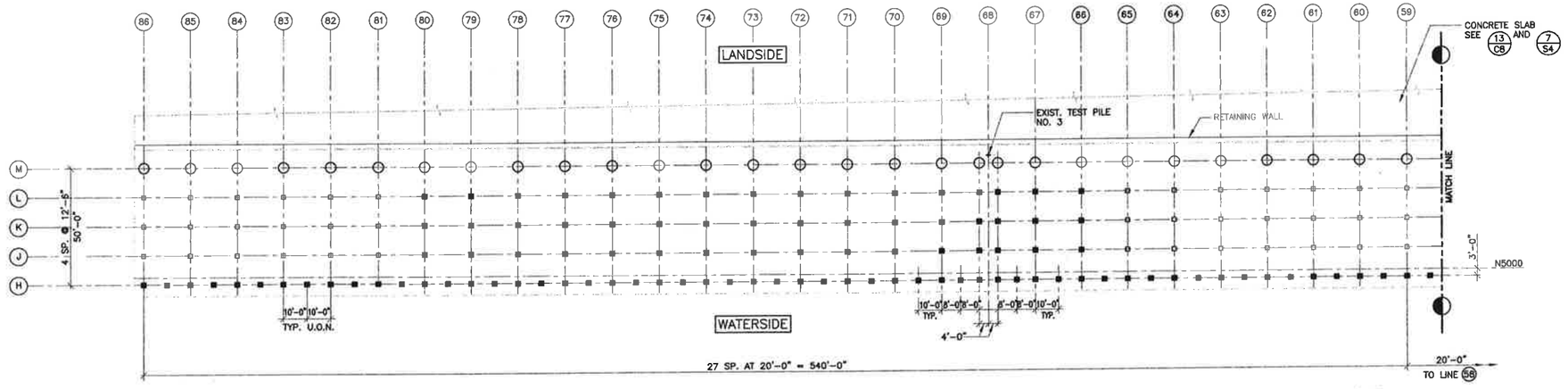
FILE:	F:\960172\STRUCT\W3
SCALE:	1" = 20'-0"
DESIGNED BY:	YYH
DRAWN BY:	EAC
CHECKED BY:	
APPROVED BY:	
DATE:	11/19/96
PROJECT NO.:	V960171

SHEET NO. W3 REV. NO. 1



PILE PLAN – LINES 30 THRU 58
1" = 20'-0"

1/W4



PILE PLAN – LINES 59 THRU 86
1" = 20'-0"

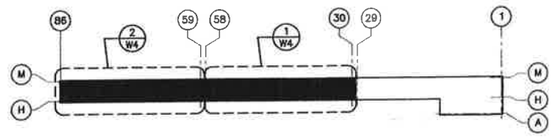
2/W4

LEGEND

- ○ 54" DIAMETER HOLLOW PRESTRESSED CONCRETE PILE
- ▫ 20" SQUARE PRESTRESSED CONCRETE PILE
- ■ 24" SQUARE PRESTRESSED CONCRETE PILE
- \+ EXISTING 20" SQUARE TEST PILE

NOTES

1. FOR PILE SCHEDULE, SEE SHT. W7.
2. FOR PILE DETAILS, SEE SHT. W8.



KEY PLAN

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PORT ARTHUR INTERNATIONAL PUBLIC PORT

REVISIONS / ISSUES

NO.	DATE	BY	APP'D
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ISSUED FOR BID			
2	1/21/98		
ISSUED FOR CONSTRUCTION PER ADDENDUM			
3	12/9/01	SGM	JJC
RECORD SET			
4			

CONSULTANTS

STRUCTURAL – WHARF
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ELECTRICAL/MECHANICAL
DAMATT

FILE:	F:\960172\STRUCT\W4
SCALE:	1" = 20'-0"
DESIGNED BY:	YYH
DRAWN BY:	EAC
CHECKED BY:	
APPROVED BY:	
DATE:	11/19/96
PROJECT NO.:	V960171

SHEET NO. W4 REV. NO. 3

PILE DESIGNATION	SIZE	PILE TIP ELEVATION (FT)	PILE CUT-OFF ELEVATION (FT)	WORKING LOAD DL + LL (TONS)	ESTIMATED PILE LENGTH (FT)
A1	24" SQ.	-78	+7.48	110	86.0
A2	24" SQ.	-78	+7.36	130	86.0
A3	24" SQ.	-78	+7.24	130	86.0
A4	24" SQ.	-78	+7.12	130	85.0
A5	24" SQ.	-78	+7.00	130	85.0
A6	24" SQ.	-78	+6.88	130	85.0
A7	24" SQ.	-78	+6.76	130	85.0
A8	24" SQ.	-78	+6.63	130	85.0
A9	24" SQ.	-78	+6.51	130	85.0
A10	24" SQ.	-83	+6.33	115	90.0
B1	24" SQ.	-83	+12.47	145	96.0
B2	24" SQ.	-83	+12.35	175	96.0
B3	24" SQ.	-83	+12.22	175	96.0
B4	24" SQ.	-83	+12.11	175	95.0
B5	24" SQ.	-83	+11.99	175	95.0
B6	24" SQ.	-83	+11.85	175	95.0
B7	24" SQ.	-83	+11.73	175	95.0
B8	24" SQ.	-83	+11.60	175	95.0
B9	24" SQ.	-83	+11.47	175	95.0
B10	24" SQ.	-83	+6.40	160	90.0
C1	20" SQ.	-88	+12.62	145	101.0
C2	20" SQ.	-88	+12.50	175	101.0
C3	20" SQ.	-88	+12.38	175	101.0
C4	20" SQ.	-88	+12.26	175	101.0
C5	20" SQ.	-88	+12.13	175	100.0
C6	20" SQ.	-88	+12.00	175	100.0
C7	20" SQ.	-88	+11.87	175	100.0
C8	20" SQ.	-88	+11.75	175	100.0
C9	20" SQ.	-88	+11.53	175	100.0
C10	24" SQ.	-83	+9.23	160	90.0
D1	20" SQ.	-88	+12.75	145	98.0
D2	20" SQ.	-88	+12.64	175	98.0
D3	20" SQ.	-88	+12.53	175	98.0
D4	20" SQ.	-88	+12.41	175	98.0
D5	20" SQ.	-88	+12.28	175	98.0
D6	20" SQ.	-88	+12.19	175	97.0
D7	20" SQ.	-88	+12.03	175	97.0
D8	20" SQ.	-88	+11.82	175	97.0
D9	20" SQ.	-88	+11.53	175	97.0
D10	24" SQ.	-78	+6.41	160	85.0
E1	20" SQ.	-83	+12.92	145	96.0
E2	20" SQ.	-83	+12.78	175	96.0
E3	20" SQ.	-83	+12.66	175	96.0
E4	20" SQ.	-83	+12.53	175	96.0
E5	20" SQ.	-83	+12.40	175	96.0
E6	20" SQ.	-83	+12.28	175	96.0
E7	20" SQ.	-83	+12.11	175	95.0
E8	20" SQ.	-83	+11.84	175	95.0
E9	20" SQ.	-83	+11.54	175	95.0
E10	24" SQ.	-78	+9.24	160	88.0
F1	20" SQ.	-83	+13.06	145	96.0
F2	20" SQ.	-83	+12.94	175	96.0
F3	20" SQ.	-83	+12.81	175	96.0
F4	20" SQ.	-83	+12.68	175	96.0
F5	20" SQ.	-83	+12.56	175	96.0
F6	20" SQ.	-83	+12.41	175	96.0
F7	20" SQ.	-83	+12.13	175	95.0
F8	20" SQ.	-83	+11.86	175	95.0
F9	20" SQ.	-83	+11.55	175	95.0
F10	24" SQ.	-73	+6.41	160	80.0
G1	20" SQ.	-83	+13.19	130	96.0
G2	20" SQ.	-83	+13.08	160	96.0
G3	20" SQ.	-83	+12.95	160	96.0
G4	20" SQ.	-83	+12.83	160	96.0
G5	20" SQ.	-83	+12.71	160	96.0
G6	20" SQ.	-83	+12.43	160	96.0
G7	20" SQ.	-83	+12.14	160	95.0
G8	20" SQ.	-83	+11.87	160	95.0
G9	20" SQ.	-83	+11.57	160	95.0
G10	24" SQ.	-73	+9.24	145	83.0
H1	20" SQ.	-83	+13.31	130	97.0
H2	20" SQ.	-83	+13.19	160	96.0
H3	20" SQ.	-83	+13.06	160	96.0
H4	20" SQ.	-83	+12.93	160	96.0
H5	20" SQ.	-83	+12.72	160	96.0
H6	20" SQ.	-83	+12.45	160	96.0
H7	20" SQ.	-83	+12.19	160	95.0
H8	20" SQ.	-83	+11.91	160	95.0
H9	20" SQ.	-83	+11.59	160	95.0
H10	24" SQ.	-83	+9.24	145	93.0
H11 THRU H65	24" SQ.	-83	* +9.24/+6.41	150	93.0/90.0
H66 THRU H80	24" SQ.	-108	* +9.24/+6.41	150	117.0/115.0
H81 THRU H86	24" SQ.	-83	* +9.24/+6.41	150	93.0/90.0
J1	20" SQ.	-83	+13.45	145	97.0
J2	20" SQ.	-83	+13.33	175	97.0
J3	20" SQ.	-83	+13.20	175	96.0
J4	20" SQ.	-83	+13.03	175	96.0
J5	20" SQ.	-83	+12.75	175	96.0
J6	20" SQ.	-83	+12.47	175	96.0
J7	20" SQ.	-83	+12.20	175	95.0
J8	20" SQ.	-83	+11.90	175	95.0
J9	20" SQ.	-83	+11.59	175	95.0
J10 THRU J40	20" SQ.	-93	+11.41	175	95.0
J41 THRU J65	20" SQ.	-93	+11.41	175	95.0
J66 THRU J80	24" SQ.	-128	+11.41	175	140.0
J81 THRU J86	20" SQ.	-93	+11.41	175	105.0
K1	20" SQ.	-83	+13.60	145	97.0
K2	20" SQ.	-83	+13.48	175	97.0
K3	20" SQ.	-83	+13.32	175	97.0
K4	20" SQ.	-83	+13.05	175	96.0
K5	20" SQ.	-83	+12.78	175	96.0
K6	20" SQ.	-83	+12.49	175	96.0
K7	20" SQ.	-83	+12.20	175	95.0
K8	20" SQ.	-83	+11.91	175	95.0
K9	20" SQ.	-83	+11.63	175	95.0
K10 THRU K40	20" SQ.	-93	+11.57	175	105.0
K41 THRU K65	20" SQ.	-93	+11.57	175	105.0
K66 THRU K80	24" SQ.	-128	+11.57	175	140.0
K81 THRU K86	20" SQ.	-93	+11.57	175	105.0
L1	20" SQ.	-83	+13.75	145	97.0
L2	20" SQ.	-83	+13.63	175	97.0
L3	20" SQ.	-83	+13.35	175	97.0
L4	20" SQ.	-83	+13.07	175	96.0
L5	20" SQ.	-83	+12.80	175	96.0
L6	20" SQ.	-83	+12.51	175	96.0
L7	20" SQ.	-83	+12.22	175	96.0
L8	20" SQ.	-83	+11.96	175	95.0
L9	20" SQ.	-83	+11.74	175	95.0
L10 THRU L40	20" SQ.	-88	+11.74	175	100.0
L41 THRU L65	20" SQ.	-88	+11.74	175	100.0
L66 THRU L80	24" SQ.	-128	+11.74	175	140.0
L81 THRU L86	20" SQ.	-88	+11.74	175	100.0
M1	54" DIA.	-88	+11.89	360	100.0
M2	54" DIA.	-88	+11.65	425	100.0
M3	54" DIA.	-88	+11.38	425	100.0
M4	54" DIA.	-88	+11.09	425	99.0
M5	54" DIA.	-88	+10.82	425	99.0
M6	54" DIA.	-88	+10.53	425	99.0
M7	54" DIA.	-88	+10.25	425	99.0
M8	54" DIA.	-88	+9.98	425	98.0
M9	54" DIA.	-88	+9.90	425	98.0
M10 THRU M40	54" DIA.	-93	+9.90	425	103.0
M41 THRU M65	54" DIA.	-93	+9.90	425	103.0
M66 THRU M80	54" DIA.	-138	+9.90	425	148.0
M81 THRU M86	54" DIA.	-93	+9.90	425	103.0

NOTES

1. FOR PILE LOCATION, SEE SHT. W3 AND W4.
2. FOR LOCATIONS OF FENDER SUPPORTS, SEE SHT. W5 & W6.
3. ELEVATIONS ARE BASED ON MSL = 0.00.
4. CONTRACTOR MAY FURNISH PILES TO THE NEAREST FOOT (SEE SPECS. FOR PAY LENGTH).
5. * +9.32/+6.50 :
   +9.32 = PILE CUT-OFF ELEVATION AT WATERSIDE CRANE GIRDER WITHOUT FENDER SUPPORTS.
   +6.50 = PILE CUT-OFF ELEVATION AT WATERSIDE CRANE GIRDER WITH FENDER SUPPORTS.
6. TOTAL NUMBER OF PILES:
   (89) ○ 54" DIAMETER HOLLOW PRESTRESSED CONCRETE PILE
   (273) □ 20" SQUARE PRESTRESSED CONCRETE PILE
   (228) ■ 24" SQUARE PRESTRESSED CONCRETE PILE
7. MINIMUM PILE TIP ELEVATIONS GIVEN ASSUME THE SAND LAYER TO BE AT -85' MSL. ACTUAL DEPTH TO SAND LAYER MAY VARY. IF THE SAND LAYER IS ENCOUNTERED BEFORE -85' MSL, PILES SHOULD BE DRIVEN AT LEAST 5 FEET INTO THE BEARING SAND STRATUM. (CAUTION: BORING LOGS SHOW SAND LENSES ABOVE -85' MSL. THE PILES MAY NOT BEAR IN A SAND LENS). IF THE SAND LAYER IS ENCOUNTERED BELOW -85' MSL, PILES SHOULD BE DRIVEN TO THE MAXIMUM TIP ELEVATIONS RECOMMENDED ABOVE, OR AT LEAST 5 FEET INTO THE BEARING SAND STRATUM -- WHICHEVER IS ENCOUNTERED FIRST.
8. PILE CUT-OFF ELEVATIONS AT LINE (1) THRU LINE (10) ARE DETERMINED FROM THE WHARF DECK CONTOUR SHOWN IN SHEET W5.
9. FOR PILES FALLING BETWEEN LINE NUMBERS THAT ARE NOT SHOWN ON THE PILE SCHEDULE: PILE TIP ELEVATIONS, CUT-OFF ELEVATIONS AND PILE WORKING LOADS TO BE THE SAME AS THAT SHOWN FOR THE NEXT WEST ADJACENT PILE.
10. THE PILE TIP ELEVATIONS GIVEN ARE BASED UPON ASSUMED MUDLINE ELEVATIONS SHOWN ON SHEET W2. IF MUDLINE IS DEEPER THAN ASSUMED PILES SHALL BE EXTENDED AS SHOWN IN THE DETAILS ON SHEET W8.

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PORT ARTHUR INTERNATIONAL PUBLIC PORT

REVISIONS / ISSUES

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1	12/9/01	SGM	JJC
RECORD SET			

CONSULTANTS

STRUCTURAL – WHARF
BEN C. GERWICK, INC
601 MONTGOMERY ST., SUITE 400
SAN FRANCISCO, CA 94111

ELECTRICAL/MECHANICAL
DAMTT

FILE:	F:\960172\STRUCT\W7
SCALE:	NONE
DESIGNED BY:	YYH
DRAWN BY:	RRP
CHECKED BY:	
APPROVED BY:	
DATE:	12/16/96
PROJECT NO.:	V960171

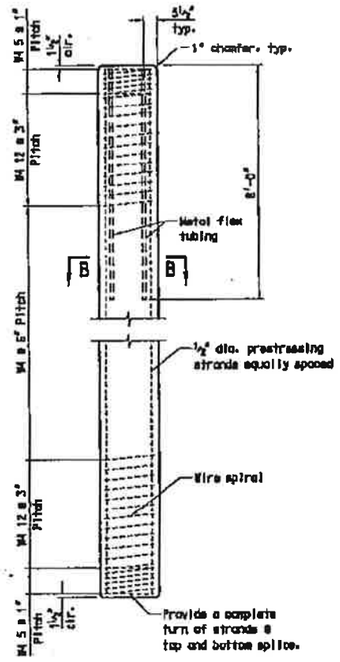
SHEET NO. W7 REV. NO. 1

PORT OF PORT ARTHUR – WHARF EXPANSION PROJECT

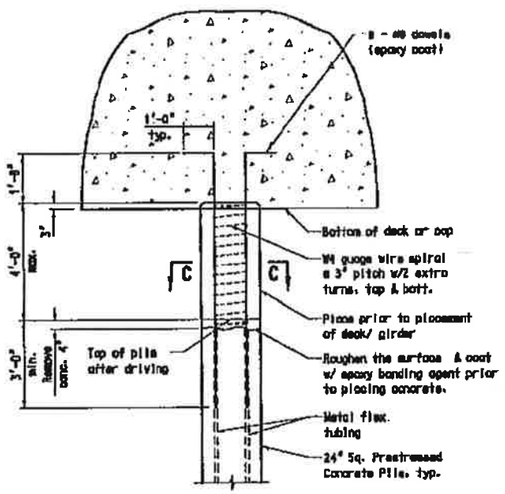
PILE SCHEDULE

RECOMMENDED: _____
DATED: _____
APPROVED: _____
DATED: _____

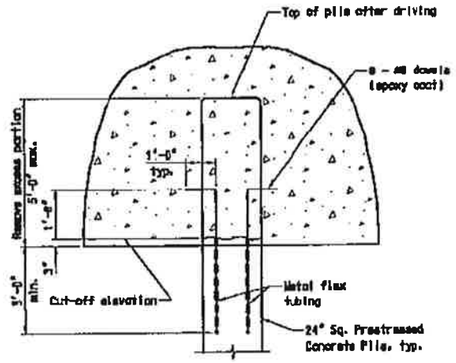
SUBDIV: _____
LINE SEG: _____ AUTH: _____



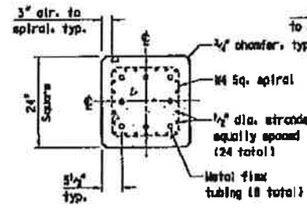
24" SQ. PRESTRESSED CONCRETE PILE



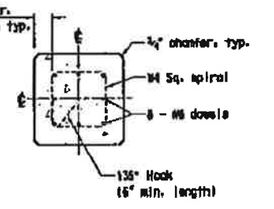
CAST-IN-PLACE PILE EXTENSION DETAIL



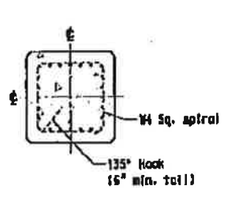
PILE CUT-OFF DETAIL



SECTION B-B



SECTION C-C



SECTION @ ENDS & SPLICE

TABLE OF ELEVATIONS (TRACK 3 BRIDGE)						
LOCATION	NEW TOP/RAIL	TOP/CAP	PILE CUTOFF	PILE TIP	GROUNDLINE	PILE LENGTH (FT.)
ABUT. 1	14.17	9.69	5.94	- 64	6	71
BENT 2	14.17	9.69	5.94	- 78	6	84
BENT 3	14.17	9.69	5.94	- 87	- 3	93
BENT 4	14.17	9.69	5.94	- 87	- 3	93
BENT 5	14.17	9.69	5.94	- 87	- 3	93
BENT 6	14.17	9.69	5.44	- 87	- 3	92
BENT 7	14.17	9.69	5.94	- 87	- 3	93
BENT 8	14.17	9.69	5.94	- 88	- 4	94
BENT 9	14.17	9.69	5.94	- 91	- 7	97
BENT 10	14.17	9.69	5.94	- 97	- 13	103
BENT 11	14.17	9.69	5.44	- 104	- 20	109
BENT 12	14.17	9.69	5.94	- 104	- 20	110
BENT 13	14.17	9.69	5.94	- 106	- 22	112
BENT 14	14.17	9.69	5.94	- 106	- 22	112
BENT 15	14.17	9.69	5.44	- 108	- 24	113
BENT 16	14.17	9.69	5.94	- 110	- 26	116
BENT 17	14.17	9.69	5.94	- 110	- 26	116
BENT 18	14.17	9.69	5.94	- 108	- 24	114
BENT 19	14.17	9.69	5.94	- 114	- 24	120
BENT 20	14.17	9.69	5.94	- 114	- 24	120

TABLE OF ELEVATIONS (TRACK 5 BRIDGE)						
LOCATION	NEW TOP/RAIL	TOP/CAP	PILE CUTOFF	PILE TIP	GROUNDLINE	PILE LENGTH (FT.)
ABUT. 1	10.59	6.11	3.36	- 68	2	71
ABUT. 2	10.59	6.11	3.36	- 68	2	71

TABLE OF ELEVATIONS (MOORING BRESTING DOLPHIN)				
TOP/DOLPHIN	PILE CUTOFF	PILE TIP	GROUNDLINE	PILE LENGTH (FT.)
13.67	6.42	- 104	- 19	110

NOTES:

THE PILE TIP ELEVATIONS ARE BASED ON THE GROUNDLINE ELEVATIONS SHOWN. THE GROUNDLINE ELEVATION IS THE LOWEST GROUNDLINE ELEVATION FOR THE PILES AT THE GIVEN BENT. IF THE ACTUAL GROUNDLINE ELEVATIONS ARE HIGHER THAN THOSE SHOWN, DRIVE THE PILE TO PILE CUTOFF ELEVATION. IF THE ACTUAL GROUNDLINE IS LOWER THAN THAT SHOWN, THE PILE SHALL BE LENGTHENED WITH THE PILE EXTENSION DETAIL TO COMPENSATE FOR THE DIFFERENCE.

THE DL + LL SERVICE LOADS APPLIED TO THE ABUTMENT PILES ARE 87 TONS FOR THE TRACK 3 AND TRACK 5 BRIDGES. THE DL + LL SERVICE LOADS APPLIED TO THE BENT 2 THROUGH BENT 18 PILES ARE 118 TONS FOR THE TRACK 3 BRIDGE. THE DL + LL SERVICE LOADS APPLIED TO THE BENT 19 AND BENT 20 PILES ARE 144 TONS FOR THE TRACK 3 BRIDGE.

6,000 PSI MIX DESIGN. SEE PILE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

PORT OF PORT ARTHUR
TAIL TRACK PLANS

TRANSYSTEMS CORPORATION

PRESTRESSED CONCRETE PILE DETAILS

DESIGNED BY: TJW	FILE	DATE	SHEET NO.
CHECKED BY: DDH	1019901375	01/05/2000	S-12
DRAWN BY: KJS			

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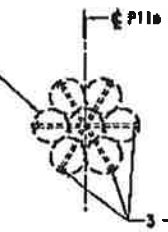
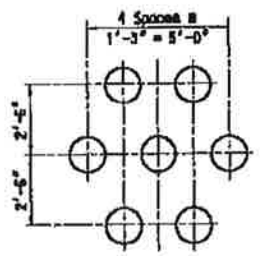
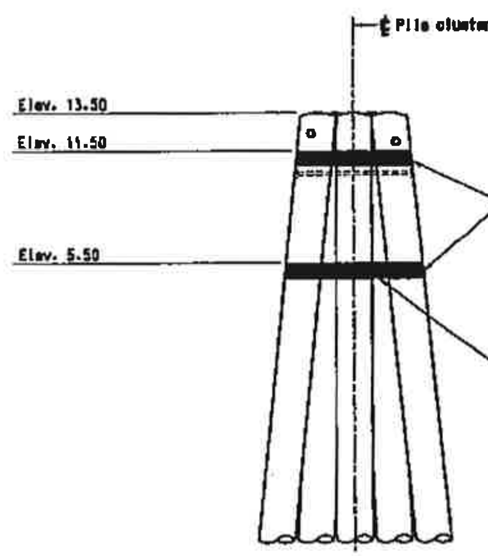
RECOMMENDED:
DATED:
APPROVED:
DATED:
SUBDIV:
LINE SEC:
AUTH:-



PLAN



DRIVING PLAN @ EL. - 35.00



ELEVATION

7 - PILE DOLPHIN
(14 Dolphins Req'd.)

PORT OF PORT ARTHUR
TAIL TRACK PLANS

TranSystems Corporation

TIMBER DOLPHIN DETAILS

DESIGNED BY: TJW	FILE	DATE	SHEET NO.
CHECKED BY: DDH DRAWN BY: KJS	1019901375	01/05/2000	6-17