

CITY OF CRAIG, ALASKA

FALSE ISLAND MARINE INDUSTRIAL PARK

FALSE ISLAND DOCK CONTRACT ISSUED FOR CONSTRUCTION

MAYOR

Dennis Watson

CITY ADMINISTRATOR

Tom Briggs

PUBLIC WORKS DIRECTOR

Mike McKimens

HARBOR MASTER

Mike Kampnich

CITY COUNCIL

Fred Hamilton Sr.

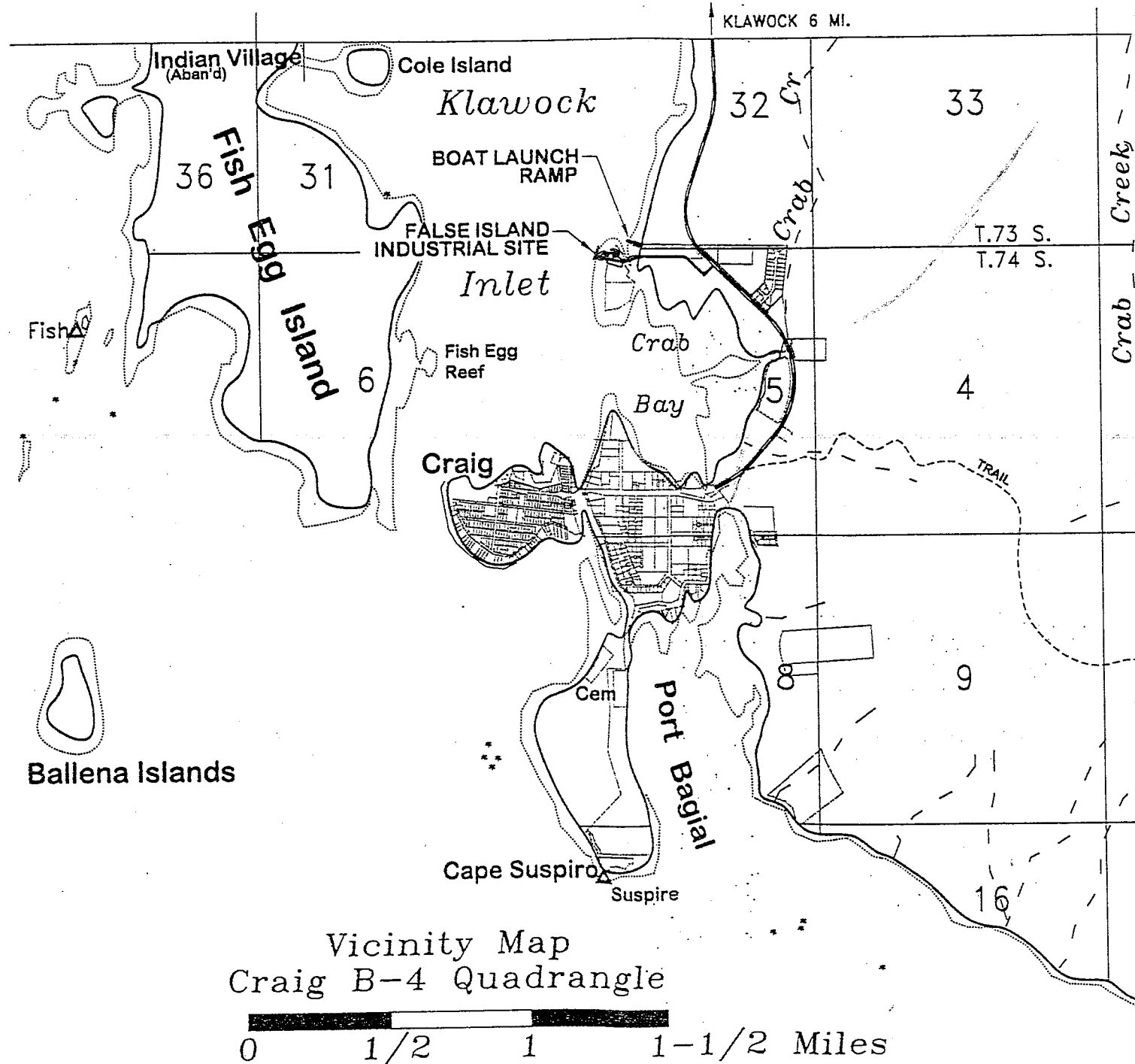
Claire Crookes

Randy Otos

Millie Stevens

Wanda Rice

Richard Pollen



SHEET INDEX

No.	DESCRIPTION
C	COVER SHEET
1	SITE LAYOUT / SURVEY CONTROL
2	PILING LAYOUT PLAN
3	DOCK FRAMING PLAN
4	PANEL LAYOUT PLAN
5	PILE & PANEL DETAILS
6	PILE & PANEL DETAILS
7	FENDER & CRANE DETAILS
8	DOLPHIN
13	ELECTRICAL
14	ELECTRICAL DETAILS

CITY OF CRAIG, ALASKA

FALSE ISLAND MARINE INDUSTRIAL PARK

BOAT LAUNCH RAMP REVIEW SET

MAYOR

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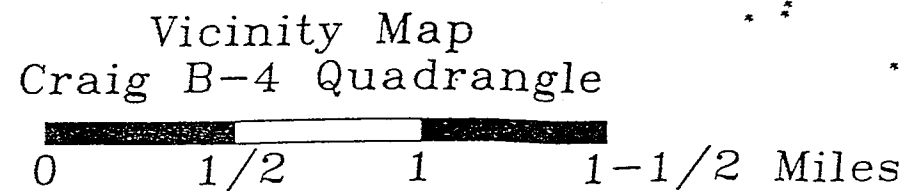
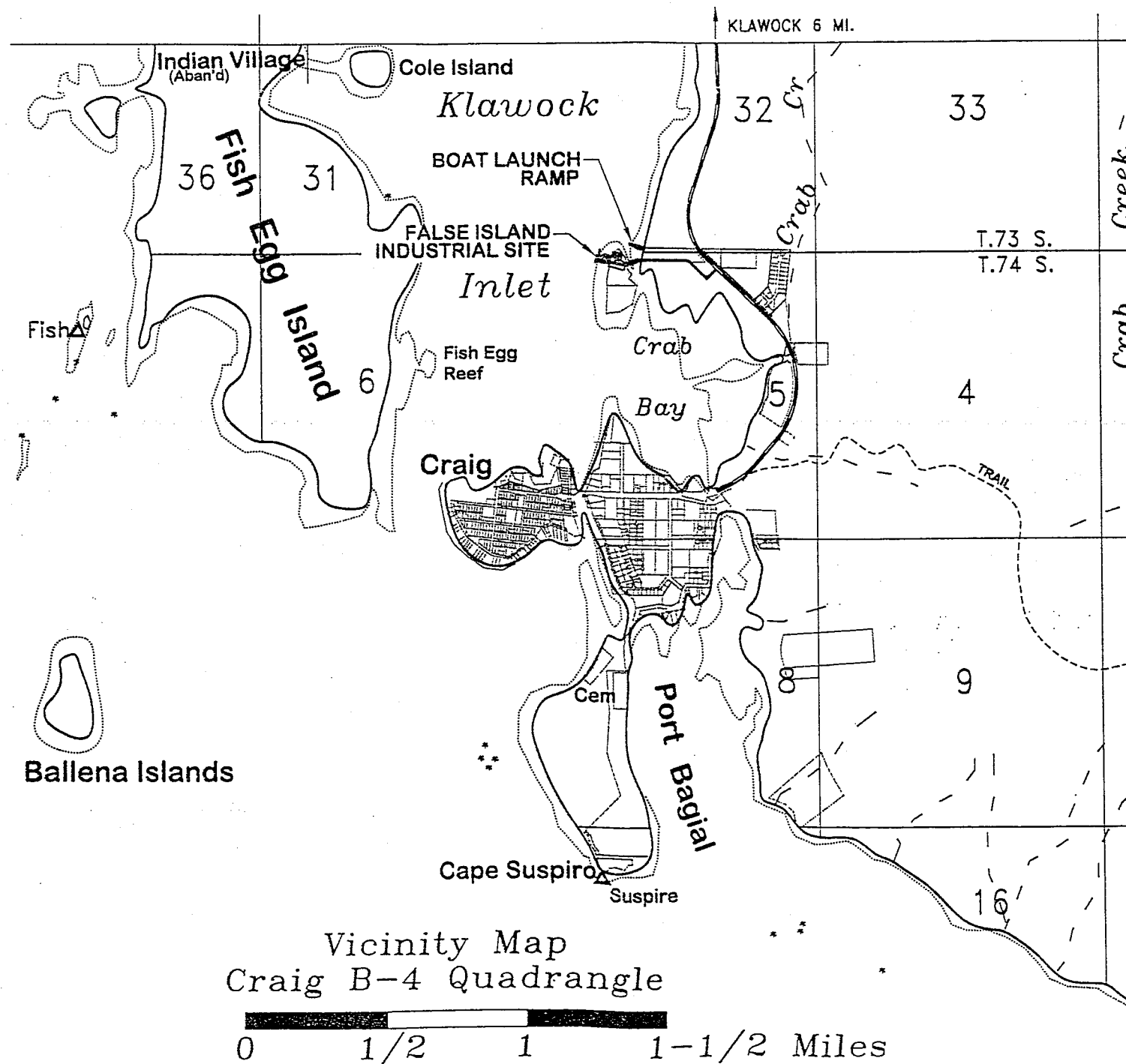
Claire Crookes

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SHEET INDEX

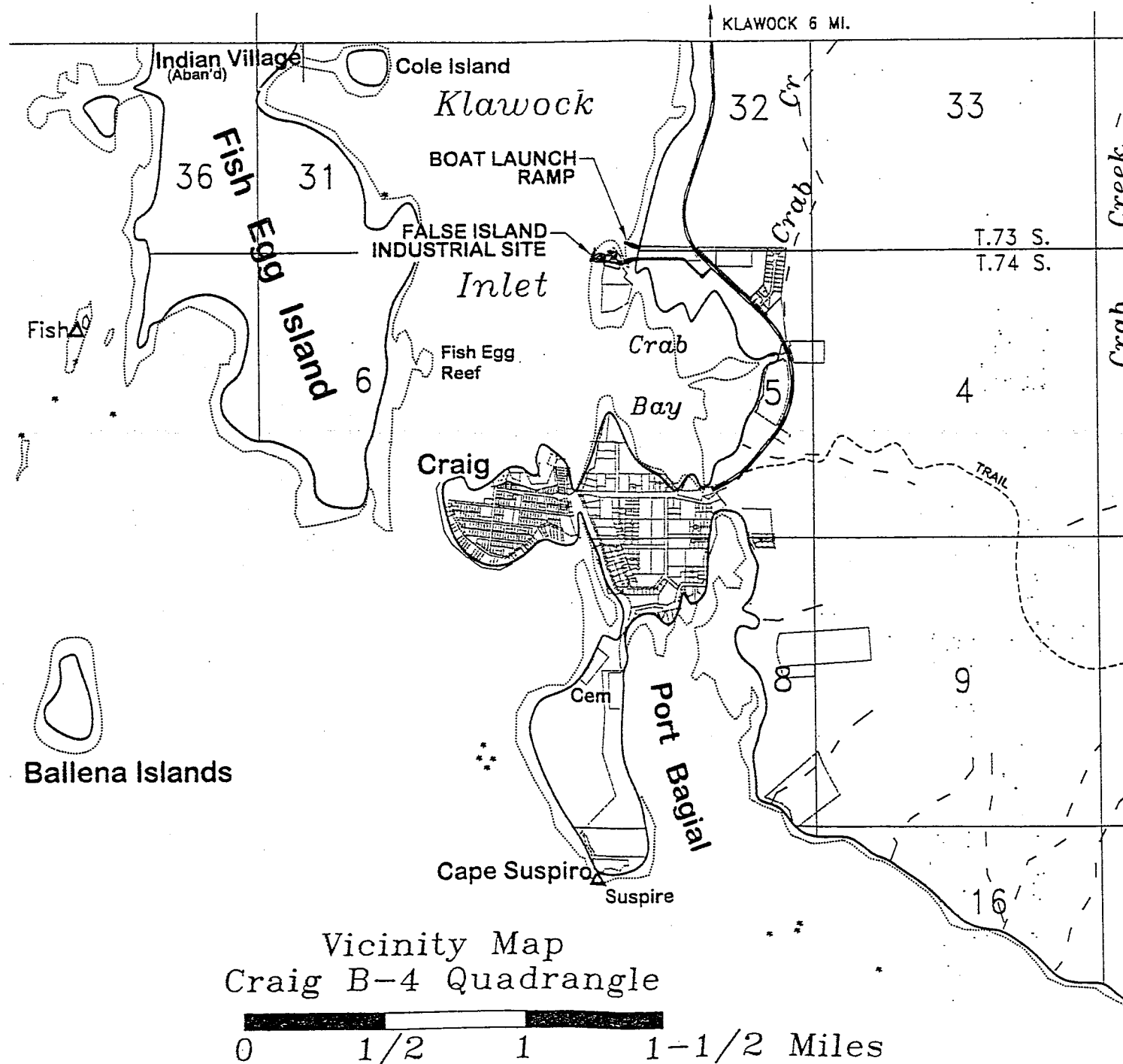
No.	DESCRIPTION
C	COVER SHEET
1	SITE LAYOUT / SURVEY CONTROL
9	LAUNCH RAMP PLAN & PROFILE
10	LAUNCH RAMP DETAILS
11	FLOAT ABUTMENT/RAMP PLANKS
12	LAUNCH FLOAT
21	LAUNCH RAMP PARKING LOT

CITY OF CRAIG, ALASKA

FALSE ISLAND MARINE INDUSTRIAL PARK

FORCE ACCOUNT SITE WORK

2/25/99



Vicinity Map
Craig B-4 Quadrangle

0 1/2 1 1-1/2 Miles

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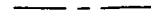
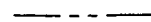
SHEET INDEX

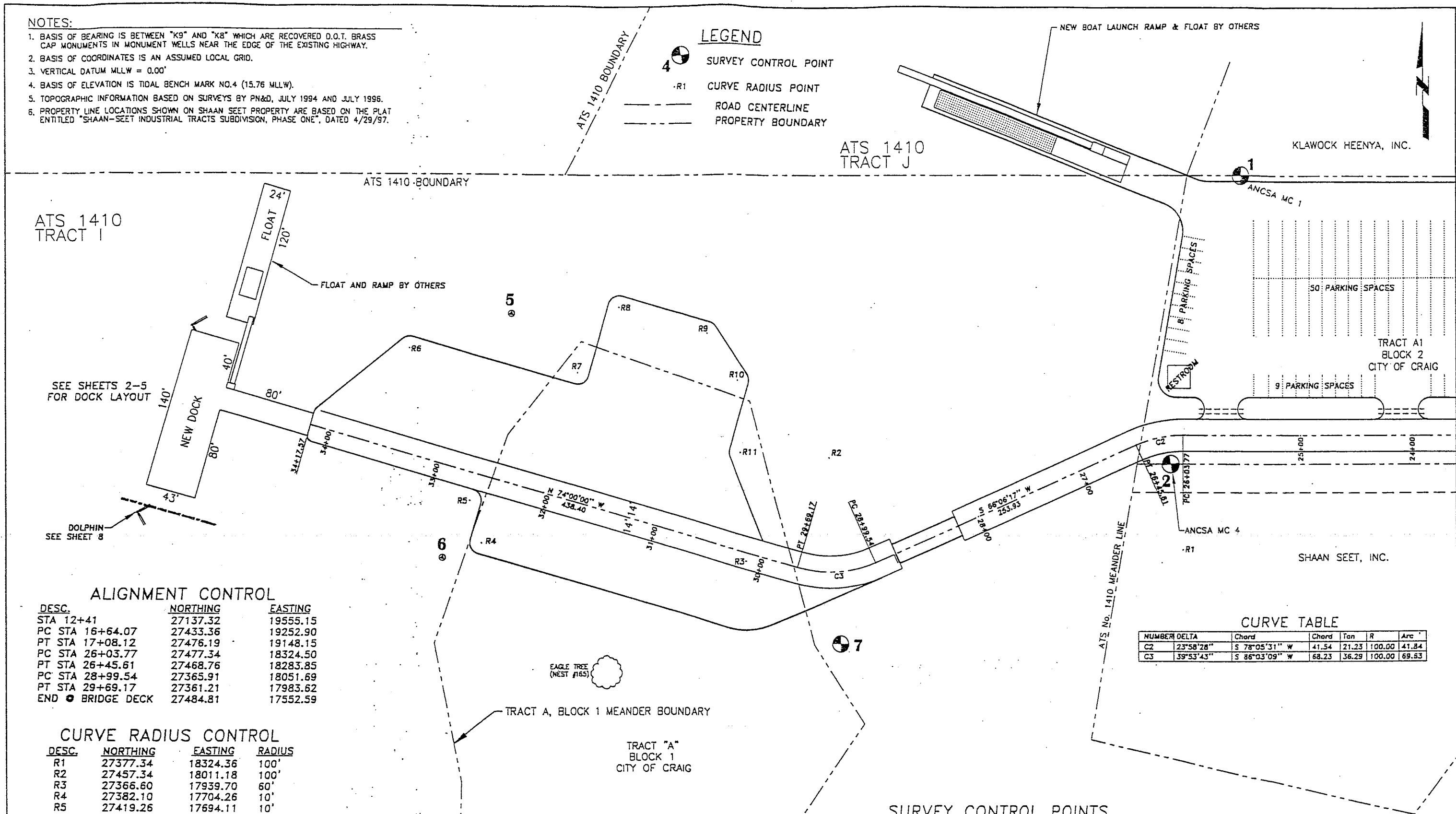
No.	DESCRIPTION
C	COVER SHEET
1	SITE LAYOUT / SURVEY CONTROL
15	ACCESS ROAD PLAN & PROFILE
16	FALSE ISLAND GRADING
17	FALSE ISLAND SECTIONS
18	BRIDGE
19	MISCELLANEOUS DETAILS

NOTES:

1. BASIS OF BEARING IS BETWEEN "K9" AND "K8" WHICH ARE RECOVERED D.O.T. BRASS CAP MONUMENTS IN MONUMENT WELLS NEAR THE EDGE OF THE EXISTING HIGHWAY.
2. BASIS OF COORDINATES IS AN ASSUMED LOCAL GRID.
3. VERTICAL DATUM MLLW = 0.00'
4. BASIS OF ELEVATION IS TIDAL BENCH MARK NO.4 (15.76 MLLW).
5. TOPOGRAPHIC INFORMATION BASED ON SURVEYS BY PN&D, JULY 1994 AND JULY 1996.
6. PROPERTY LINE LOCATIONS SHOWN ON SHAAN SEET PROPERTY ARE BASED ON THE PLAT ENTITLED "SHAAN-SEET INDUSTRIAL TRACTS SUBDIVISION, PHASE ONE", DATED 4/29/97.

LEGEND

-  SURVEY CONTROL POINT
-  R1 CURVE RADIUS POINT
-  ROAD CENTERLINE
-  PROPERTY BOUNDARY



SEE SHEETS 2-5 FOR DOCK LAYOUT

DOLPHIN SEE SHEET 8

ALIGNMENT CONTROL

DESC.	NORTHING	EASTING
STA 12+41	27137.32	19555.15
PC STA 16+64.07	27433.36	19252.90
PT STA 17+08.12	27476.19	19148.15
PC STA 26+03.77	27477.34	18324.50
PT STA 26+45.61	27468.76	18283.85
PC STA 28+99.54	27365.91	18051.69
PT STA 29+69.17	27361.21	17983.62
END @ BRIDGE DECK	27484.81	17552.59

CURVE RADIUS CONTROL

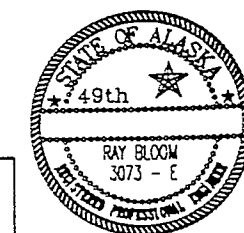
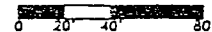
DESC.	NORTHING	EASTING	RADIUS
R1	27377.34	18324.36	100'
R2	27457.34	18011.18	100'
R3	27366.60	17939.70	60'
R4	27382.10	17704.26	10'
R5	27419.26	17694.11	10'
R6	27552.13	17640.68	10'
R7	27530.76	17787.76	10'
R8	27587.73	17824.90	10'
R9	27565.19	17903.52	10'
R10	27524.54	17931.62	10'
R11	27461.52	17934.36	10'

CURVE TABLE

NUMBER DELTA	Chord	Chord	Tan	R	Arc
C2	23°58'28"	S 78°05'31" W	41.54	21.23	100.00
C3	39°53'43"	S 86°03'09" W	68.23	36.29	100.00

SURVEY CONTROL POINTS

POINT	NORTHING	EASTING	ELEVATION	DESC.
1	27702.10	18376.52	12.940	MON
2	27452.21	18313.54		MON
3	27129.98	17685.45		MON
4	27129.75	17977.09		MON
5	27582.18	17729.94	9.860	SPIKE
6	27369.44	17669.58	10.200	CHISLED "X" IN ROCK
7	27295.13	18021.31		ATS MON



PILING DESIGN DATA:

DIAMETER 18" WALL THICKNESS 0.500" STRENGTH Fy=36,000 ksi

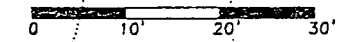
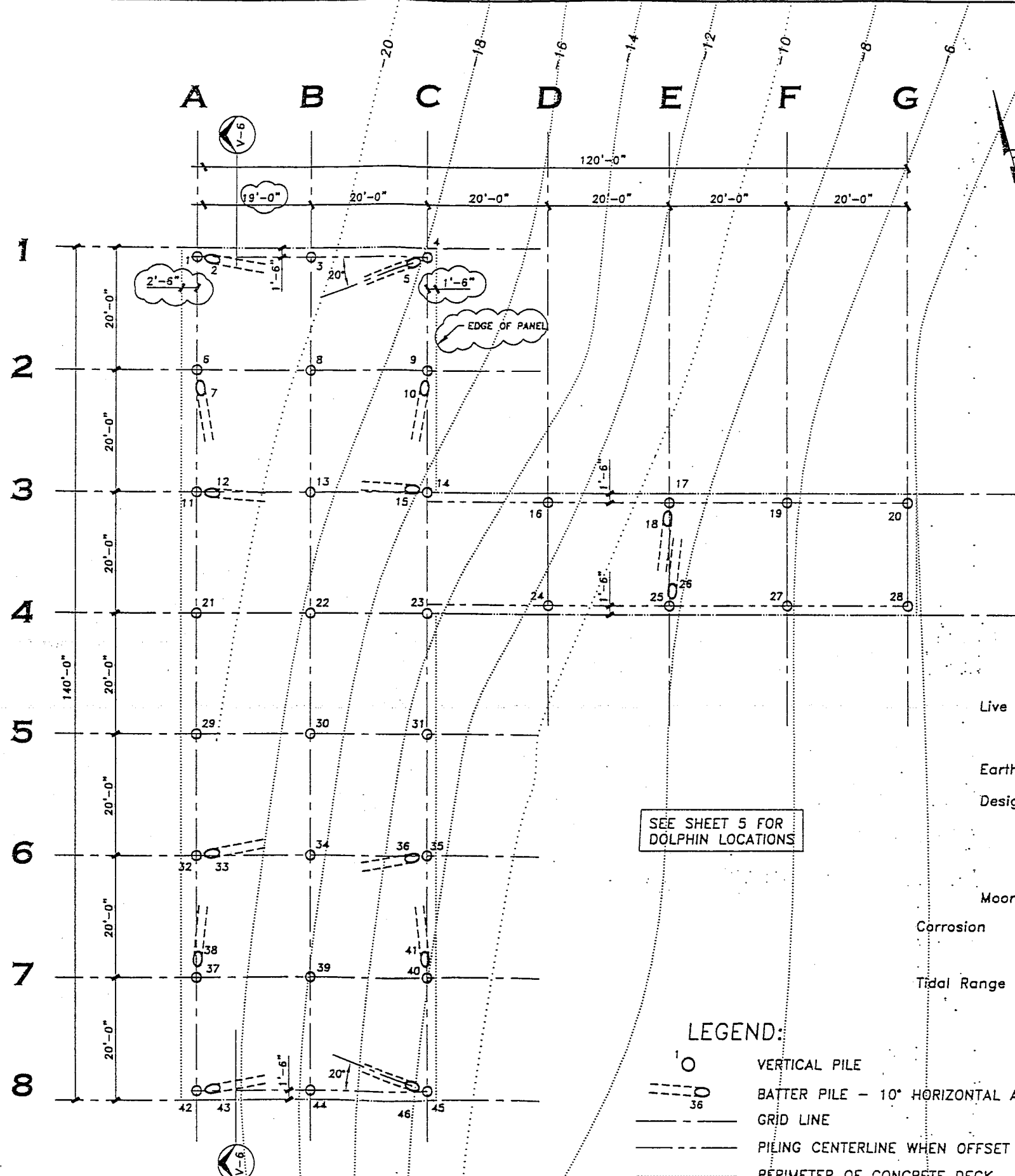
NOTE: MINIMUM PILE EMBEDMENT IS 15' UNLESS OTHERWISE NOTED
MINIMUM TIMBER FENDER PILE EMBEDMENT IS 8'.

PILE No.	GRID LINE	BATTER	DESIGN COMP. LOAD (KIPS)	DESIGN TENSION LOAD (KIPS)	MIN. PILE EMBED'T (FEET)	EST. PILE LENGTH (FEET)
1	1A		180	110	50	90
2	1A-1	2.5V:1H	180	110	50	100
3	1B		140	---	---	80
4	1C		160	110	50	90
5	1C-1	2.5V:1H	160	110	50	100
6	2A		200	90	40	100
7	2A-A	2.5V:1H	200	100	50	90
8	2B		280	---	---	120
9	2C		210	90	40	100
10	2C-C	2.5V:1H	200	100	50	90
11	3A		160	70	30	90
12	3A-3	2.5V:1H	160	80	40	90
13	3B		280	---	---	120
14	3C		170	70	30	80
15	3C-3	2.5V:1H	170	80	40	90
16	3D		110	---	---	80
17	3E		140	60	30	70
18	3E-E	2.5V:1H	140	60	30	80
19	3F		110	---	---	70
20	3G		90	---	---	50
21	4A		180	---	---	90
22	4B		280	---	---	120
23	4C		180	---	---	90
24	4D		110	---	---	70
25	4E		160	60	30	80
26	4E-E	2.5V:1H	160	80	40	80
27	4F		110	---	---	70
28	4G		90	---	---	50
29	5A		180	---	---	90
30	5B		280	---	---	120
31	5C		180	---	---	90
32	6A		130	50	30	80
33	6A-6	2.5V:1H	140	60	30	80
34	6B		280	---	---	120
35	6C		130	50	30	80
36	6C-6	2.5V:1H	130	60	30	80
37	7A		200	80	40	90
38	7A-A	2.5V:1H	200	100	50	100
39	7B		280	---	---	120
40	7C		250	120	50	100
41	7C-C	2.5V:1H	250	140	60	100
42	8A		110	50	30	70
43	8A-8	2.5V:1H	110	60	30	80
44	8B		140	---	---	80
45	8C		180	110	50	90
46	8C-8	2.5V:1H	180	110	50	90

LAYOUT COORDINATES

GRID LINE	NORTHING	EASTING
GRID 1A	27564.64	17450.13
GRID 1C	27553.89	17487.62
GRID 8A	27432.95	17412.37
GRID 8C	27422.20	17449.86
GRID 3G	27493.39	17553.49
GRID 4G	27477.05	17548.81

NOTE: THE DOCK WAS SHIFTED 10' TO THE WEST
LAYOUT COORDINATES REFLECT SHIFT IN LOCATION



N 16'00" E GRID NORTH

DESIGN PARAMETERS

- Live Load: AASHTO HS-25
50 ton forklift axle load
400 psf
- Earthquake: Per AASHTO Zone 3
- Design Vessel: PMS Fuel Barge FNT 230
LOA: 218'
Beam: 60'
Draft: 12.5'
Displacement: Approx. 4,600 long tons
- Mooring Loads 25,000 lb. in any direction
- Corrosion: Protection by galvanizing.
Anodes should be added after 10 years for submerged pile protection.
- Tidal Range: 17.0 Top of Dock
14.0 Extreme High Water - Estimated
9.2 Mean High Water
0.0 Mean Lower Low Water (Datum)
-4.0 Extreme Low Water - Estimated

SEE SHEET 5 FOR DOLPHIN LOCATIONS

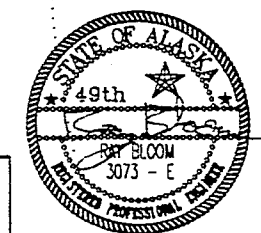
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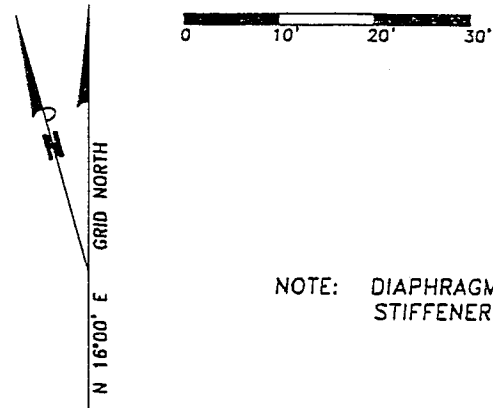
- VERTICAL PILE
- BATTER PILE - 10° HORIZONTAL ANGLE TYPICAL, EXCEPT WHERE NOTED.
- GRID LINE
- PILING CENTERLINE WHEN OFFSET FROM GRIDLINE
- PERIMETER OF CONCRETE DECK

BOLD TEXT OR CLOUDED AREAS INDICATE CHANGES BY ADDENDUM

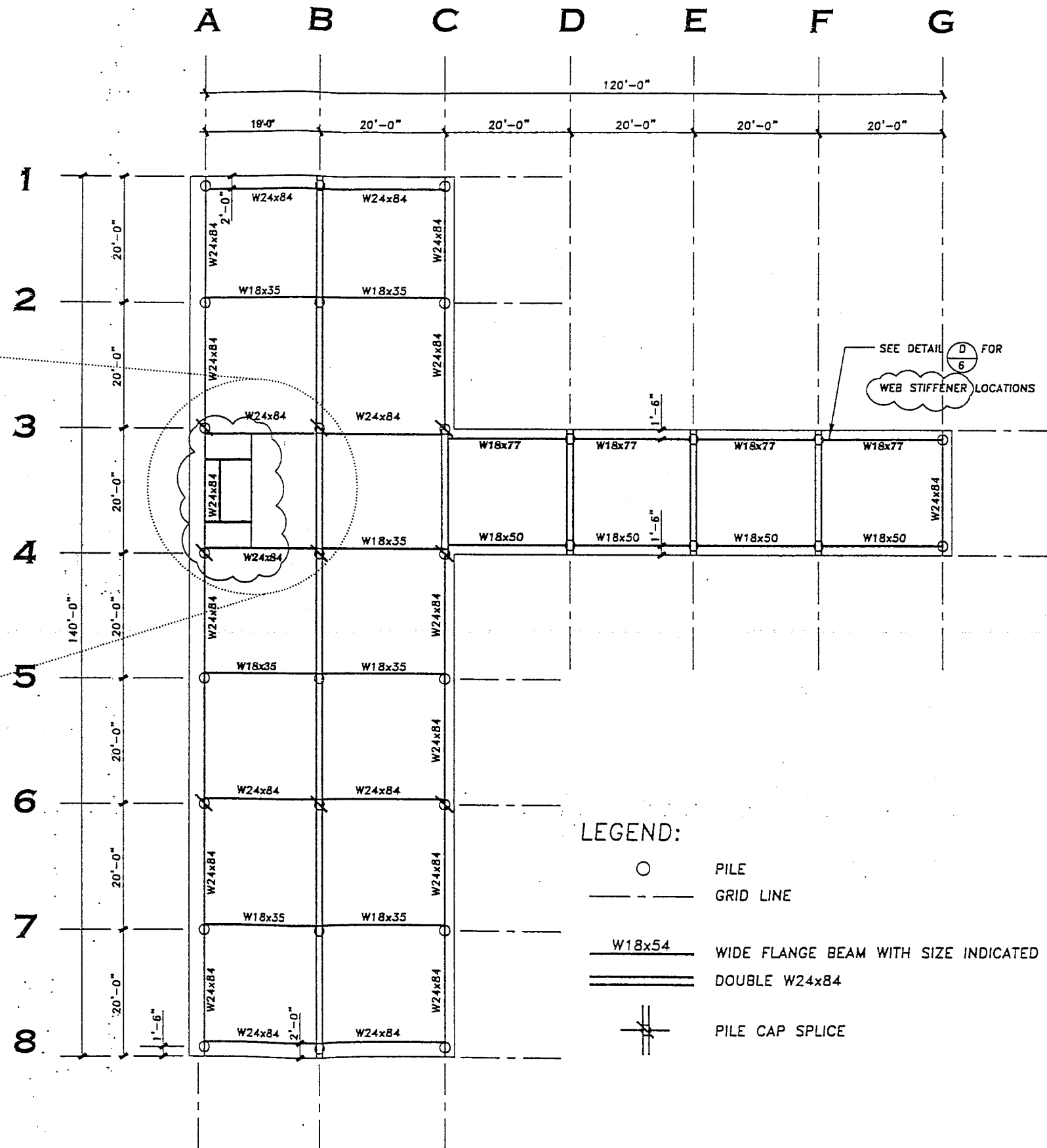
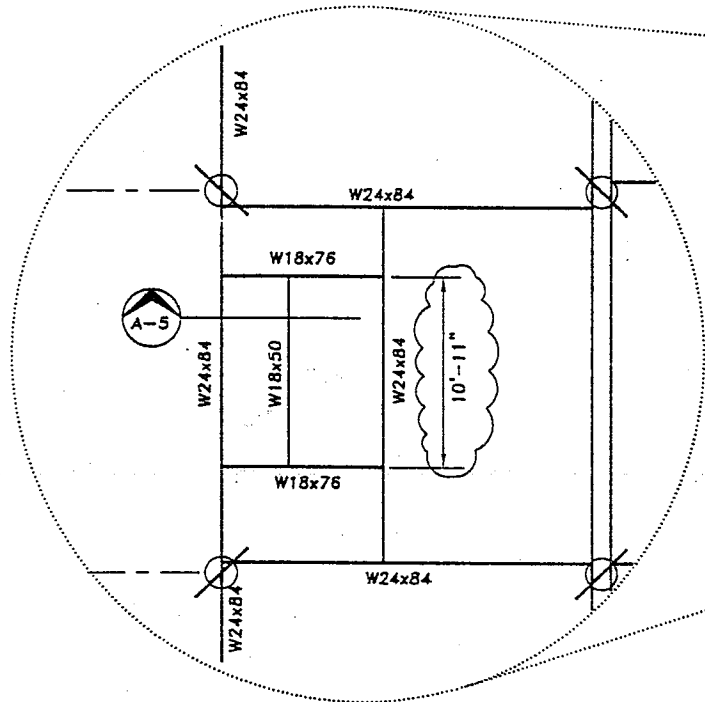
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Date	No.	Description	By	Drawn: TSS	Scale: AS NOTED	Checked: RWB	Date: 12/31/98	Project No. 982400.1	

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901





NOTE: DIAPHRAGMS BOLT TO CAP WEB STIFFENER ON SIDE OF PILE SHOWN

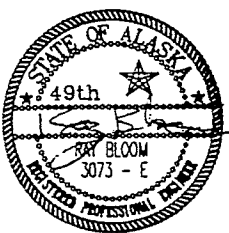


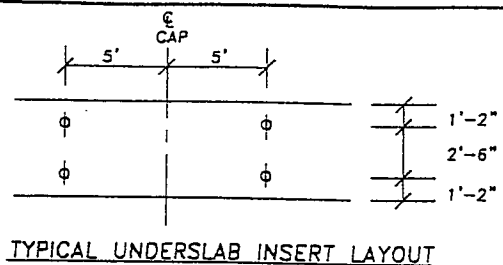
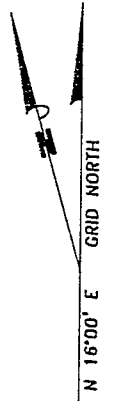
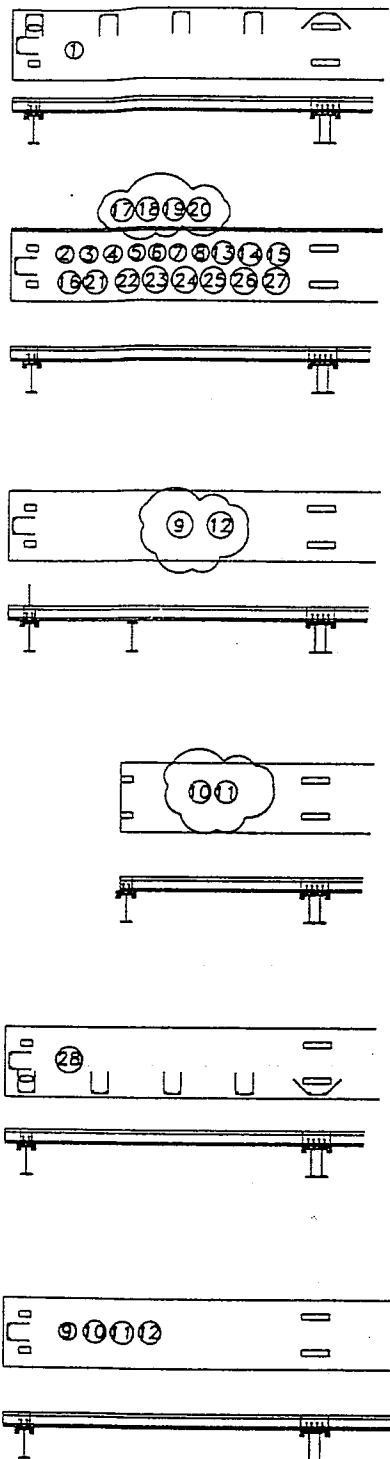
LEGEND:

- PILE
- GRID LINE
- W18x54 WIDE FLANGE BEAM WITH SIZE INDICATED
- DOUBLE W24x84
- PILE CAP SPLICE

BOLD TEXT OR CLOUDED AREAS INDICATE CHANGES BY ADDENDUM

2/23/99 1 ISSUED FOR CONSTRUCTION		Designed: RWB	Approved: RWB		Client: CITY OF CRAIG BOX 725 CRAIG, AK 99921	Project: FALSE ISLAND INDUSTRIAL SITE	Sheet Description: DOCK FRAMING PLAN	Sheet No. 3	
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REVISION		Checked: RWB	Project No. 982400.1						



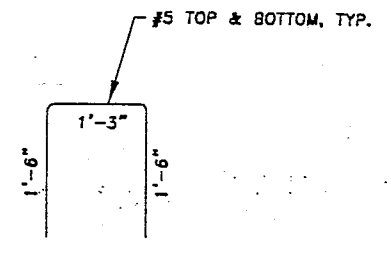
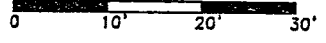


PRE-CAST PANEL DATA

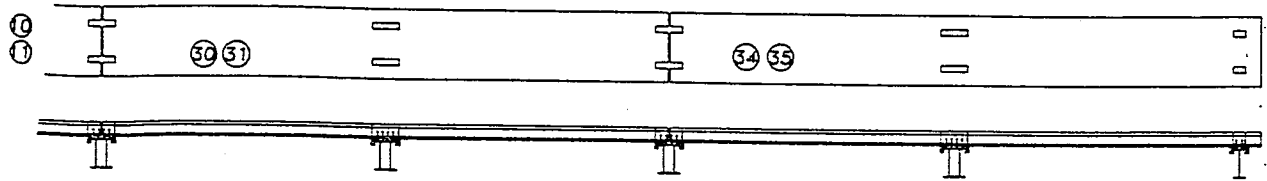
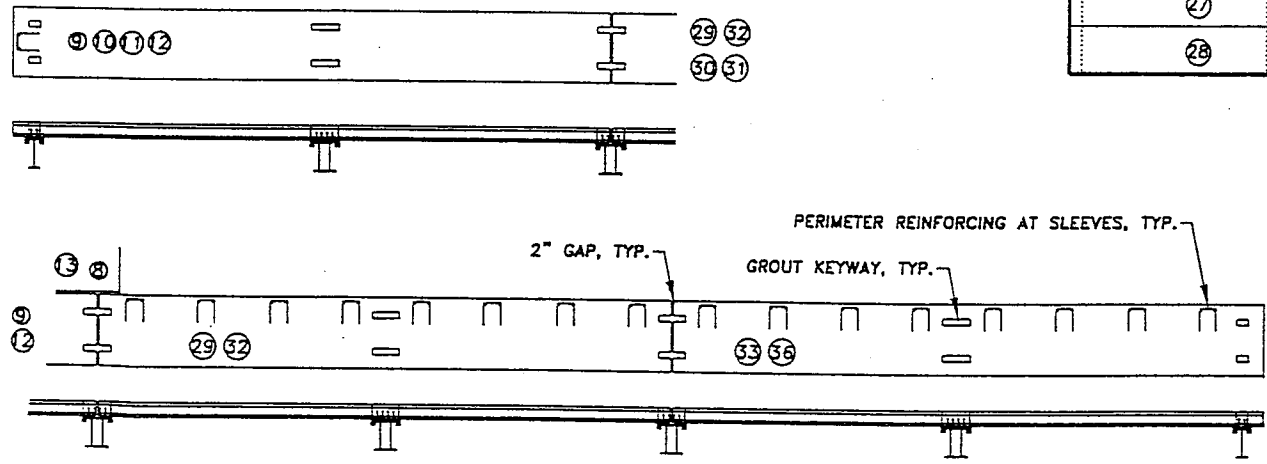
No.	SIZE
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3	12"x 4'-10"x 43'
4	12"x 4'-10"x 43'
5	12"x 4'-10"x 43'
6	12"x 4'-10"x 43'
7	12"x 4'-10"x 43'
8	12"x 4'-10"x 43'
9	12"x 4'-10"x 41'-5"
10	12"x 4'-10"x 35'-5"
11	12"x 4'-10"x 41'-5"
12	12"x 4'-10"x 43'
13	12"x 4'-10"x 43'
14	12"x 4'-10"x 43'
15	12"x 4'-10"x 43'
16	12"x 4'-10"x 43'
17	12"x 4'-10"x 43'
18	12"x 4'-10"x 43'
19	12"x 4'-10"x 43'
20	12"x 4'-10"x 43'
21	12"x 4'-10"x 43'
22	12"x 4'-10"x 43'
23	12"x 4'-10"x 43'
24	12"x 4'-10"x 43'
25	12"x 4'-10"x 43'
26	12"x 4'-10"x 43'
27	12"x 4'-10"x 43'
28	12"x 4'-11"x 43'
29	12"x 4'-11"x 39'-10"
30	12"x 4'-10"x 39'-10"
31	12"x 4'-10"x 39'-10"
32	12"x 4'-11"x 39'-10"
33	12"x 4'-11"x 41'-5"
34	12"x 4'-10"x 41'-5"
35	12"x 4'-10"x 41'-5"
36	12"x 4'-11"x 41'-5"

GALVANIZED STEEL GRATING
 OPENING FOR FUTURE FUEL PIPES

3/4" LOOP FERRULE INSERT IN BOTTOM OF PANEL

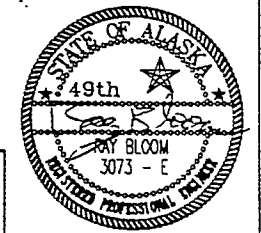


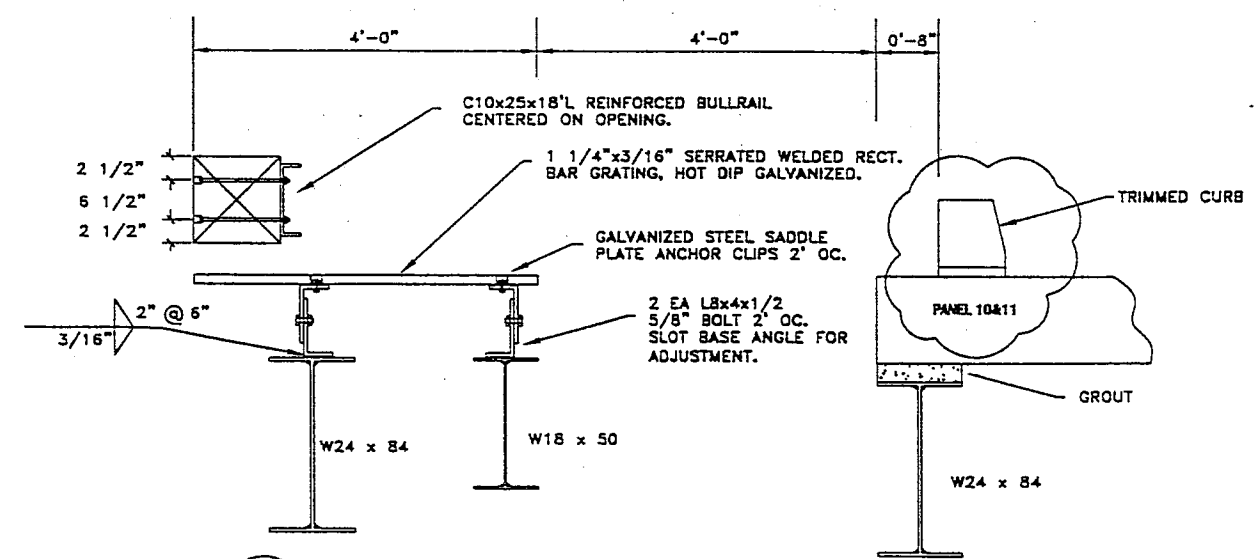
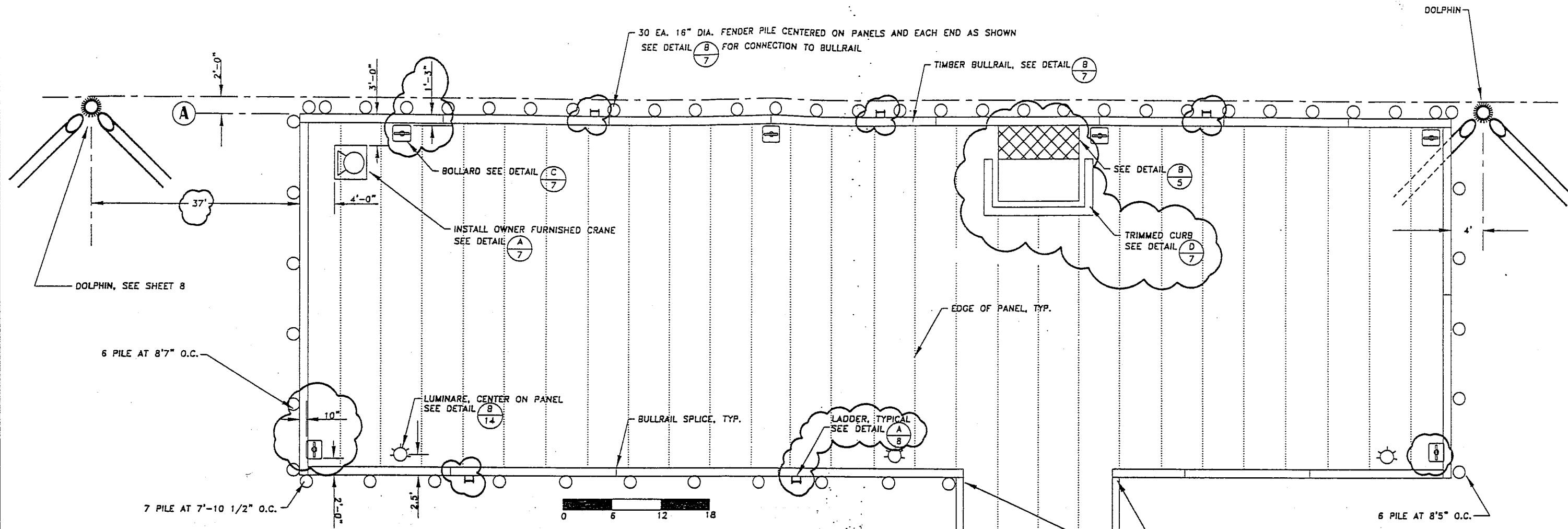
NOTES:
 1) DO NOT DRILL, NAIL, CUT, SCREW OR USE POWER DRIVEN FASTENERS TO PANELS



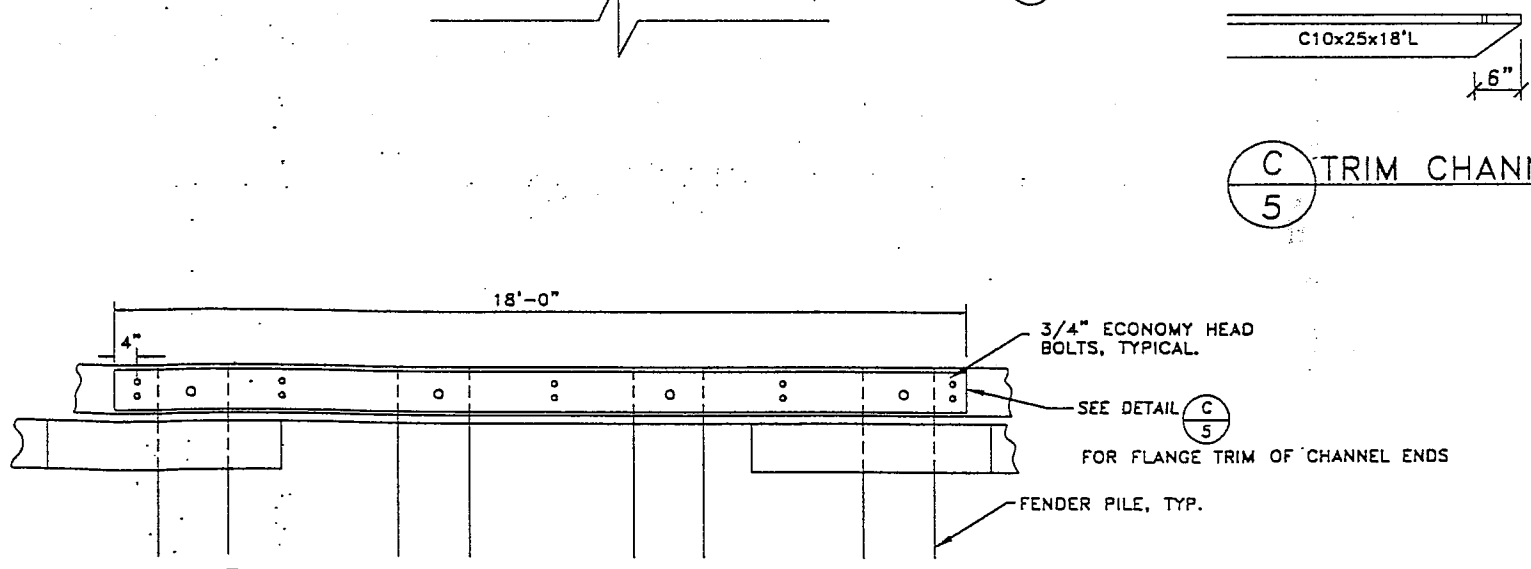
BOLT TEXT OR CLOUDED AREAS INDICATE CHANGES BY ADDENDUM

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		REVISION												

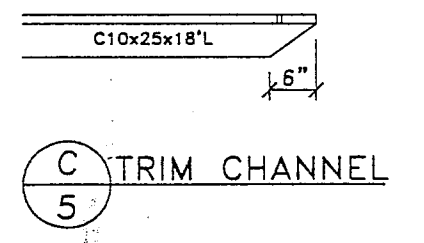




A SECTION VIEW - METAL GRATING

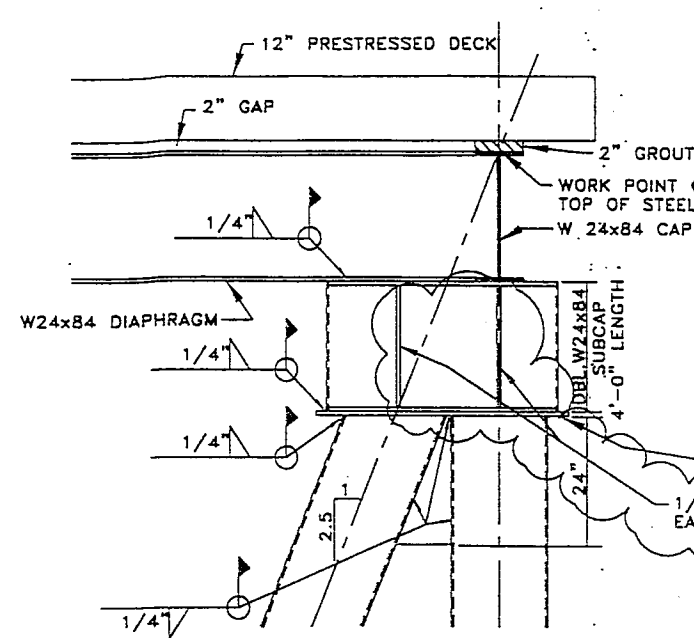


B BULLRAIL CHANNEL REINFORCEMENT BOLT LAYOUT



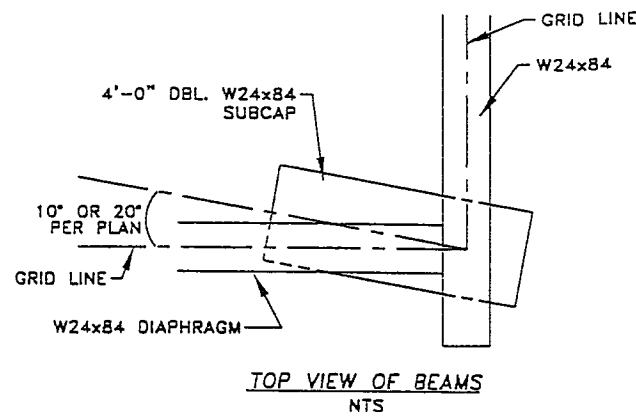
C TRIM CHANNEL

Designed: _____		Approved: RWB		Client: CITY OF CRAIG BOX 725 CRAIG, AK 99921	Project: FALSE ISLAND INDUSTRIAL SITE	Sheet Description: DOLPHIN & FENDER PILE LAYOUT	Sheet No. 5
Drawn: TSS		Scale: AS NOTED					
Date	No.	Description	By	Checked: RWB	Project No. 982400.1		



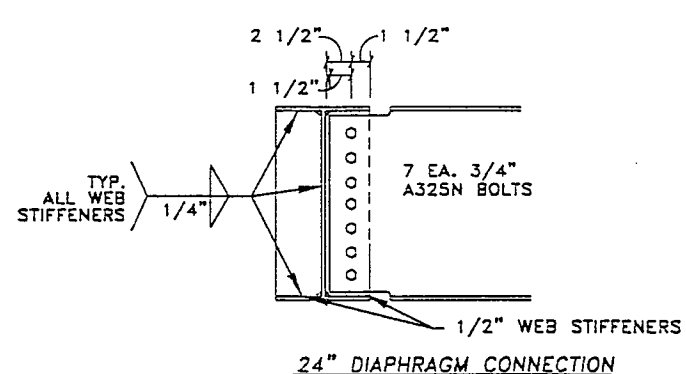
ELEVATION VIEW
NTS

A SUBCAP AT BATTER PILE
6 NOT TO SCALE



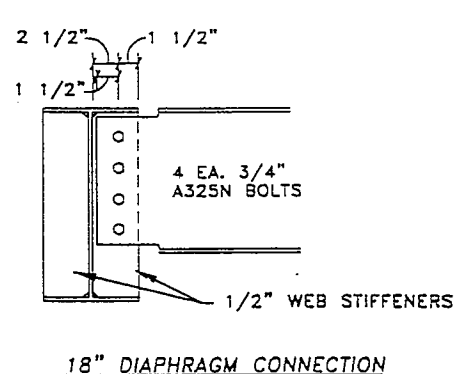
TOP VIEW OF BEAMS
NTS

B DOUBLE W24x84 CAP
6 NOT TO SCALE

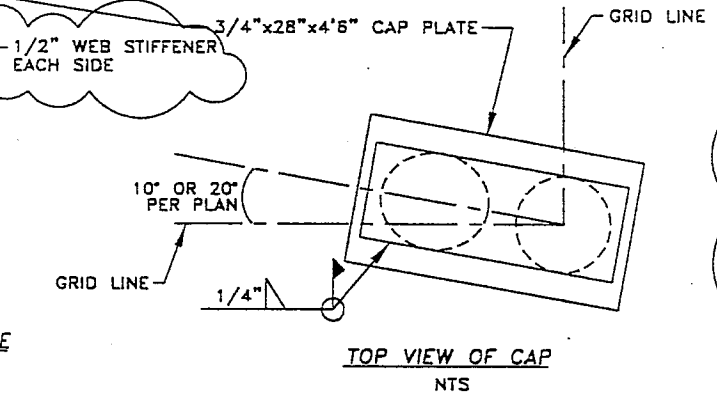


24" DIAPHRAGM CONNECTION

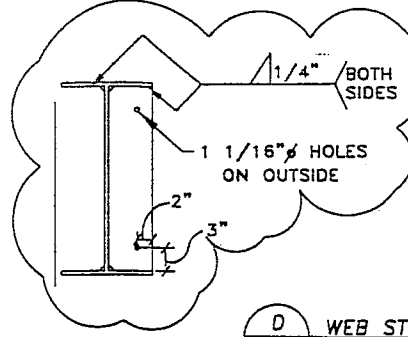
C TYPICAL CAP TO DIAPHRAGM CONNECTION
6 NOT TO SCALE



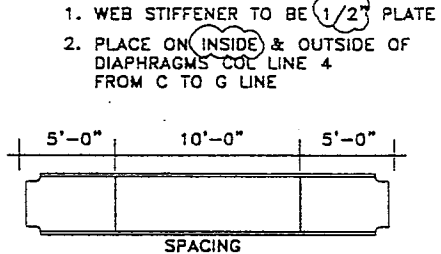
18" DIAPHRAGM CONNECTION



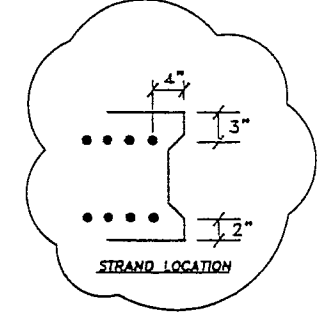
TOP VIEW OF CAP
NTS



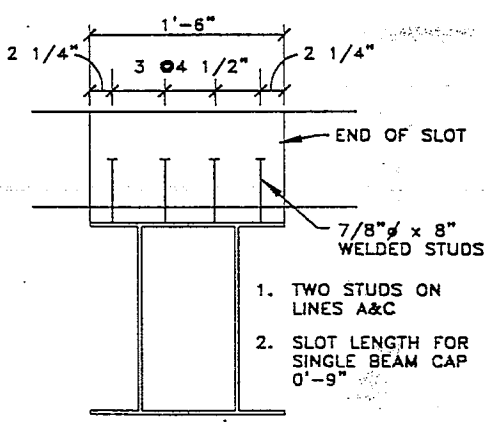
D WEB STIFFENER
6 NOT TO SCALE



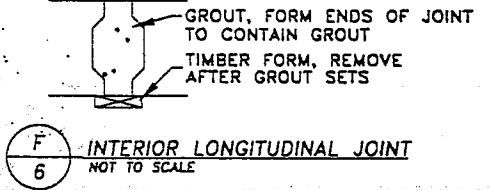
SPACING



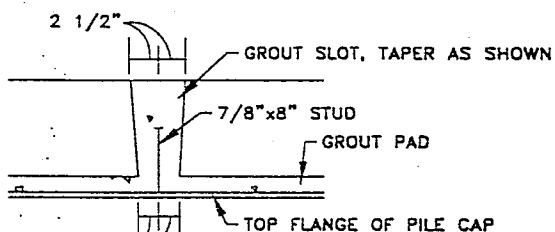
STRAND LOCATION



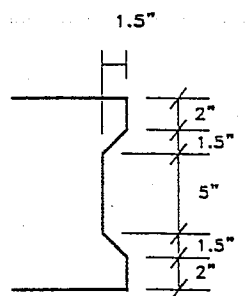
E TYPICAL PANEL SECTION
6 NOT TO SCALE



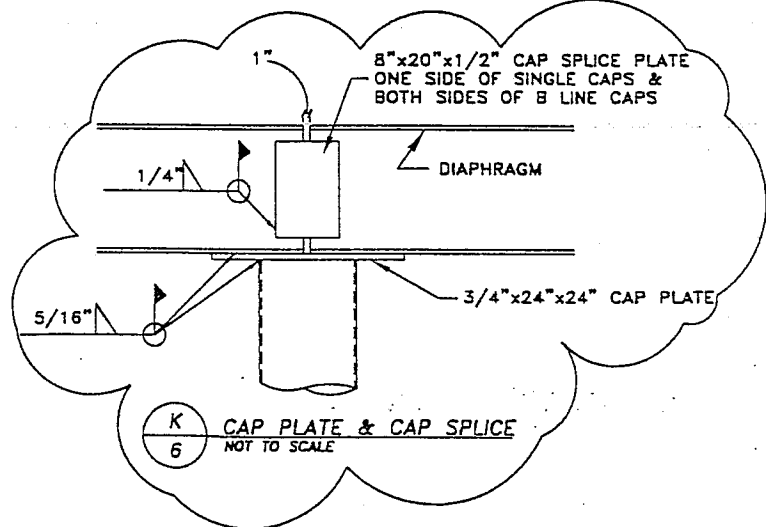
F INTERIOR LONGITUDINAL JOINT
6 NOT TO SCALE



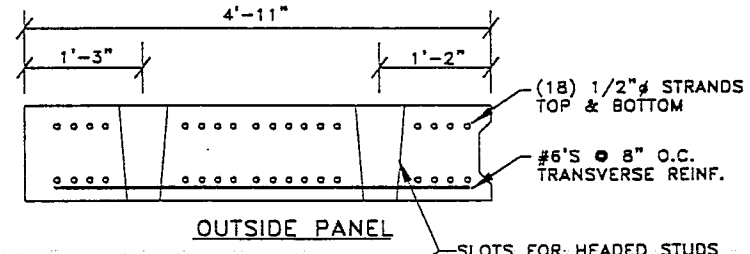
G GROUT SLOT SECTION
6 NOT TO SCALE



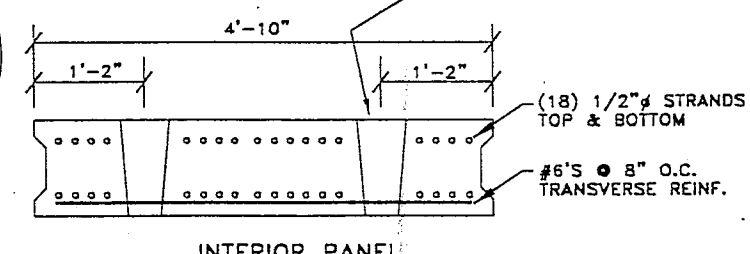
H PANEL INTERIOR SIDE
6 NOT TO SCALE



K CAP PLATE & CAP SPLICE
6 NOT TO SCALE

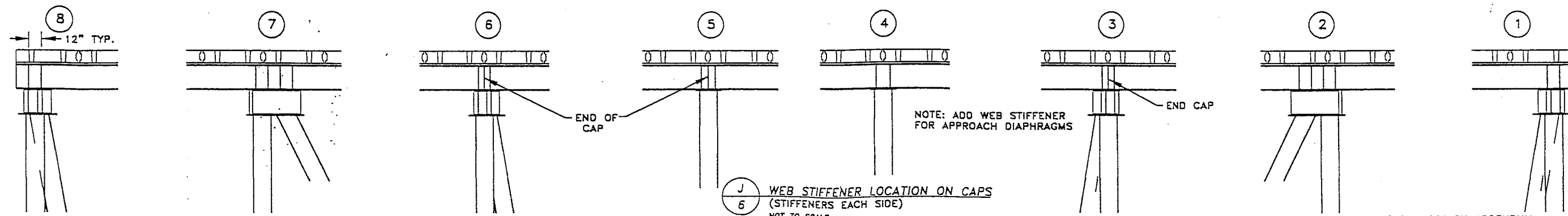


OUTSIDE PANEL



INTERIOR PANEL

I TYPICAL PANEL SECTION
6 NOT TO SCALE



J WEB STIFFENER LOCATION ON CAPS
(STIFFENERS EACH SIDE)
6 NOT TO SCALE

BOLD TEXT OR CLOUDED AREAS INDICATE CHANGES BY ADDENDUM

2/23/99	1	ISSUED FOR CONSTRUCTION	TSS	Designed: TSS	Approved: RWB
Date	No.	Description	By	Drawn: TSS	Scale: AS NOTED
		REVISION		Checked: RWB	Date: 12/31/98
				Project No. 982400.1	

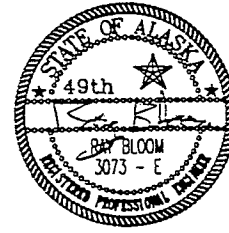
RSM
RAM ENGINEERING-KETCHIKAN, INC.
355 CARLIANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

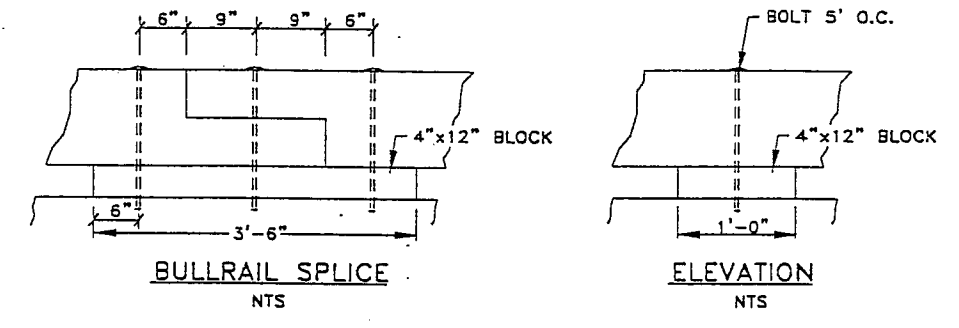
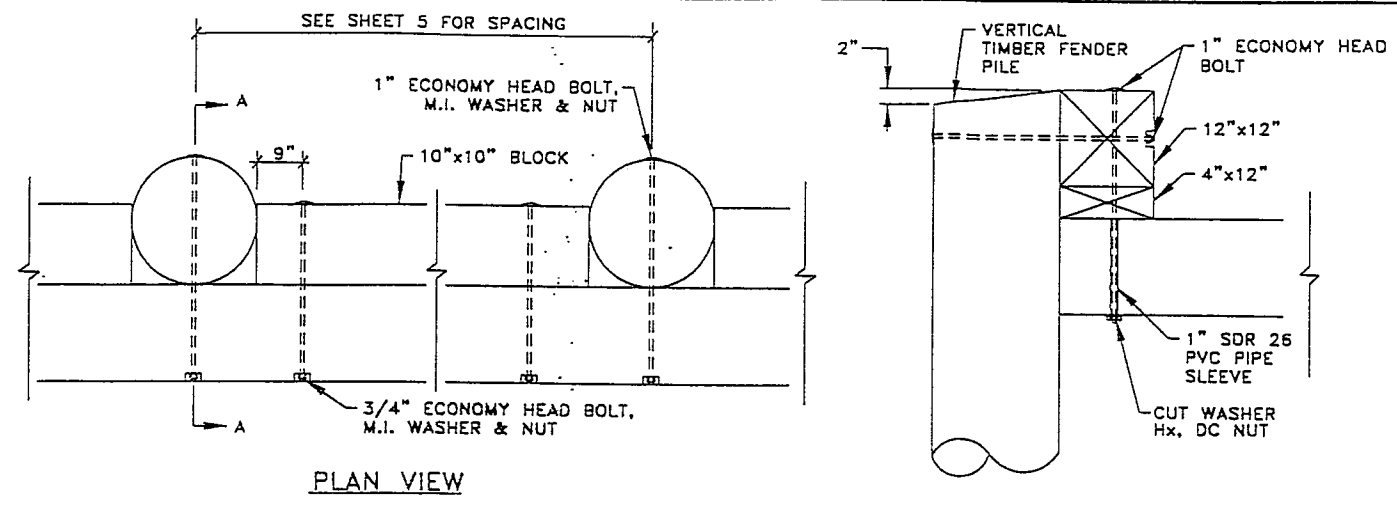
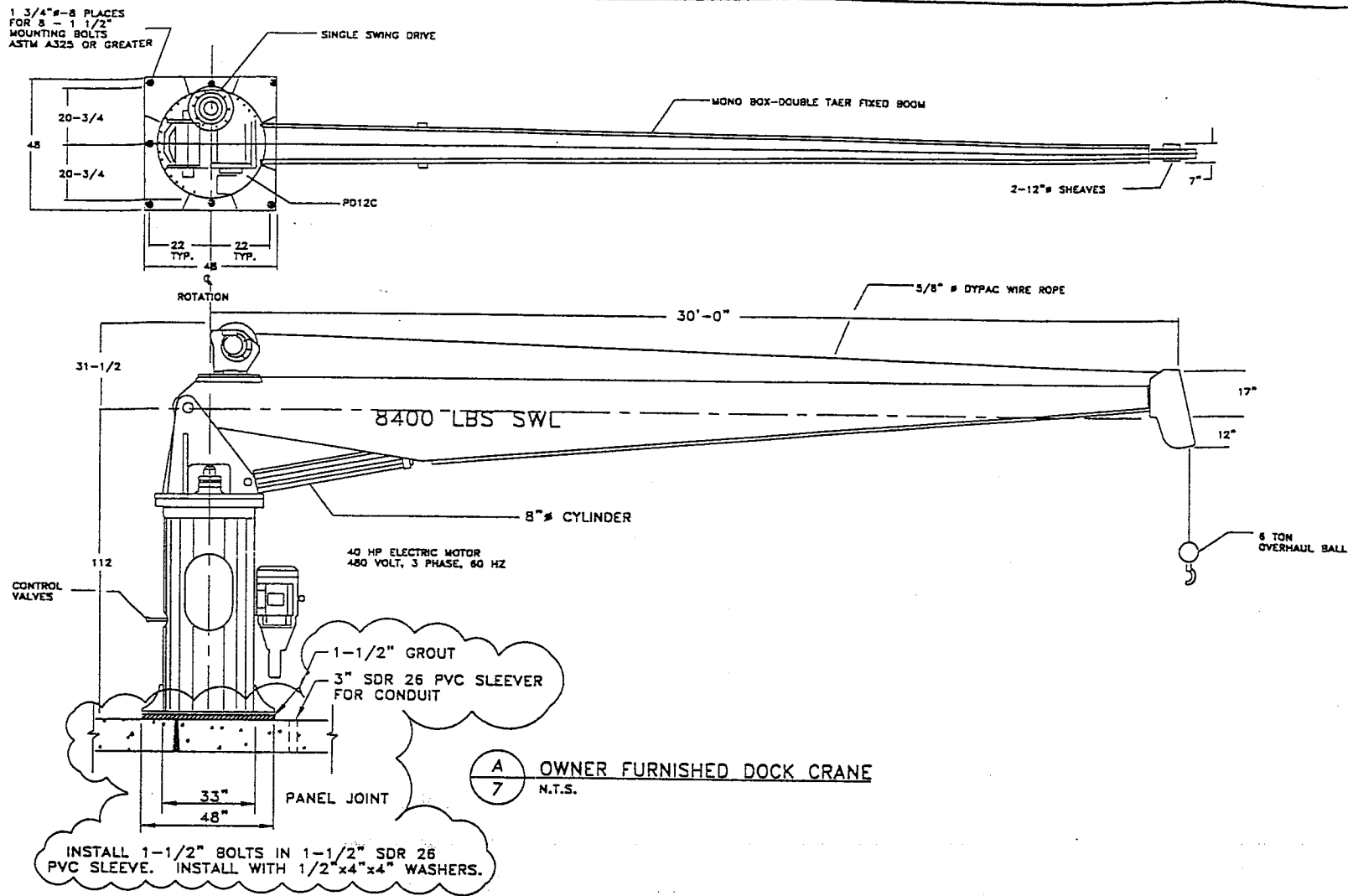
Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

Project: FALSE ISLAND
INDUSTRIAL SITE

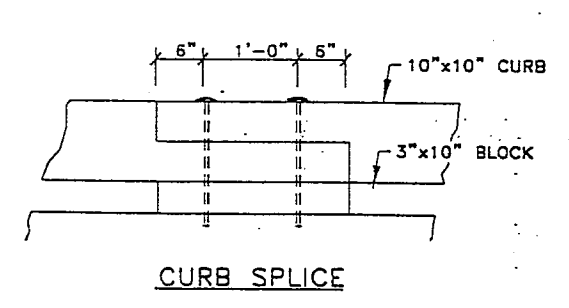
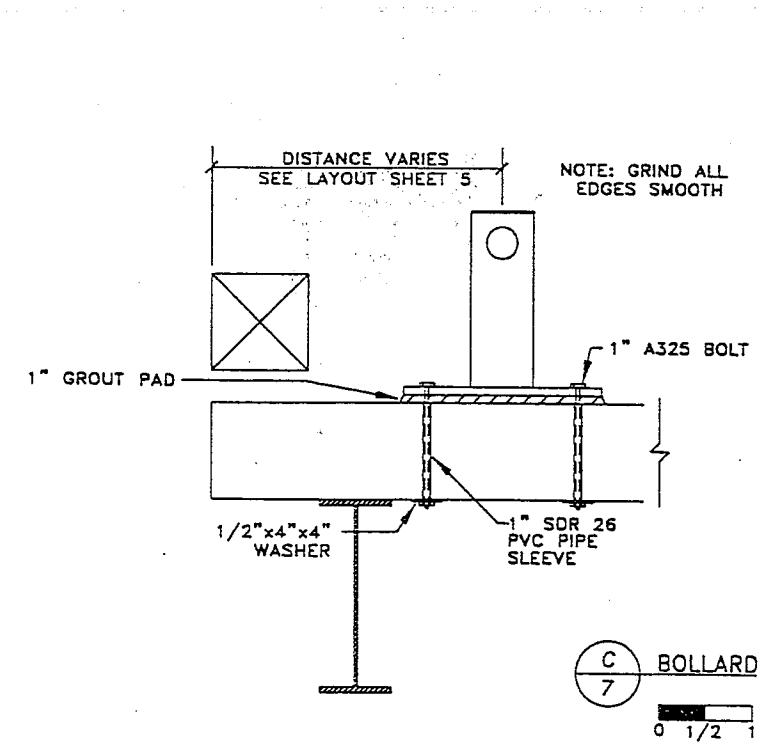
Sheet Description: PILE & PANEL DETAILS

Sheet No. 6

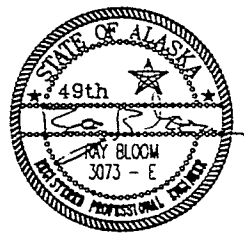
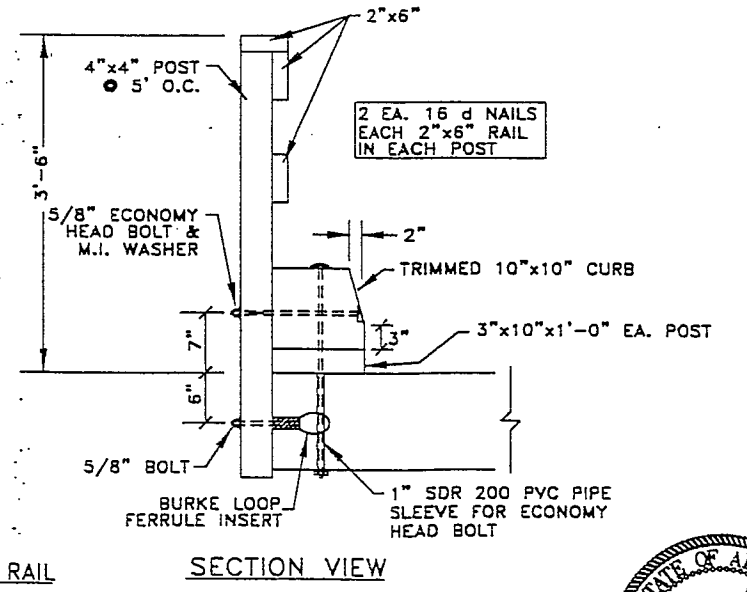




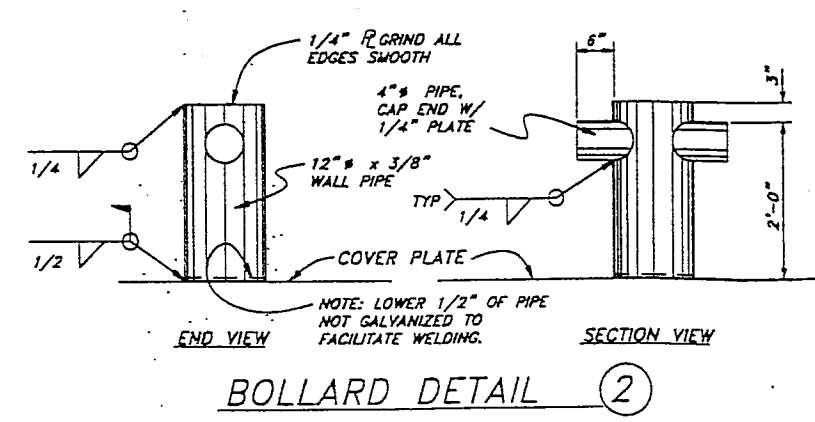
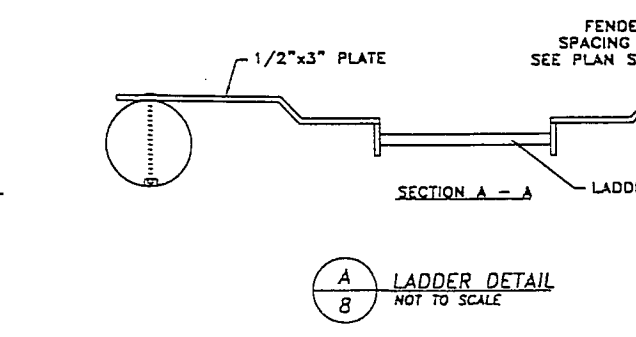
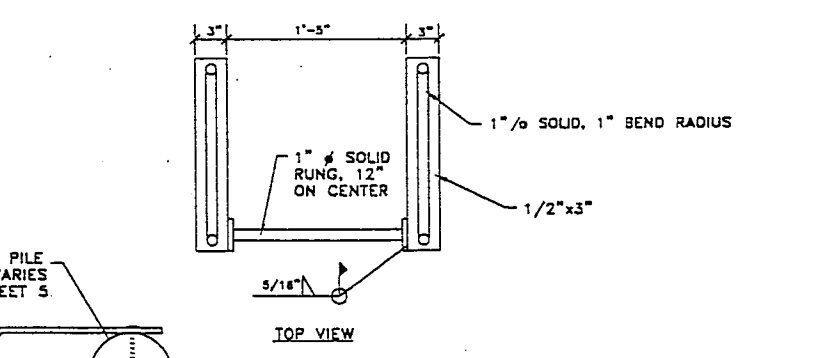
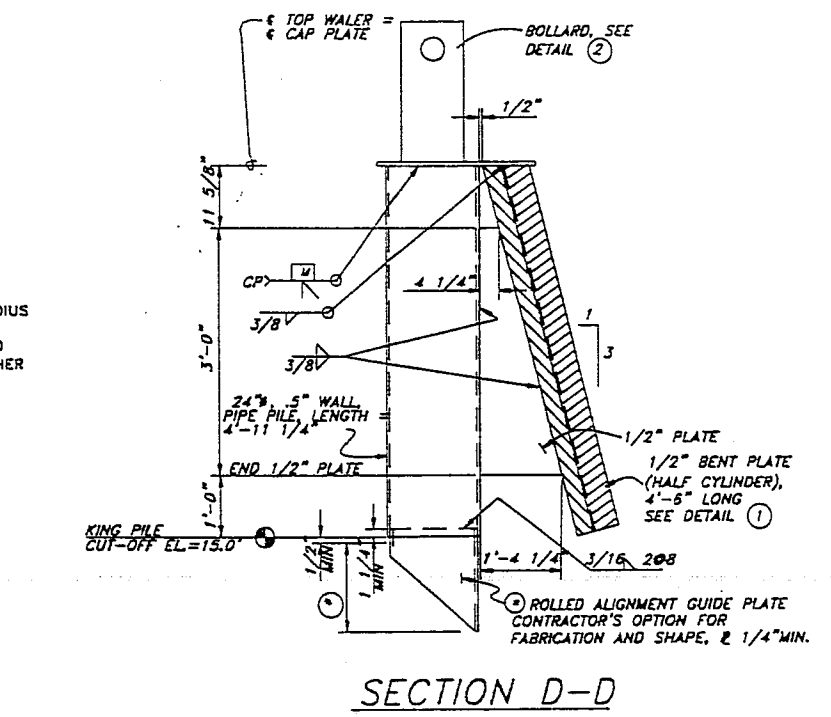
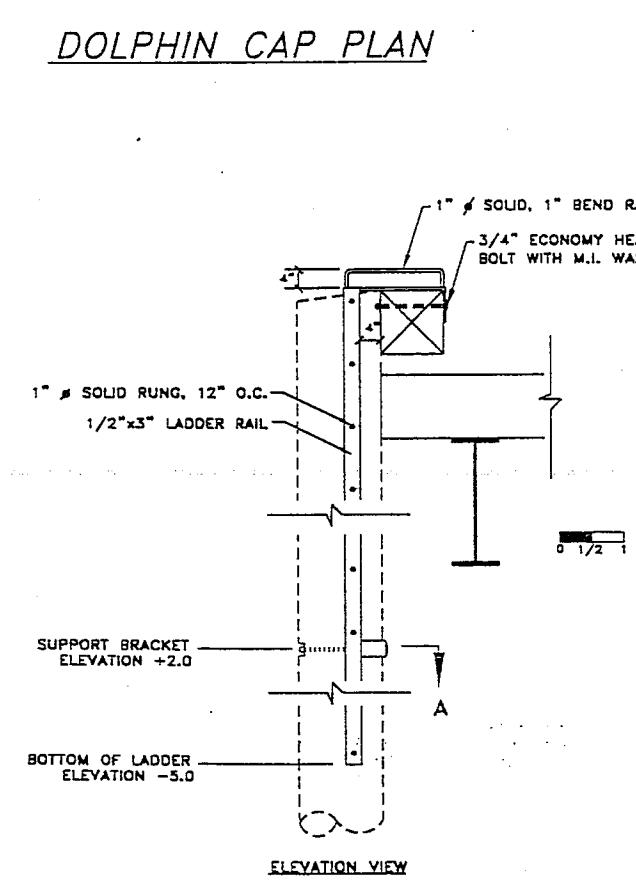
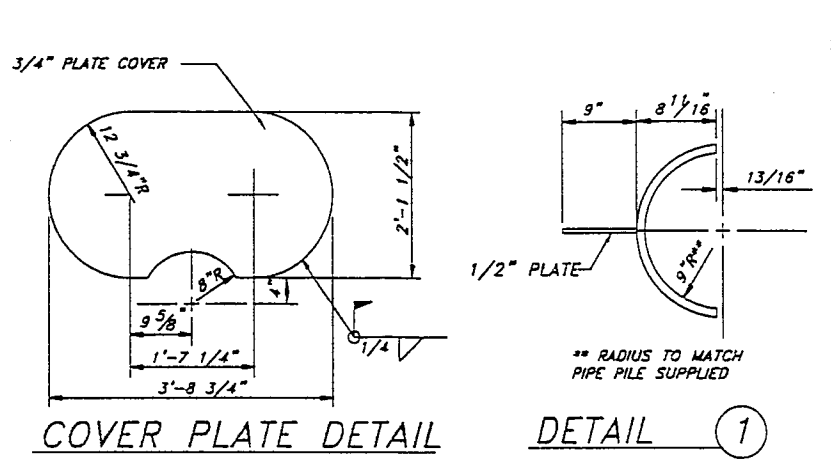
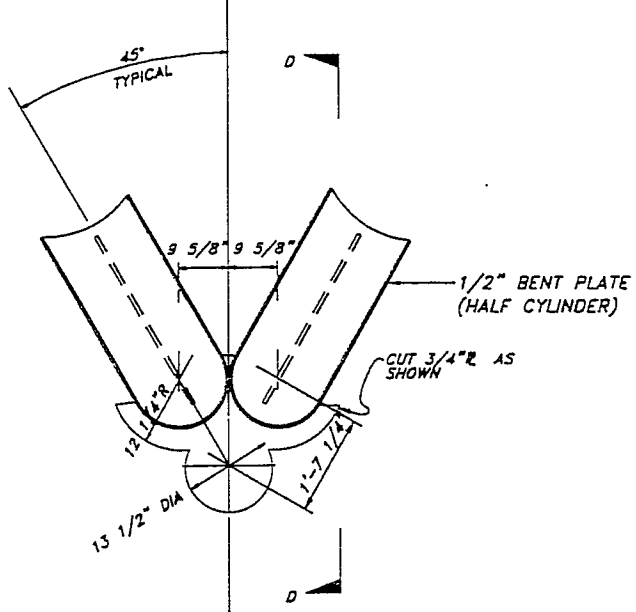
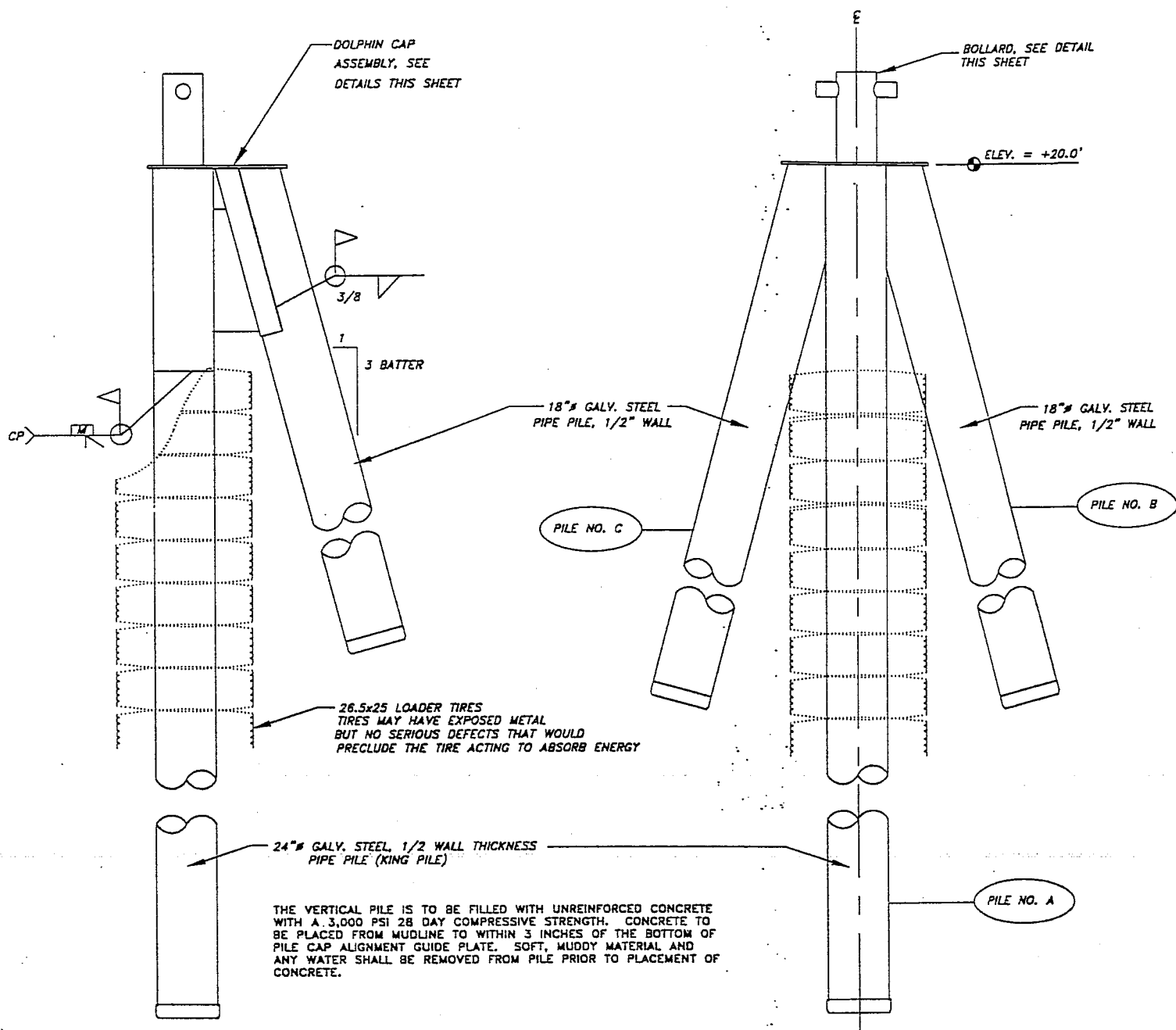
B TIMBER BULLRAIL & FENDER PILE
0 1/2 1



D APPROACH CURB AND RAIL
0 1/2 1



2/23/99	1	ISSUED FOR CONSTRUCTION	TSS	Drawn: TSS	Scale: AS NOTED	Date: 12/31/98	 RSM ENGINEERING-KETCHIKAN, INC. 355 CARLIANA LAKE ROAD KETCHIKAN, ALASKA 99901	Client: CITY OF CRAIG BOX 725 CRIAG, AK 99921	Project: FALSE ISLAND INDUSTRIAL SITE	Sheet Description: FENDER & CRANE DETAILS	Sheet No. 7
Date	No.	Description	By	Checked: RWB	Project No. 982400.1						
BOLD TEXT OR CLOUDED AREAS INDICATE CHANGES BY ADDENDUM											



SIDE ELEVATION

FRONT ELEVATION

DOLPHIN CAP PLAN

COVER PLATE DETAIL

DETAIL 1

ELEVATION VIEW

SECTION D-D

LADDER DETAIL NOT TO SCALE

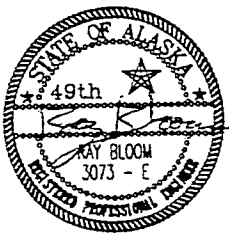
BOLLARD DETAIL 2

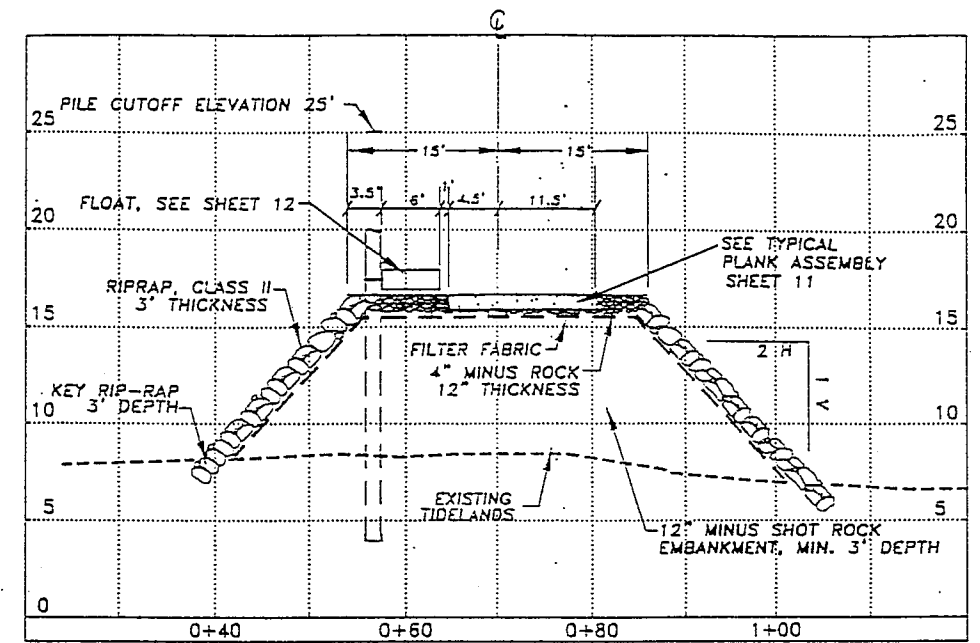
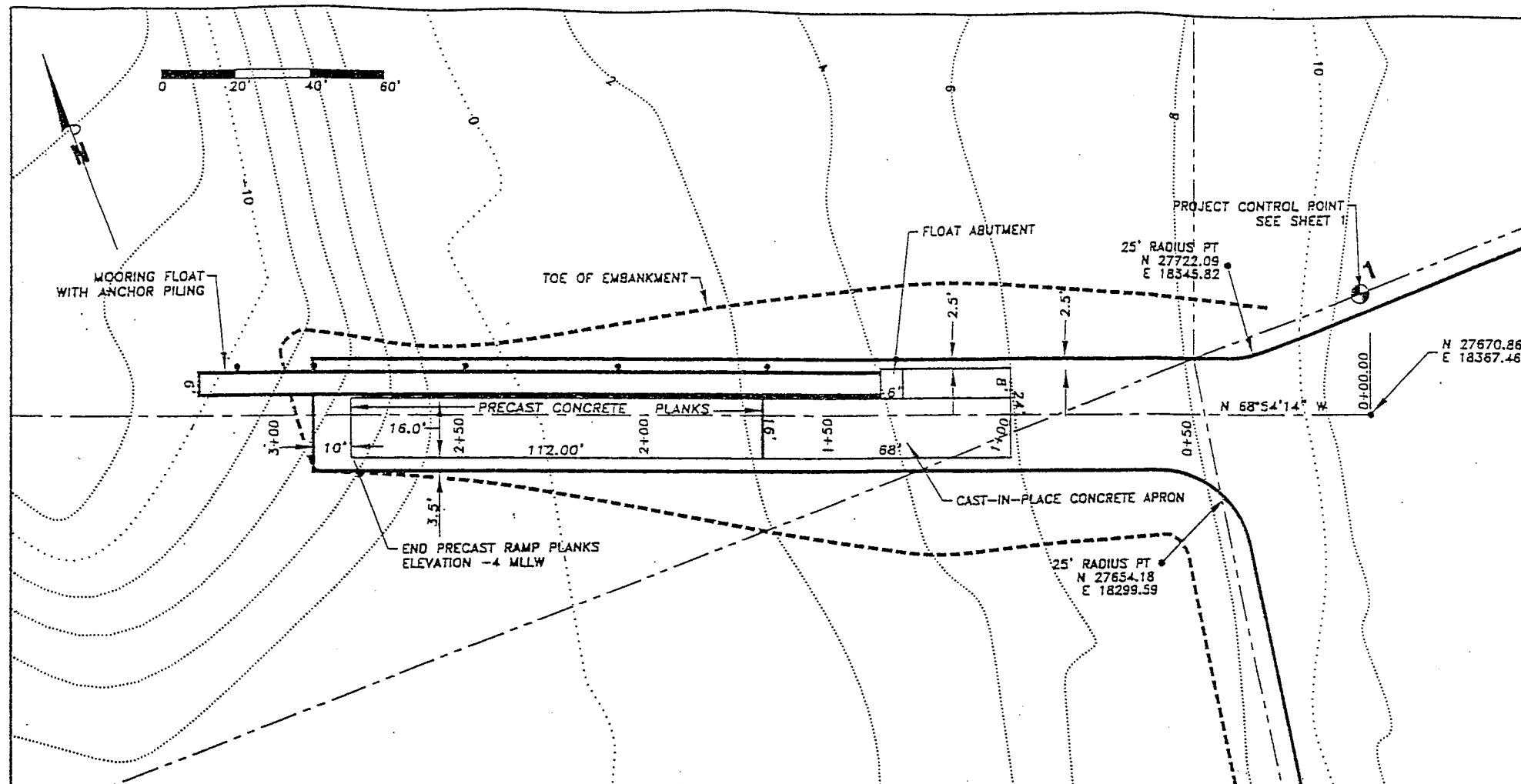
PIPE PILE SUMMARY - THIS SHEET				
PILE NO.	COMPRESSION	TENSION	EMBEDMENT	ESTIMATED PILE LENGTH
PILE A	120	100	70	106
PILE B	110	60	50	95
PILE C	110	60	50	95

THE VERTICAL PILE IS TO BE FILLED WITH UNREINFORCED CONCRETE WITH A 3,000 PSI 28 DAY COMPRESSIVE STRENGTH. CONCRETE TO BE PLACED FROM MUDLINE TO WITHIN 3 INCHES OF THE BOTTOM OF PILE CAP ALIGNMENT GUIDE PLATE. SOFT, MUDDY MATERIAL AND ANY WATER SHALL BE REMOVED FROM PILE PRIOR TO PLACEMENT OF CONCRETE.

26.5x25 LOADER TIRES TIRES MAY HAVE EXPOSED METAL BUT NO SERIOUS DEFECTS THAT WOULD PRECLUDE THE TIRE ACTING TO ABSORB ENERGY

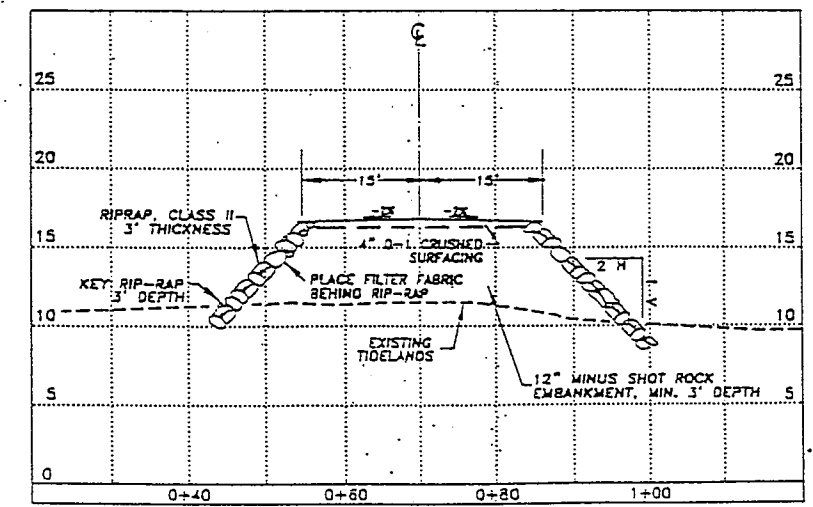
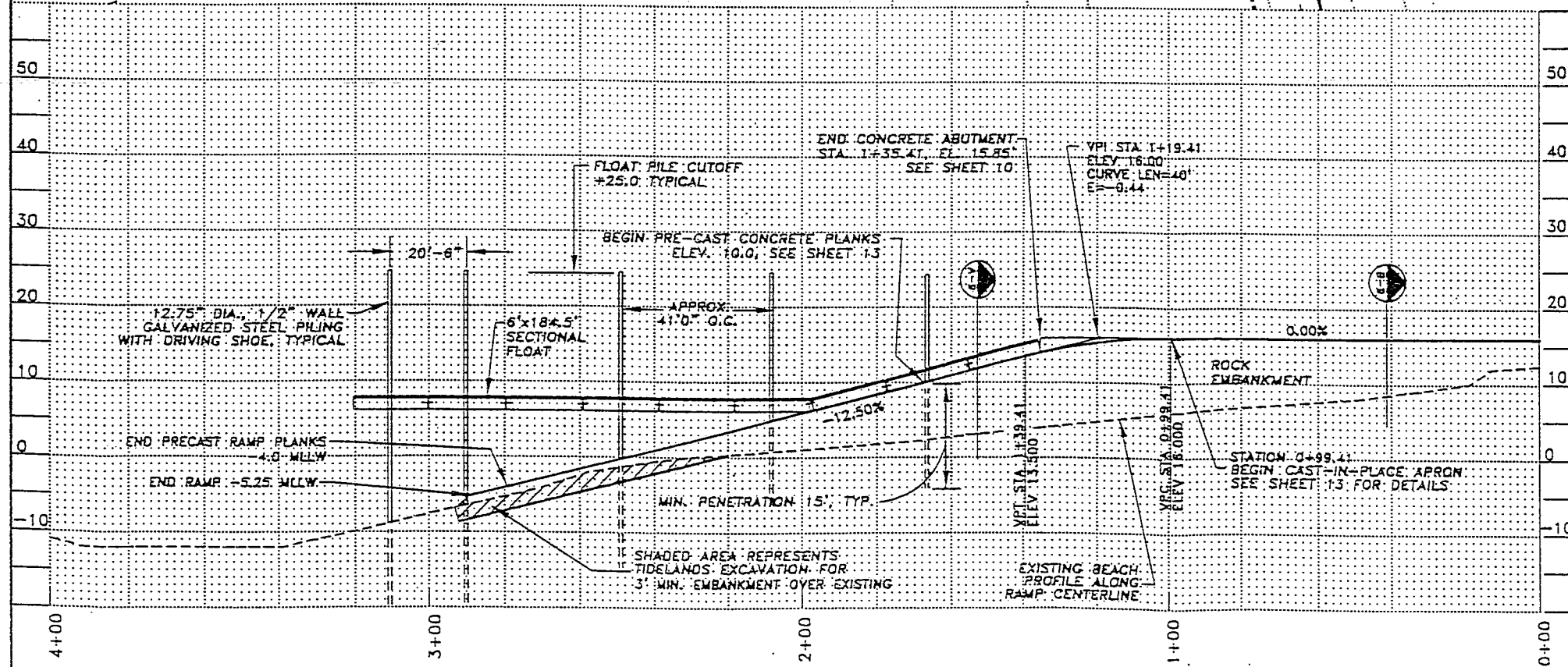
BOLD TEXT OR CLOUDED AREAS INDICATE CHANGES BY ADDENDUM





LAUNCH RAMP SECTION
RAMP
A-9

NOTE: RAMP SHALL BE CONSTRUCTED TO BOTTOM OF 4" MINUS BY OTHERS. RIPRAP ON SIDE SLOPES BY OTHERS.



ACCESS ROAD SECTION
RAMP
B-9

Designed: TSS	Approved: RWB
Drawn: TSS	Scale: AS NOTED
Checked: RWB	Date: 12/31/98
Project No. 982400.1	

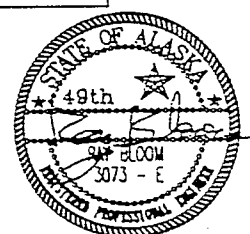
RAM ENGINEERING-KETCHIKAM, INC.
P.O. BOX 9592
KETCHIKAM, ALASKA 99901

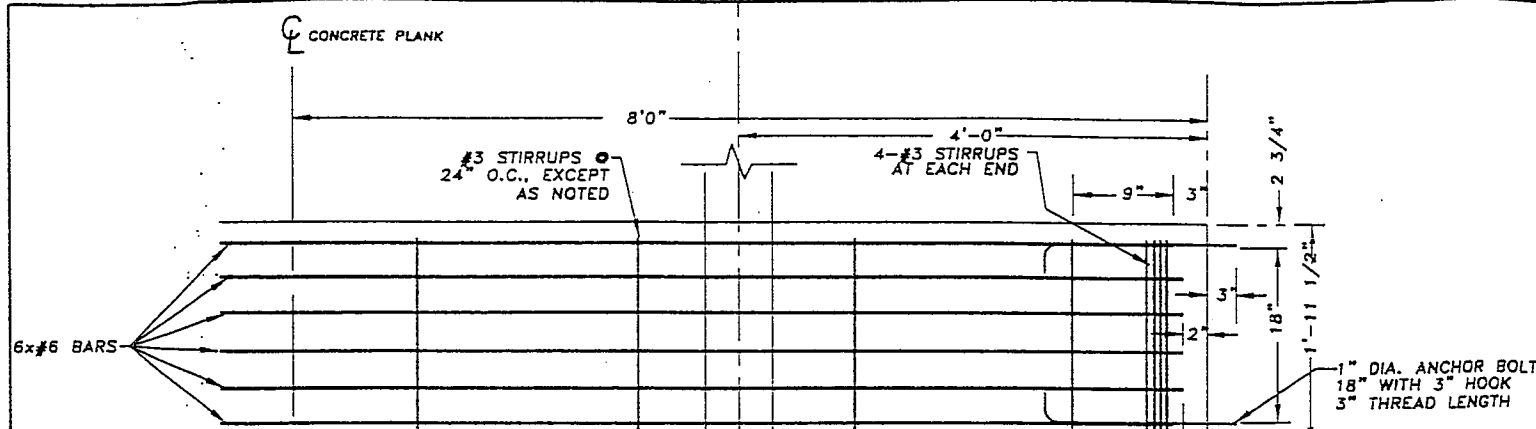
Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

Project: FALSE ISLAND
INDUSTRIAL SITE

Sheet Description: LAUNCH RAMP
PLAN & PROFILE

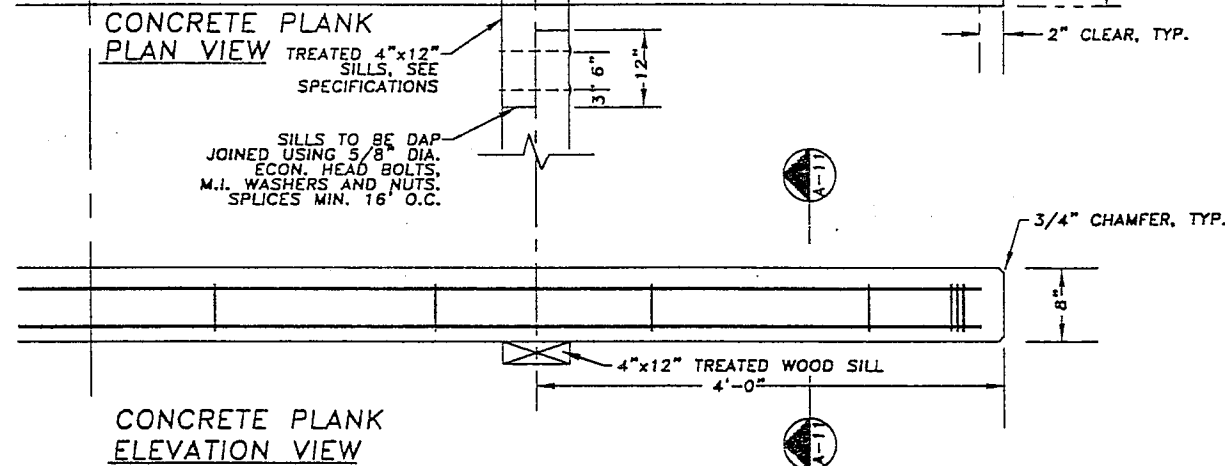
Sheet No. 9



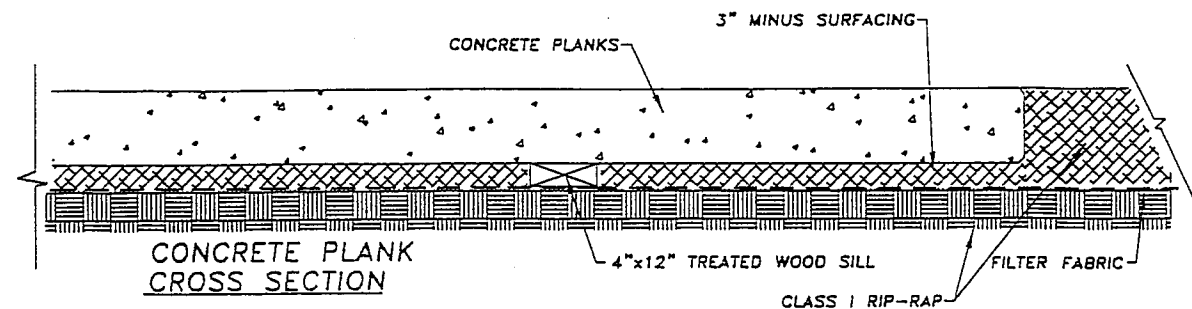


CONCRETE PLANK
PLAN VIEW

TREATED 4"x12" SILLS, SEE SPECIFICATIONS
SILLS TO BE LAP JOINED USING 5/8" DIA. ECON. HEAD BOLTS, M.I. WASHERS AND NUTS. SPLICES MIN. 16" O.C.



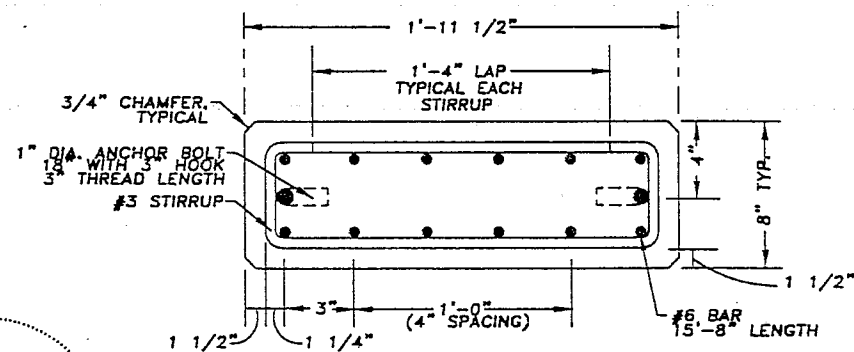
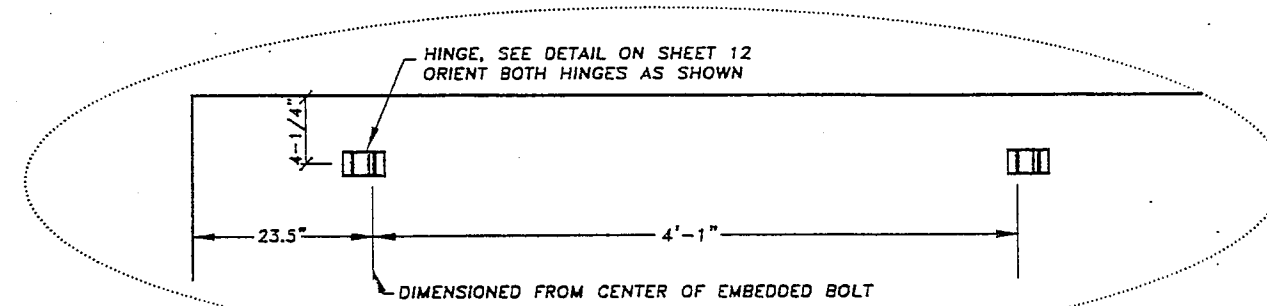
CONCRETE PLANK
ELEVATION VIEW



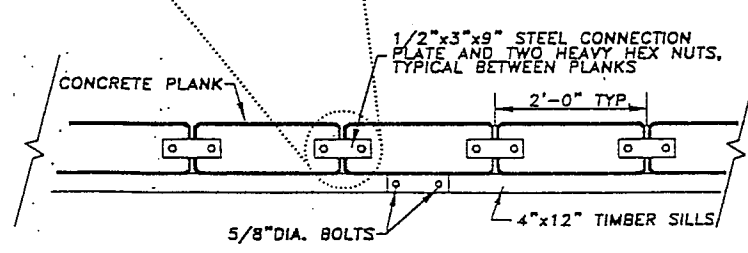
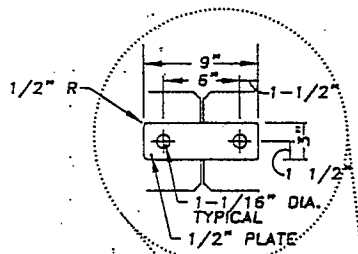
CONCRETE PLANK
CROSS SECTION

NOTES

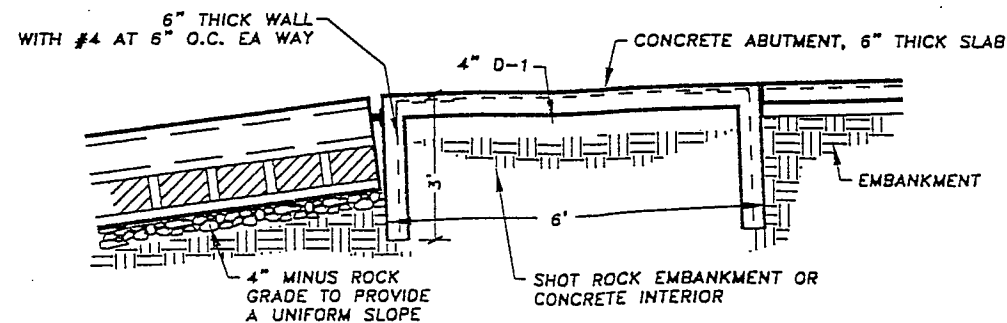
- 1) FILTER FABRIC MAY BE PLACED UNDER OR OVER THE SILLS (AS SHOWN) AT THE CONTRACTOR'S OPTION. PLACING THE FILTER FABRIC OVER THE SILLS WITH SPLICES AT THE SILLS ALLOWS FOR ADJUSTMENT OF THE SILLS PRIOR TO PLACING THE PLANKS
- 2) PRECAST PLANKS CONCRETE $F_c > 4,500$ PSI; STEEL $F_c = 60,000$ PSI
- 3) CAST-IN PLACE CONCRETE $F_c > 3,500$ PSI
- 4) CONNECTION PLATES AND BOLTS TO BE HOT DIP GALVANIZED
- 5) SEE SECTION A-9 FOR RAMP SECTION VIEW.



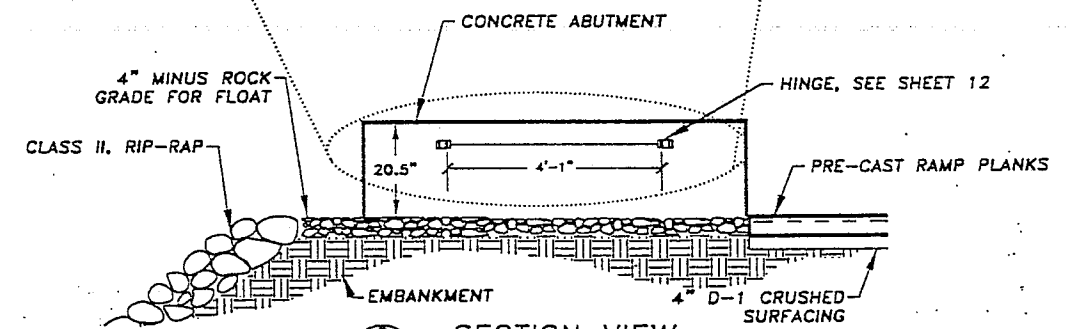
SECTION VIEW



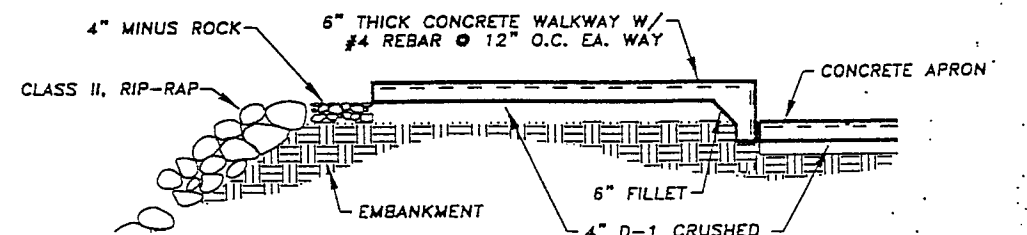
TYPICAL PLANK ASSEMBLY



SECTION VIEW



SECTION VIEW



SECTION VIEW

2/24/99	1	MODIFY ABUTMENT DETAIL	TSS	Designed: TSS	Approved: RWB		Client: CITY OF CRAIG BOX 725 CRAIG, AK 99901	Project: FALSE ISLAND INDUSTRIAL SITE	Sheet Description: CONCRETE PLANKS RAMP SECTION	Sheet No. 11	
Date	No.	Description	By	Drawn: TSS	Scale: AS NOTED						Date: 12/31/98
		REVISION		Checked: RWB	Project No. 982400.1						

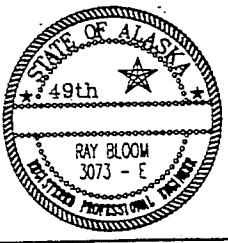
R&M ENGINEERING-KETCHIKAN, INC.
355 CARLAMNA LAKE ROAD
KETCHIKAN, ALASKA 99901

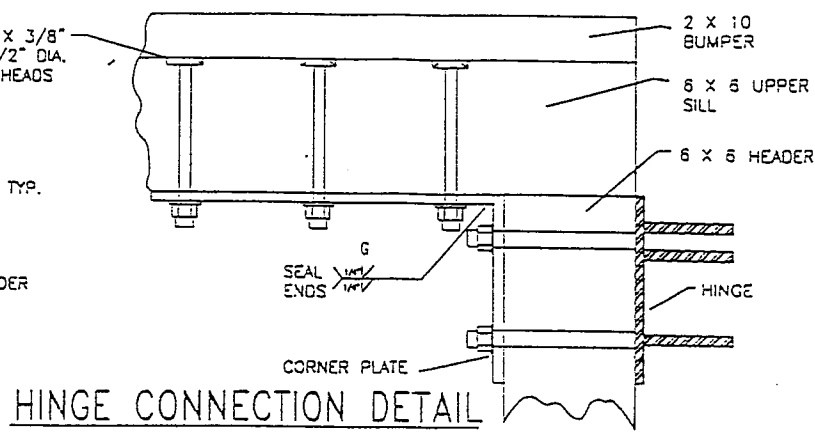
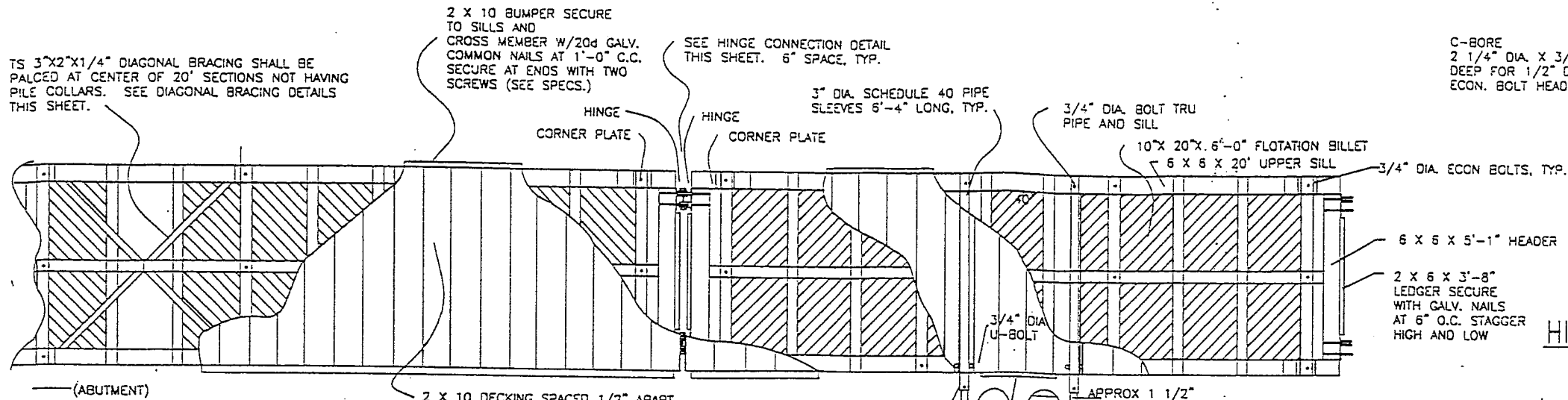
Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99901

Project: FALSE ISLAND
INDUSTRIAL SITE

Sheet Description: CONCRETE PLANKS
RAMP SECTION

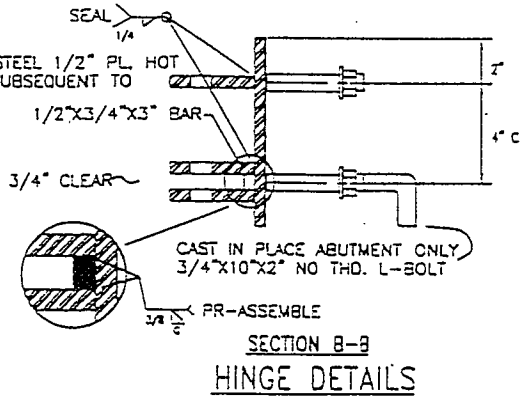
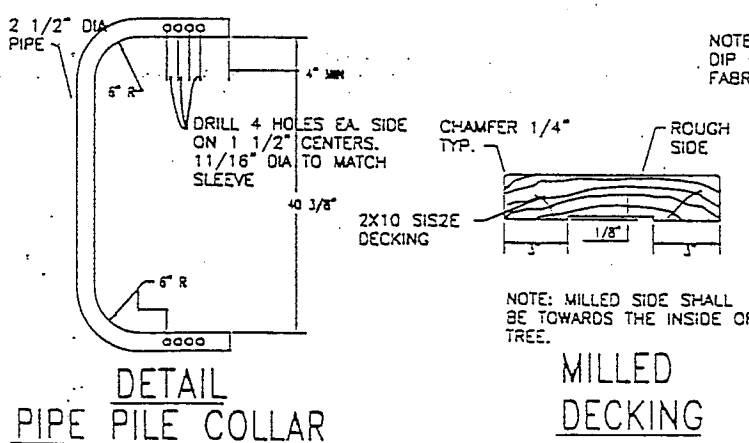
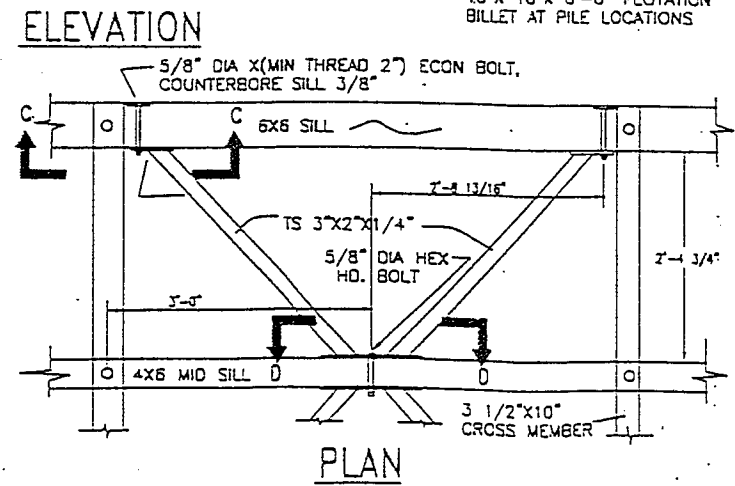
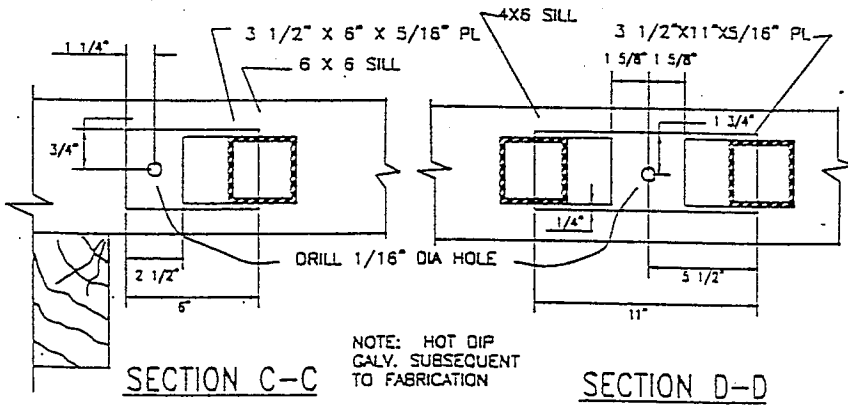
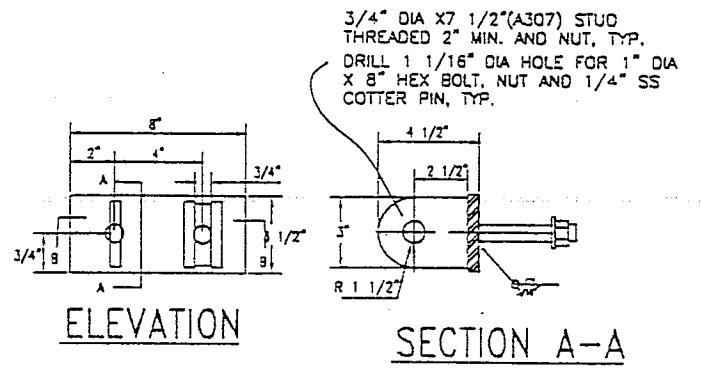
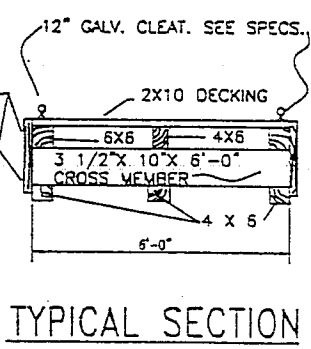
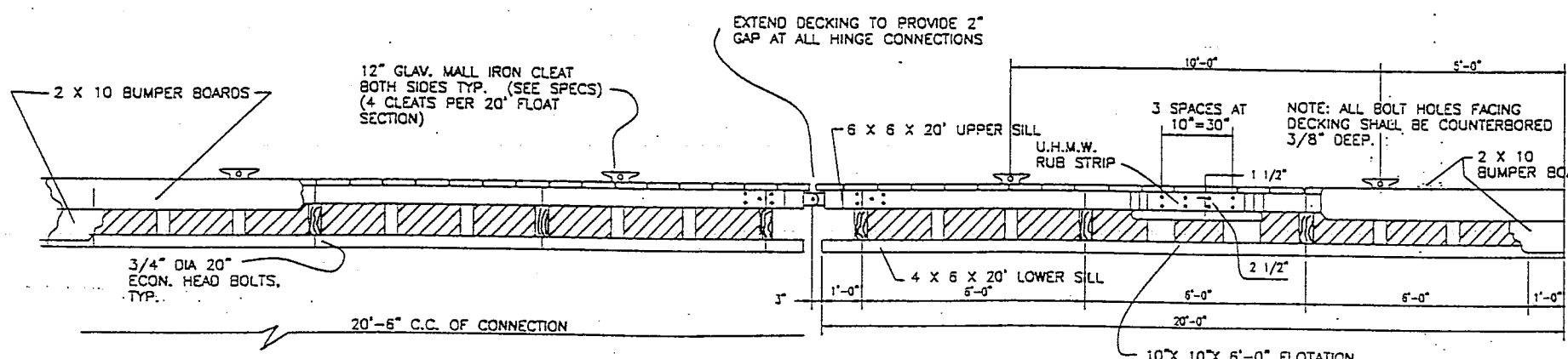
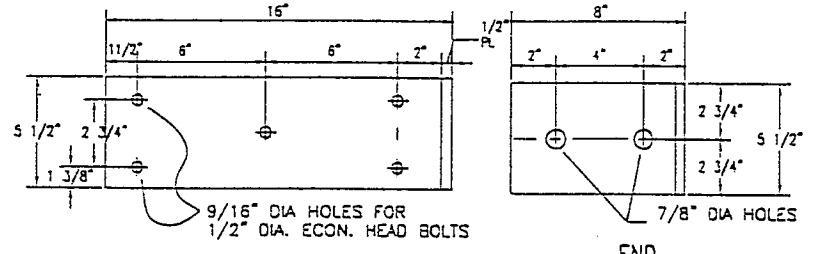
Sheet No.
11





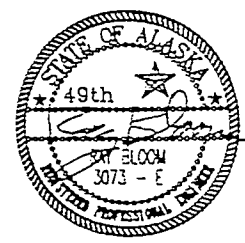
- NOTES:
- ALL PIPES SHALL BE DRIVEN IN RELATION TO THE COLLAR AT LOW TIDE AS SHOWN IN ORDER TO PERMIT MAXIMUM HORIZONTAL FLOAT TRAVEL DURING FLOOD STAGE OF TIDE.
 - ALL LUMBER TO BE S4S EXCEPT DECKING AND 3 1/2" X 10" X 6'-0" CROSS MEMBERS. CROSS MEMBERS TO BE CUT FROM 4 X 12 S4S, TO 3 1/2" X 10" ACTUAL SIZE.

PLAN

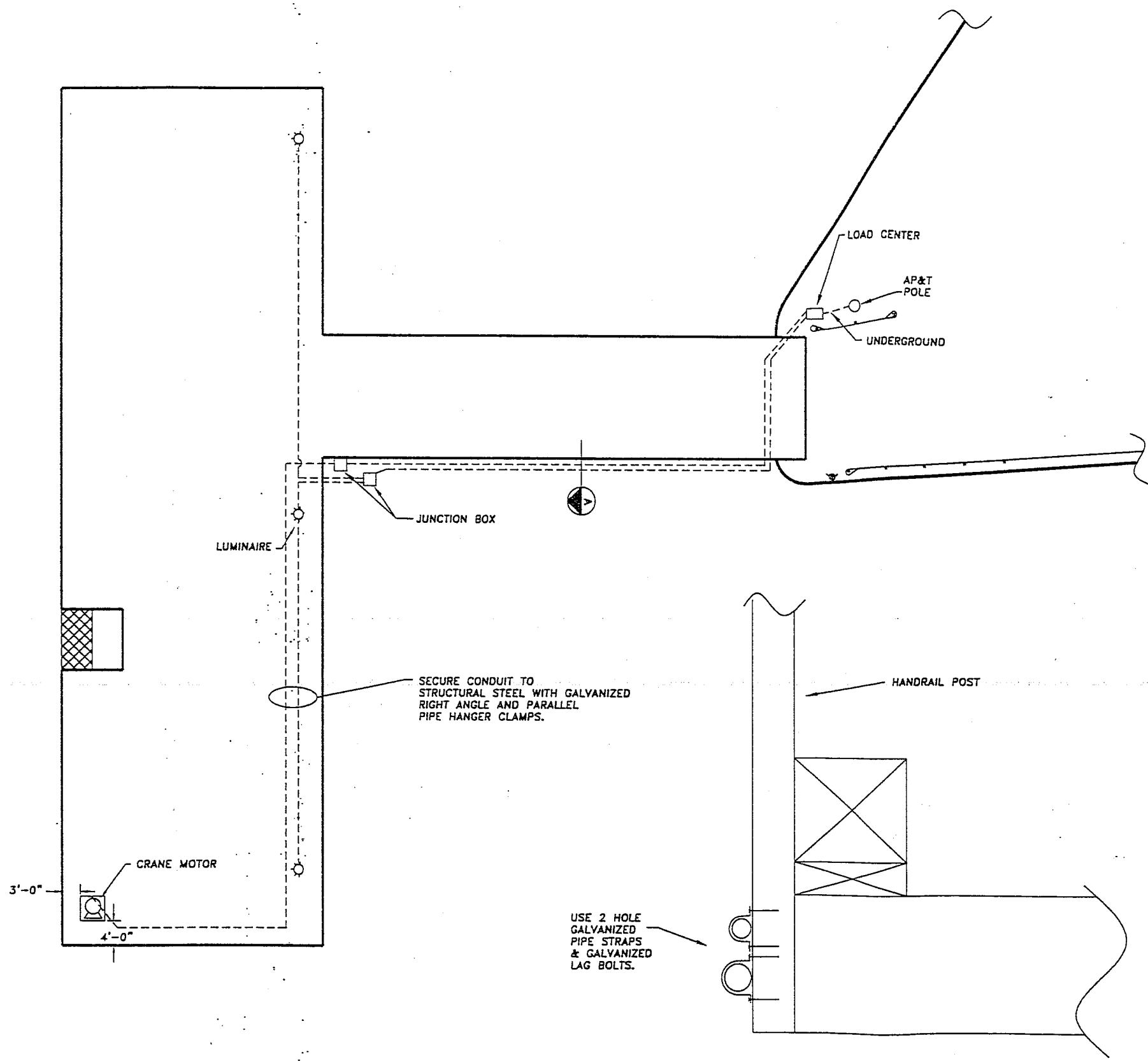


NOTE: DO NOT SCALE FROM THESE PLANS - USE DIMENSIONS

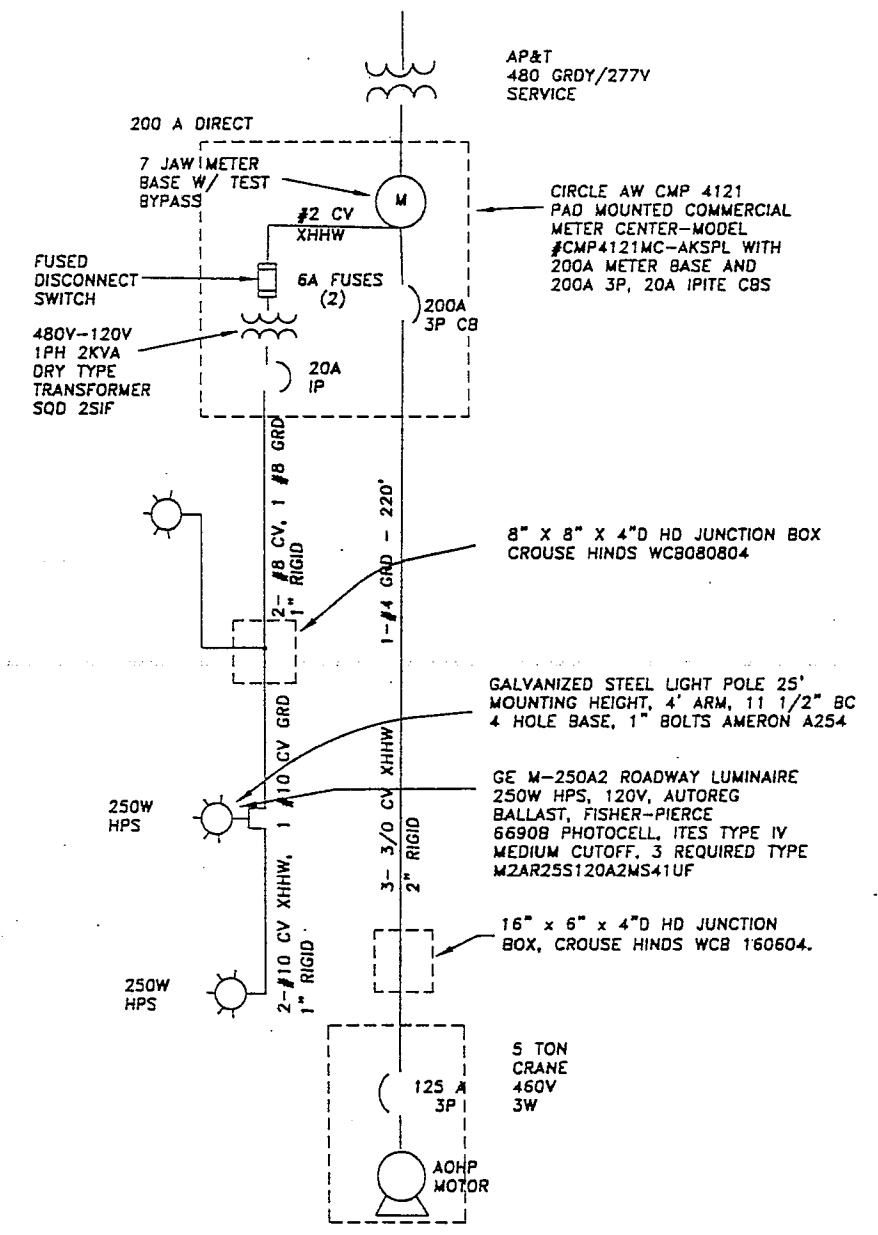
Designed: TSS	Approved: RWB	 R&M ENGINEERING-KETCHIKAN, INC. 355 CARLUKNA LAKE ROAD KETCHIKAN, ALASKA 99901	Client: CITY OF CRAIG BOX 725 CRAIG, AK 99921	Project: FALSE ISLAND INDUSTRIAL SITE	Sheet Description: LAUNCH FLOAT	Sheet No. 12
Drawn: TSS	Scale: AS NOTED					
Date	No.	Description	By			
		REVISION	Checked: RWB	Project No. 982400.1		



NOTE: ALL ELECTRICAL WORK TO BE IN COMPLIANCE WITH NATIONAL ELECTRIC CODE (NEC).

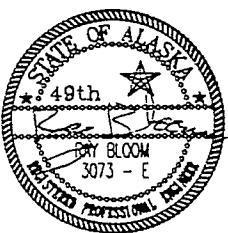


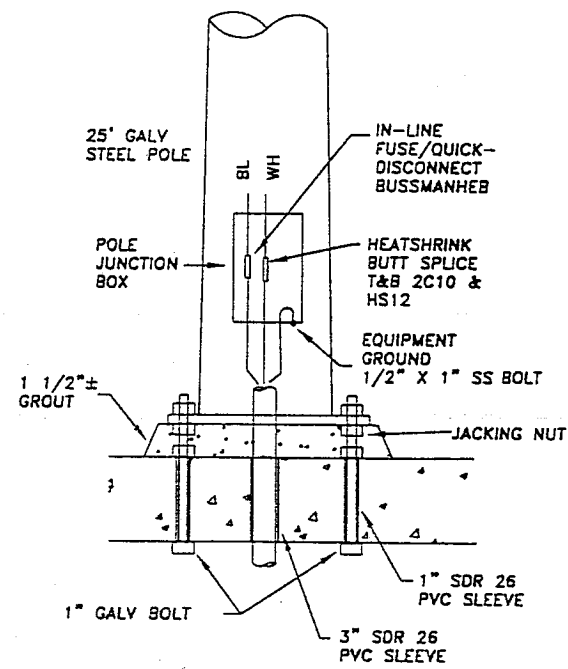
A
13 CONDUIT ON APPROACH DOCK



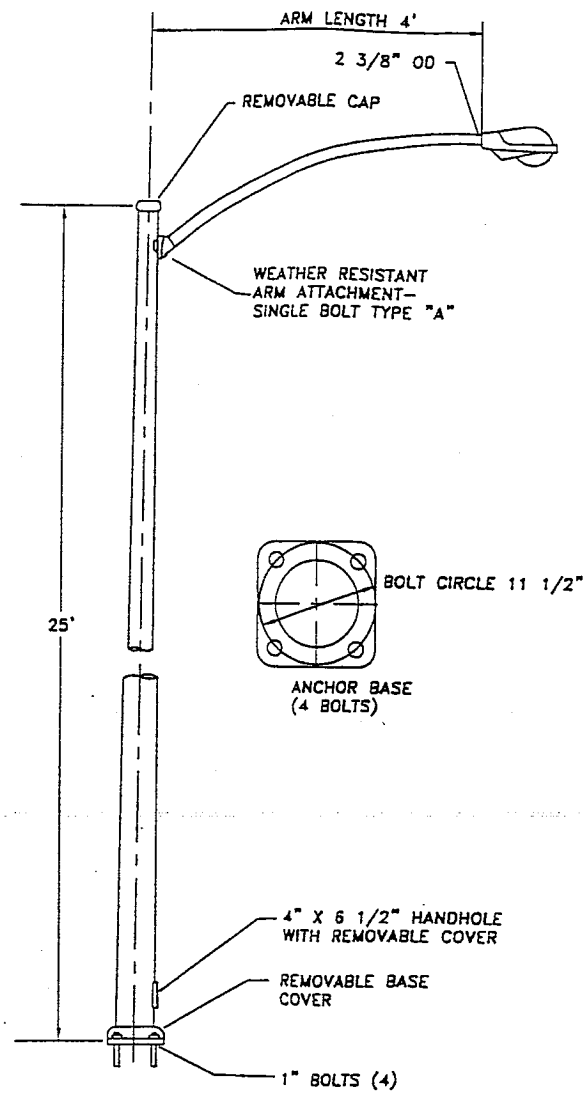
B
13 ELECTRICAL SCHEMATIC

2/23/99		1	ISSUED FOR CONSTRUCTION	TSS	Designed: FMC	Approved: RWB	 R&M ENGINEERING-KETCHIKAN, INC. 355 CARLANNA LAKE ROAD KETCHIKAN, ALASKA 99901	Client: CITY OF CRAIG BOX 725 CRAIG, AK 99921	Project: FALSE ISLAND INDUSTRIAL SITE	Sheet Description: ELECTRICAL	Sheet No. 13
Date	No.	Description	By	Drawn: CDK	Scale: AS NOTED	Date: 12/31/98					
REVISION				Checked: RWB	Project No. 982400.1						

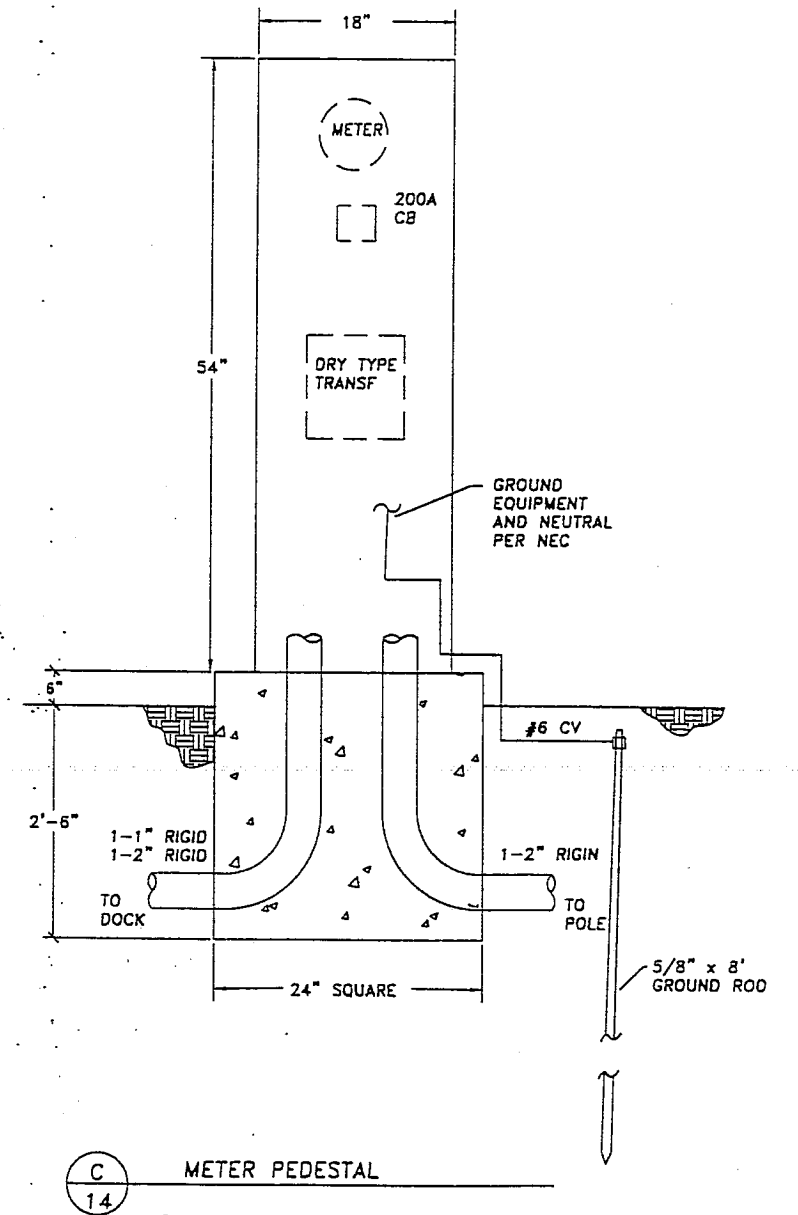




A
14 LUMINAIRE BASE

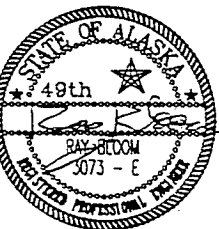


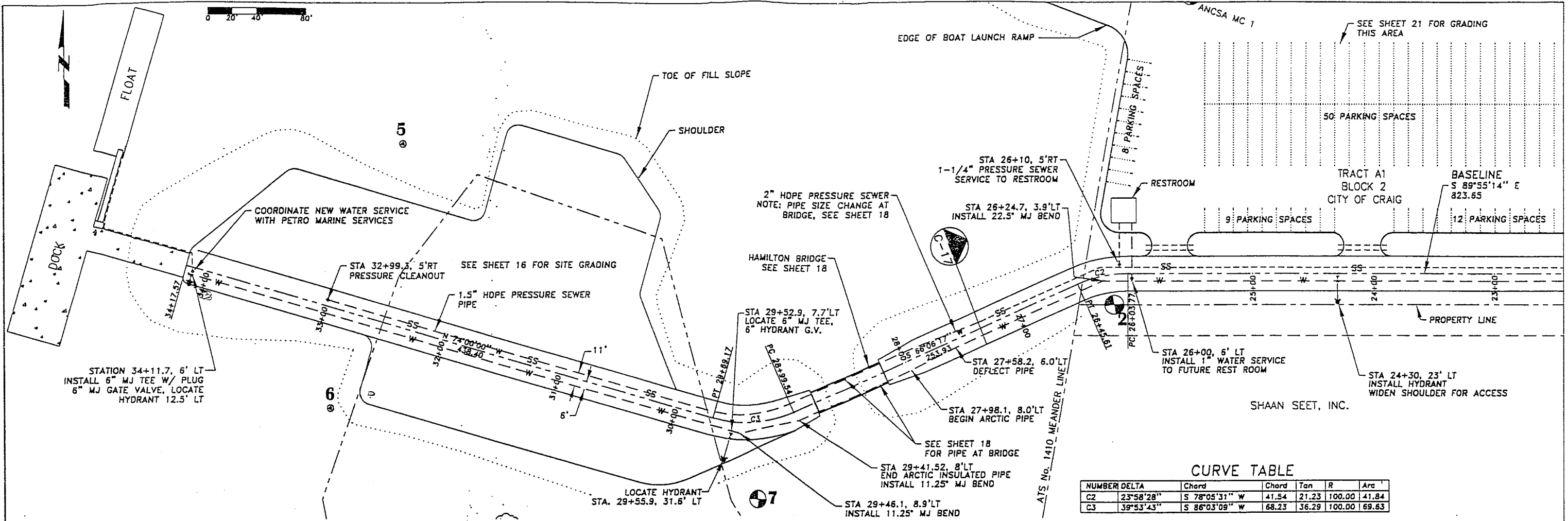
B
14 LUMINAIRE



C
14 METER PEDESTAL

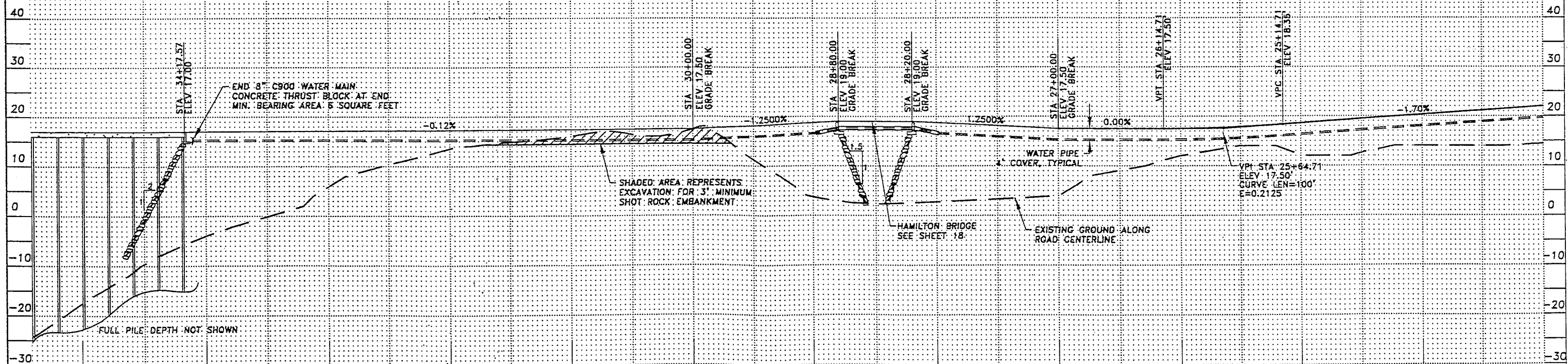
2/23/99	1	ISSUED FOR CONSTRUCTION	TSS	Designed: FMC	Approved: RWB	 R&M ENGINEERING-KETCHIKAN, INC. 355 CARLANNA LAKE ROAD KETCHIKAN, ALASKA 99901	Client:	CITY OF CRAIG BOX 725 CRAIG, AK 99921	Project:	FALSE ISLAND INDUSTRIAL SITE	Sheet Description:	ELECTRICAL DETAILS	Sheet No.:	14
Date	No.	Description	By	Drawn: CDK	Scale: AS NOTED		Date: 12/31/98							
		REVISION		Checked: RWB	Project No. 982400.1									



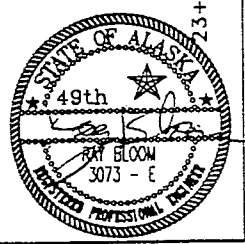


CURVE TABLE

NUMBER	DELTA	Chord	Tan	R	Arc	
C2	23°58'28"	S 78°05'31" W	41.54	21.23	100.00	41.84
C3	39°53'43"	S 86°03'09" W	68.23	36.29	100.00	69.63

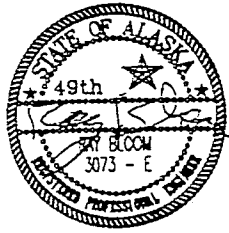
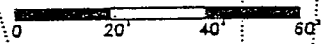
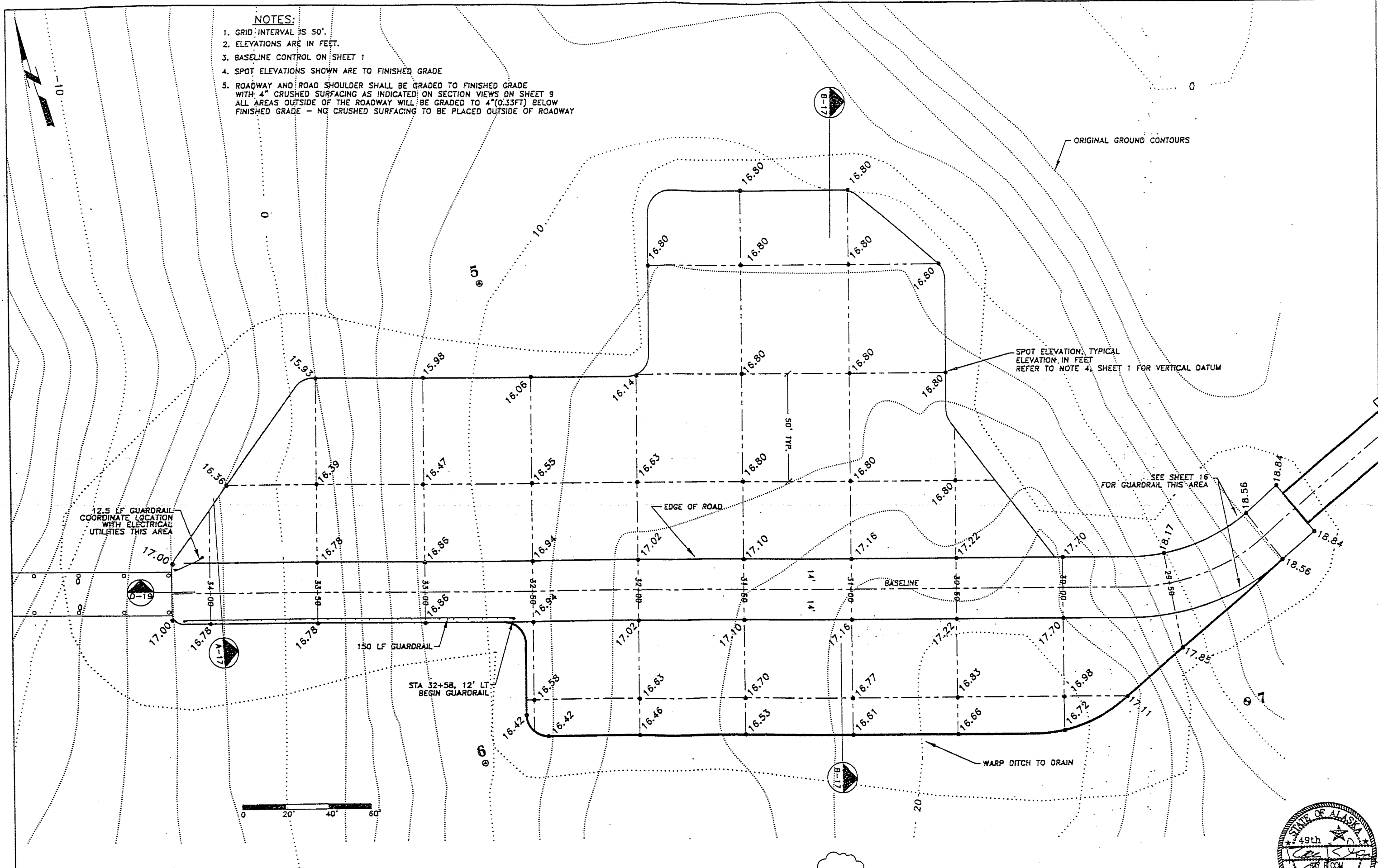


2/23/99 Date No. 1 Description REVISION	Designed: TSS Drawn: CDK Checked: RWB	Approved: RWB Scale: AS NOTED Date: 12/31/98 Project No. 982400.1	Client: CITY OF CRAIG BOX 725 CRAIG, AK 99921	Project: FALSE ISLAND INDUSTRIAL SITE	Sheet Description: ACCESS ROAD PLAN & PROFILE	Sheet No. 15
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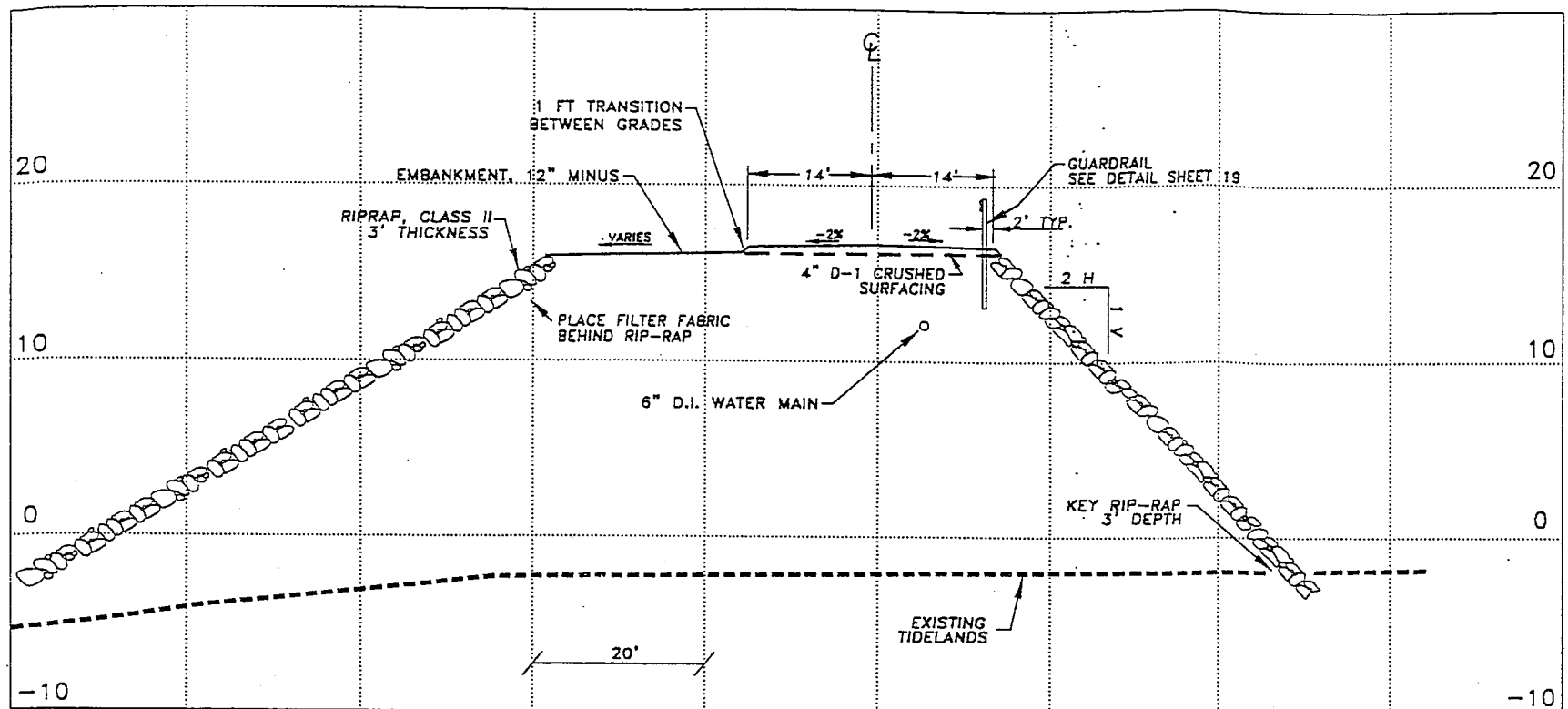


NOTES:

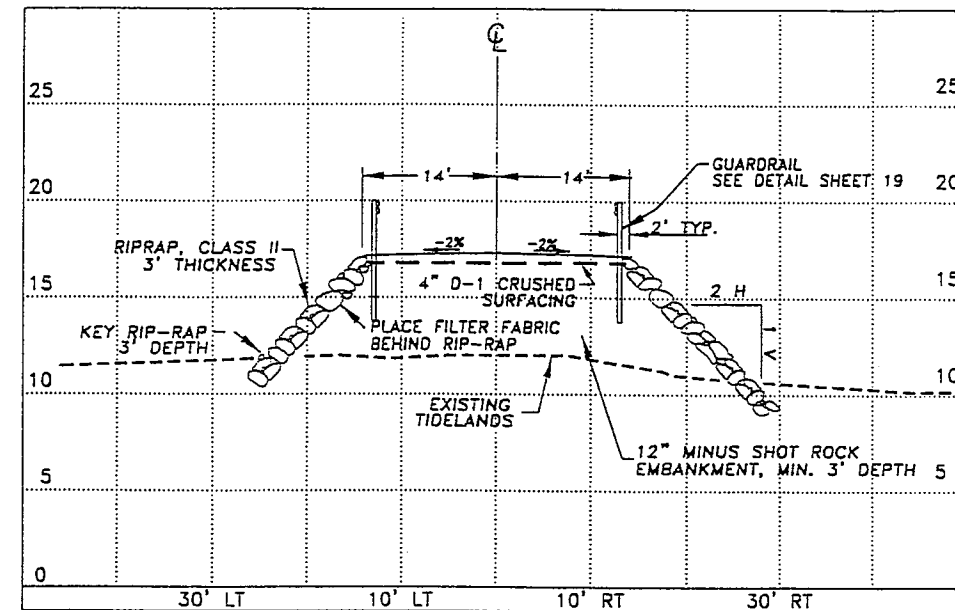
1. GRID INTERVAL IS 50'.
2. ELEVATIONS ARE IN FEET.
3. BASELINE CONTROL ON SHEET 1
4. SPOT ELEVATIONS SHOWN ARE TO FINISHED GRADE
5. ROADWAY AND ROAD SHOULDER SHALL BE GRADED TO FINISHED GRADE WITH 4" CRUSHED SURFACING AS INDICATED ON SECTION VIEWS ON SHEET 9 ALL AREAS OUTSIDE OF THE ROADWAY WILL BE GRADED TO 4" (0.33FT) BELOW FINISHED GRADE - NO CRUSHED SURFACING TO BE PLACED OUTSIDE OF ROADWAY



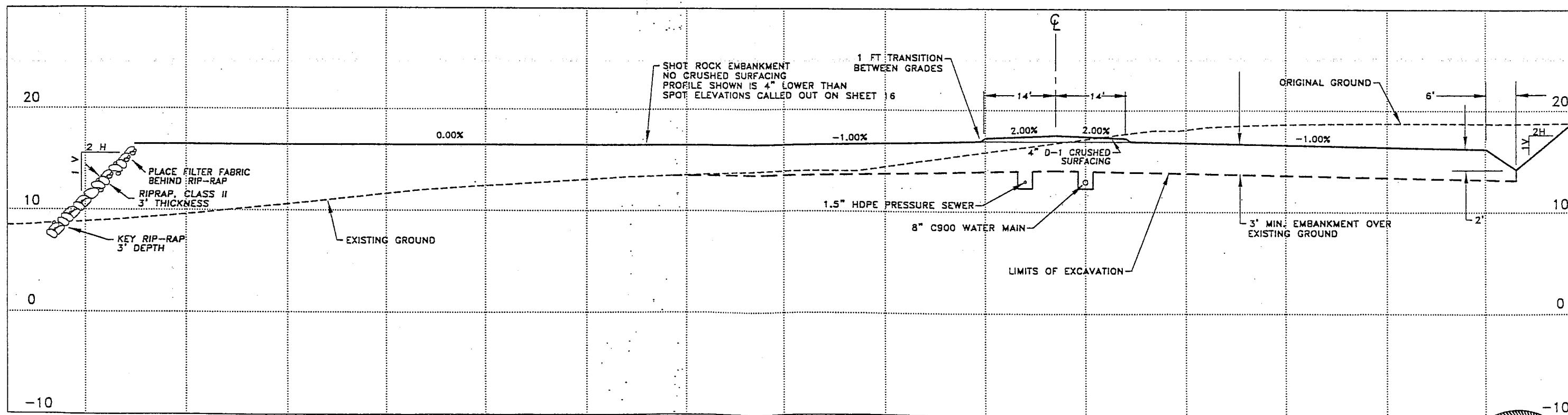
2/23/99		1		MODIFY ALIGNMENT		RWB		Designed: RWB		Approved: RWB		Client: CITY OF CRAIG BOX 725 CRAIG, AK 99921		Project: FALSE ISLAND INDUSTRIAL SITE		Sheet Description: FALSE ISLAND GRADING		Sheet No. 16	
Date	No.	Description		By		Checked: RWB		Scale: AS NOTED		Date: 12/31/98		Project No. 982400.1		R&M ENGINEERING-KETCHIKAN, INC. 355 CARLIANNA LAKE ROAD KETCHIKAN, ALASKA 99901					



SECTION VIEW
A-17



CAUSEWAY ROAD SECTION
C-17



SECTION VIEW
B-17

2/23/99	1	MODIFY ALIGNMENT	TSS	Designed: TSS	Approved: RWB
Date	No.	Description	By	Drawn: TSS	Scale: AS NOTED
		REVISION		Checked: RWB	Date: 12/31/98
				Project No. 982400.1	

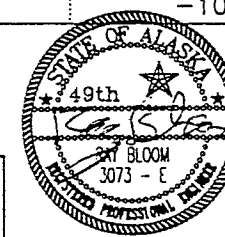
R&M ENGINEERING-KETCHIKAN, INC.
355 CARLIANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

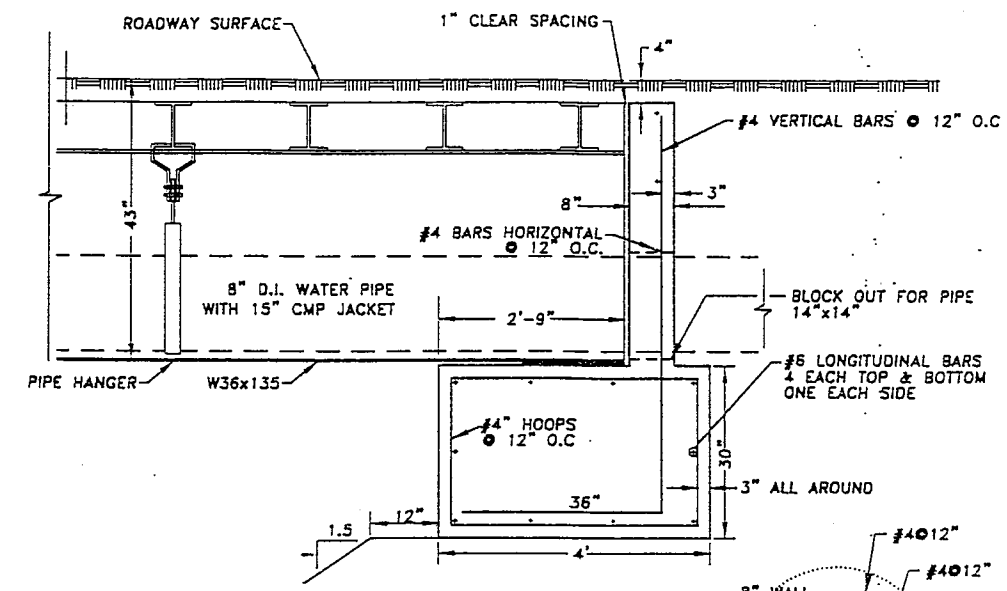
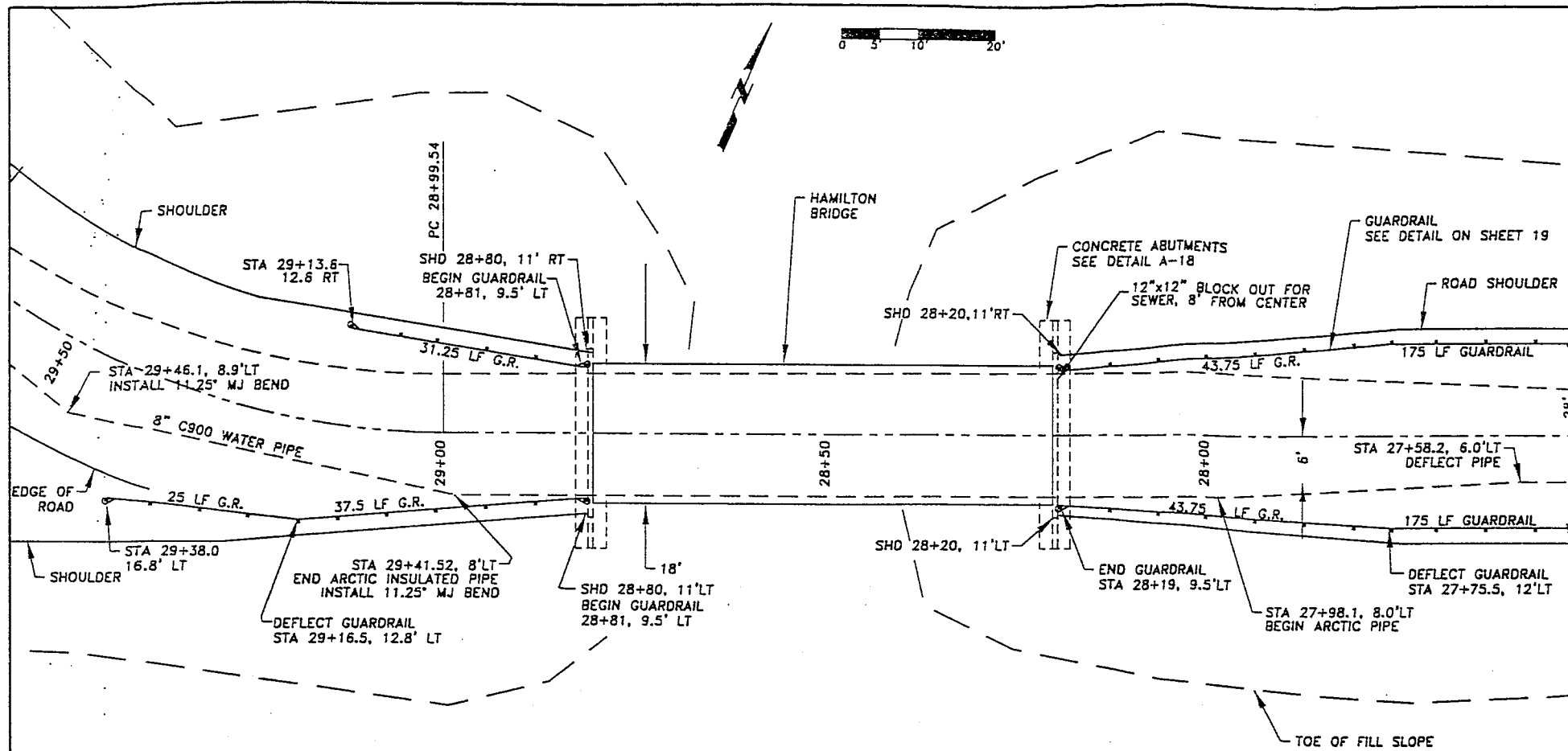
Client: CITY OF CRAIG
BOX 725
CRAIG, AK 99921

Project: FALSE ISLAND
INDUSTRIAL SITE

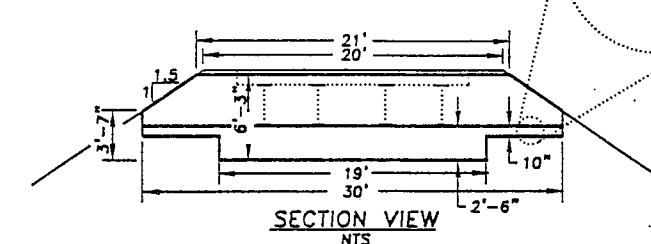
Sheet Description: FALSE ISLAND SECTIONS

Sheet No. 17



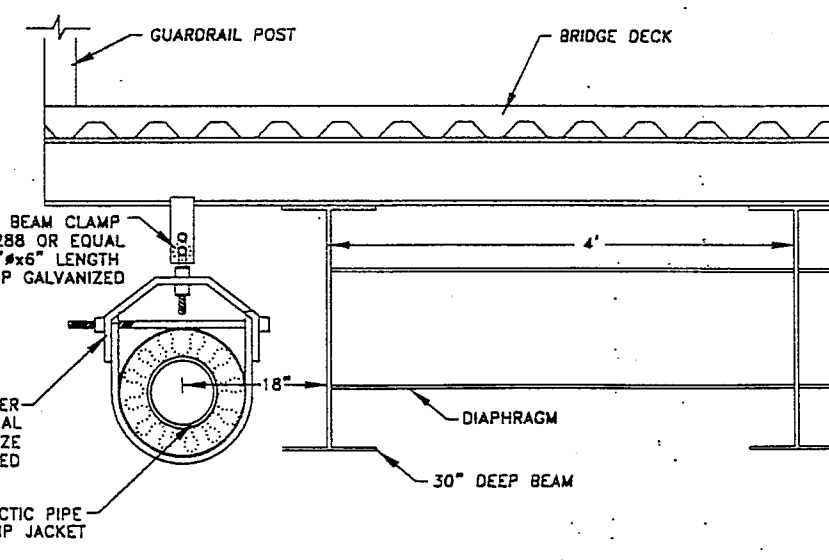
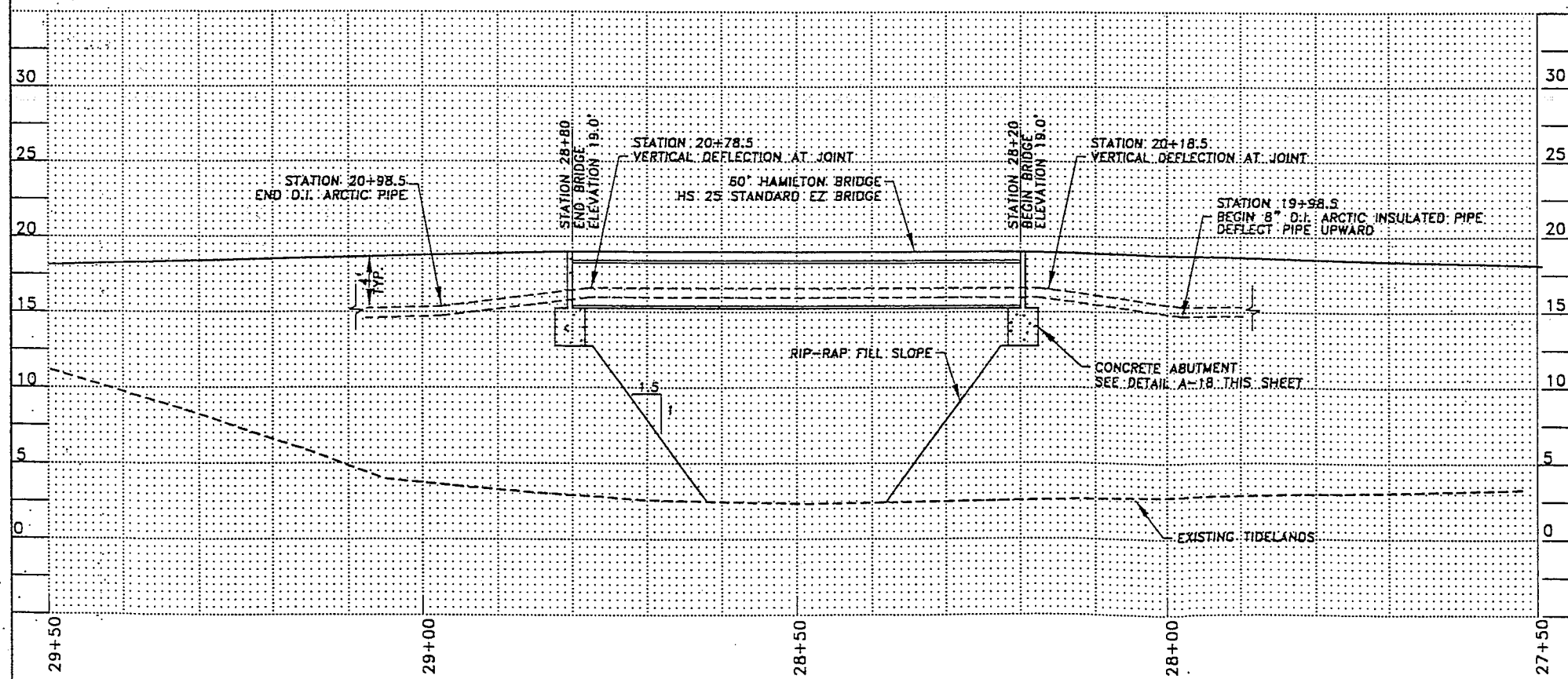


ELEVATION VIEW
1"=1"



SECTION VIEW
NTS

ABUTMENT DETAIL



DOUBLE BOLT BEAM CLAMP
F&M FIG. 239 OR EQUAL
WELDED EYE ROD, 1" x 6" LENGTH
ALL FITTINGS HOT-DIP GALVANIZED

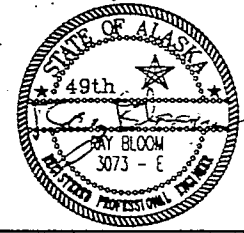
CLEVIS HANGER
F&M FIG. 239 OR EQUAL
16" PIPE SIZE
HOT-DIP GALVANIZED

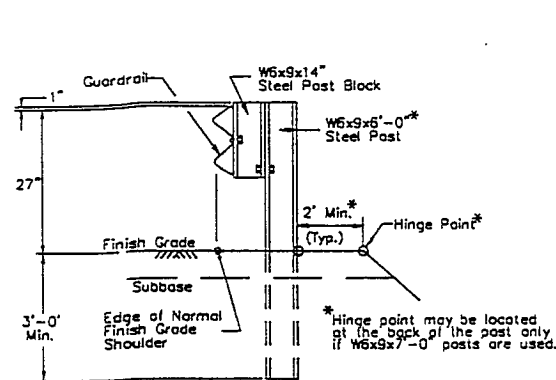
8" D.I. ARCTIC PIPE
16 G.A. 15" CMP JACKET

NOTE:
PLACE HANGERS EVERY 10' AND AT LEAST
TWO EVERY PIPE SECTION WITH ONE HANGER
AT THE PIPE BELL END

WATER PIPE HANGER

2/23/99	1	MODIFY ALIGNMENT	TSS	Designed: TSS	Approved: RWB	 RAM ENGINEERING-KETCHIKAN, INC. P.O. BOX 9592 KETCHIKAN, ALASKA 99901	Client: CITY OF CRAIG BOX 725 CRAIG, AK 99921	Project: FALSE ISLAND INDUSTRIAL SITE	Sheet Description: BRIDGE	Sheet No. 18	
Date	No.	Description	By	Drawn: TSS	Scale: AS NOTED						Date: 12/31/98
		REVISION		Checked: RWB	Project No. 982400.1						



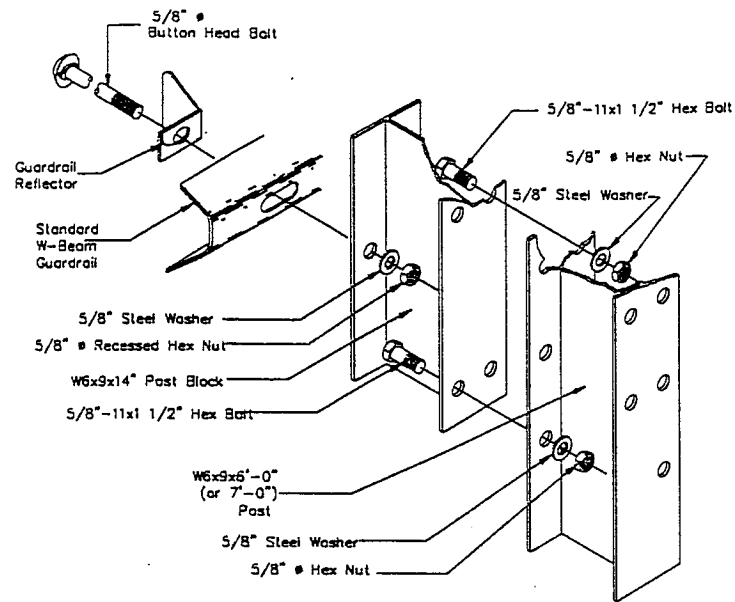


POST INSTALLATION

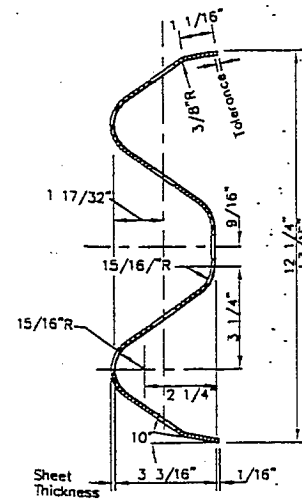
GENERAL NOTES:

- Guardrail Reflectors shall be mounted at 50' centers beginning with the first post. Type A Reflectors shall be used unless specified otherwise on the plans.
- Post, W-Beam Guardrail, and Fasteners shown in ARTBA "A Guide To Standardized Highway Barrier Rail Hardware" latest edition are acceptable.
- Typical post spacing shall be 6'-3" on centers.

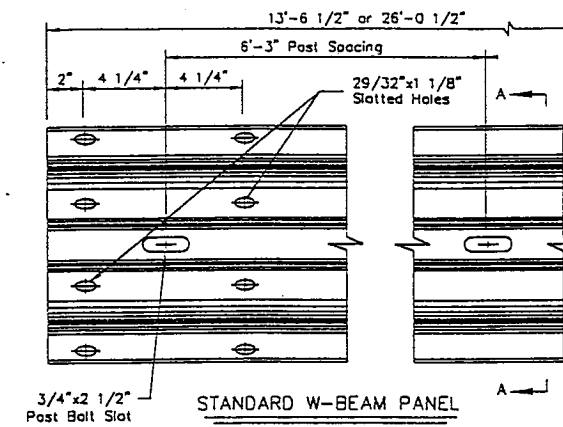
A GUARDRAIL DETAILS - ASSEMBLY
19 NOT TO SCALE



ASSEMBLY DETAIL



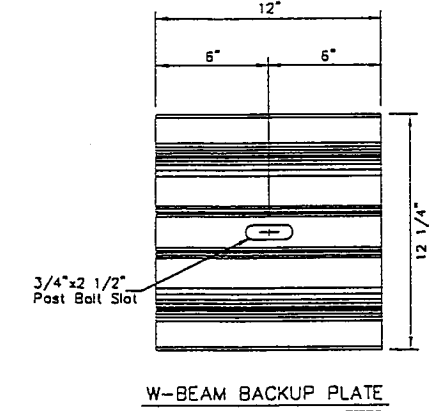
SECTION A-A



STANDARD W-BEAM PANEL

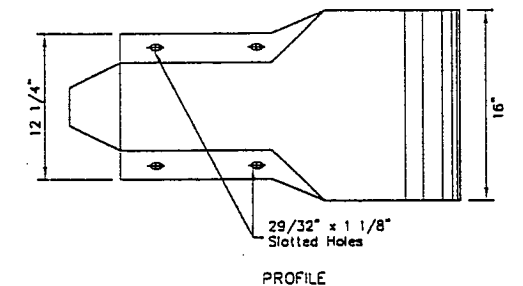
GENERAL NOTES:

- All hardware as shown in ARTBA "A Guide To Standardized Highway Barrier Rail Hardware", latest edition, is acceptable.
- Back-up Plates shall be used at intermediate (Non-Splice) Posts.



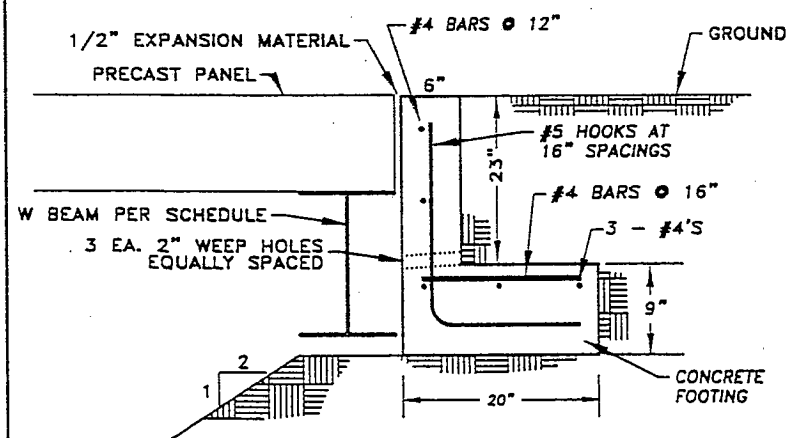
W-BEAM BACKUP PLATE

B GUARDRAIL DETAILS - RAILS & SPLICES
19 NOT TO SCALE



PROFILE

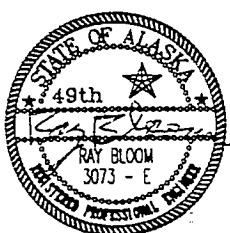
C GUARDRAIL END DETAIL
19 NOT TO SCALE

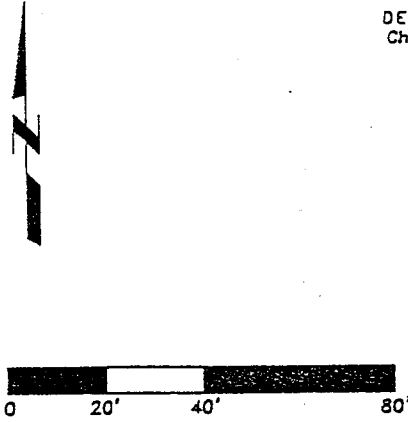
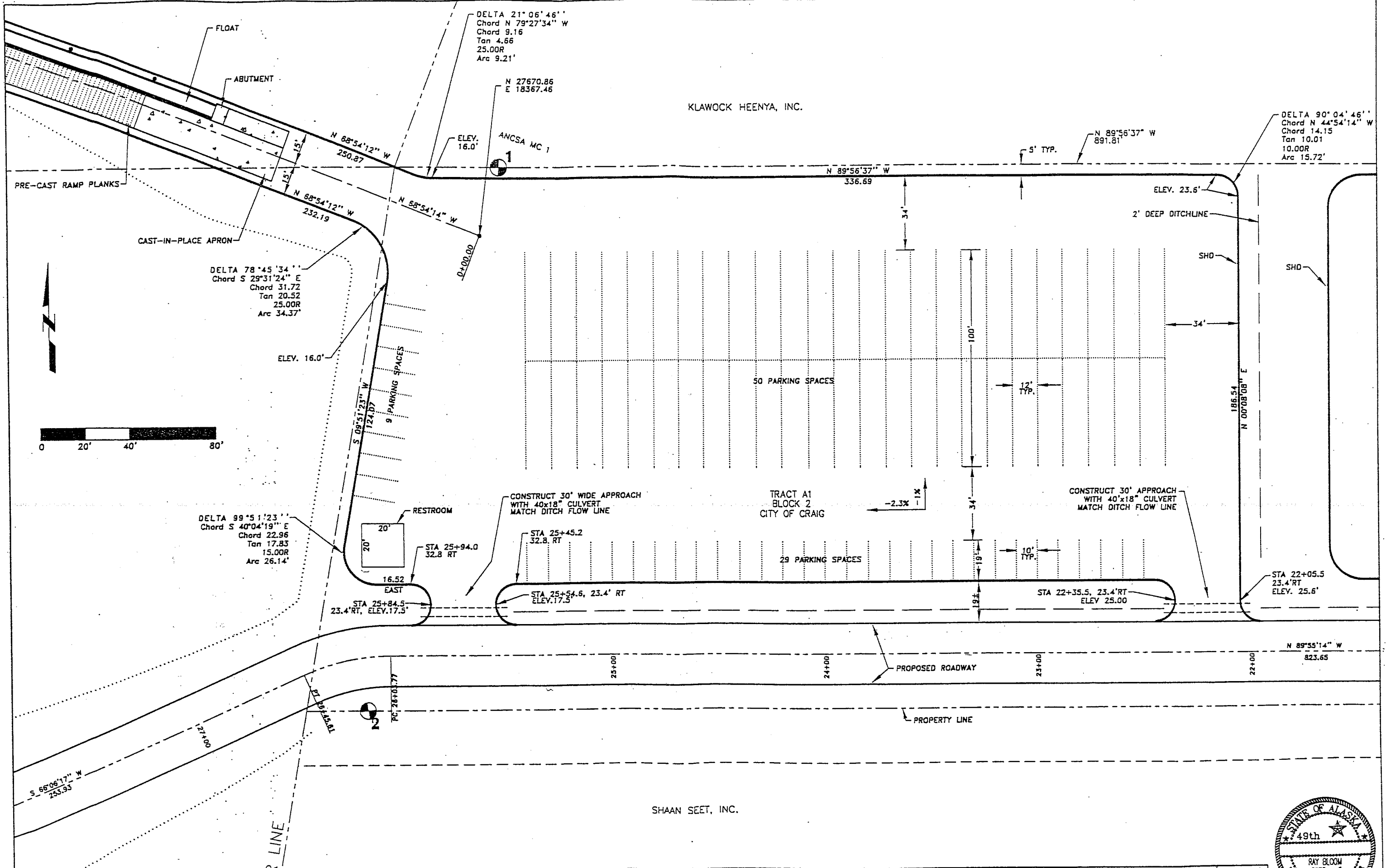


- NOTES:
- CONCRETE STRENGTH - 3,000 PSI @ 28 DAYS
 - STEEL STRENGTH - 60,000 PSI
 - PROVIDE CLEAN SHOT ROCK SUBGRADE WITH D-1 GRAVEL LEVELING SURFACE. COMPACT TO 95% OF MAXIMUM DENSITY

D CONCRETE RETAINING WALL
19 NOT TO SCALE

Designed: TSS	Approved: RWB		Client: CITY OF CRAIG BOX 725 CRIAG, AK 99921	Project: FALSE ISLAND INDUSTRIAL SITE	Sheet Description: MISCELLANEOUS DETAILS	Sheet No. 19
Drawn: TSS	Scale: AS NOTED					
Checked: RWB	Project No. 982400.1	RSM ENGINEERING-KETCHIKAN, INC. 355 CARLIANNA LAKE ROAD KETCHIKAN, ALASKA 99901				





Date: _____ No.: _____ Description: _____ REVISION: _____		Designed: _____ Drawn: TSS Checked: RWB	Approved: RWB Scale: AS NOTED Date: 2/24/99 Project No. 982400.1	RAM ENGINEERING-KETCHIKAN, INC. 355 CARLAMMA LAKE ROAD KETCHIKAN, ALASKA 99901	Client: CITY OF CRAIG BOX 725 CRAIG, AK 99921	Project: FALSE ISLAND INDUSTRIAL SITE	Sheet Description: LAUNCH RAMP PARKING LOT	Sheet No. 21
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