

STATE OF ALASKA

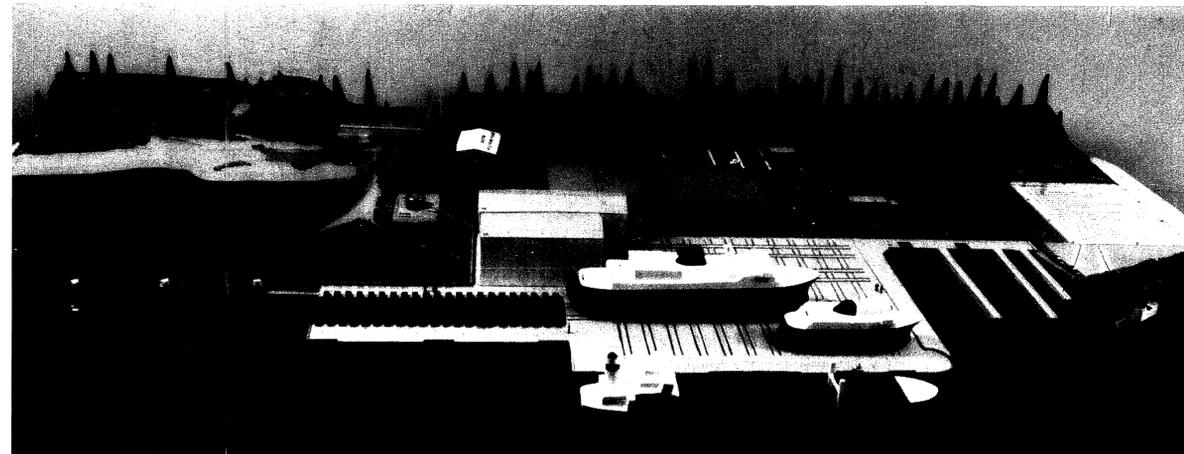


KETCHIKAN VESSEL MAINTENANCE FACILITY

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INDEX OF DRAWINGS

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CONTRACT NO. 1

DREDGING, LAND RECLAMATION AND WHARF

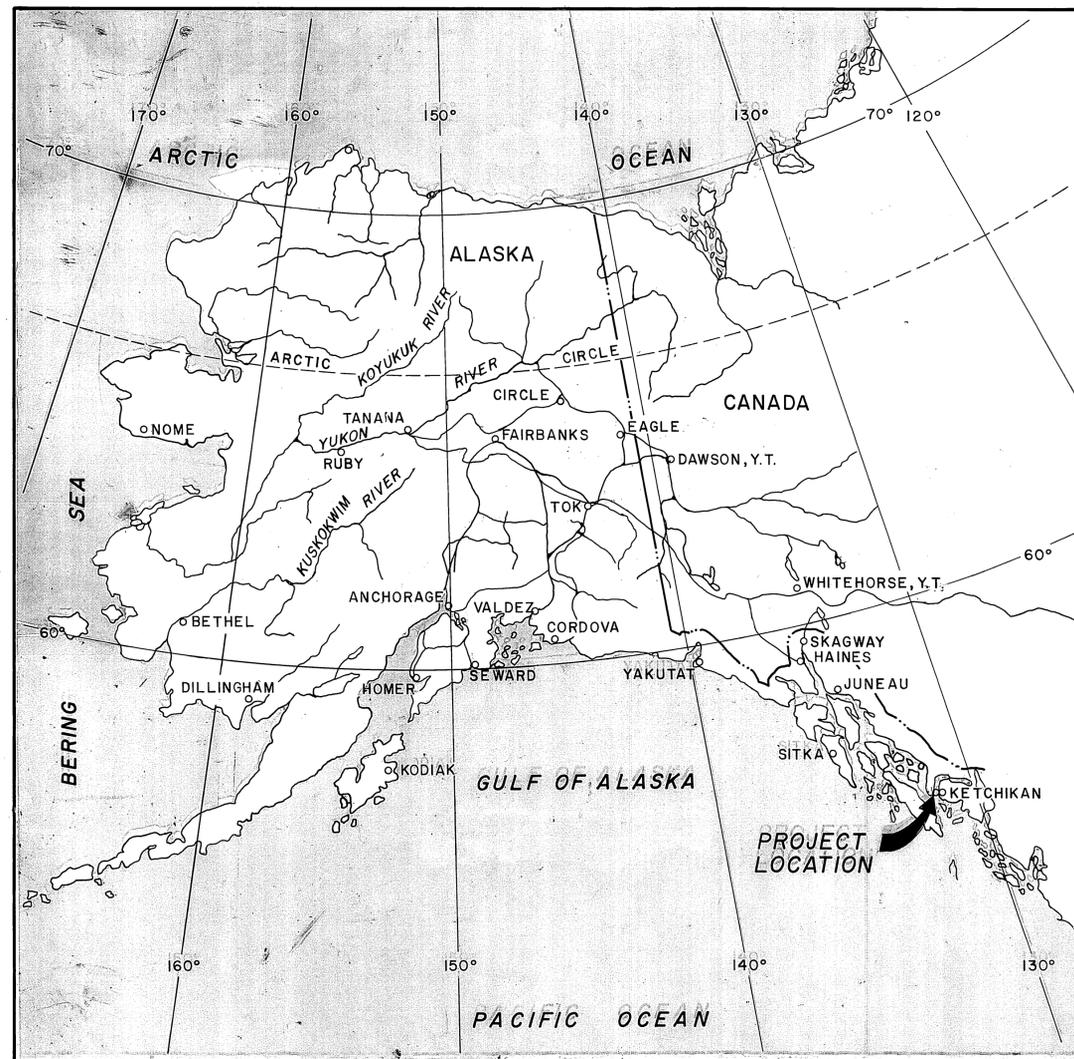
PROJECT NO. K61216

CONTRACT NO. 1

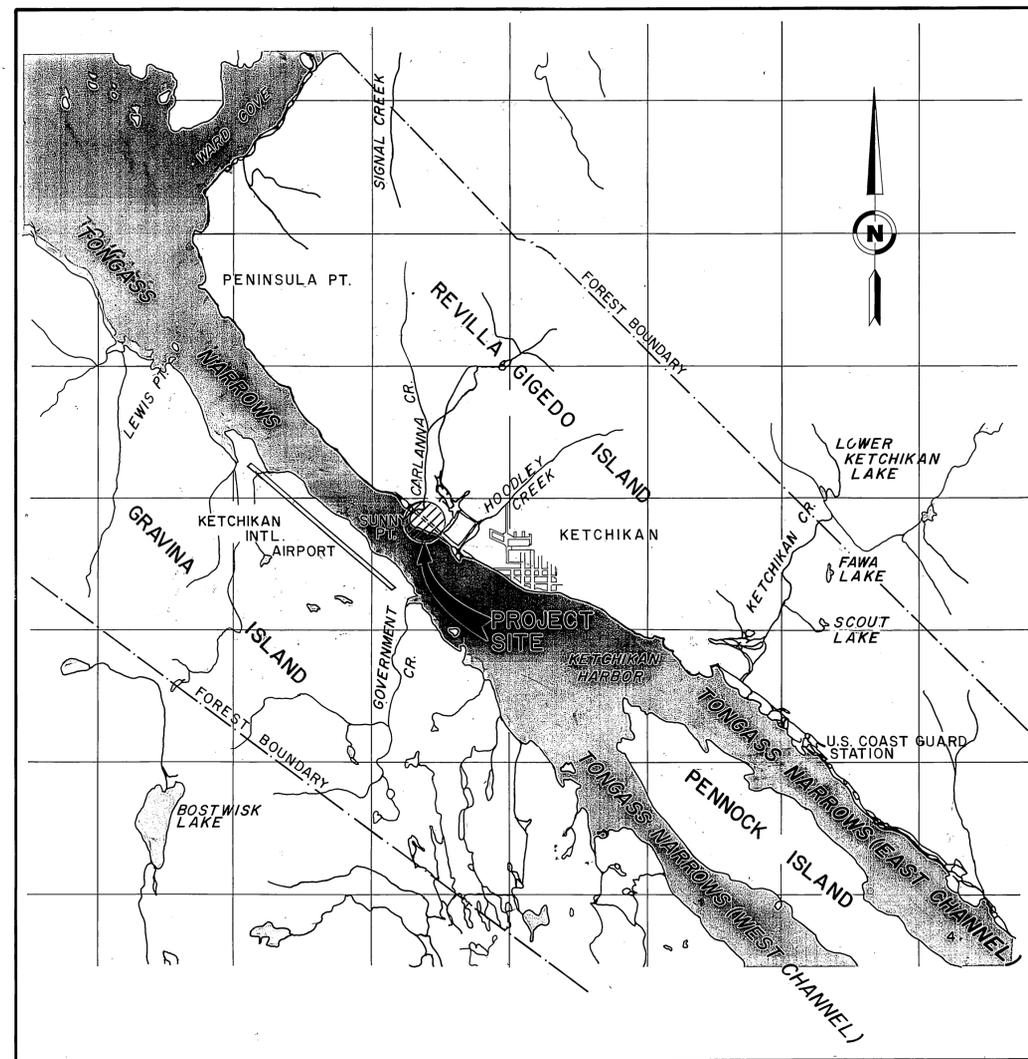


DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DIVISION OF HARBOR DESIGN & CONSTRUCTION

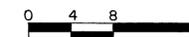
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LOCATION MAP
SCALE : NONE

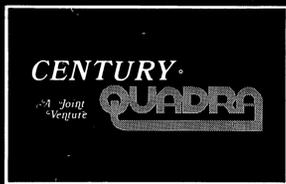


VICINITY MAP
APPROX. SCALE : 1" = 8 MILES



No.	DATE	REVISIONS	BY

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KETCHIKAN VESSEL
MAINTENANCE FACILITY
PROJECT NO. K 61216

LOCATION & VICINITY
MAPS

DRAWING NO. C-1
DATE: 7/30/82 SCALE: SHOWN JOB No. 3881.02

CONTRACT NO. 1

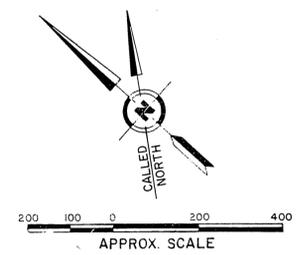
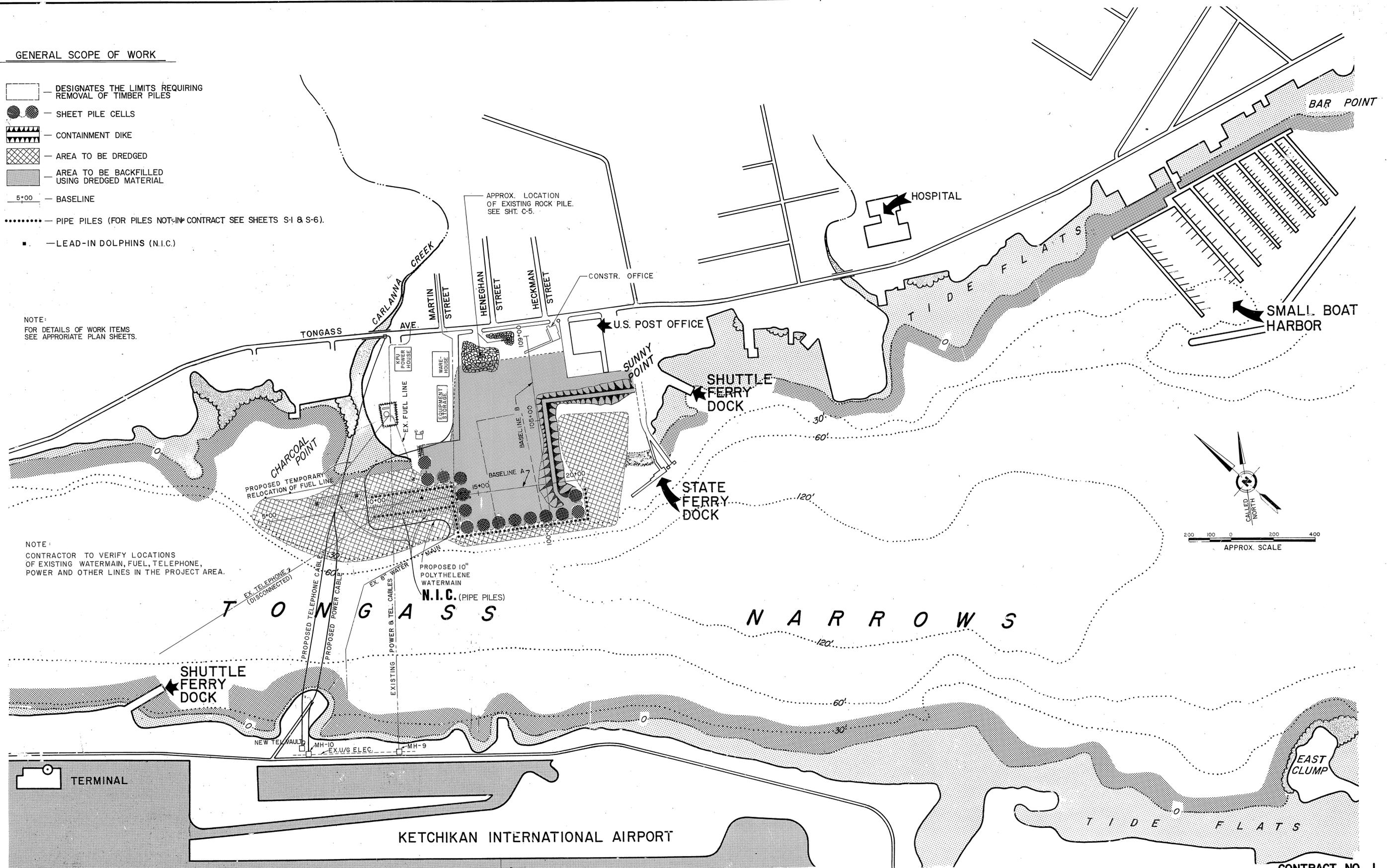
DRAWING NO.
C-1
OF
21

GENERAL SCOPE OF WORK

-  DESIGNATES THE LIMITS REQUIRING REMOVAL OF TIMBER PILES
-  SHEET PILE CELLS
-  CONTAINMENT DIKE
-  AREA TO BE DREDGED
-  AREA TO BE BACKFILLED USING DREDGED MATERIAL
-  BASELINE
-  PIPE PILES (FOR PILES NOT IN CONTRACT SEE SHEETS S-1 & S-6).
-  LEAD-IN DOLPHINS (N.I.C.)

NOTE:
FOR DETAILS OF WORK ITEMS
SEE APPROPRIATE PLAN SHEETS.

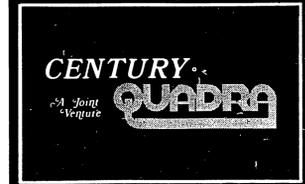
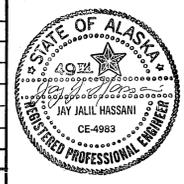
NOTE:
CONTRACTOR TO VERIFY LOCATIONS
OF EXISTING WATERMAIN, FUEL, TELEPHONE,
POWER AND OTHER LINES IN THE PROJECT AREA.



CONTRACT NO. 1

No.	DATE	REVISIONS	BY

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STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
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**KETCHIKAN VESSEL
MAINTENANCE FACILITY**
PROJECT NO. K 61216

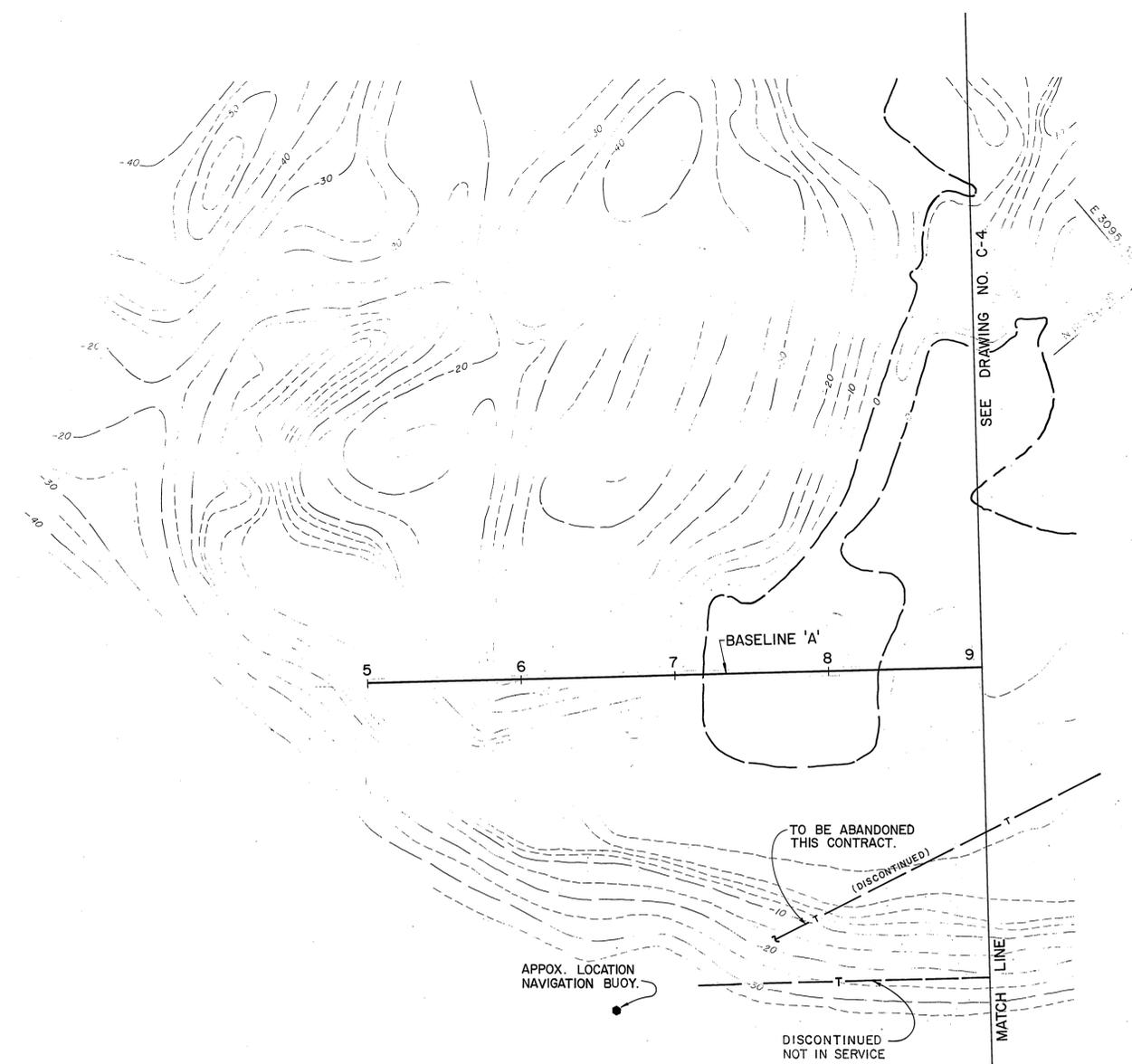
PROJECT AREA MAP

DRAWING NO. C-2
DATE: 7/30/82 SCALE: 1" = 200' JOB No. 3881.02

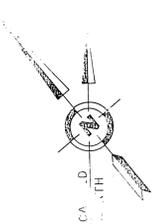
DRAWING NO.
C-2
OF
21

ESTIMATED QUANTITIES

ITEM NO.	ACTUAL QUANTITY	ITEM DESCRIPTION & WRITTEN UNIT PRICE	ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION & WRITTEN UNIT PRICE
2(1)	ALL REQUIRED	CLEARING, GRUBBING & TIMBER PILE REMOVAL @ PER LUMP SUM	11(6)	ALL REQUIRED	FURNISH AND INSTALL FOUR (4) EACH UNDER-WATER ARMOR GUARDS (DEDUCTIBLE ITEM) @ PER LUMP SUM
3(1)	331,956 CUBIC YDS.	DREDGING @ PER CUBIC YARD	12(1)	ALL REQUIRED	RELOCATE SEWER OUTFALL @ PER LUMP SUM
3(2)	18,588 FEET	VIBRAPROBE @ DELETED Add. I PER LUMP SUM	13(1)	ALL REQUIRED	TEMPORARY RELOCATION OF FUEL LINE AND ASSOCIATED MOORING DOLPHINS @ PER LUMP SUM
4(1)	36,000 CUBIC YDS.	CONTAINMENT DIKE EMBANKMENT @ PER LUMP SUM	14(1)	27,165 CUBIC YDS.	REMOVAL OF UNSUITABLE MATERIAL @ PER LUMP SUM
5(1)	5,511 CUBIC YDS.	ARMOR STONE TYPE I @ PER LUMP SUM	15(1)	78 C.O.2 LINEAR FT.	66 INCH CORRUGATED STEEL PIPE @ PER LINEAR FOOT
5(2)	2,756 CUBIC YDS.	SECONDARY STONE TYPE I @ PER LUMP SUM	15(2)	0 C.O.2 LINEAR FT.	36 INCH CORRUGATED STEEL PIPE @ PER LINEAR FOOT
6(1)	4,349.6 TONS	STEEL-SHEET PILING FURNISHED @ PER TON	C.O. No.2 15(2a)	72 LIN. FT.	30" CORRUGATED STEEL PIPE
6(2)	287,595 SQ. FT.	DRIVING OF STEEL SHEET PILING @ PER SQUARE FOOT	C.O. No.2 15(3)	24 LINEAR FT.	24 INCH CORRUGATED STEEL PIPE @ PER LINEAR FOOT
7(1)	444.3 TONS	PIPE PILE FURNISHED @ PER TON	15(4)	578 LINEAR FT.	12 INCH CORRUGATED STEEL PIPE @ PER LINEAR FOOT
7(2)	14,199 LINEAR FT.	DRIVING OF PIPE PILES @ PER LINEAR FOOT	16(1)	1,222 CUBIC YDS.	CLASS A-A CONCRETE @ PER LUMP SUM
7(3)	ONE EACH	PILE LOAD TESTING @ PER EACH	ADDEND.4 17(1)	90 TONS	REINFORCING STEEL PER LUMP SUM
7(4)	70 EACH	FILLING OF PIPE PILES (Deductible Item) Addend. I PER SQUARE FOOT	18(1)	4.5 TONS	STRUCTURAL STEEL, FURNISHED, FABRICATED AND ERECTED @ PER LUMP SUM
ALTERNATE 'A' *8(2)	105,457 SQ. FT.	COATING WITH POLYURETHANE @ PER SQUARE FOOT	19(1)	4,553 SQ. FT.	TREATED TIMBER, PLANKING @ PER LUMP SUM
ALTERNATE 'B' *8(3)	107,530 SQ. FT. Addend. 4	COATING WITH INERTA 160 @ PER SQUARE FOOT	19(2)	610 LINEAR FT.	FENDERING SYSTEM AND DECK FITTINGS COMPLETE EXCLUDING BULL RAILS AND TIMBER PILES @ PER LUMP SUM
10(1)	ALL REQUIRED	RELOCATION OF AIR-PORT WATER MAIN @ PER LUMP SUM	20(2)	15,535 LINEAR FT.	TIMBER FENDER PILES FURNISHED @ PER LINEAR FOOT
11(1)	3000 FEET	FURNISH SUBMARINE POWER CABLE @ PER LUMP SUM	20(3)	187 EACH	TIMBER FENDER PILES DRIVEN @ PER EACH
11(2)	3500 LINEAR FT.	FURNISH SUBMARINE TELEPHONE CABLE @ PER LUMP SUM	21(1)	2 EACH	NAVIGATION LIGHTS @ PER EACH
11(3)	ALL REQUIRED	INSTALL AND TEST SUBMARINE POWER CABLE (INCLUDING GRAVINA ISLAND 3-WAY TERMINATION) @ PER LUMP SUM	22(1)	ALL REQUIRED	DRAINAGE SYSTEM BEHIND CELLS @ PER LUMP SUM
11(4)	ALL REQUIRED	INSTALL AND TEST SUBMARINE TELEPHONE CABLE @ PER LUMP SUM	23(1)	ALL REQUIRED	MOBILIZATION @ PER LUMP SUM
11(5)	ALL REQUIRED	FURNISH AND INSTALL TWO (2) EACH TELEPHONE CABLE VAULTS @ PER LUMP SUM	24(1)	ALL REQUIRED	SOIL DENSIFICATION ADDENDUM No.1

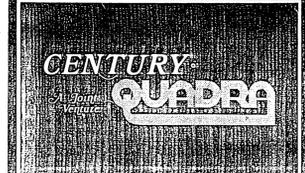


HIGHEST TIDE (EST.)	+19.5'
MEAN HIGHER HIGH WATER (MHHW)	+15.4'
MEAN HIGH WATER (MHW)	+13.9'
MEAN TIDE	+8.0'
MEAN LOW WATER (MLW)	+1.5'
MEAN LOWER LOW WATER (MLLW) DATUM	0.0'
LOWEST TIDE (EST.)	-6.0'



- LEGEND:
- T- TELEPHONE LINE (BURIED)
 - F- FUEL LINE
 - W- WATER LINE
 - S- STORM SEWER
 - E- UNDERGROUND POWER

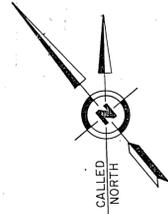
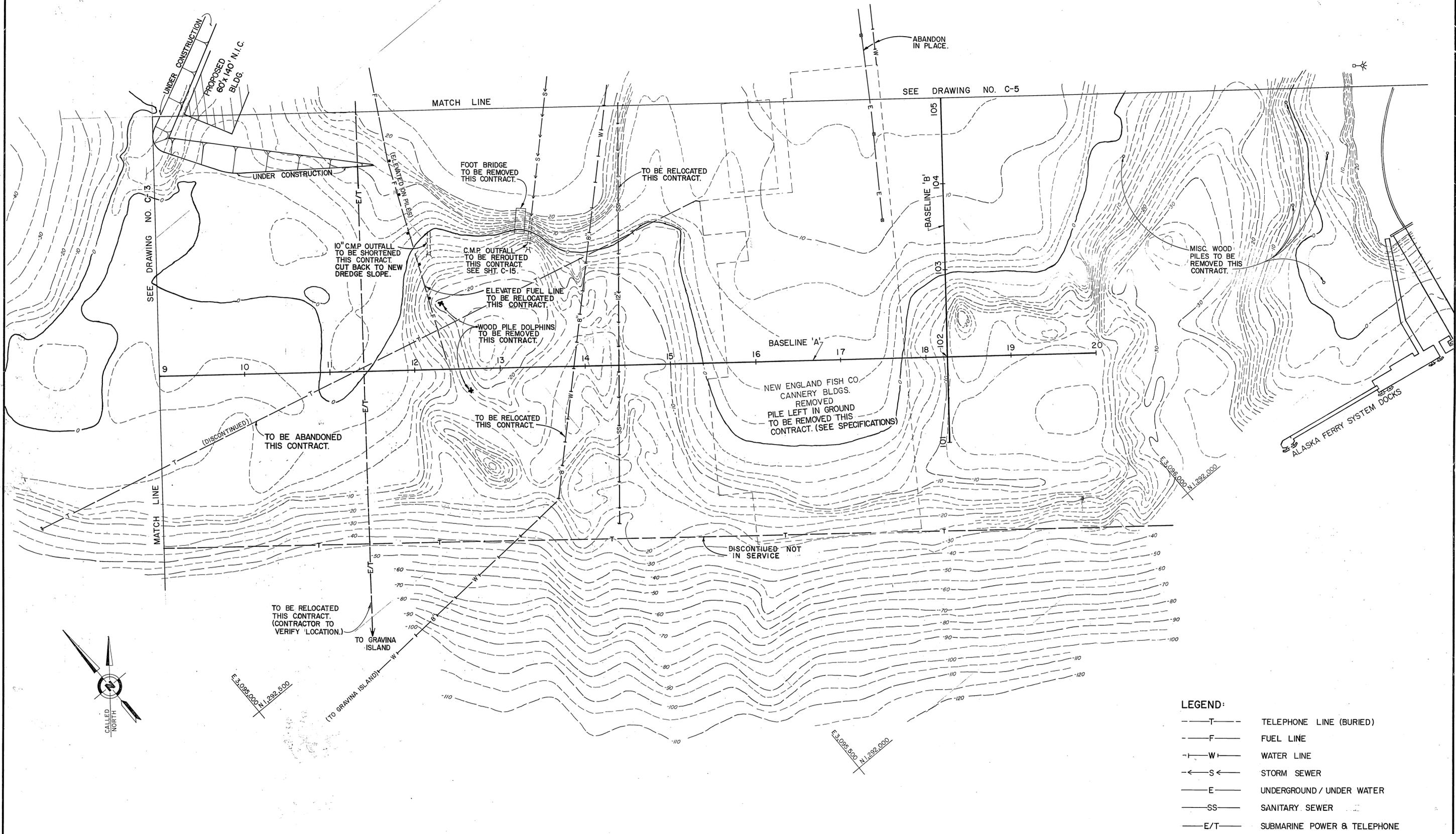
No.	DATE	REVISIONS	BY
2	1/22/85	REVISED TO AS-BUILT CONDITIONS	GB
1	8/13/82	REVISED QUANTITIES	RJP



STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.
KETCHIKAN VESSEL MAINTENANCE FACILITY
PROJECT NO. K 61218

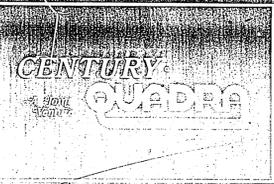
DATE: 7/30/82 SCALE: 1"=50' JOB No. 3881.02

CONTRACT NO. 1
DRAWING NO. C-3 OF 21



- LEGEND:**
- T- TELEPHONE LINE (BURIED)
 - F- FUEL LINE
 - W- WATER LINE
 - S- STORM SEWER
 - E- UNDERGROUND / UNDER WATER
 - SS- SANITARY SEWER
 - E/T- SUBMARINE POWER & TELEPHONE

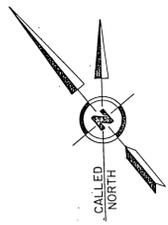
No.	DATE	REVISIONS	BY
1	1/22/86	AS-BUILT	GB
DRAWN: D.W.G.		DESIGNED: R.J.P.	CHECKED: R.J.P.



STATE OF ALASKA
 DIV. OF HARBOR DESIGN and CONST.
 D.O.T./P.F.
KETCHIKAN VESSEL
MAINTENANCE FACILITY
 PROJECT NO. K 61216

EXISTING SITE CONDITIONS
 DATE: 7/30/82 SCALE: 1"=50' JOB No. 3881.02

CONTRACT NO. 1
DRAWING NO.
C-4
OF
21



N 1,293,500
E 3,098,000

N 1,293,000
E 3,098,500

TONGASS

CARLINA CR.

MARTIN STREET

HENEGHAN STREET

HECKMAN STREET

AVENUE

K.P.U. POWER HOUSE

WAREHOUSE

APPROXIMATE LOCATION
ROCK PILE - 7600 TONS

APPROX. LOCATIONS
EXISTING ENTRANCE
TO SITE.

DOT / P.F.
CONSTRUCTION
ENGINEER'S OFFICE

U.S. POST OFFICE

SUBMARINE POWER &
TELEPHONE TO BE
RELOCATED. THIS
CONTRACT. (CONTRACTOR
TO VERIFY LOCATION.)

UNDER CONSTRUCTION
FUTURE
FILL AREA

FUEL
STORAGE

EQUIPMENT STORAGE

TIMBER RETAINING WALL
TO BE REMOVED THIS
CONTRACT. (SEE NOTE BELOW.)
TO BE RELOCATED
THIS CONTRACT.

ABANDON
IN PLACE.

ABANDON
IN PLACE.

ANTENNA TO
BE REMOVED
THIS CONTRACT.

66" C.M.P. OFFFALL
TO BE EXTENDED
THIS CONTRACT.

12" C.M.P. OFFFALL
TO BE EXTENDED
THIS CONTRACT.

FOOT BRIDGE
TO BE REMOVED
THIS CONTRACT.

MISC. WOOD PILES
TO BE REMOVED
THIS CONTRACT.

AREA FILLED BY OTHERS
PRIOR TO THIS CONTRACT

30" C.M.P. EXISTING

DOG POUND

MATCH LINE

PILES
IN GROUND
TO BE
REMOVED
THIS
CONTRACT.

NEW ENGLAND FISH CO.
CANNERY BLDGS.
REMOVED.
PILES LEFT
IN GROUND TO BE
REMOVED THIS
CONTRACT. (SEE
SPECS.)
ABANDON
IN PLACE.

BASELINE 'B'
106
105

SEE DRAWING NO. C-4

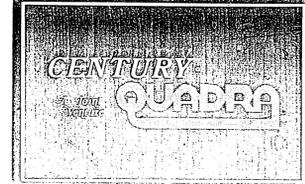
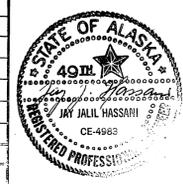
LEGEND:

- E/T- SUBMARINE POWER & TELEPHONE
- T- TELEPHONE LINE (BURIED)
- F- FUEL LINE
- W- WATER LINE
- S- STORM SEWER
- E- UNDERGROUND POWER
- SS- SANITARY SEWER
- X- EXISTING FENCE
- *-* EXISTING LIGHTS & POLE

NOTES:

1. THE CONTRACT SHALL REMOVE THE
TIMBER RETAINING WALL IN SUCH A
MANNER AS TO AVOID A PARKING AREA
SURFACE FAILURE IN THE EQUIPMENT
STORAGE BUILDING AREA.

No.	DATE	REVISIONS	GB
1	1/22/86	AS-BUILT	GB
DRAWN: D.W.G.		DESIGNED: R.J.P.	CHECKED: R.J.P.



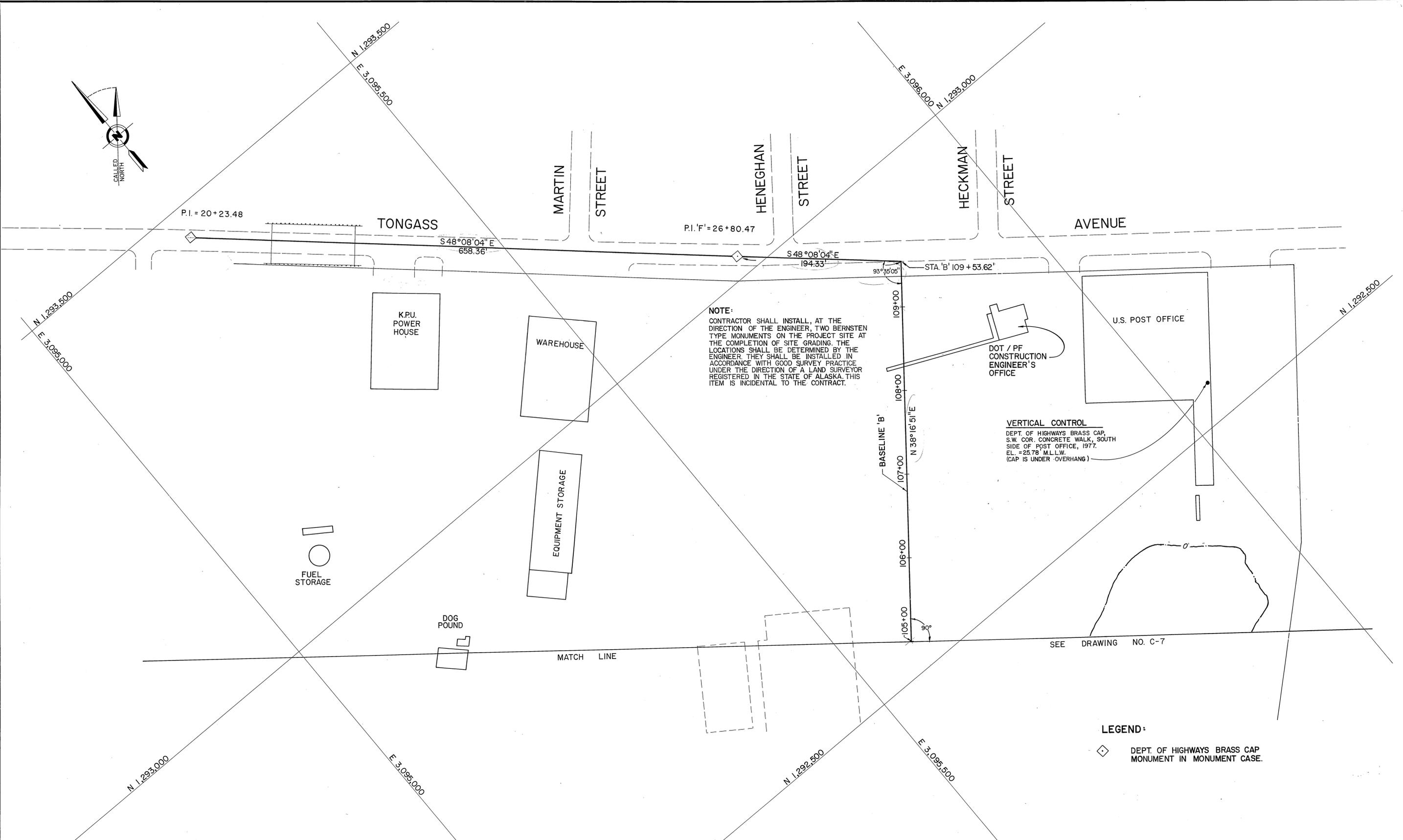
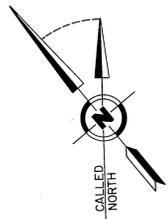
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DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.

KETCHIKAN VESSEL
MAINTENANCE FACILITY
PROJECT NO. K 61218

EXISTING SITE CONDITIONS

DATE: 7/30/82 SCALE: 1"=50' JOB No. 3881.02

DRAWING NO. C-5 OF 21



CONTRACT NO. 1

No.	DATE	REVISIONS	BY

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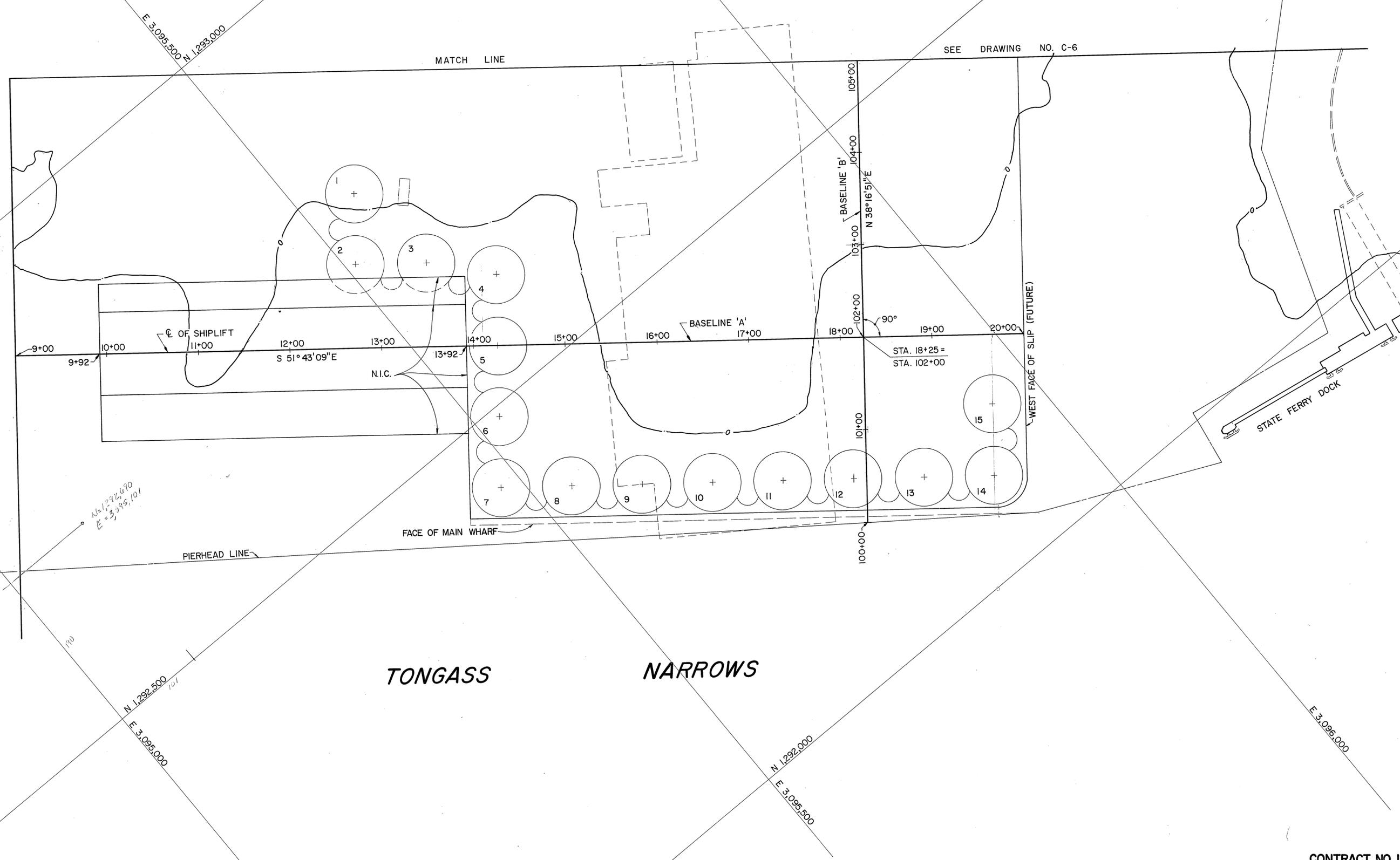
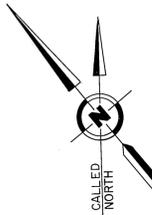
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 D.O.T./P.F.

**KETCHIKAN VESSEL
 MAINTENANCE FACILITY**
 PROJECT NO. K 61216

GEOMETRIC LAYOUT PLAN

DATE: 7/30/82 SCALE: 1" = 50' JOB No. 3881.02

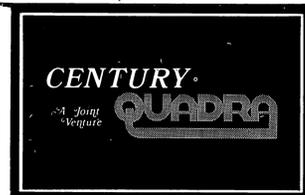
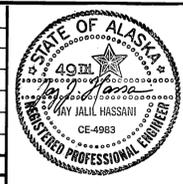
DRAWING NO.
 C-6
 OF
 21



No. 1292, 670
E = 3,385, 101

TONGASS NARROWS

No.	DATE	REVISIONS	BY



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KETCHIKAN VESSEL MAINTENANCE FACILITY
 PROJECT NO. K 61216

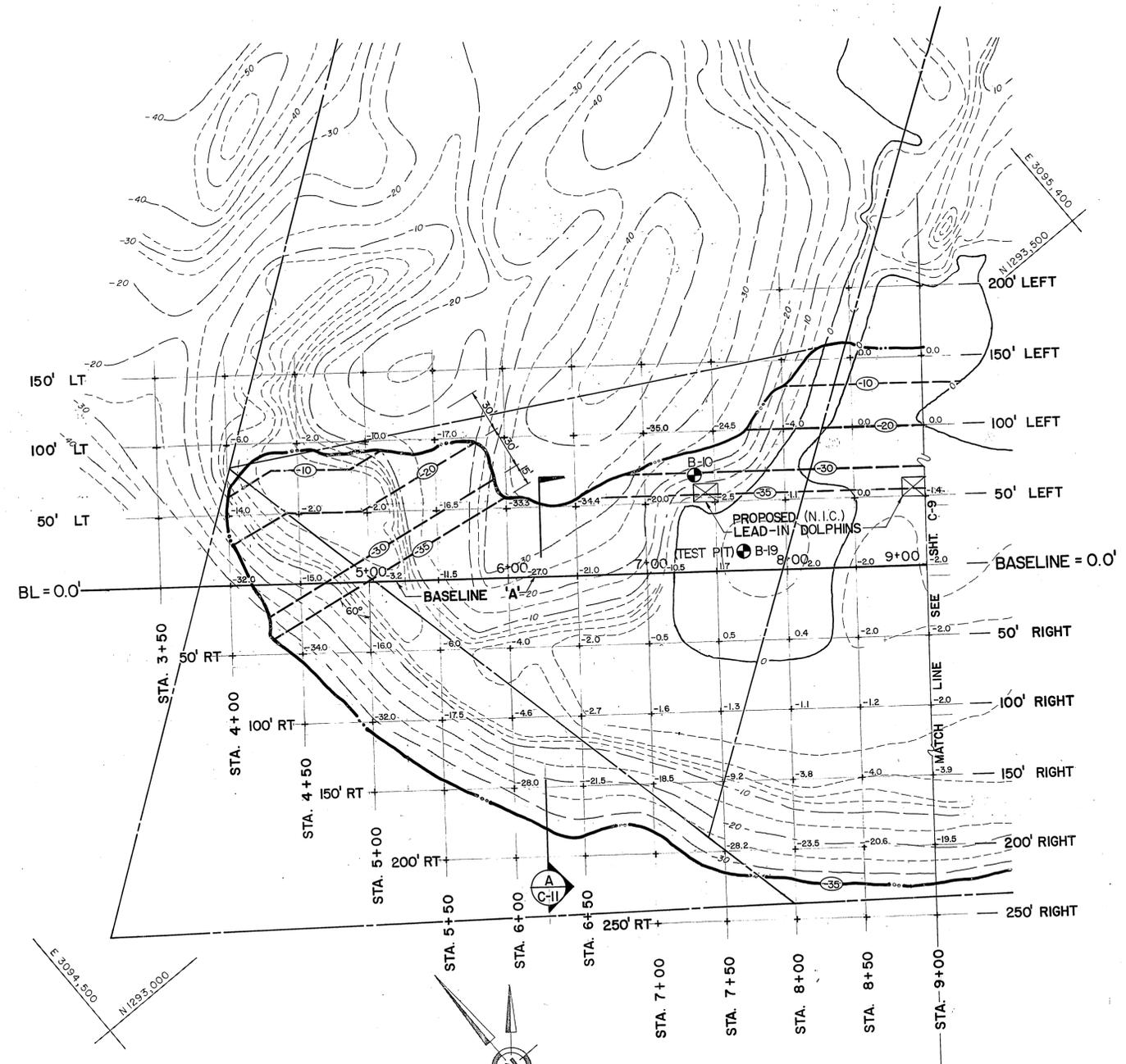
GEOMETRIC LAYOUT PLAN

DATE: 7/30/82 SCALE: 1" = 50' JOB No. 3881.02

CONTRACT NO. 1

DRAWING NO.

C-7 OF 21



E 3094.500
N 1293.500

E 3094.500
N 1293.500

NOTE: IF ADDITIONAL DREDGING IS REQUIRED FOR SITE FILL, IT SHALL BE EXTRACTED BETWEEN STA. 'A' 5+00 AND STA. 'A' 9+50. THE NORTHERN DREDGE SLOPE SHALL NOT MOVE FROM THE LOCATION SHOWN. APPROVAL OF THE ENGINEER IS REQUIRED FOR ADDITIONAL DREDGING AND FOR A REVISED DREDGING PLAN.

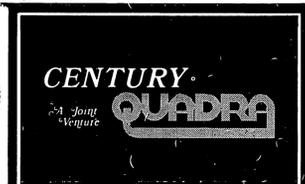
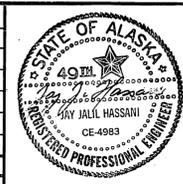
- LEGEND =
- TEST HOLE (CENTURY-QUADRA)
 - LIMITS OF DREDGING
 - 10- NEW DREDGE CONTOUR
 - 20- EXISTING CONTOUR (FT.)
 - 24.1- EXISTING SPOT ELEVATION (FT.)
 - BULKHEAD & PROPERTY LIMITS

NOTE: ALL ELEVATIONS BASED ON MARINE DATUM. (MLLW) SEE TIDE DATA - SHEET C-3.

CONTRACT NO. 1

No.	DATE	REVISIONS	BY

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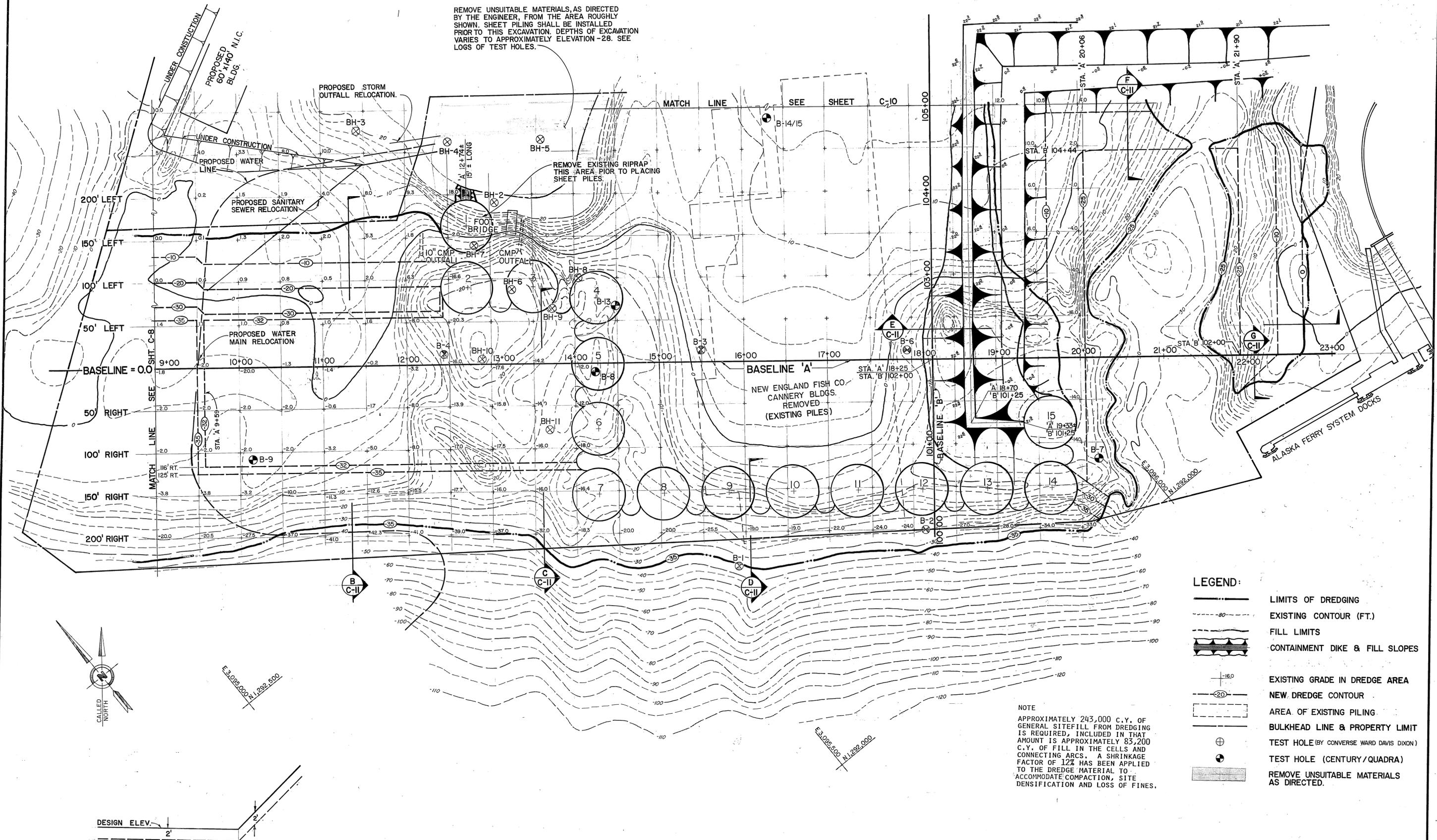
KETCHIKAN VESSEL
MAINTENANCE FACILITY
PROJECT NO. K61216

DREDGING PLAN
STA. 'A' 3+50 TO STA. 'A' 9+00

DATE: 7/30/82 SCALE: 1" = 50' JOB No. 3881.02

DRAWING NO.
C-8
OF
21

REMOVE UNSUITABLE MATERIALS, AS DIRECTED BY THE ENGINEER, FROM THE AREA ROUGHLY SHOWN. SHEET PILING SHALL BE INSTALLED PRIOR TO THIS EXCAVATION. DEPTHS OF EXCAVATION VARIES TO APPROXIMATELY ELEVATION -28. SEE LOGS OF TEST HOLES.



- LEGEND:**
- LIMITS OF DREDGING
 - EXISTING CONTOUR (FT.)
 - FILL LIMITS
 - CONTAINMENT DIKE & FILL SLOPES
 - EXISTING GRADE IN DREDGE AREA
 - NEW DREDGE CONTOUR
 - AREA OF EXISTING PILING
 - BULKHEAD LINE & PROPERTY LIMIT
 - TEST HOLE (BY CONVERSE WARD DAVIS DIXON)
 - TEST HOLE (CENTURY/QUADRA)
 - REMOVE UNSUITABLE MATERIALS AS DIRECTED.

NOTE
 APPROXIMATELY 243,000 C.Y. OF GENERAL SITEFILL FROM DREDGING IS REQUIRED, INCLUDED IN THAT AMOUNT IS APPROXIMATELY 83,200 C.Y. OF FILL IN THE CELLS AND CONNECTING ARCS. A SHRINKAGE FACTOR OF 12% HAS BEEN APPLIED TO THE DREDGE MATERIAL TO ACCOMMODATE COMPACTION, SITE DENSIFICATION AND LOSS OF FINES.

DREDGE TOLERANCE DIAGRAM
 TYPICAL TO ALL DREDGED AREAS

1	1/22/86	AS-BUILT	GB
1	8/13/82	REVISED QUANTITY NOTE	R.J.P.
REVISIONS			
No.	DATE	REVISIONS	BY
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CHECKED:			



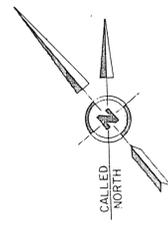
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KETCHIKAN VESSEL MAINTENANCE FACILITY
 PROJECT NO. K61216

DREDGING & CONTAINMENT PLAN
 STA. 'A' 9+00 TO 23+00
 STA. 'B' 100+00 TO 105+00

DATE: 7/30/82 SCALE: 1" = 50' JOB No. 3881.02

CONTRACT NO. 1
DRAWING NO. C-9 OF 21



N 1,293,500 / E 3,095,000

N 1,293,000 / E 3,095,500

TONGASS

CARLANA CR.

MARTIN STREET

STREET

HENEGHAN STREET

STREET

HECKMAN STREET

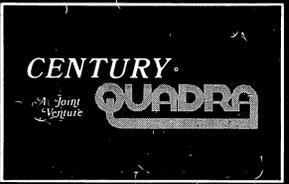
STREET

AVENUE



- LEGEND:**
- LIMITS OF DREDGING
 - EXISTING CONTOUR (FT.)
 - FILL LIMITS
 - CONTAINMENT DIKE & FILL SLOPES
 - EXISTING GRADE IN DREDGE AREA.
 - NEW DREDGE CONTOUR
 - BULKHEAD LINE & PROPERTY LINE
 - TEST HOLE (BY CONVERSE WARD DAVIS DIXON)
 - AREA OF EXISTING PILING
 - TEST HOLE - (CENTURY/QUADRA) **CONTRACT NO. 1**

No.	DATE	REVISIONS	BY
1	1/22/84	AS-BUILT	GB
DRAWN: D.W.G.		DESIGNED: R.J.P.	CHECKED:



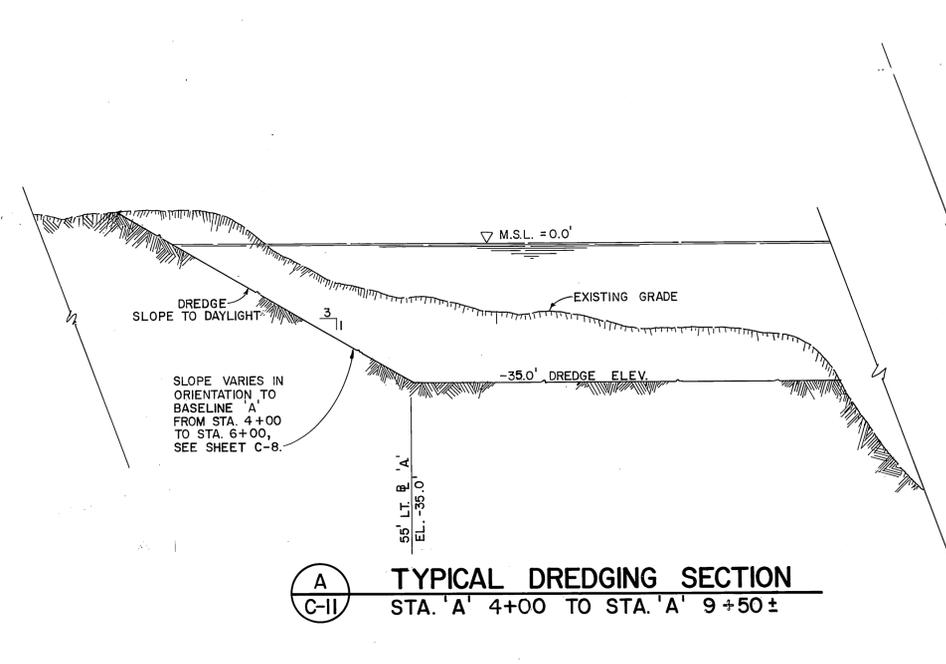
STATE OF ALASKA
 DIV. OF HARBOR DESIGN and CONST.
 D.O.T./P.F.

**KETCHIKAN VESSEL
 MAINTENANCE FACILITY**
 PROJECT NO. K61216

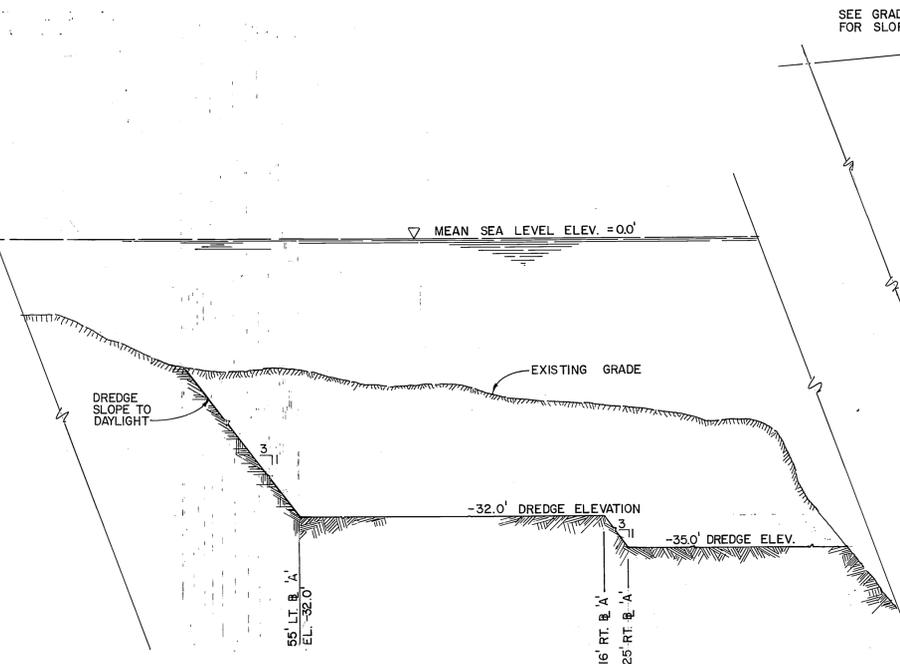
DREDGING & CONTAINMENT PLAN
 STA. 'B' 105+00 TO 108+00

DATE: 7/30/82 SCALE: 1" = 50' JOB No. 3881.02

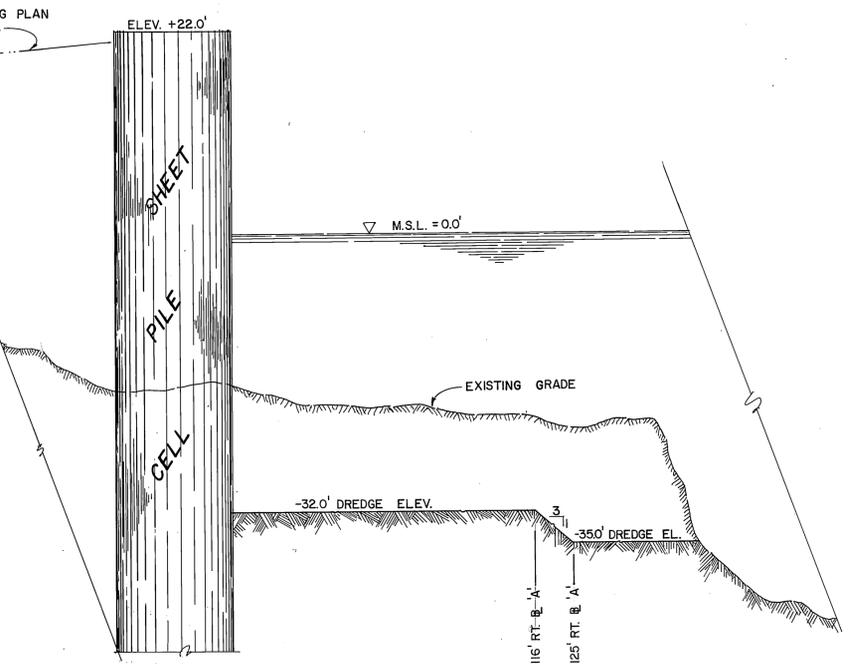
DRAWING NO.
C-10
 OF
 21



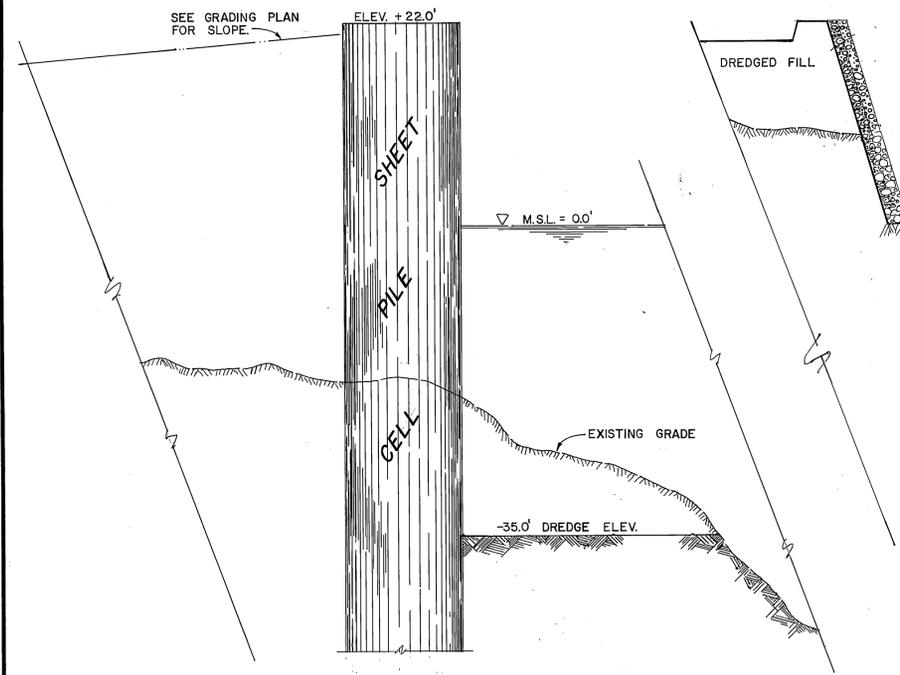
A
C-II **TYPICAL DREDGING SECTION**
STA. 'A' 4+00 TO STA. 'A' 9+50±



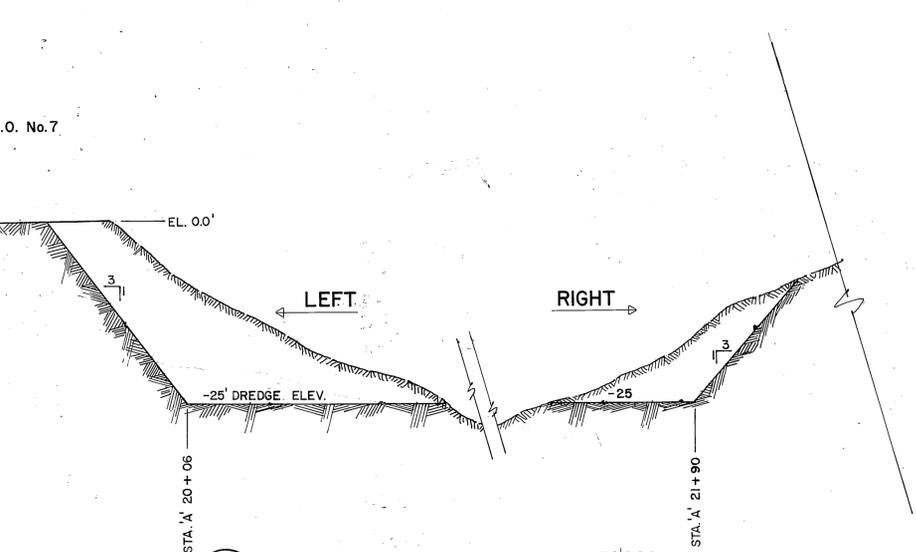
B
C-II **TYPICAL DREDGING SECTION**
STA. 'A' 9+59± TO STA. 'A' 12+40±



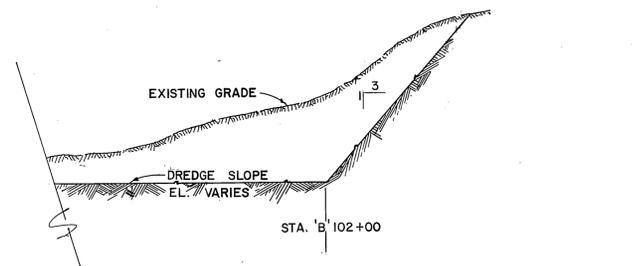
C
C-II **TYPICAL DREDGING SECTION**
STA. 'A' 12+40± TO STA. 'A' 13+95±



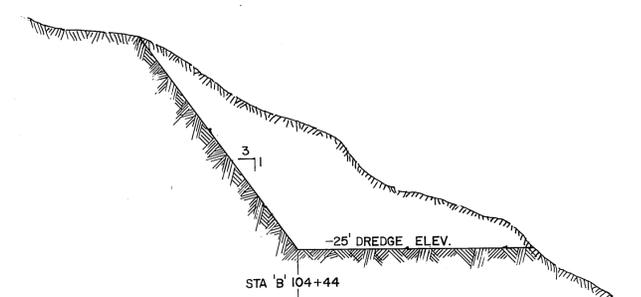
D
C-II **TYPICAL DREDGING SECTION**
STA. 'A' 13+95± TO STA. 'A' 20+80±



E
C-II **TYPICAL DREDGE SECTION**
STA. 'B' 100+50 TO STA. 'B' 104+44 (LEFT)
STA. 'B' 102+00 TO STA. 'B' 104+44 (RIGHT)



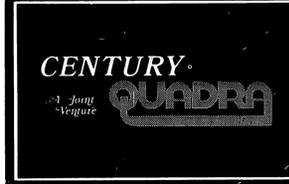
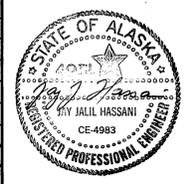
G
C-II **TYPICAL DREDGE SIDE SLOPE**



F
C-II **TYPICAL DREDGE SECTION**
STA. 'A' 20+06 TO STA. 'A' 21+50±

CONTRACT NO. 1

No.	DATE	REVISIONS	BY
1	1-22-86	AS-BUILT	GB
DRAWN: D.W.G.		DESIGNED: R.J.P.	CHECKED:



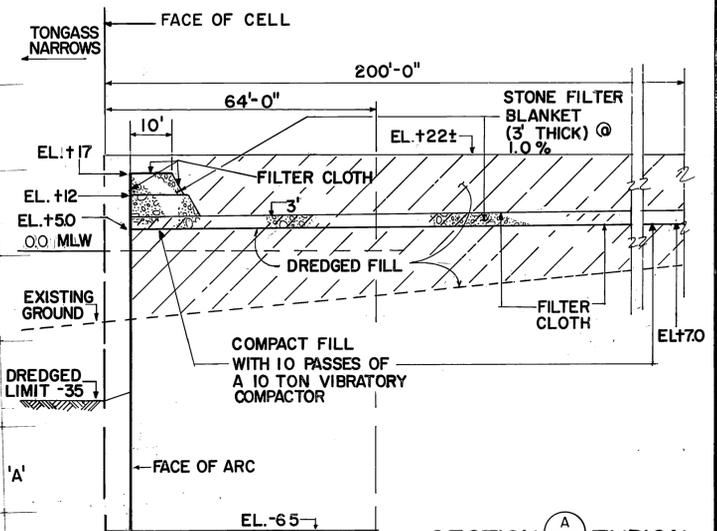
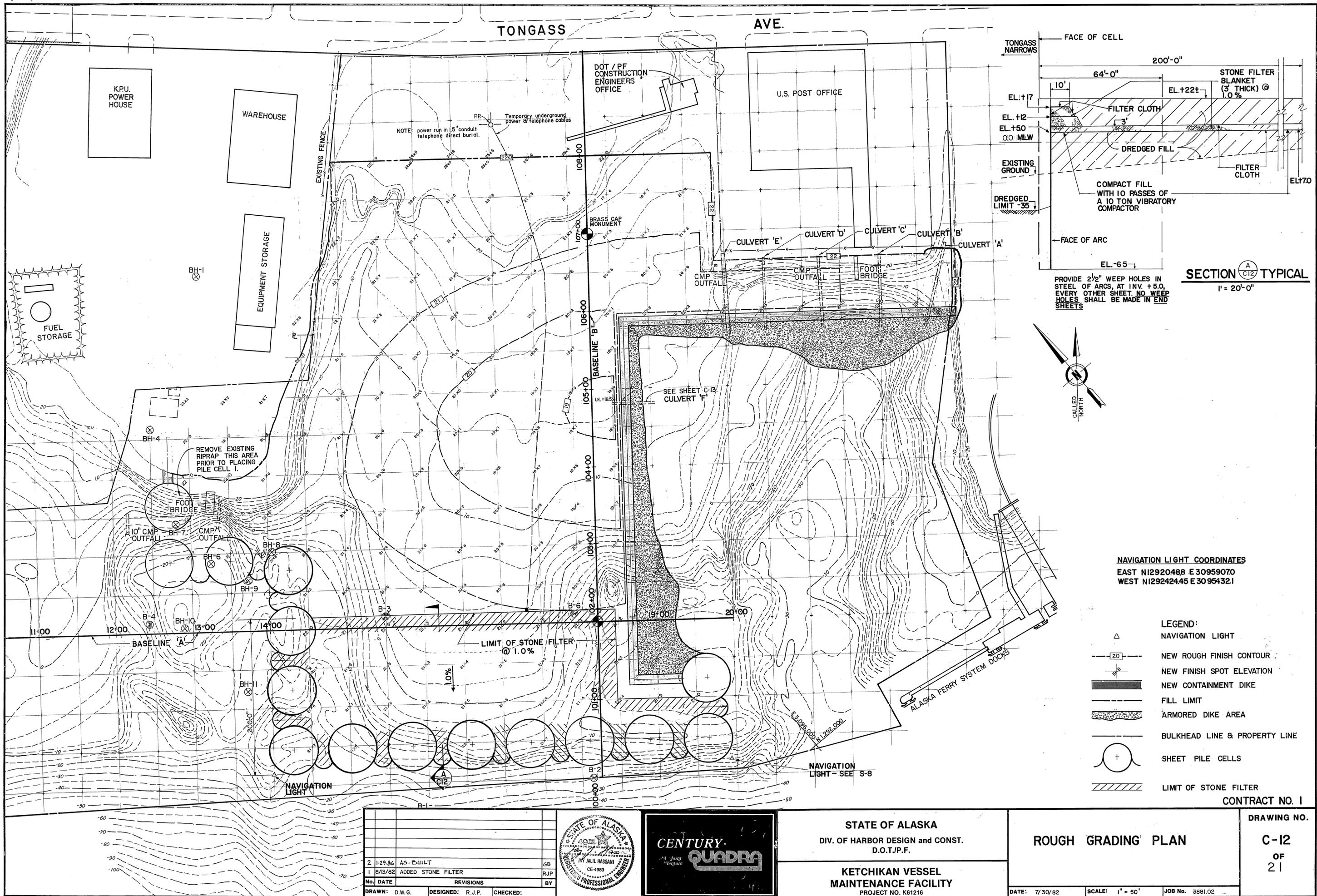
STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.
**KETCHIKAN VESSEL
MAINTENANCE FACILITY**
PROJECT NO. K61216

TYPICAL DREDGING SECTIONS
(A THROUGH F)
DATE: 7/30/82 SCALE: NONE JOB No. 3881.02

CONTRACT NO. 1
DRAWING NO.
C-II
OF
21

TONGASS

AVE.



SECTION A-TYPICAL
 1" = 20'-0"



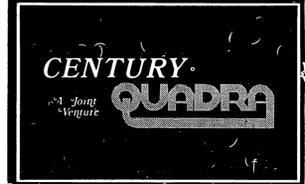
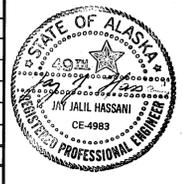
PROVIDE 2 1/2" WEEP HOLES IN STEEL OF ARCS, AT INV. +5.0. EVERY OTHER SHEET. NO WEEP HOLES SHALL BE MADE IN END SHEETS

NAVIGATION LIGHT COORDINATES
 EAST N12920488 E 30959070
 WEST N129242445 E 30954321

- LEGEND:**
- NAVIGATION LIGHT
 - NEW ROUGH FINISH CONTOUR
 - NEW FINISH SPOT ELEVATION
 - NEW CONTAINMENT DIKE
 - FILL LIMIT
 - ARMORED DIKE AREA
 - BULKHEAD LINE & PROPERTY LINE
 - SHEET PILE CELLS
 - LIMIT OF STONE FILTER

CONTRACT NO. 1

2	1-29-86	AS-BUILT	GB
1	8/3/82	ADDED STONE FILTER	RJP
No. DATE		REVISIONS	BY
DRAWN:	D.W.G.	DESIGNED:	R.J.P.
CHECKED:			



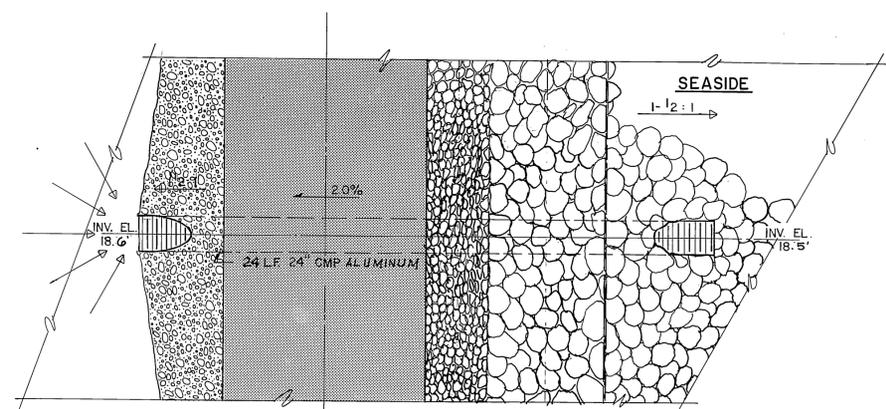
STATE OF ALASKA
 DIV. OF HARBOR DESIGN and CONST.
 D.O.T./P.F.

KETCHIKAN VESSEL MAINTENANCE FACILITY
 PROJECT NO. K61216

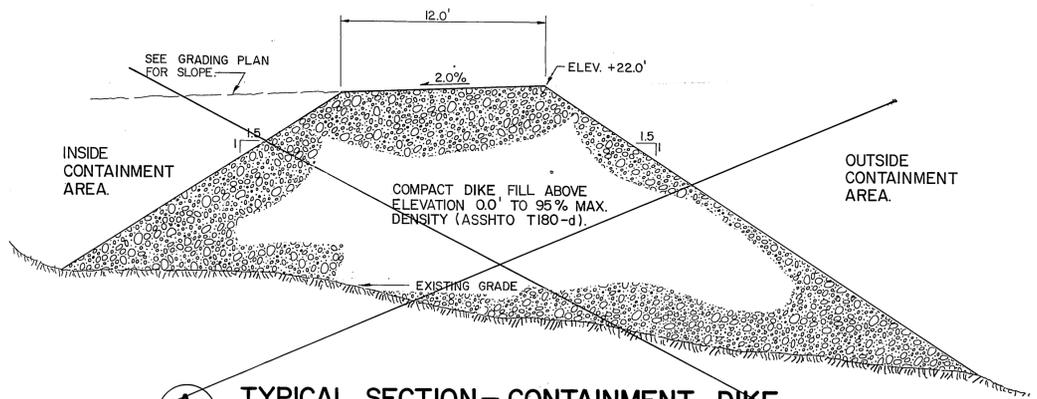
ROUGH GRADING PLAN

DATE: 7/30/82 SCALE: 1" = 50' JOB No. 3881.02

DRAWING NO.
C-12
 OF
 21

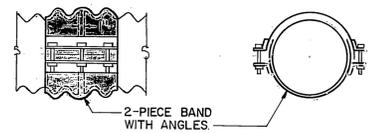


CULVERT 'F' PLAN
STA. 'B' 104+80



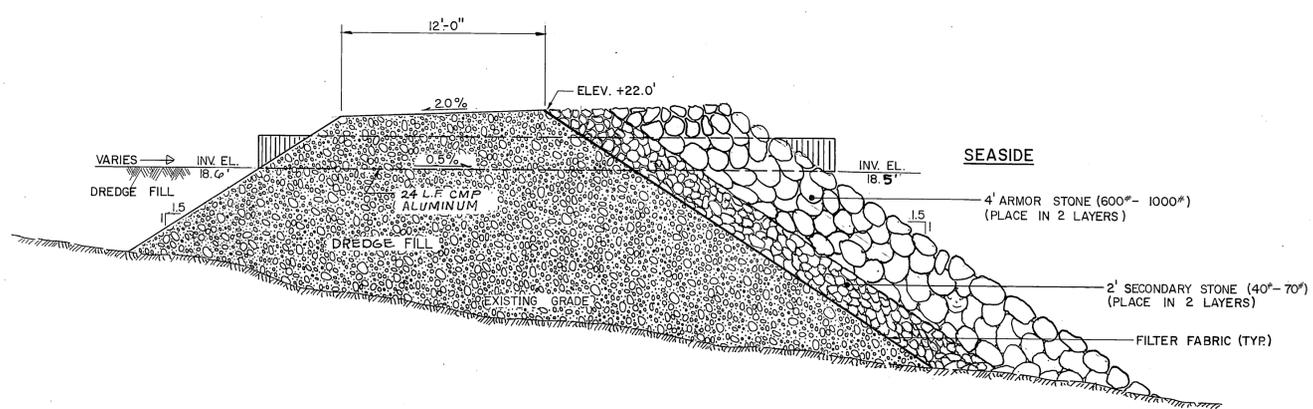
A TYPICAL SECTION - CONTAINMENT DIKE

NOTE: SOME DIKE AREAS HAVE TOP WIDTH OF 6', SEE CONTAINMENT PLAN SHT. C-10.
DIKES NOT USED, ALL EMBANKMENTS MADE WITH DREDGED MATERIALS



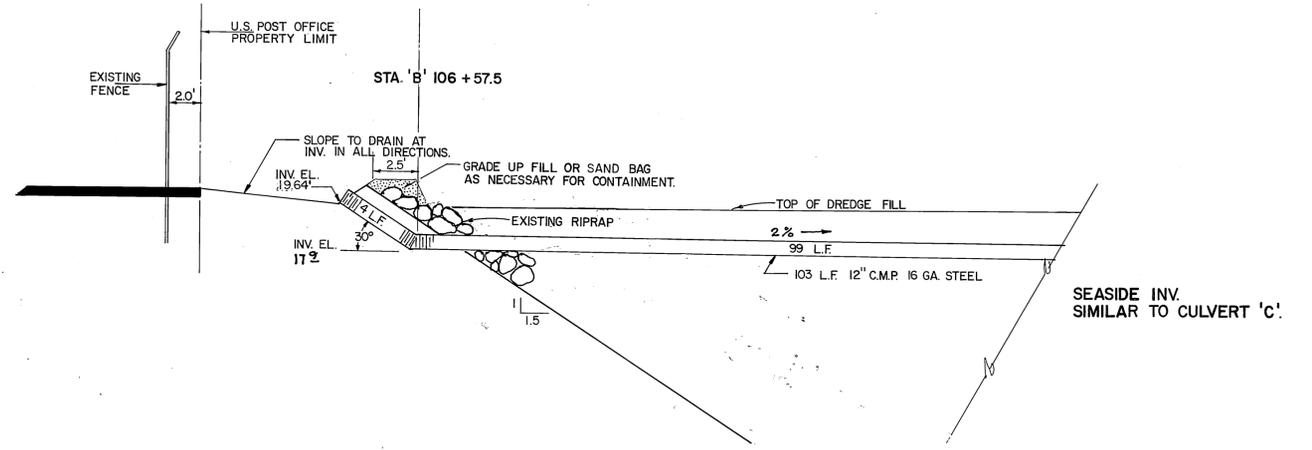
NOTE: FOR 12", 24" and 36" DIA. CULVERTS USE 12" COUPLING.
FOR 66" DIA. CULVERTS USE 24" COUPLINGS.

CULVERT CONNECTION DETAIL



TYPICAL SECTION - ARMORED DIKE / CULVERT 'F'

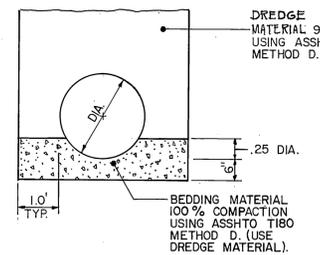
STA. 'B' 101+73 ± STA. 'B' 105+85
STA. 'A' 18+75 - STA. 'A' 22+00
(SEE ROUGH GRADING PLAN FOR ARMORED AREAS.)



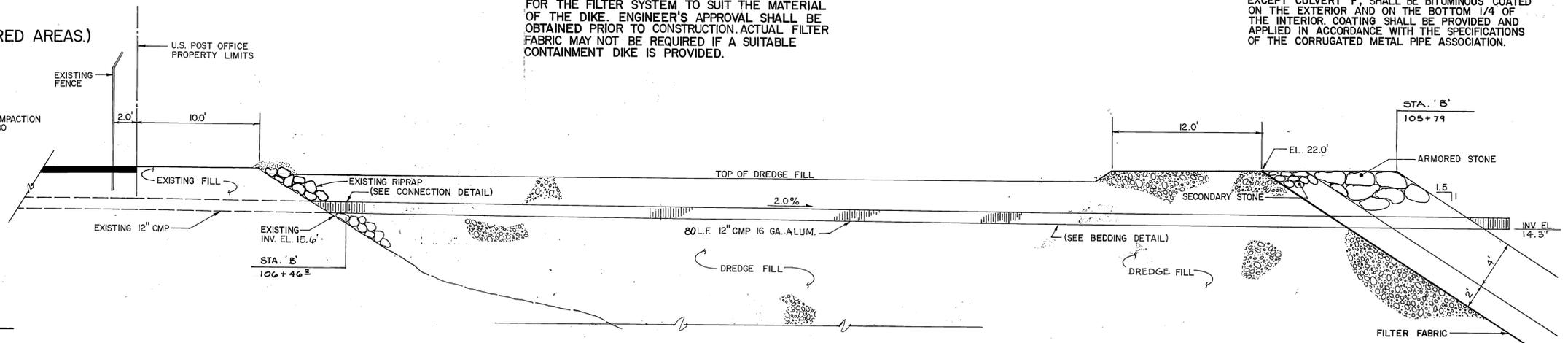
CULVERT 'B' and 'D'
CULVERT B 375' RT @ 'B'
CULVERT D 225' RT @ 'B'

NOTE:
THE CONTRACTOR SHALL SUBMIT HIS DESIGN FOR THE FILTER SYSTEM TO SUIT THE MATERIAL OF THE DIKE. ENGINEER'S APPROVAL SHALL BE OBTAINED PRIOR TO CONSTRUCTION. ACTUAL FILTER FABRIC MAY NOT BE REQUIRED IF A SUITABLE CONTAINMENT DIKE IS PROVIDED.

NOTE:
COATING - ALL CORRUGATED METAL PIPE AND ASSOCIATED ACCESSORIES, INSTALLED UNDER THIS CONTRACT, EXCEPT CULVERT 'F', SHALL BE BITUMINOUS COATED ON THE EXTERIOR AND ON THE BOTTOM 1/4 OF THE INTERIOR. COATING SHALL BE PROVIDED AND APPLIED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE CORRUGATED METAL PIPE ASSOCIATION.

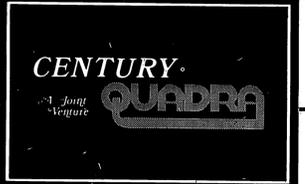


CULVERT EMBEDMENT DETAIL



CULVERT 'C'
300 ± RT @ 'B'

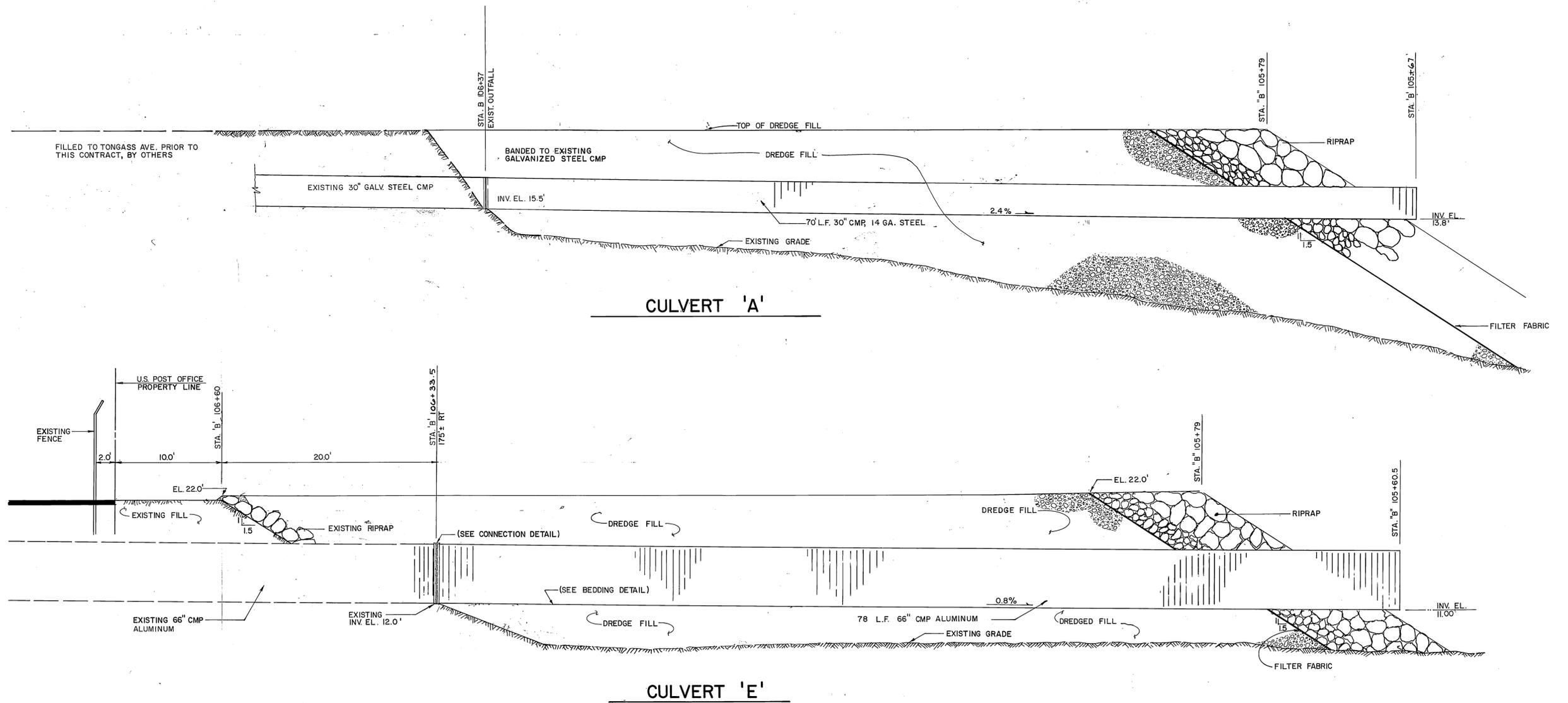
No.	DATE	REVISIONS	BY
2	1-28-84	AS-BUILT	GJS
1	8/13/82	ADDED DIKE FILTER NOTE	RJP
DRAWN: D.W.G. DESIGNED: K.R.B. CHECKED:			



STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.
KETCHIKAN VESSEL MAINTENANCE FACILITY
PROJECT NO. K61216

TYPICAL SECTIONS - DIKE and CULVERTS
DATE: 7/30/82 SCALE: NONE JOB No. 3881.02

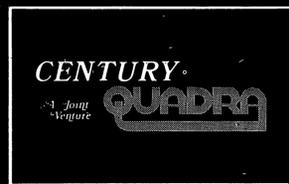
CONTRACT NO. 1
DRAWING NO. C-13 OF 21



NOTE:
 THE CONTRACTOR SHALL SUBMIT HIS DESIGN FOR THE FILTER SYSTEM TO SUIT THE MATERIAL OF THE DIKE. ENGINEER'S APPROVAL SHALL BE OBTAINED PRIOR TO CONSTRUCTION. ACTUAL FILTER FABRIC MAY NOT BE REQUIRED IF A SUITABLE CONTAINMENT DIKE IS PROVIDED.

CONTRACT NO. 1

No.	DATE	REVISIONS	BY
2	4-28-86	AS-BUILT	GB
1	8/13/82	ADDED DIKE FILTER NOTE	RJP
DRAWN: D.W.G. DESIGNED: K.R.B. CHECKED:			



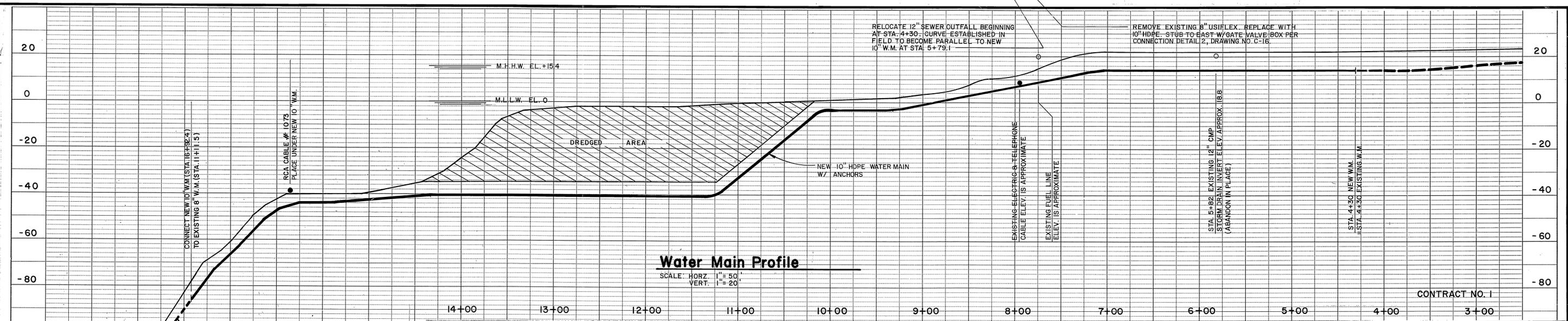
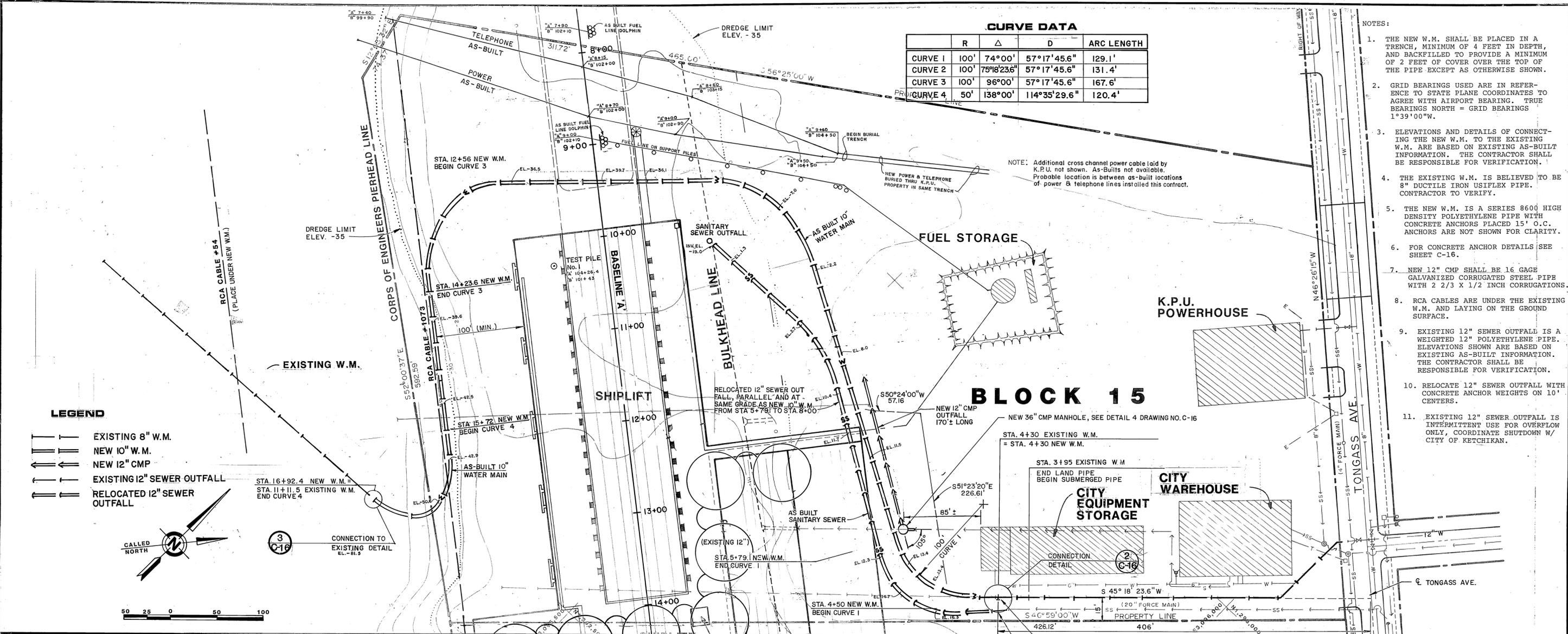
STATE OF ALASKA
 DIV. OF HARBOR DESIGN and CONST.
 D.O.T./P.F.

**KETCHIKAN VESSEL
 MAINTENANCE FACILITY**
 PROJECT NO. K61216

CULVERT 'A' and 'E'

DATE: 7/30/82 SCALE: NONE JOB No. 3881.02

DRAWING NO.
C-14
 OF
 21



No.	DATE	REVISIONS	BY
1	1-28-86	AS BUILT	GB
DRAWN:		DESIGNED:	CHECKED:

STATE OF ALASKA
 PROFESSIONAL ENGINEER
 WILLIAM F. CRAIG
 CE 4950

CENTURY QUADRA
 A Joint Venture

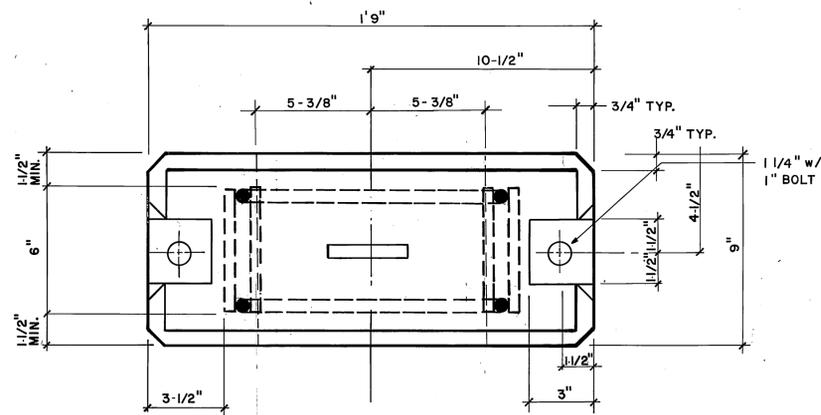
STATE OF ALASKA
 DIV. OF HARBOR DESIGN AND CONST.
 D.O.T./P.F.

KETCHIKAN VESSEL MAINTENANCE FACILITY
 PROJECT NO. K61216

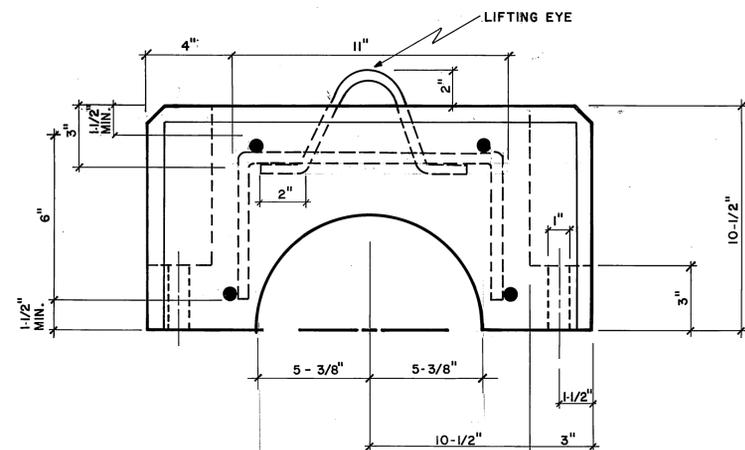
NEW 10" AIRPORT WATER MAIN

DRAWING NO. **C-15** OF **21**

DATE: AUGUST 24, 1981 SCALE: AS SHOWN JOB No. 1-42JV



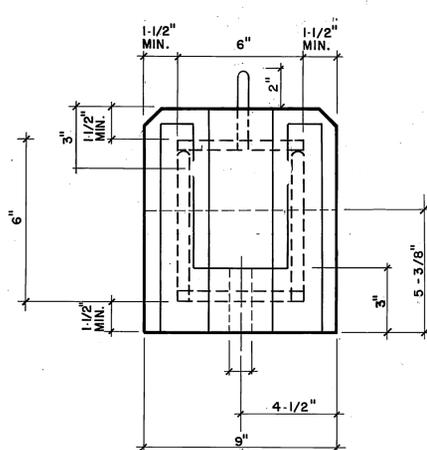
TOP



FRONT

CONCRETE ANCHOR NOTES:

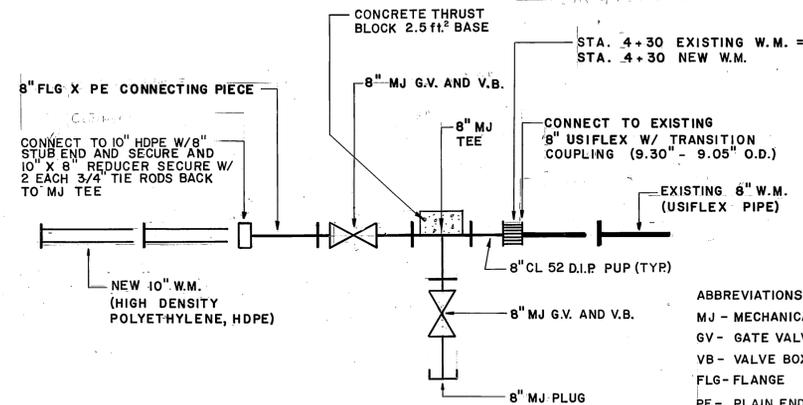
1. REINFORCING STEEL SHALL BE #6 DEFORMED BARS.
2. EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER AS SHOWN.
3. ANCHORS ARE SYMMETRICAL ABOUT CENTERLINES.
4. EACH ANCHOR CONSISTS OF A TOP AND BOTTOM HALF. THE HALVES SHALL BE BOLTED TOGETHER WITH 1" DIA. X 8" LONG STAINLESS STEEL BOLT WITH STAINLESS STEEL WASHER UNDER THE BOLT HEAD AND NUT.
5. PRIOR TO BOLTING THE ANCHOR ON TO THE PIPE, THE PIPE SHALL BE WRAPPED IN A 1/8" THICK RUBBER GASKETING MATERIAL AT EACH ANCHOR LOCATION TO PROTECT THE PIPE.
6. THE LIFTING EYE SHALL BE #6 REINFORCING BAR.



SIDE

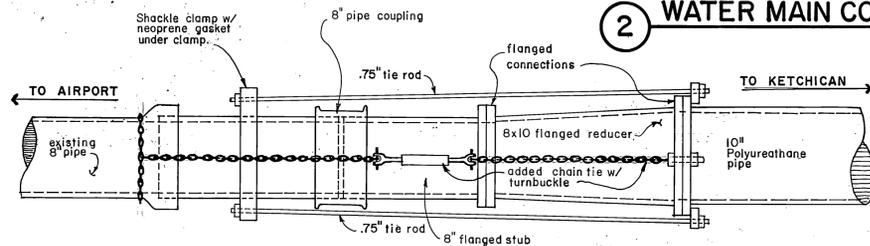
1 CONCRETE ANCHOR DETAIL

SCALE: 1/4" = 1"



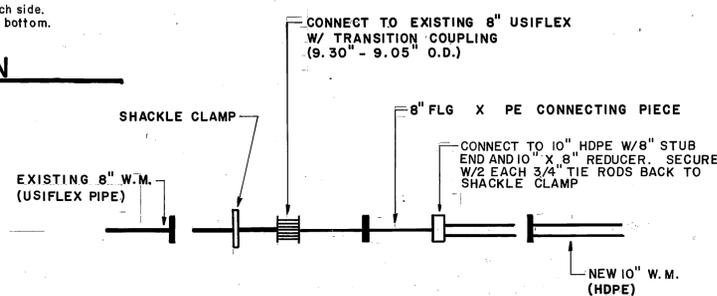
2 WATER MAIN CONNECTION DETAIL (TEE)

- ABBREVIATIONS:
 MJ - MECHANICAL JOINT
 GV - GATE VALVE
 VB - VALVE BOX
 FLG - FLANGE
 PE - PLAIN END
 HDPE-HIGH DENSITY POLYETHYLENE PIPE



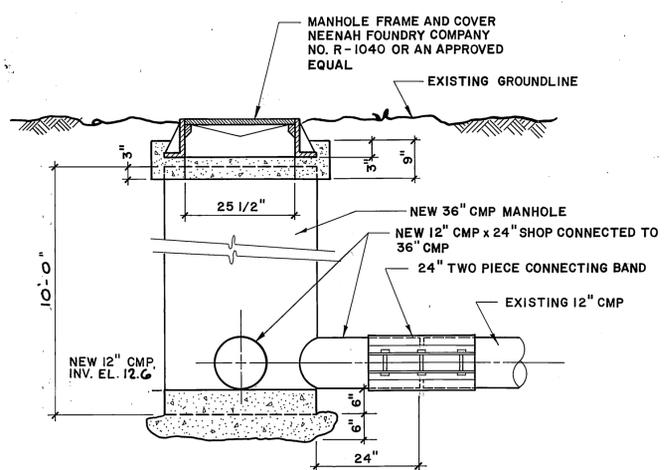
3a WATER MAIN CONNECTION AS-BUILT

NOTE: Tie rods located one each side. Chain ties one top and bottom.



3 WATER MAIN CONNECTION DETAIL (STRAIGHT) N.T.S.

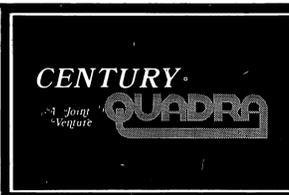
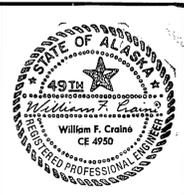
- MANHOLE NOTES:
1. ALL CMP SHALL BE 16 GAUGE GALVANIZED STEEL PIPE WITH 2 2/3" x 1/2" CORRUGATIONS.
 2. CONNECTING BANDS SHALL BE TWO PIECE, CORRUGATED, GALVANIZED STEEL. INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS.
 3. LENGTH OF THE 36" CMP SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR.
 4. INVERT EL. OF 12" CMP SHALL BE VERIFIED BY THE CONTRACTOR.



4 12" CMP OUTFALL - MANHOLE N.T.S.

CONTRACT NO. 1

No.	DATE	REVISIONS	BY
1	1/24/86	'AS-BUILT'	66
DRAWN: DESIGNED: CHECKED:			

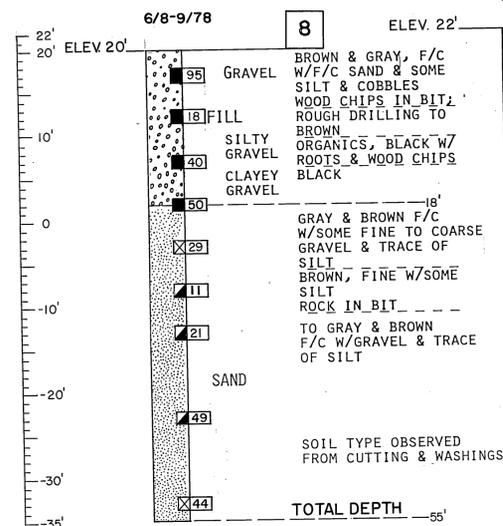


STATE OF ALASKA
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 MAINTENANCE FACILITY
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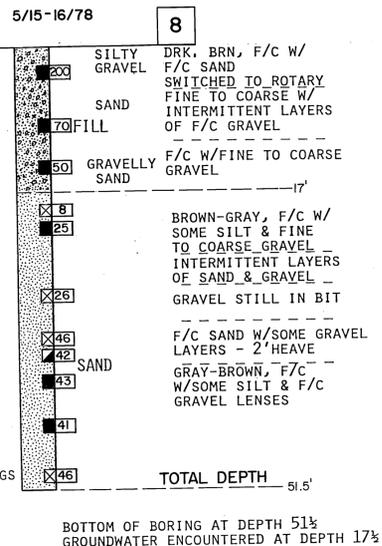
NEW 10"
 AIRPORT WATER MAIN
 DETAILS
 DATE: MARCH 5, 1982 SCALE: AS SHOWN JOB No. 2-09JV

DRAWING NO.
 C-16
 OF
 21

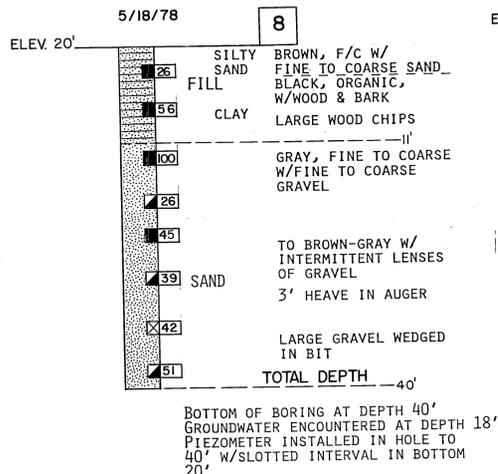
BORING BH-1



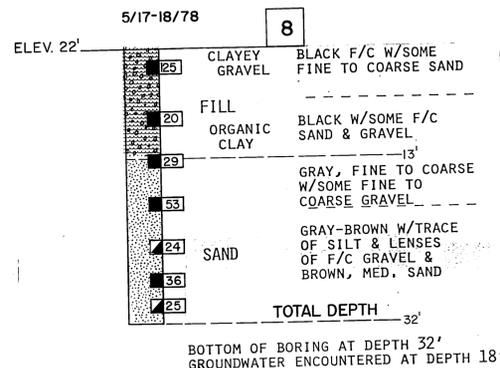
BORING BH-2



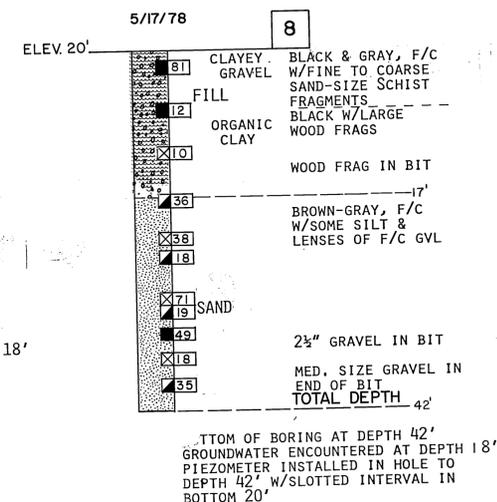
BORING BH-3



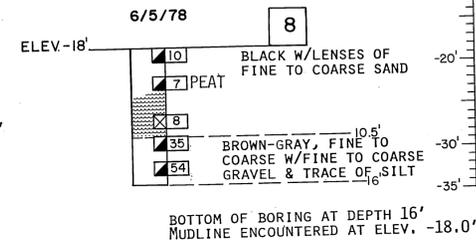
BORING BH-4



BORING BH-5



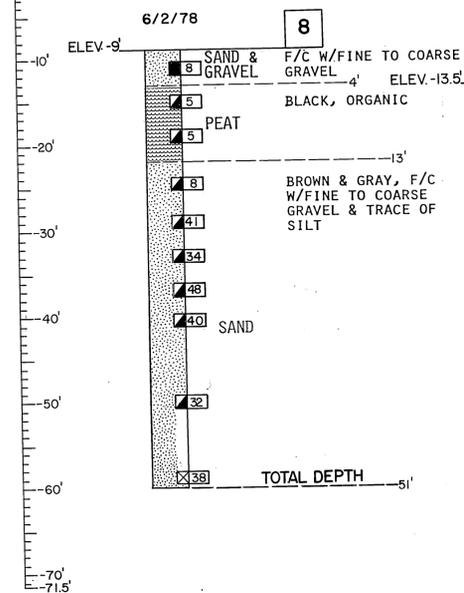
BORING BH-6



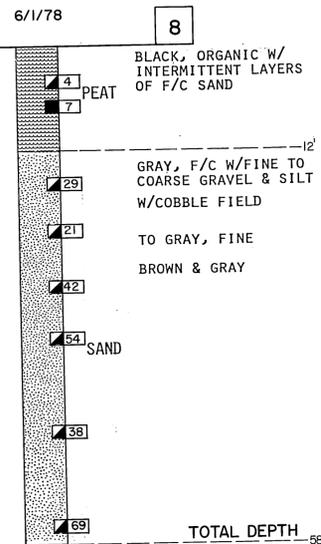
NOTES:

- FOR BORE HOLE LOCATIONS, SEE SHEETS C-8, C-9, & C-10.
- THESE TEST HOLE LOGS WERE REPRODUCED FROM THEIR ORIGINAL REPORTS. THOSE REPORTS SHOULD BE CONSULTED TO GAIN A FULLER INTERPRETATION OF THE CONDITIONS ENCOUNTERED AND TO FURTHER UNDERSTAND THE MATERIALS PROPERTIES.
- WRITTEN SOIL DESCRIPTIONS TAKE PRECEDENCE OVER GRAPHIC LOGS.

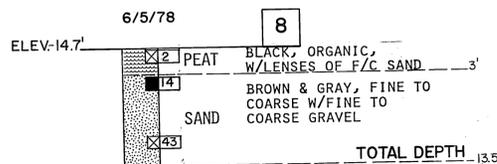
BORING BH-7



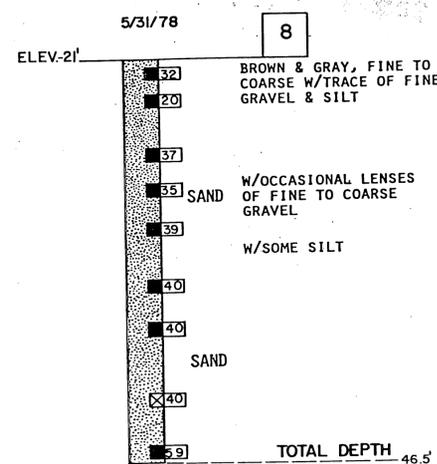
BORING BH-8



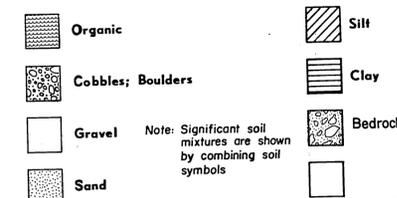
BORING BH-9



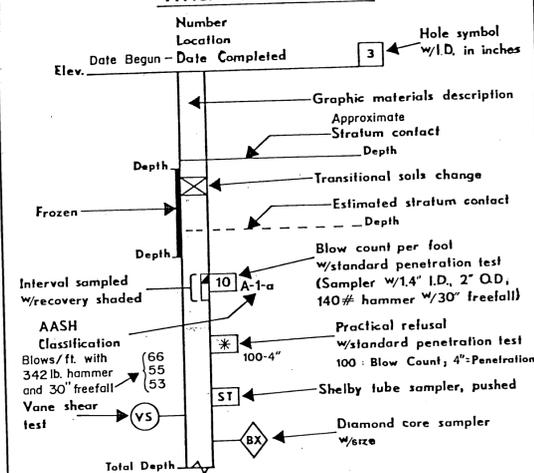
BORING BH-10



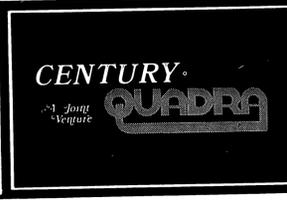
BASIC MATERIALS SYMBOLS



TYPICAL TEST HOLE LOG



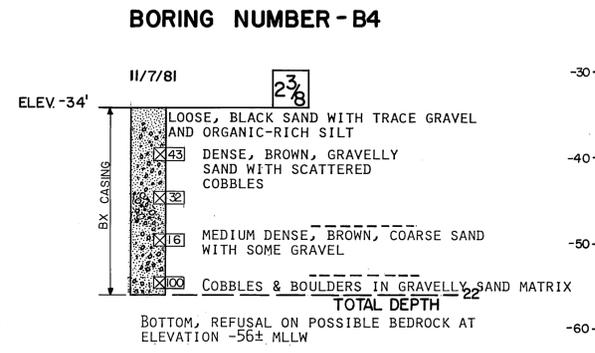
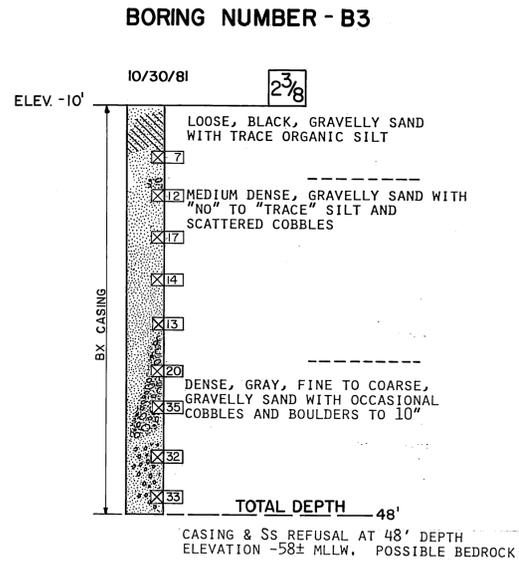
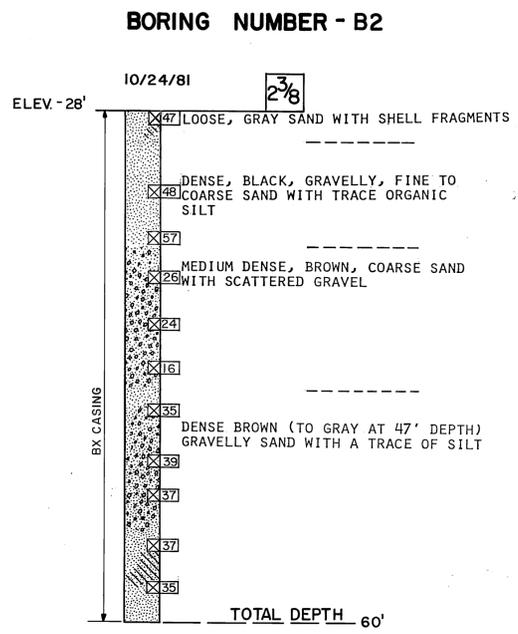
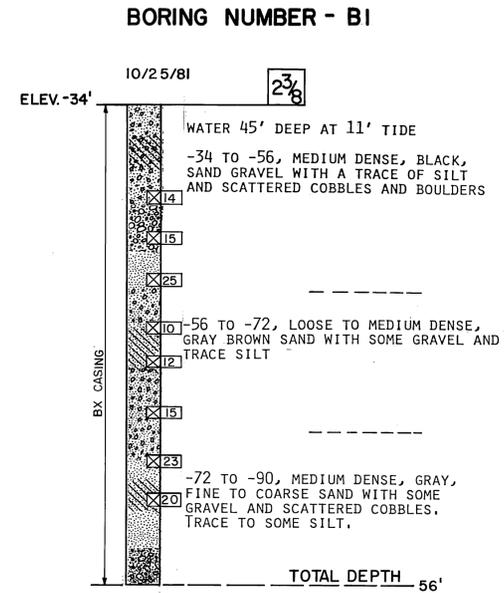
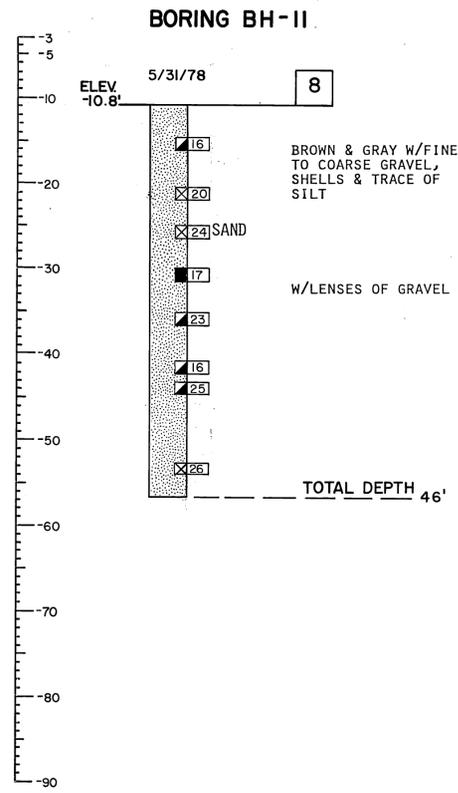
No.	DATE	REVISIONS	BY



STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.
KETCHIKAN VESSEL
MAINTENANCE FACILITY
PROJECT NO. K61216

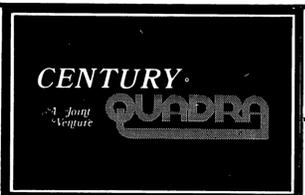
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DATE: 7/30/82
SCALE: VERT. 1"=10'
JOB No. 3881.02

DRAWING NO.
C-17
OF
21



NOTE:
SEE SHEET C-20 FOR BORING B-5.

No.	DATE	REVISIONS	BY

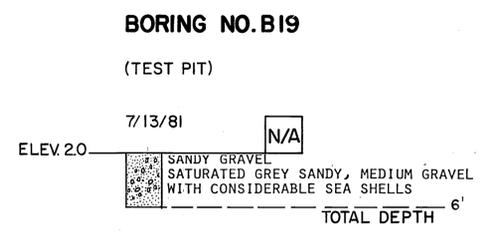
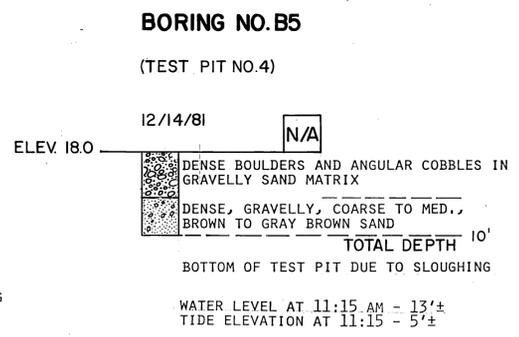
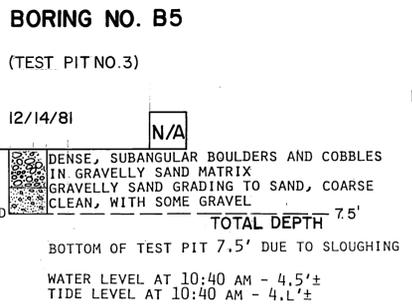
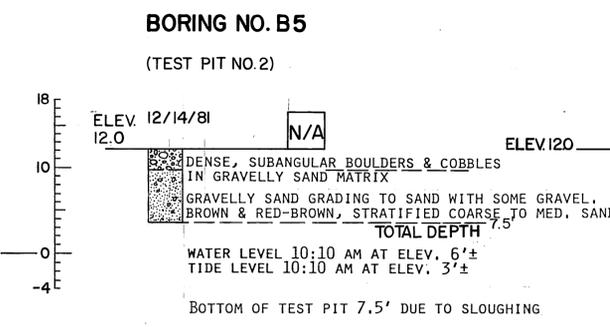
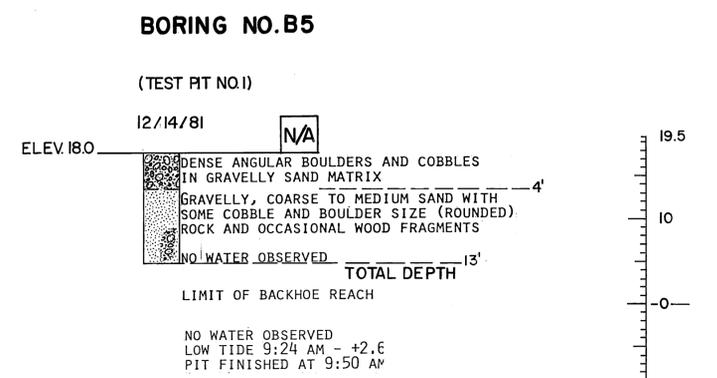
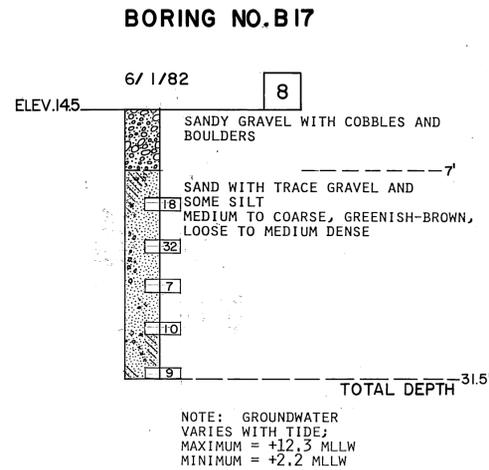
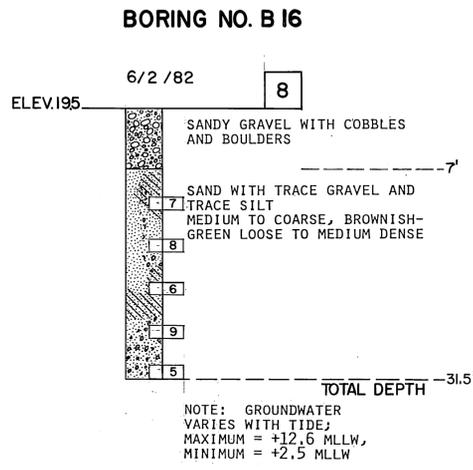
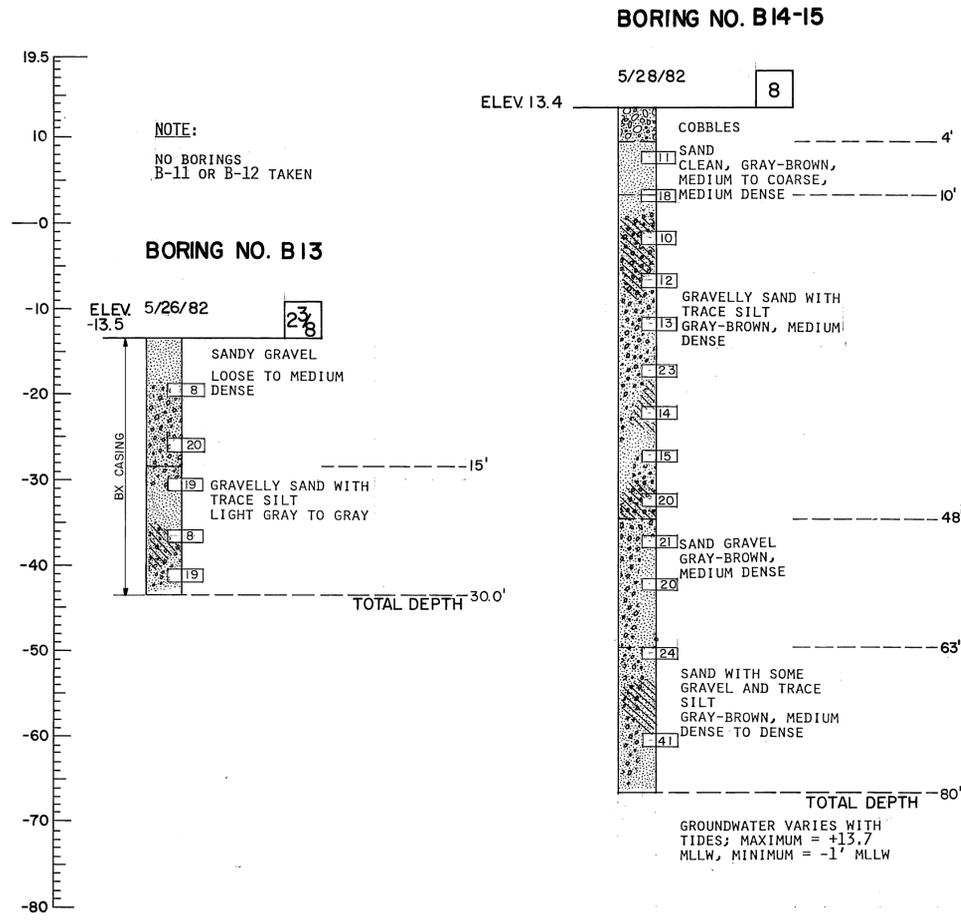


STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
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KETCHIKAN VESSEL
MAINTENANCE FACILITY
PROJECT NO. K61216

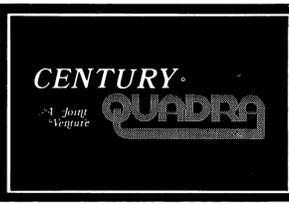
DATE: 7/30/82 SCALE: VERT. 1" = 10' JOB No. 3881.02

DRAWING NO.
C-18
OF
21



No.	DATE	REVISIONS	BY

DRAWN: DESIGNED: CHECKED:



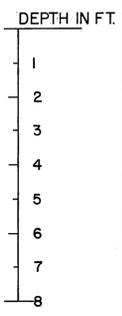
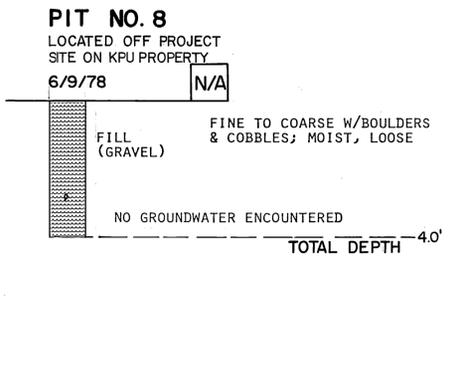
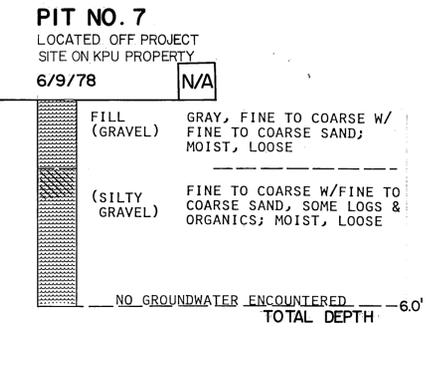
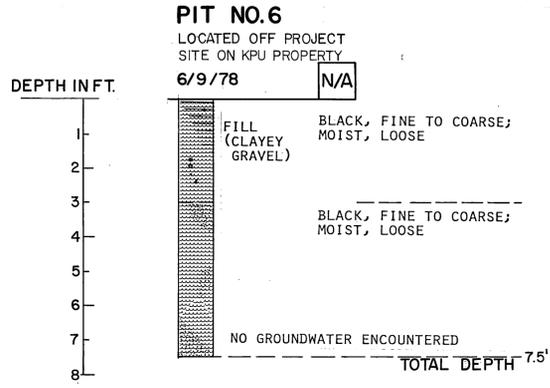
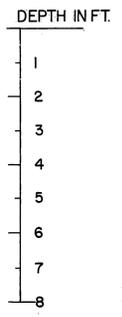
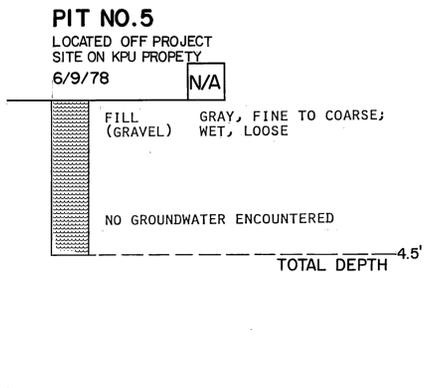
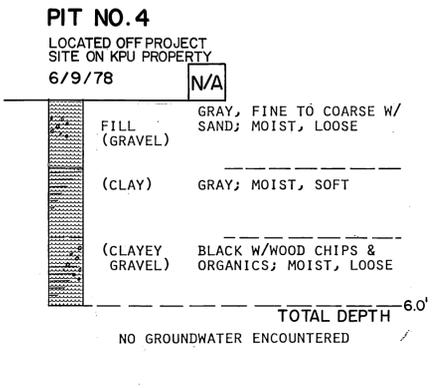
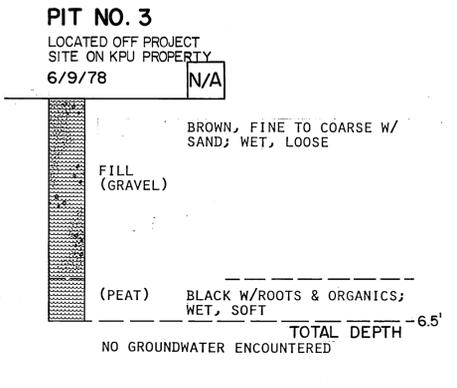
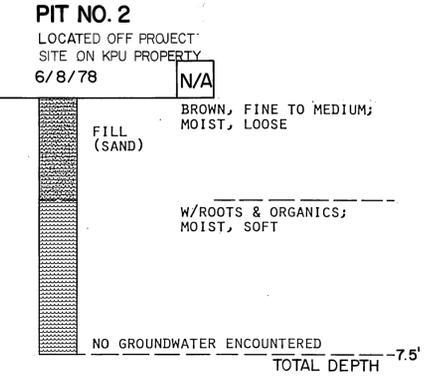
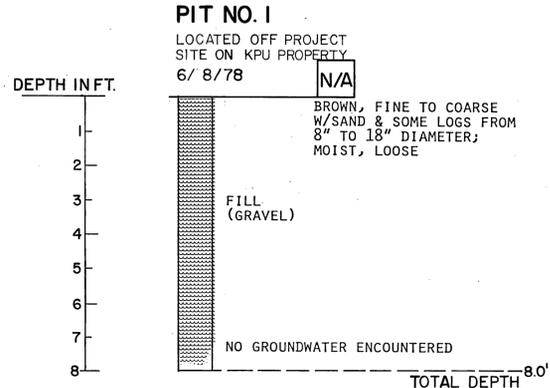
STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.

**KETCHIKAN VESSEL
MAINTENANCE FACILITY**
PROJECT NO. K61216

BORING LOGS

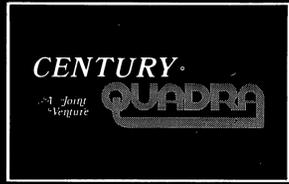
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DRAWING NO.
C-20
OF
21



No.	DATE	REVISIONS	BY

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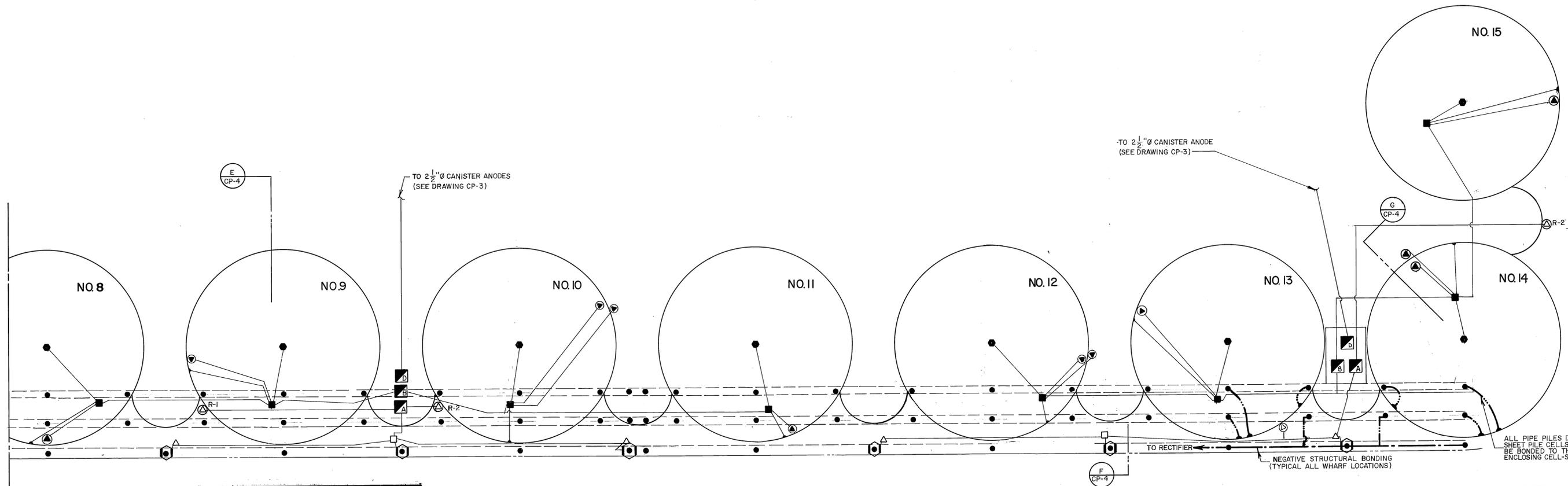
STATE OF ALASKA
 DIV. OF HARBOR DESIGN and CONST.
 D.O.T./P.F.

KETCHIKAN VESSEL MAINTENANCE FACILITY
 PROJECT NO. K61216

BORING LOGS

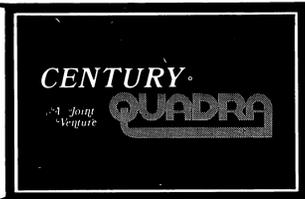
DATE: 7/30/82 SCALE: VERT. 1" = 10' JOB No. 3881.02

DRAWING NO.
 C-21
 OF
 21



Date: _____ Name: _____ Revisions: _____ App'd: _____
NORTON CORROSION LIMITED
 WOODBRIDGE, WASHINGTON
 Title: _____ No. C347
 Designed by: *[Signature]*
 Drawn by: *[Signature]*
 Approved by: *[Signature]*
 Drawing No.: _____
 Scale: NTS
 STATE OF ALASKA
 JUL 82
 Sheet 2 of 9

No.	DATE	REVISIONS	BY
1	7-6-86	AS-BUILT	GB
DRAWN: _____ DESIGNED: _____ CHECKED: _____			

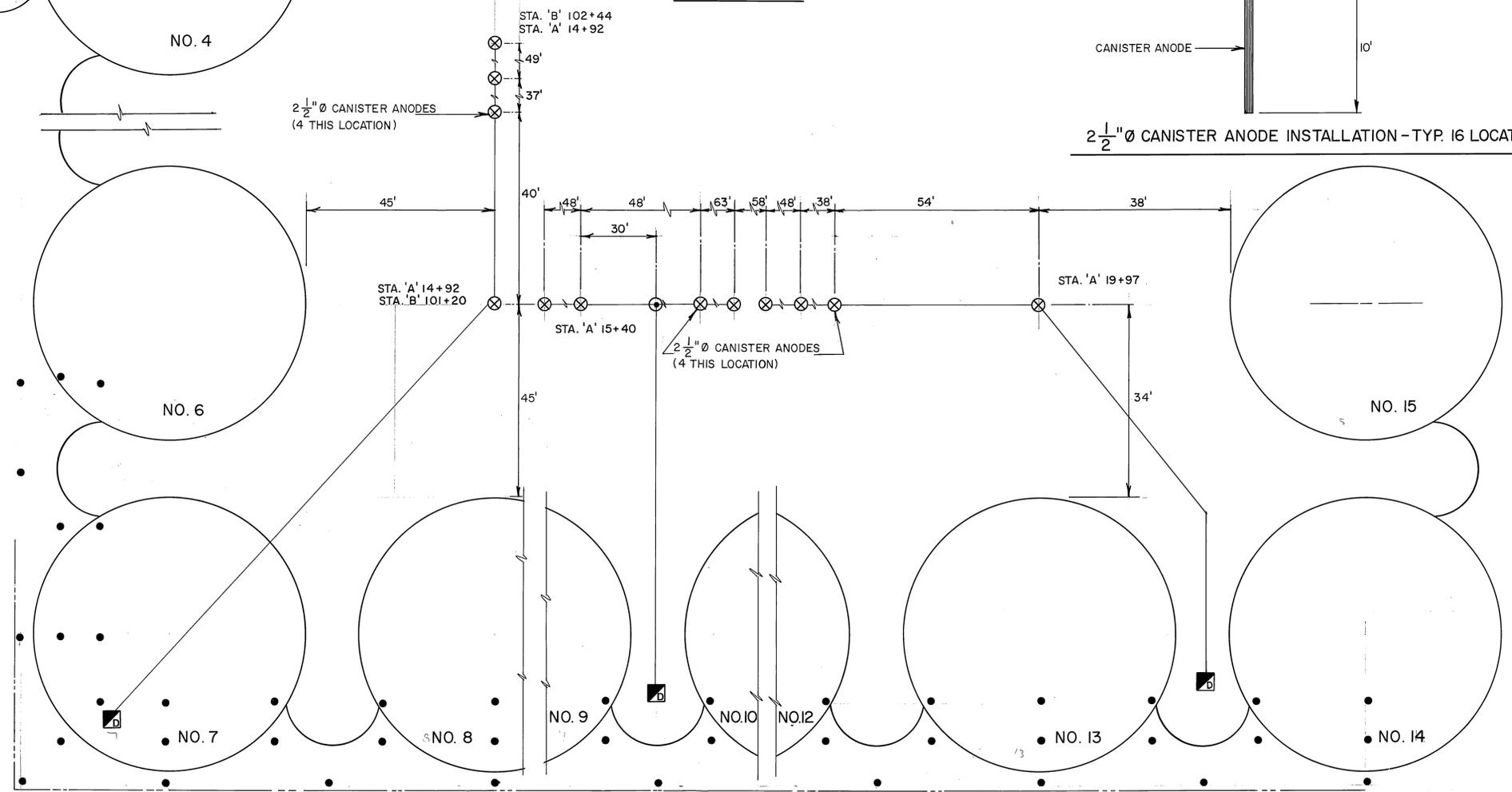
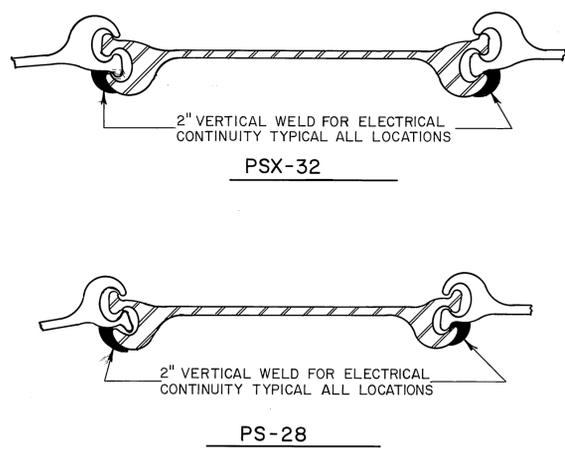
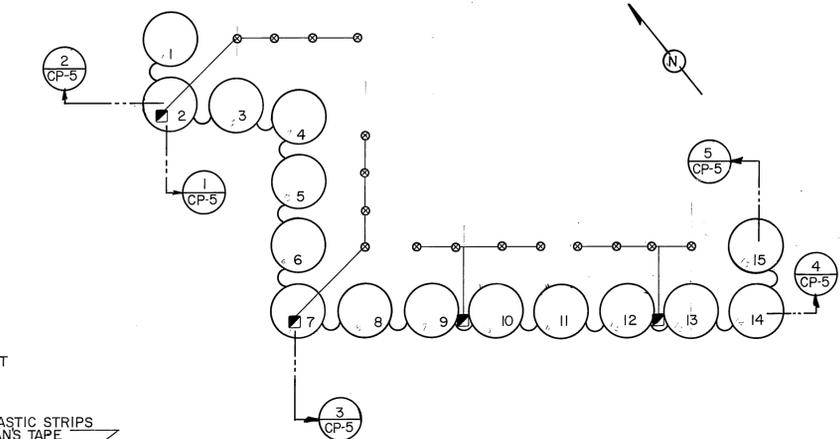
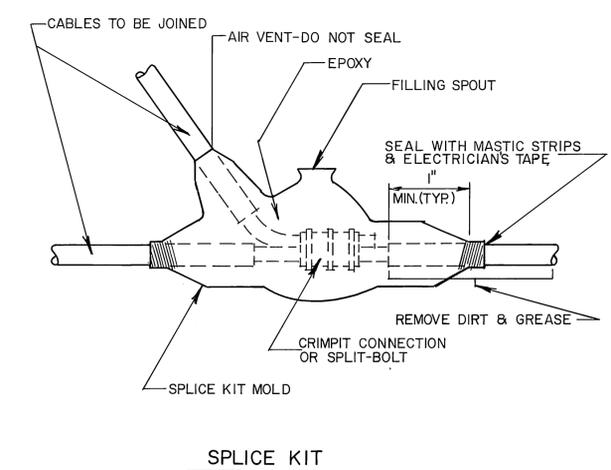
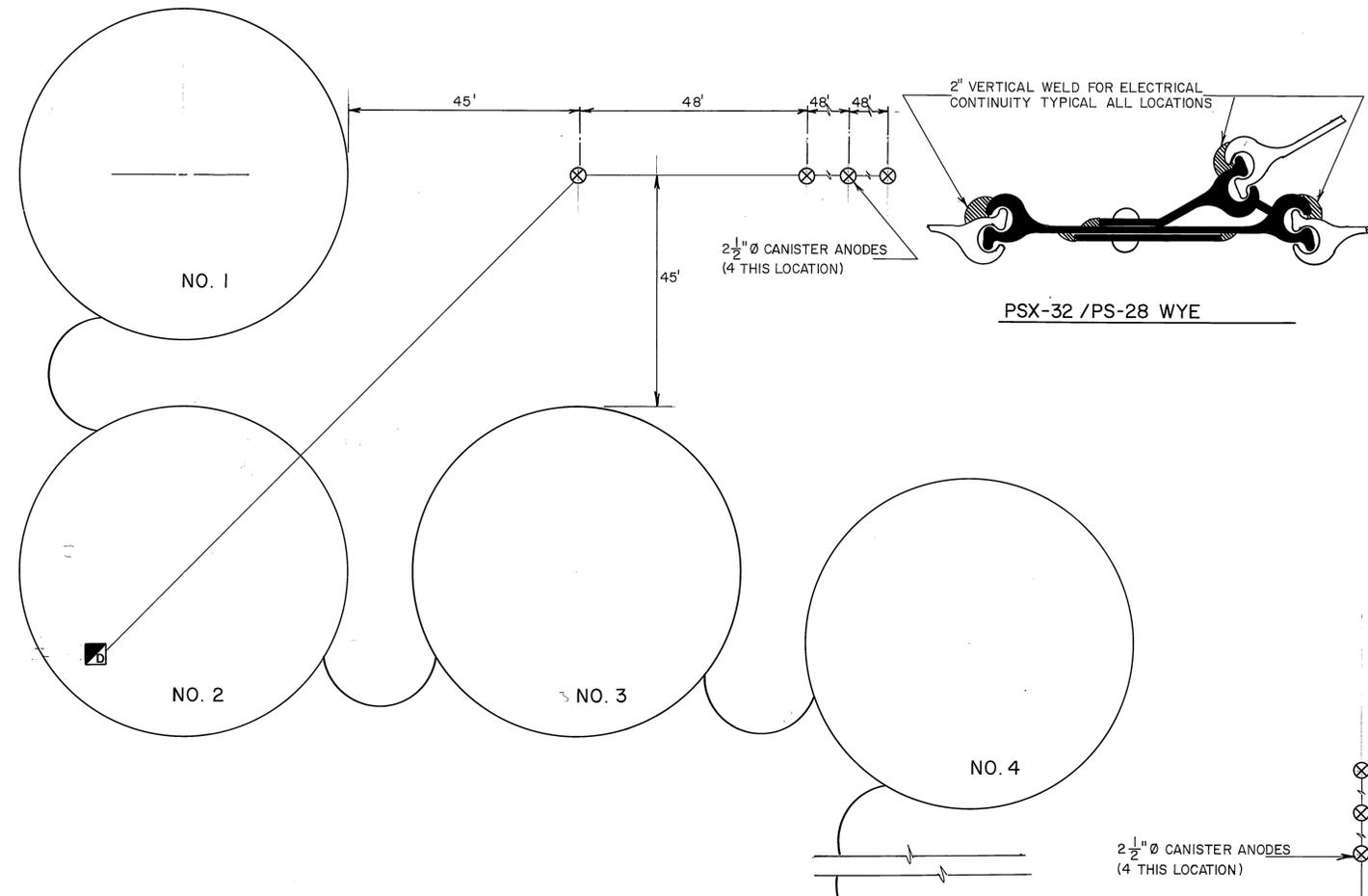


STATE OF ALASKA
 DIV. OF HARBOR DESIGN and CONST.
 D.O.T./P.F.
KETCHIKAN VESSEL MAINTENANCE FACILITY
 PROJECT NO. K61216

CATHODIC PROTECTION PLAN II
 DATE: _____ SCALE: _____ JOB No. _____

DRAWING NO. CP-2
OF 9

ALL PIPE PILES DRIVEN WITHIN SHEET PILE CELLS SHALL BE BONDED TO THE RESPECTIVE ENCLOSING CELL-SEE DETAIL 6/CP-6.



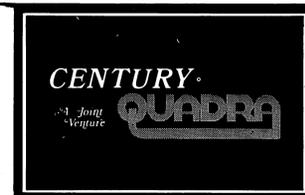
Date: _____ Name: _____ No.: _____ Revisions: _____ App'd: _____

NORTON CORROSION LIMITED
WILMINGTON, WASHINGTON

Title: NO. 6347
Designed By: _____
Drawn By: _____
Approved By: _____
Drawing No.: _____

Scale: NTS
JUL 82
Sheet: 3 of 9

No.	DATE	REVISIONS	BY
1	2-6-86	AS-BUILT	GB
DRAWN: _____ DESIGNED: _____ CHECKED: _____			



STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.

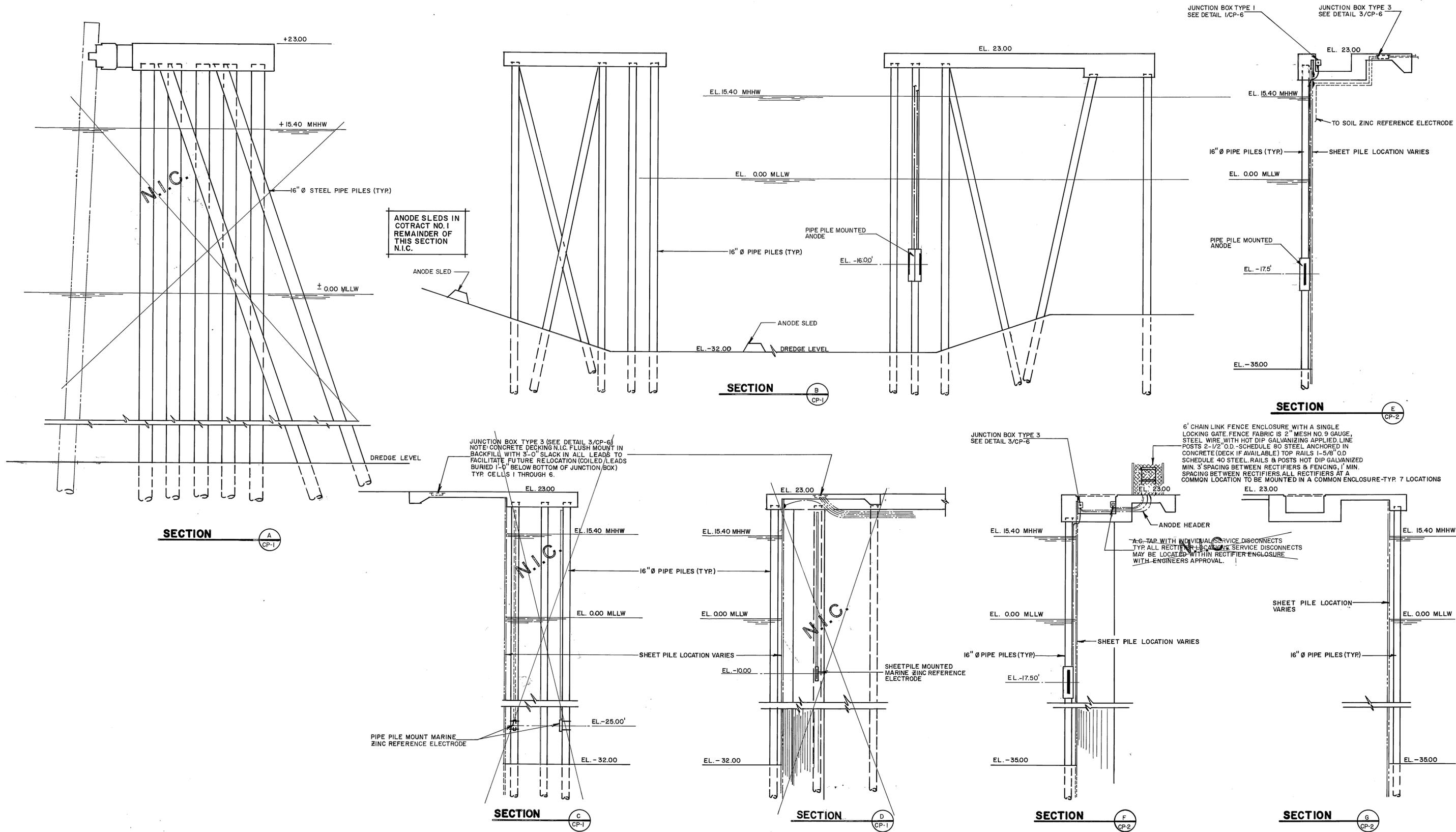
KETCHIKAN VESSEL
MAINTENANCE FACILITY
PROJECT NO. K61216

CATHODIC PROTECTION PLAN III

DATE: _____ SCALE: _____ JOB No. _____

DRAWING NO.
CP-3

OF
9



ANODE SLEDS IN CONTRACT NO. 1 REMAINDER OF THIS SECTION N.I.C.

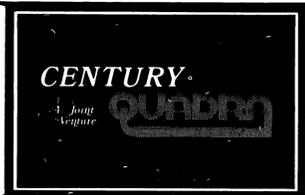
JUNCTION BOX TYPE 3 (SEE DETAIL 3/CP-6)
NOTE: CONCRETE DECKING N.I.C. FLUSH MOUNT IN BACKFILL WITH 3'-0" SLACK IN ALL LEADS TO FACILITATE FUTURE RELOCATION (COILED/LEADS BURIED 1'-0" BELOW BOTTOM OF JUNCTION BOX) TYP. CELLS 1 THROUGH 6.

6' CHAIN LINK FENCE ENCLOSURE WITH A SINGLE LOCKING GATE. FENCE FABRIC IS 2" MESH NO. 9 GAUGE, STEEL WIRE WITH HOT DIP GALVANIZING APPLIED. LINE POSTS 2-1/2" O.D. - SCHEDULE 80 STEEL ANCHORED IN CONCRETE (DECK IF AVAILABLE) TOP RAILS 1-5/8" O.D. SCHEDULE 40 STEEL. RAILS & POSTS HOT DIP GALVANIZED. MIN. 3" SPACING BETWEEN RECTIFIERS & FENCING, 1" MIN. SPACING BETWEEN RECTIFIERS. ALL RECTIFIERS AT A COMMON LOCATION TO BE MOUNTED IN A COMMON ENCLOSURE-TYP. 7 LOCATIONS

A.G. TAP WITH INDIVIDUAL SERVICE DISCONNECTS TYP. ALL RECTIFIER ENCLOSURE SERVICE DISCONNECTS MAY BE LOCATED WITHIN RECTIFIER ENCLOSURE WITH ENGINEERS APPROVAL.

NO. C347
DESIGNED BY: [Signature]
DRAWN BY: [Signature]
APPROVED BY: [Signature]
DATE: 12-6-86
AS-BUILT
REVISIONS: [Table with 3 columns: No., DATE, REVISIONS]
DRAWN: [Signature] DESIGNED: [Signature] CHECKED: [Signature]

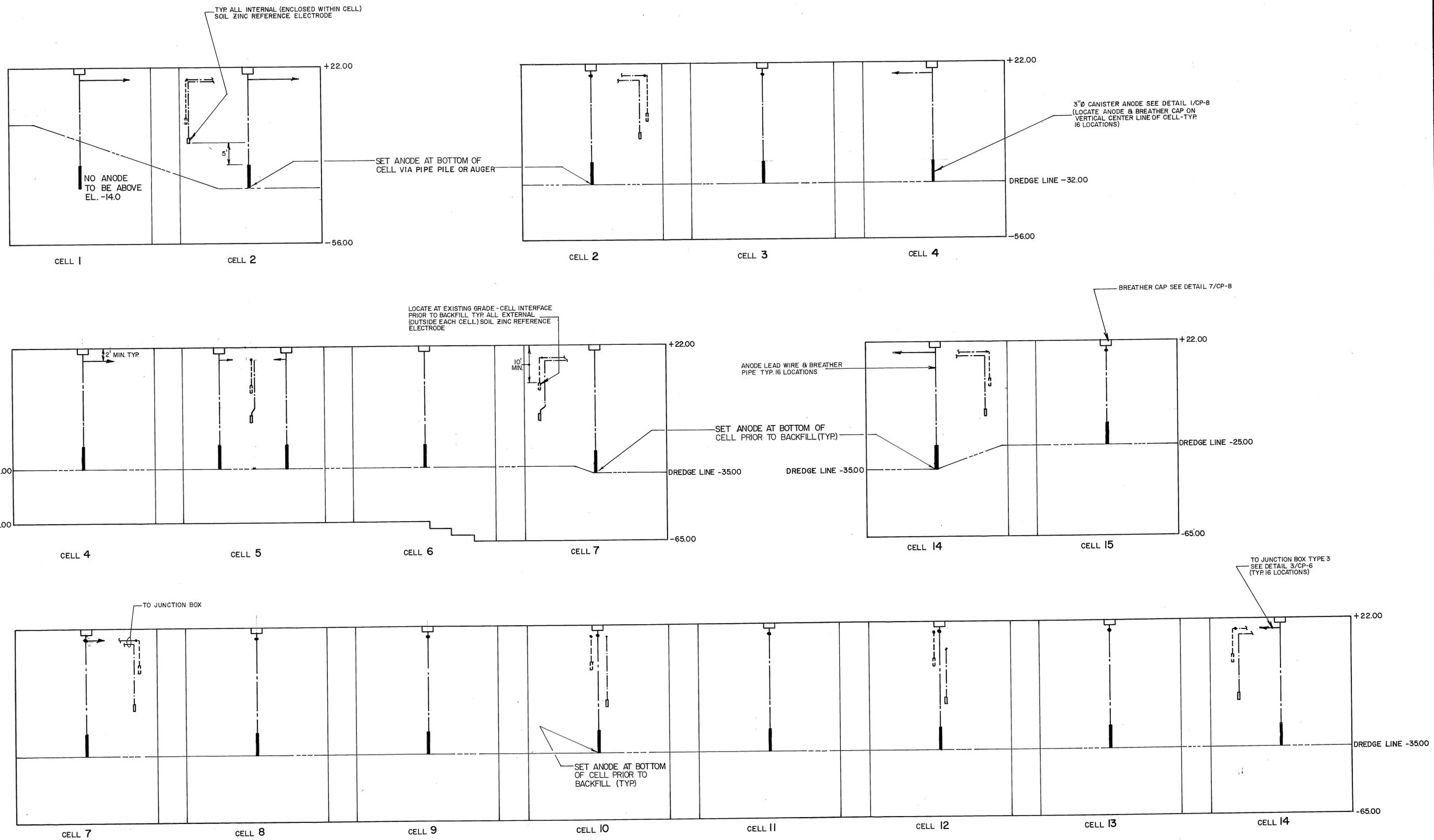
No.	DATE	REVISIONS	BY
1	12-6-86	AS-BUILT	GB



STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.
KETCHIKAN VESSEL
MAINTENANCE FACILITY
PROJECT NO. K61216

CATHODIC PROTECTION
PIER & DOLPHIN SECTIONS
DRAWING NO. CP-4
OF 9

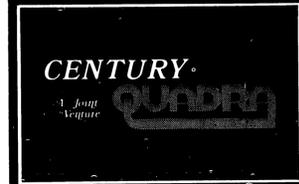
DATE: SCALE: JOB No.



Date: _____ Name: _____ Title: _____
 NO. C347
 DESIGNED BY: _____
 DRAWN BY: _____
 SCALE: NTS
 SHEET: 5 OF 9

NO.	DATE	REVISIONS	BY
1	2-6-86	AS-BUILT	GB

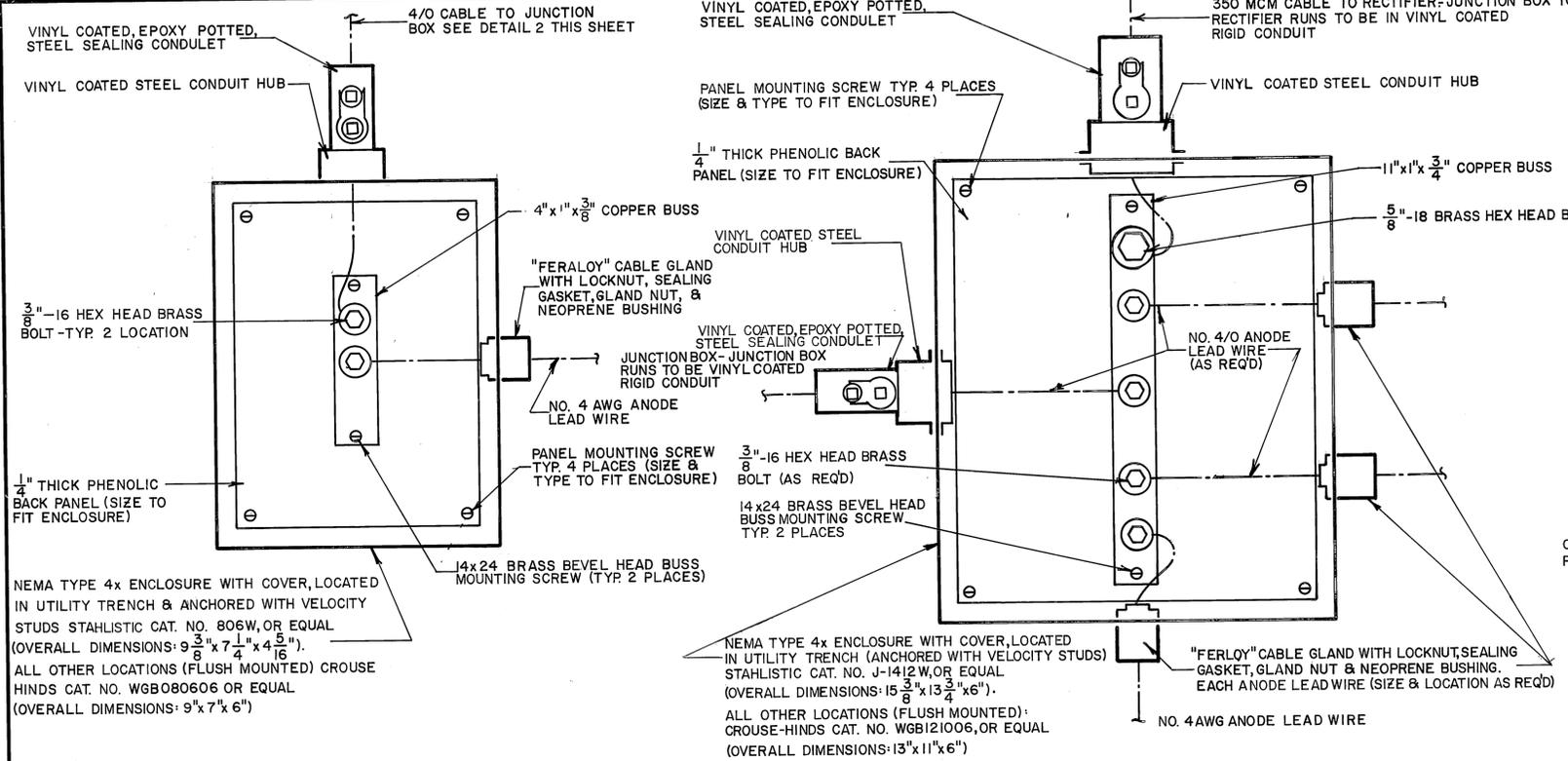
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STATE OF ALASKA
 DIV. OF HARBOR DESIGN and CONST.
 D.O.T./P.F.
**KETCHIKAN VESSEL
 MAINTENANCE FACILITY**
 PROJECT NO. K61216

**CATHODIC PROTECTION
 SHEETPILE CELL SECTIONS**
 DATE: _____ SCALE: _____ JOB No. _____

DRAWING NO.
CP-5
 OF
9



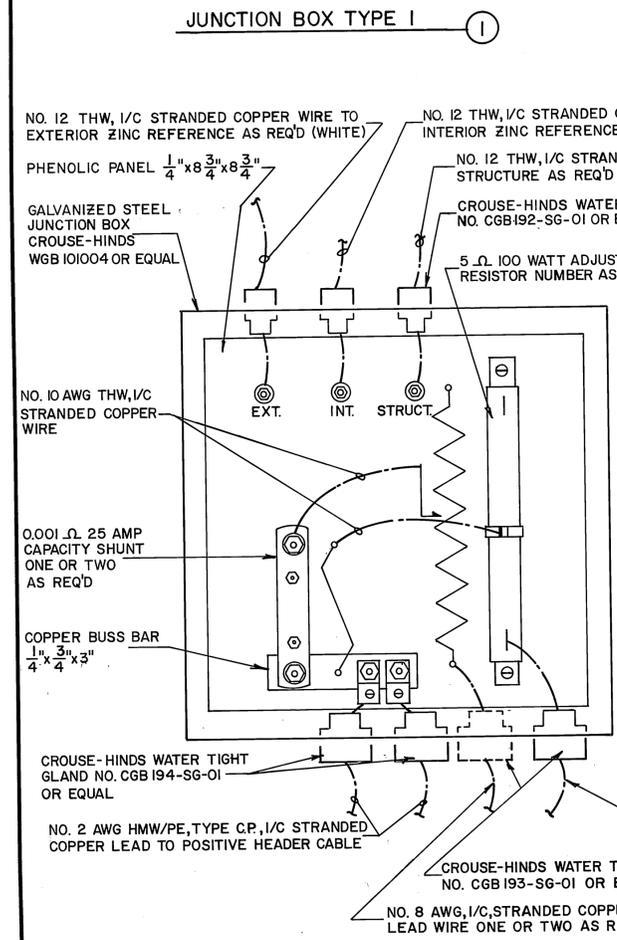
JUNCTION BOX TYPE 1 ①

NEMA TYPE 4x ENCLOSURE WITH COVER, LOCATED IN UTILITY TRENCH & ANCHORED WITH VELOCITY STUDS STAHLISTIC CAT. NO. 806W, OR EQUAL (OVERALL DIMENSIONS: 9 3/8" x 7 1/4" x 4 3/16"). ALL OTHER LOCATIONS (FLUSH MOUNTED) CROUSE-HINDS CAT. NO. WGB080606 OR EQUAL (OVERALL DIMENSIONS: 9" x 7" x 6")

JUNCTION BOX TYPE 2 ②

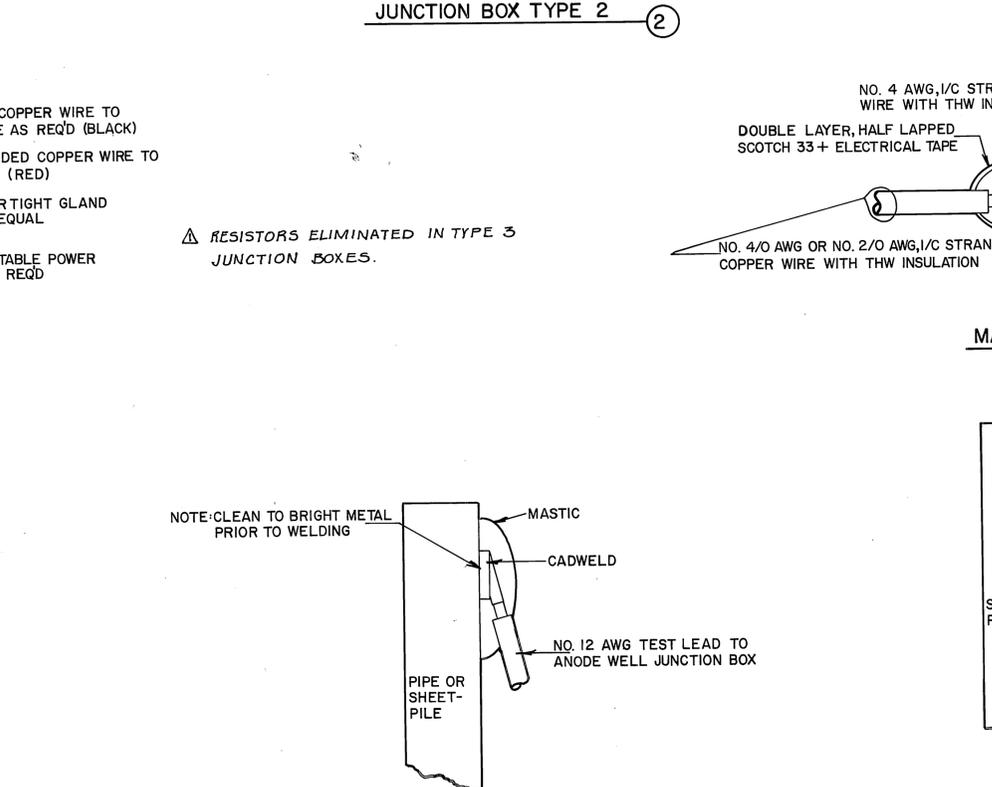
NEMA TYPE 4x ENCLOSURE WITH COVER, LOCATED IN UTILITY TRENCH (ANCHORED WITH VELOCITY STUDS) STAHLISTIC CAT. NO. J-1412W, OR EQUAL (OVERALL DIMENSIONS: 15 3/8" x 13 3/4" x 6"). ALL OTHER LOCATIONS (FLUSH MOUNTED): CROUSE-HINDS CAT. NO. WGB121006, OR EQUAL (OVERALL DIMENSIONS: 13" x 11" x 6")

JUNCTION BOX NOTES:
 1) EACH BUSS CONNECTION SHALL BE MADE WITH AN APPROPRIATE SIZED LUG, WHICH WHEN INSTALLED SHALL RUN NO HOTTER THAN THE RUN OR TAP
 2) ALL METAL BODIED JUNCTION BOXES NOT LOCATED IN THE UTILITY TRENCH SHALL BE BONDED TO THE CLOSEST SHEET PILING



JUNCTION BOX TYPE 3 ③

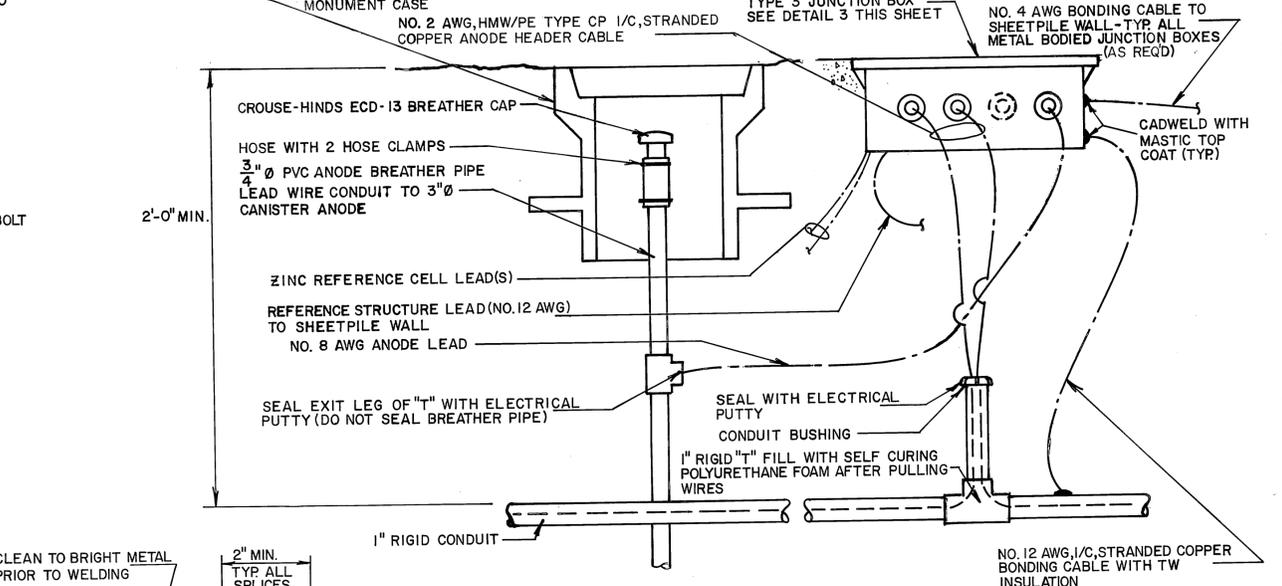
NO. 12 THW, I/C STRANDED COPPER WIRE TO EXTERIOR ZINC REFERENCE AS REQ'D (WHITE)
 NO. 12 THW, I/C STRANDED COPPER WIRE TO INTERIOR ZINC REFERENCE AS REQ'D (BLACK)
 NO. 12 THW, I/C STRANDED COPPER WIRE TO STRUCTURE AS REQ'D (RED)
 PHENOLIC PANEL 1/4" x 8 3/4" x 8 3/4"
 GALVANIZED STEEL JUNCTION BOX CROUSE-HINDS WGB101004 OR EQUAL
 CROUSE-HINDS WATER TIGHT GLAND NO. CGB192-SG-01 OR EQUAL
 5 Ω 100 WATT ADJUSTABLE POWER RESISTOR NUMBER AS REQ'D
 NO. 10 AWG THW, I/C STRANDED COPPER WIRE
 EXT. INT. STRUCT.
 0.001 Ω 25 AMP CAPACITY SHUNT ONE OR TWO AS REQ'D
 COPPER BUSS BAR 1/4" x 3/4" x 3/4"
 CROUSE-HINDS WATER TIGHT GLAND NO. CGB194-SG-01 OR EQUAL
 NO. 2 AWG HMW/PE, TYPE CP, I/C STRANDED COPPER LEAD TO POSITIVE HEADER CABLE
 CROUSE-HINDS WATER TIGHT GLAND NO. CGB193-SG-01 OR EQUAL
 NO. 8 AWG, I/C, STRANDED COPPER "PERMARAD" ANODE LEAD WIRE ONE OR TWO AS REQ'D



STRUCTURE TEST LEAD CONNECTION ④

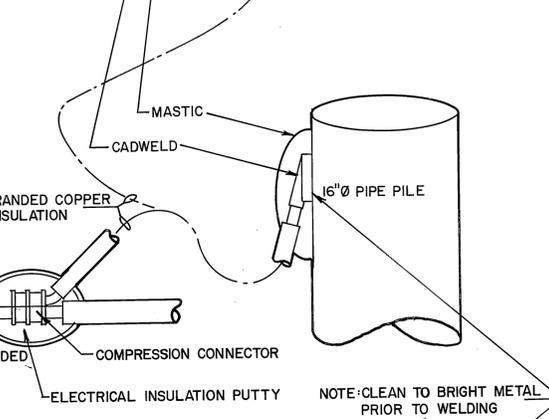
NOTE: CLEAN TO BRIGHT METAL PRIOR TO WELDING

MASTIC
 CADWELD
 PIPE OR SHEET-PILE
 NO. 12 AWG TEST LEAD TO ANODE WELL JUNCTION BOX



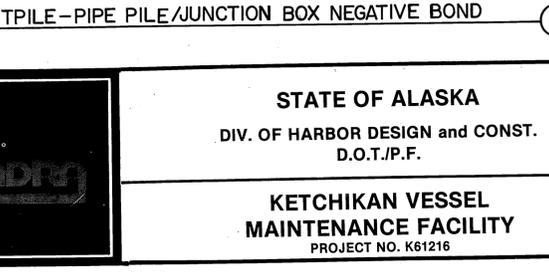
3" Ø CANISTER ANODE BREATHER/JUNCTION BOX TYPE 3 ⑦

FEDERAL PATTERN ROUND SMALL MONUMENT CASE
 NO. 2 AWG, HMW/PE TYPE CP, I/C, STRANDED COPPER ANODE HEADER CABLE
 TYPE 3 JUNCTION BOX SEE DETAIL 3 THIS SHEET
 NO. 4 AWG BONDING CABLE TO SHEETPILE WALL - TYP ALL METAL BODIED JUNCTION BOXES (AS REQ'D)
 CADWELD WITH MASTIC TOP COAT (TYP)
 CROUSE-HINDS ECD-13 BREATHER CAP
 HOSE WITH 2 HOSE CLAMPS
 3/4" Ø PVC ANODE BREATHER PIPE
 LEAD WIRE CONDUIT TO 3" Ø CANISTER ANODE
 2'-0" MIN.
 ZINC REFERENCE CELL LEAD(S)
 REFERENCE STRUCTURE LEAD (NO. 12 AWG)
 NO. 8 AWG ANODE LEAD
 SEAL EXIT LEG OF "T" WITH ELECTRICAL PUTTY (DO NOT SEAL BREATHER PIPE)
 SEAL WITH ELECTRICAL PUTTY CONDUIT BUSHING
 1" RIGID "T" FILL WITH SELF CURING POLYURETHANE FOAM AFTER PULLING WIRES
 NO. 12 AWG, I/C, STRANDED COPPER BONDING CABLE WITH TW INSULATION
 1" RIGID CONDUIT
 CLEAN TO BRIGHT METAL PRIOR TO WELDING
 2" MIN. TYP ALL SPLICES
 WELD SPLICES NO WIRE TIES
 ONE OR TWO REBARS AS REQ'D
 REBAR OPTION



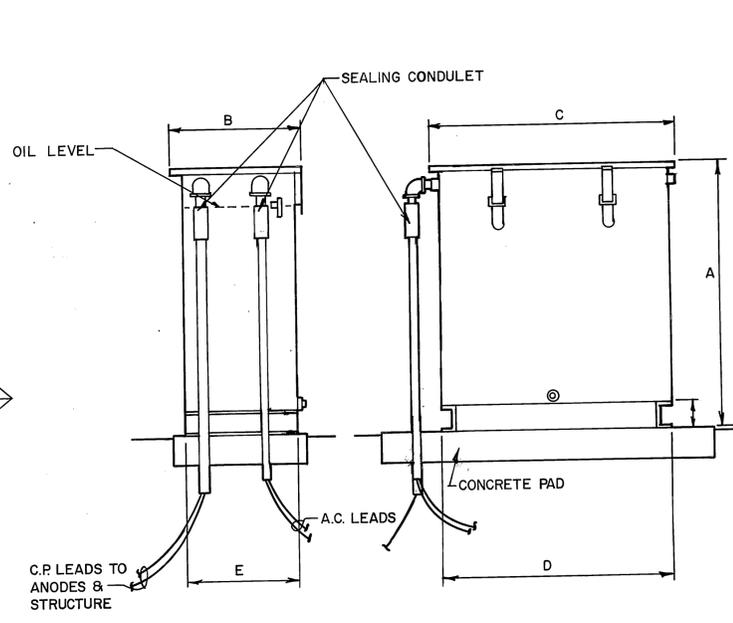
MARINE PIPE PILE NEGATIVE BOND ⑤

NO. 4 AWG, I/C STRANDED COPPER WIRE WITH THW INSULATION
 DOUBLE LAYER, HALF LAPPED SCOTCH 33+ ELECTRICAL TAPE
 COMPRESSION CONNECTOR
 ELECTRICAL INSULATION PUTTY
 NOTE: CLEAN TO BRIGHT METAL PRIOR TO WELDING
 16" Ø PIPE PILE
 MASTIC
 CADWELD



SHEETPILE-PIPE PILE/JUNCTION BOX NEGATIVE BOND ⑥

MASTIC
 CADWELD
 SHEET-PILE
 ANODE JUNCTION BOX OR 16" Ø PIPE PILE AS APPROPRIATE
 NO. 4 AWG, I/C STRANDED COPPER WIRE WITH THW INSULATION



RECTIFIER ⑧

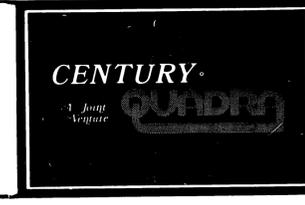
TYPE	A	B	C	D	E
"D"	40 7/16	21 1/4	39 1/4	36 1/4	18
A, B, C	56 7/16	23 1/4	51 1/4	48 1/4	20

C.P. LEADS TO ANODES & STRUCTURE
 A.C. LEADS
 SEALING CONDULET
 OIL LEVEL
 CONCRETE PAD

STATE OF CALIFORNIA
 PROFESSIONAL ENGINEER
NORTON CORROSION LIMITED
 1000 UNIVERSITY AVENUE, WASHINGTON, D.C. 20004
 License No. 347
 State of California
 CORROSION
 DATE: 23 JUL 82
 SHEET: 6 OF 9

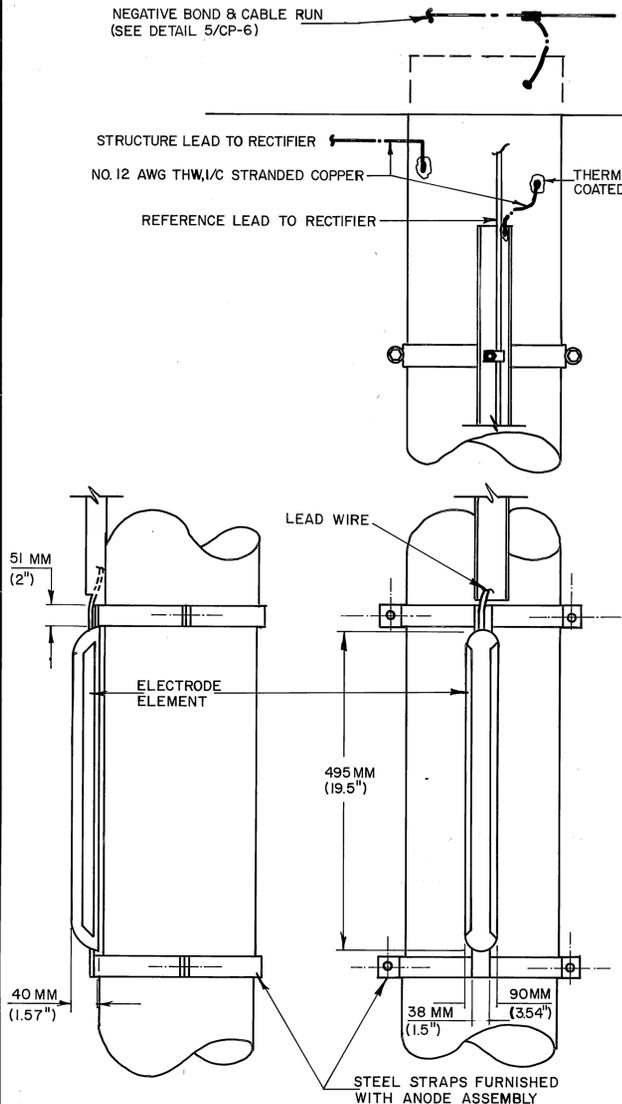
No.	DATE	REVISIONS	BY
1	2-6-86	AS-BUILT	GB

DRAWN: DESIGNED: CHECKED:



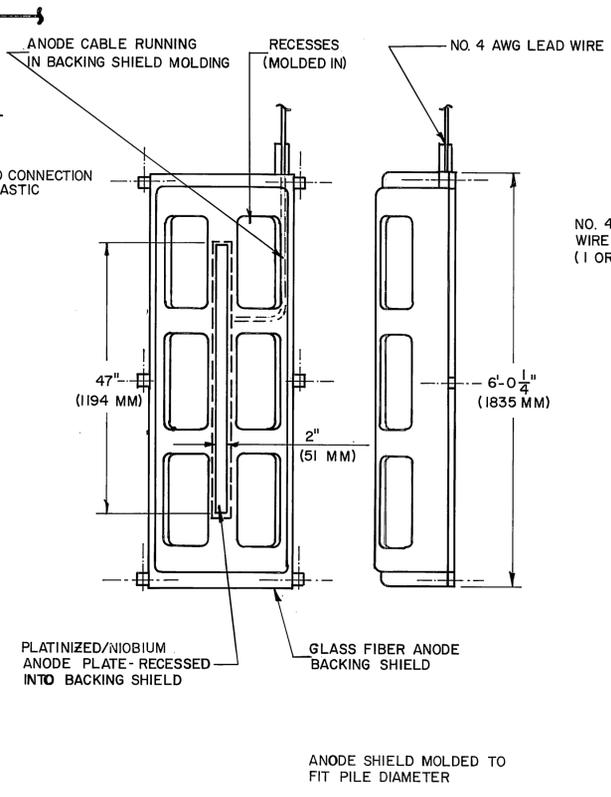
STATE OF ALASKA
 DIV. OF HARBOR DESIGN and CONST.
 D.O.T./P.F.
KETCHIKAN VESSEL MAINTENANCE FACILITY
 PROJECT NO. K61216

CONNECTION DETAILS CATHODIC PROTECTION DETAILS I
DRAWING NO. CP-6
 OF 9
 DATE: SCALE: JOB No.



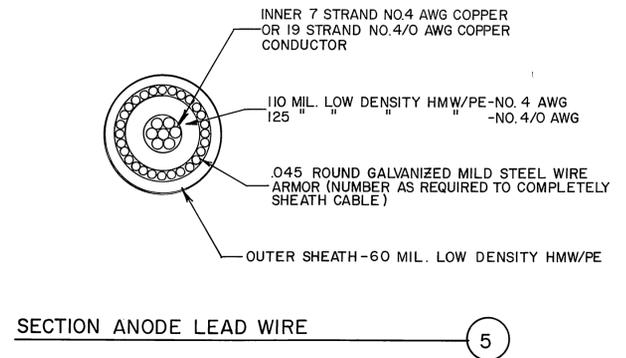
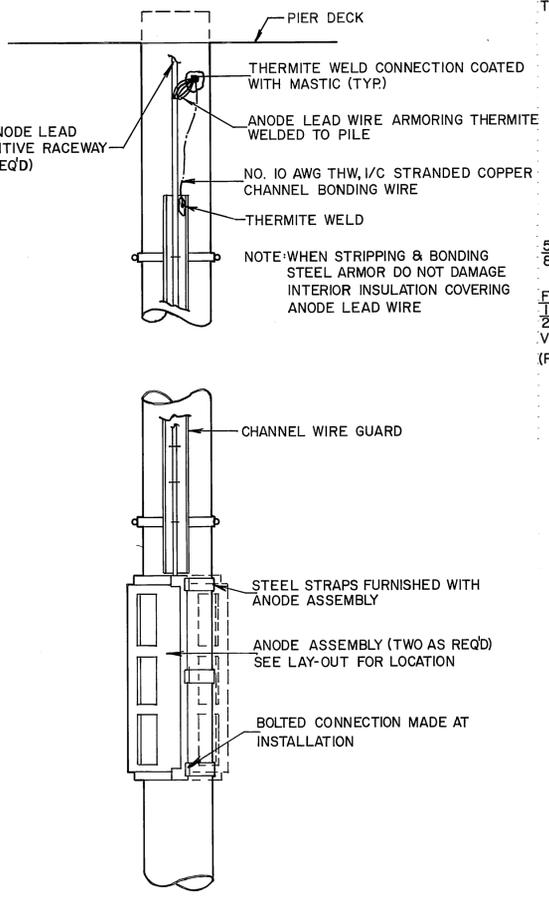
- NOTES:
1. COMPLETE REFERENCE ELECTRODE ENCAPSULATED IN GLASS REINFORCED POLYESTER RESIN
 2. ELECTRODE ELEMENT IS HIGH PURITY ZINC (999 %)
 3. MAY BE BOLTED DIRECTLY TO SHEETPIILING WITHOUT USE OF WRAP A ROUND PIPE PILE STRAPS

MARINE ZINC REFERENCE ELECTRODE ①

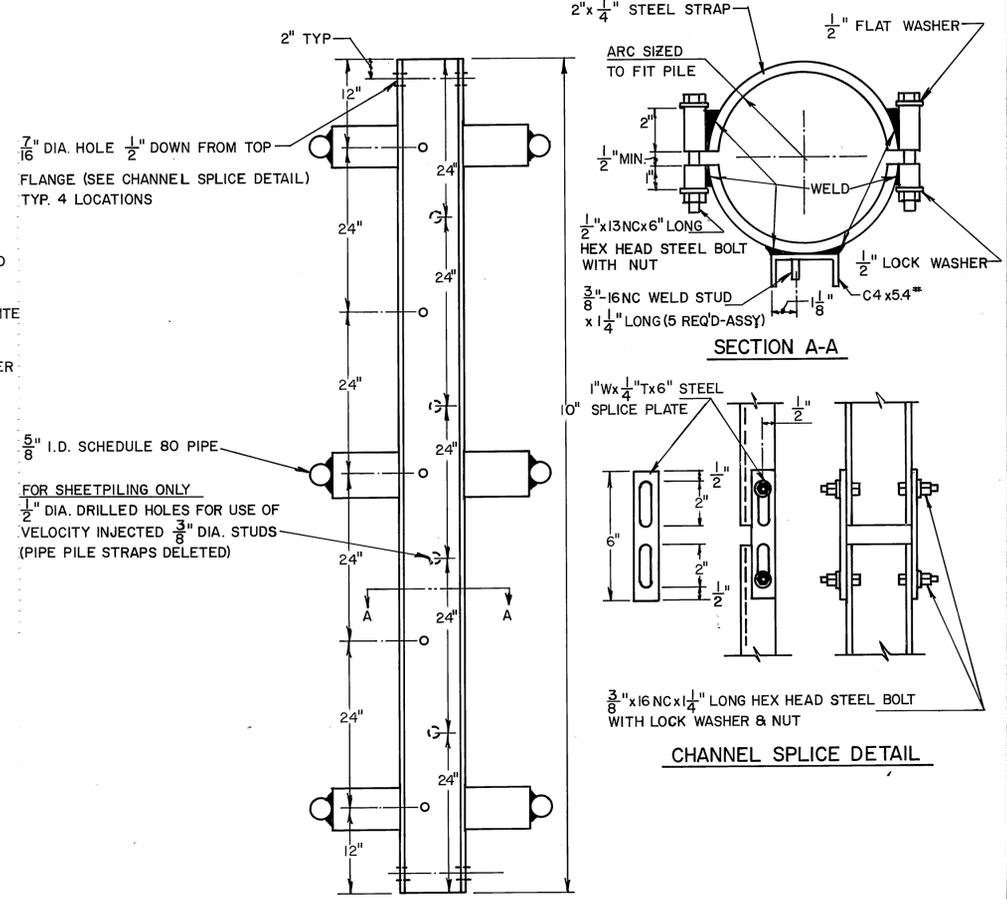


NOTE: ALL REFERENCE LEAD, STRUCTURE BONDING, PILE & ANODE SLED LEAD WIRES TO RUN CONTINUOUS IN CHANNEL WIRE GUARD FROM REFERENCE CELL, PILE ANODE, OR DREDGE LEVEL (ANODE SLEDS) TO WITHIN 2'-0" OF THE BOTTOM OF THE CONCRETE DECKING (OR SHEETPILE CUT-OFF IF DECKING NOT PRESENT), & IN CONTINUOUS VINYL COATED (40 MIL. MIN) STEEL RIGID CONDUIT THEREAFTER TO THE RECTIFIER. ALL CONDUIT MOUNTING HARDWARE (HANGERS, CLIPS, ETC) TO BE VINYL COATED (40 MIL. MIN).

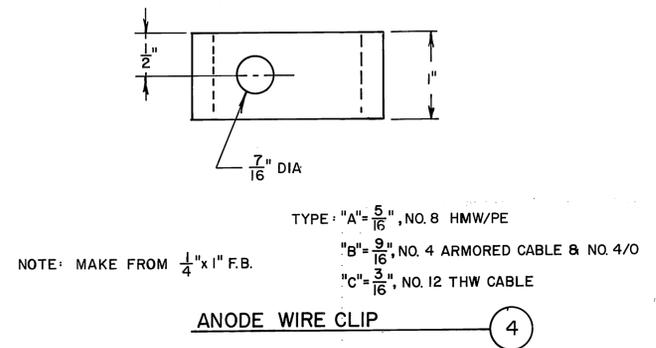
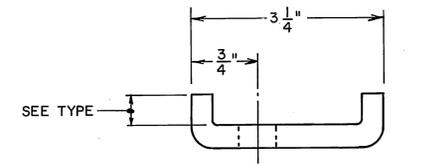
PILE MOUNTED ANODE ②



SECTION ANODE LEAD WIRE ⑤



CHANNEL WIRE GUARD ③



ANODE WIRE CLIP ④

PROFESSIONAL ENGINEER

NORTON CORROSION LIMITED

WOODVILLE, WASHINGTON

NO. 12345

DESIGNED BY: [Signature]

APPROVED BY: [Signature]

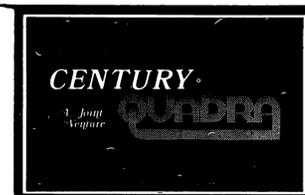
DATE: 23 JUL 82

Scale: NTS

Sheet: 7 of 9

No.	DATE	REVISIONS	BY
1	2/2/86	AS-BUILT	GS

DRAWN: [] DESIGNED: [] CHECKED: []



STATE OF ALASKA

DIV. OF HARBOR DESIGN and CONST.

D.O.T./P.F.

KETCHIKAN VESSEL MAINTENANCE FACILITY

PROJECT NO. K61216

CATHODIC PROTECTION DETAILS II

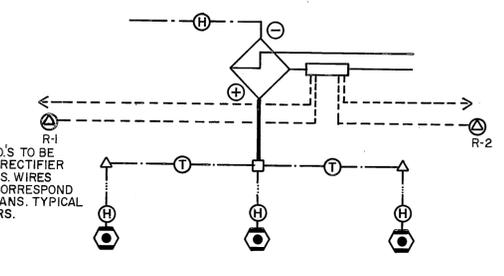
DATE: [] SCALE: [] JOB No. []

DRAWING NO. CP-7

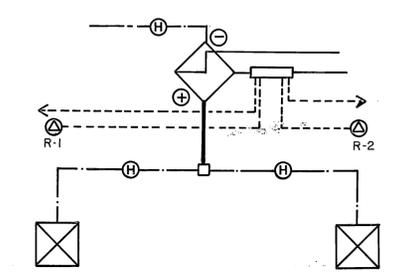
OF 9

RECTIFIER LOCATION	RECTIFIER TYPE	ELECTRICAL CHARACTERISTICS					NUMBER	
		A.C. INPUT		D.C. OUTPUT			ANODES SERVED	ANODE TYPE
		VOLTS	WATTS	VOLT	AMP	AUTO MATIC		
NO. 1	A	230/460 3Ø	8,000	24	250	YES	2	SLED
"	A (NIC)	"	"	"	"	"	3 PAIRS 6 TOTAL	PILE MOUNTED
"	C	"	19,200	120	120	NO	4	3" Ø CANISTER
"	D	"	8,000	"	50	"	"	2-1/2" Ø CANISTER
NO. 2	A	"	"	24	250	YES	3 PAIRS 6 TOTAL	PILE MOUNTED
"	B	"	22,400	120	140	NO	4	3" Ø CANISTER
"	D	"	8,000	"	50	"	4	2-1/2" Ø CANISTER
NO. 3	A	"	"	24	250	YES	3 PAIRS 6 TOTAL	PILE MOUNTED
"	B	"	22,400	120	140	NO	4	3" Ø CANISTER
"	D	"	8,000	"	50	"	"	2-1/2" Ø CANISTER
NO. 4	A	"	"	24	250	YES	3 PAIRS 6 TOTAL	PILE MOUNTED
"	B	"	22,400	120	140	NO	4	3" Ø CANISTER
"	D	"	8,000	"	50	"	"	2-1/2" Ø CANISTER
NO. 5	A (N.I.C.)	"	"	24	250	YES	4 PAIRS 8 TOTAL	PILE MOUNTED
NO. 6	"	"	"	"	"	"	"	"
NO. 7	"	"	"	"	"	"	"	"

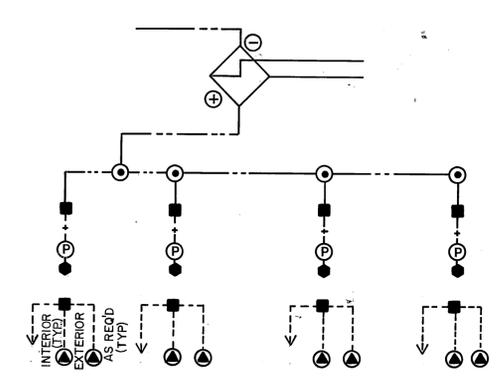
REFERENCE ELECTRODE NO'S TO BE PERMANENTLY MARKED ON RECTIFIER CONTROL PANEL TERMINALS. WIRES AT CONTROL PANEL WILL CORRESPOND WITH THOSE SHOWN ON PLANS. TYPICAL ALL AUTOMATIC RECTIFIERS.



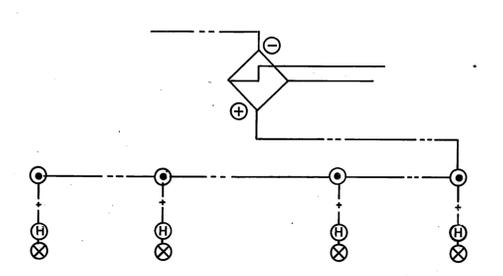
RECTIFIER LOCATION NO. 1,2,3 & 4 SIZE "A"



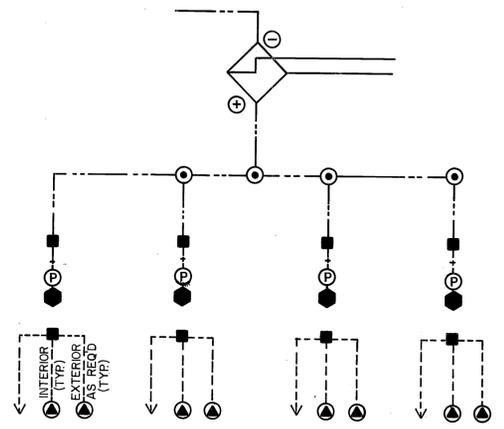
RECTIFIER LOCATION NO. 1 SIZE "A"



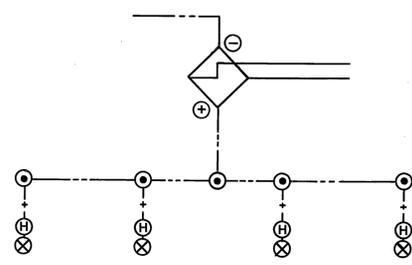
RECTIFIER LOCATION NO. 1 SIZE "C"
NO. 2 & 4 SIZE "B"



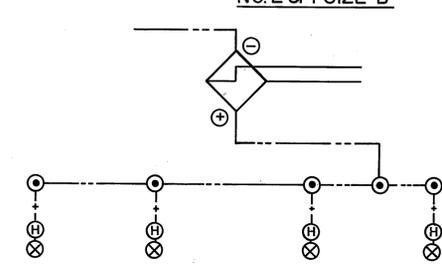
RECTIFIER LOCATION NO. 1 & 2 SIZE "D"



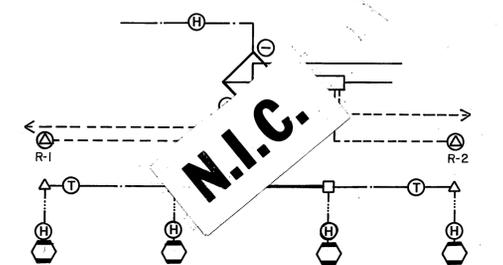
RECTIFIER LOCATION NO. 3 SIZE "B"



RECTIFIER LOCATION NO. 3 SIZE "D"



RECTIFIER LOCATION NO. 4 SIZE "D"



RECTIFIER LOCATION NO. 5,6 & 7 SIZE "A"

RECTIFIER TYPE	GOOD-ALL ELECTRIC CODE NO. OR APPROVED EQUAL
A	CPOYTF 24-250 FKNZ *
B	CSOYTF 120-140 FKN
C	CSOYTF 120-120 FKN
D	CSOYTF 120-50 FKN

Z*: CONTROL PANEL TO BE FITTED TO RECEIVE TWO (2) REFERENCE ELECTRODE LEADS & TWO (2) STRUCTURE BONDING LEADS. CONNECTION TO CONTROL UNIT TO BE THROUGH A N.C., 2 POSITION D.P.D.T. TOGGLE SWITCH.

SCHEMATIC KEY

RECTIFIERS: [Symbol] TO STRUCTURE ⊖, [Symbol] A.C. POWER, [Symbol] TO ANODES ⊕, [Symbol] MANUAL, [Symbol] TO STRUCTURE ⊖, [Symbol] A.C. POWER CONTROLLER, [Symbol] TO ANODES ⊕, [Symbol] AUTOMATIC

ANODES: [Symbol] PILE MOUNTED PAIR, [Symbol] PILE MOUNTED SINGLE, [Symbol] CANISTER 2 1/2" Ø, [Symbol] CANISTER 3" Ø, [Symbol] SLED

REFERENCE ELECTRODE: [Symbol] ZINC REFERENCE ELECTRODE MARINE, [Symbol] ZINC REFERENCE ELECTRODE SOIL, [Symbol] REFERENCE NEGATIVE BOND

JUNCTION BOXES: [Symbol] TYPE-1, [Symbol] TYPE-2, [Symbol] TYPE-3

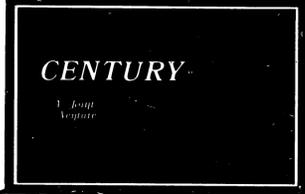
SPLICES: [Symbol]

- WIRES:**
- NO. 350 MCM, THW, 1/C, STRANDED COPPER
 - NO. 4/0 AWG, HMW P/E TYPE C.P., 1/C, STRANDED COPPER, WITH ARMOR (DOUBLE LEAD PAIR)
 - NO. 4/0 AWG, THW, 1/C, STRANDED COPPER, TYPE C.P.
 - NO. 2 AWG, HMW P/E, 1/C, STRANDED COPPER, TYPE C.P.
 - NO. 4 AWG, HMW P/E, 1/C, STRANDED COPPER, TYPE C.P.
 - NO. 4 AWG, HMW P/E, 1/C, STRANDED COPPER, TYPE C.P., ARMORED
 - NO. 8 AWG, HMW P/E TYPE C.P., 1/C STRANDED COPPER
 - NO. 8 AWG, "PERMARAD", 1/C, STRANDED COPPER
 - NO. 12 AWG, THW, 1/C, STRANDED COPPER

PROFESSIONAL ENGINEER
CORROSION LIMITED
DESIGNED BY: [Signature]
DRAWN BY: [Signature]
DATE: 1 24 86
As Built
68

No.	DATE	REVISIONS	BY
1	1 24 86	As Built	68

Scale: NTS
23 JUL 82
Sheet 9 of 9



STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.

KETCHIKAN VESSEL
MAINTENANCE FACILITY
PROJECT NO. K61216

CATHODIC PROTECTION
SCHEMATICS

DATE: SCALE: JOB No.

DRAWING NO.
CP-9

OF
9

TO AIR TERMINAL

SEE DETAILS D-10 & D-11
SHEET E-4
NEW TELEPHONE VAULT
(THIS CONTRACT-
PER KPU SPECS.)
COIL 20' PHONE CABLE
AND SEAL END
(TERMINATION PER KPU)

CAUTION EXIST.
BURIED CABLE

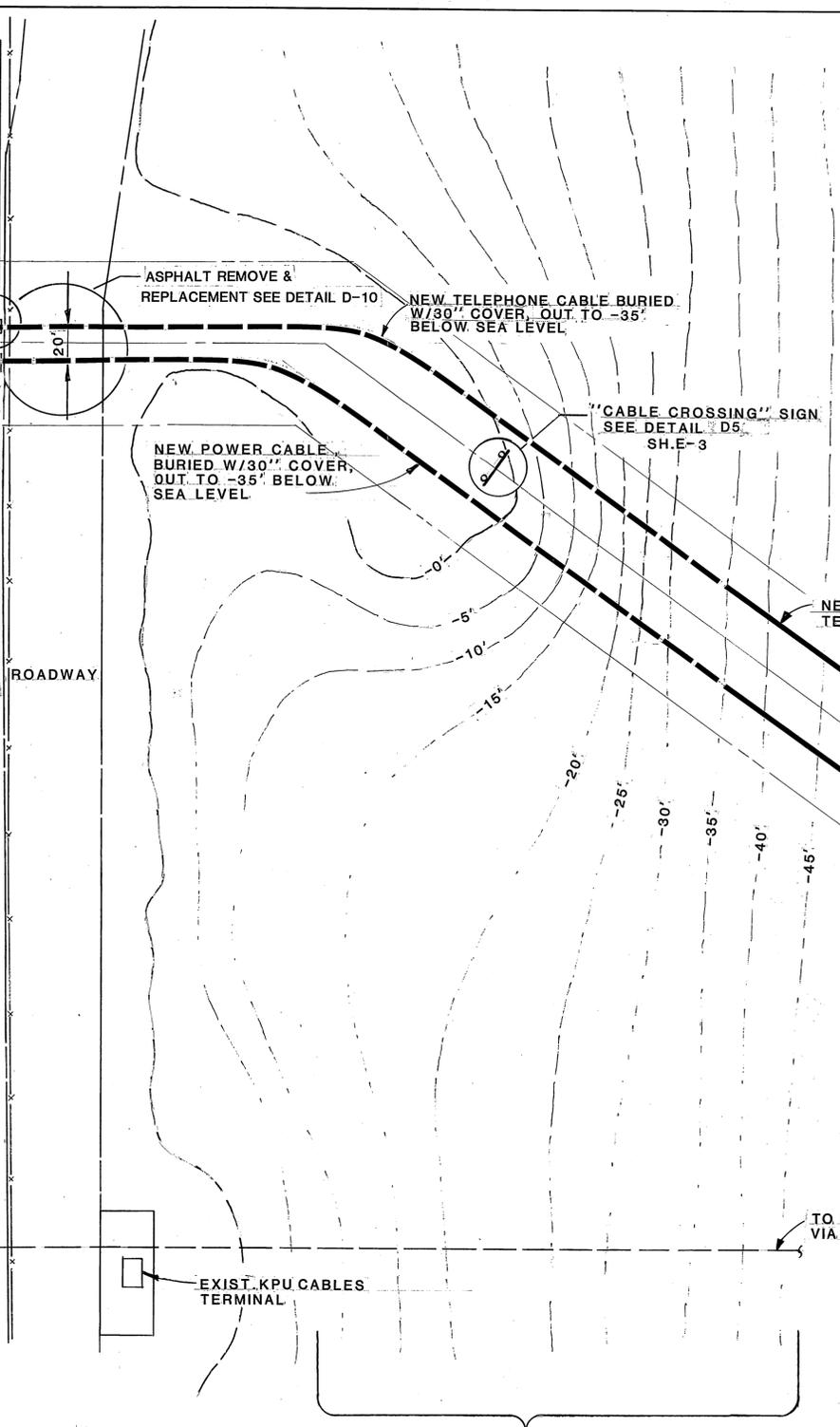
NEW PAD MOUNTED
3 PHASE 3 WAY
SWITCHING STATION
SEE DETAILS D-10 & D-12

GENERAL AVIATION
APRON

EXISTING U/G
ELECTRICAL

M.H.-9

M.H.10



GRAVINA TERMINAL

PROFILE APPROXIMATE ONLY

NEW TELEPHONE CABLE BURIED
W/30" COVER, OUT TO -35'
BELOW SEA LEVEL

ASPHALT REMOVE &
REPLACEMENT SEE DETAIL D-10

NEW POWER CABLE
BURIED W/30" COVER,
OUT TO -35' BELOW
SEA LEVEL

"CABLE CROSSING" SIGN
SEE DETAIL D5
SHEET E-3

NEW SUBMARINE
TELEPHONE CABLE

100' WIDE CABLE EASEMENT CORRIDOR
FOR U.S.C.E. PERMIT APPLICATION

NEW SUBMARINE
POWER CABLE

TONGASS NARROWS

TEL.

PWR.

MATCH LINE TO SHEET E-1

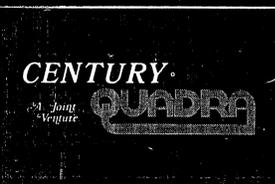
TO KPU POWERHOUSE
VIA SUB. CABLE

NOTE:
MAY REQUIRE ARMOR GUARDS
SEE DETAIL D3
SHEET E-3

EXISTING ALASCOM CABLE #101 IN SERVICE
APPROXIMATELY MID CHANNEL AT
NOMINAL 100-120 FT. DEPTH

CONTRACT NO. 1

1. <i>1/2" scale</i> ADD DWG. E-4, TERMINATIONS PER KPU			
No.	DATE	REVISIONS	BY
DRAWN:	DESIGNED:	CHECKED:	



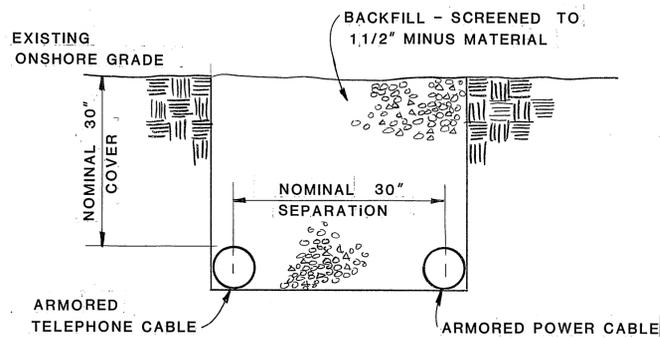
STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.

KETCHIKAN VESSEL
MAINTENANCE FACILITY
PROJECT NO. K61216

SUBMARINE CABLES CROSSING
TONGASS NARROWS

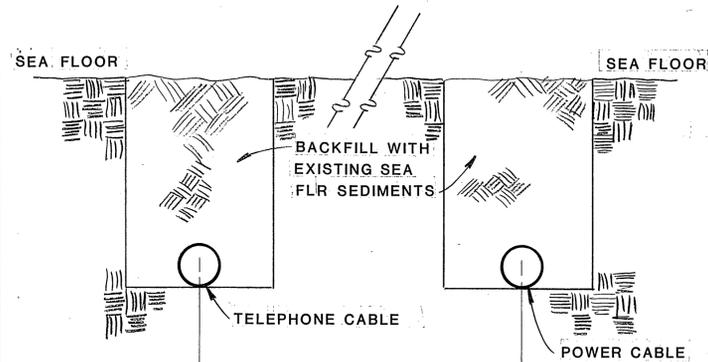
DATE: 7/30/82 SCALE: 1" = 50' JOB No. 3881.02

DRAWING NO.
E-2
OF
4



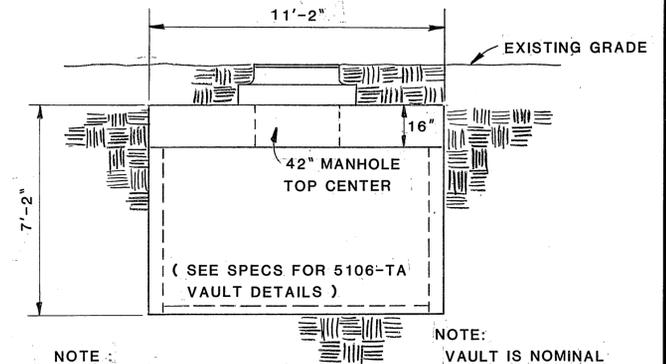
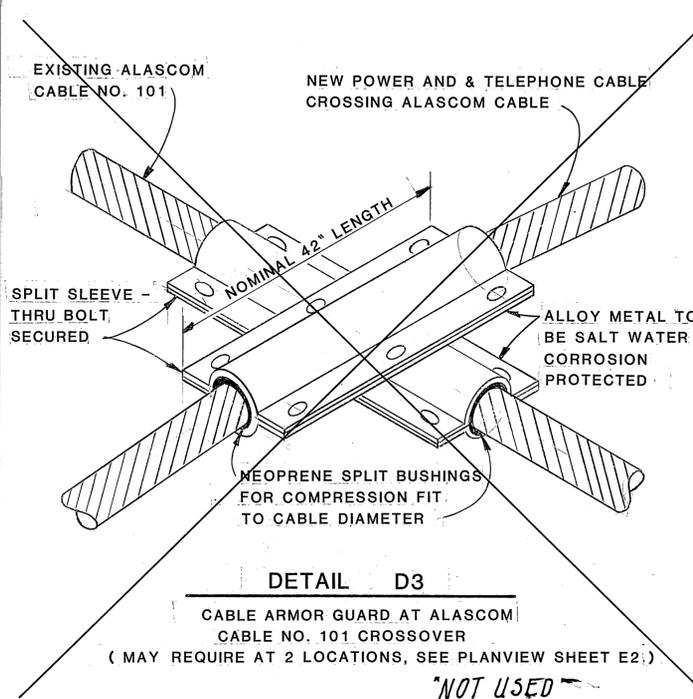
DETAIL D1

CROSSSECTION - ON SHORE CABLE TRENCH
(FROM MLLW TO TERMINATION)



DETAIL D2

CROSSSECTION - OFFSHORE CABLE TRENCH
(FROM MLLW TO MAXIMUM 30' DEPTH)

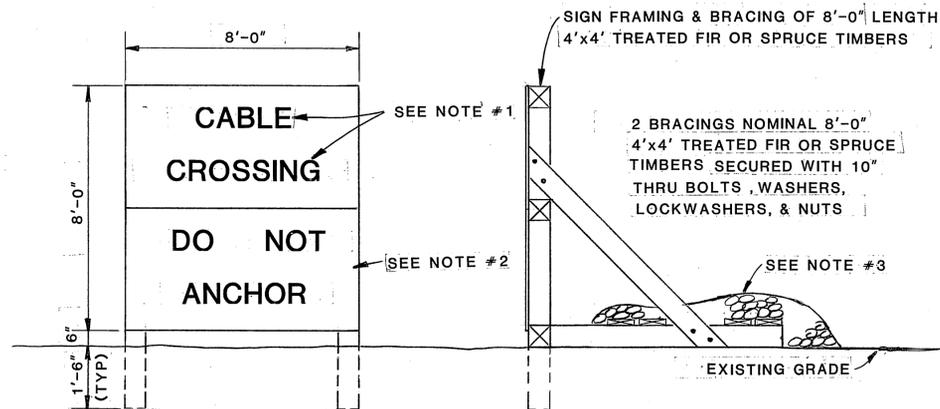


DETAIL D4

TELEPHONE CABLE VAULT INSTALLATION
(TWO EACH)

NOTE: CONTRACTOR TO PULL IN AND COIL TELEPHONE IN VAULT - TERMINATIONS BY KPU (SEE DETAILS D-6 THRU D-11 SHEET E-4)

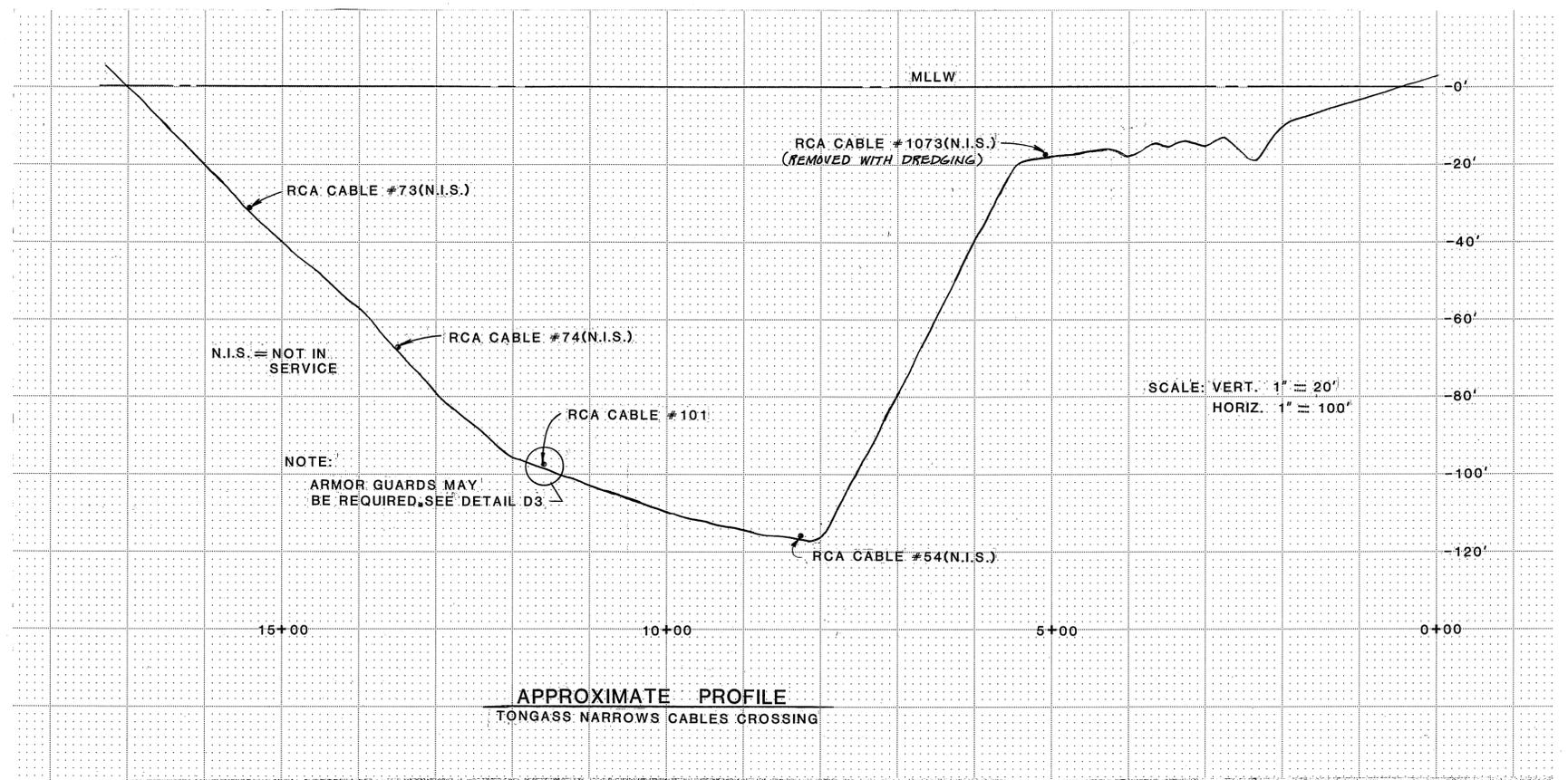
NOTE: VAULT IS NOMINAL 11'-2" x 5'-2" x 7'-2" PRECAST CONCRETE IN 3 SEPARATE PIECES
BASE: 4980 LBS
VAULT: 6560 LBS
TOP: 5260 LBS



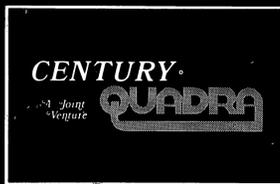
- NOTES:
- SIGN LETTERS NOMINAL 18" HIGH & 10" WIDE BLACK AGAINST YELLOW BACKGROUND (TYPICAL).
 - 4'x8' 3/4" MARINE GRADE PLYWOOD PAINT ALL SURFACES BRIGHT YELLOW EXTERIOR ENAMEL. SECURE WITH 1/2"x3" LAG BOLTS
 - ANCHOR PLATFORM WITH 1000LBS OF HAND PLACED RIP RAP ROCK

DETAIL D5

CABLE CROSSING SIGNS
(TWO EACH)



1	7/30/82	ADD DWG. E-4, TERMINATIONS FOR KPU	GB
2	1-29-86	AS-BUILT	GB
No.	DATE	REVISIONS	BY
DRAWN:	DESIGNED:	CHECKED:	



STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.

KETCHIKAN VESSEL
MAINTENANCE FACILITY
PROJECT NO. K61216

DATE: 7/30/82

SCALE:

JOB No. 3881.02

CONTRACT NO. 1

DRAWING NO. **E-3**
OF
4



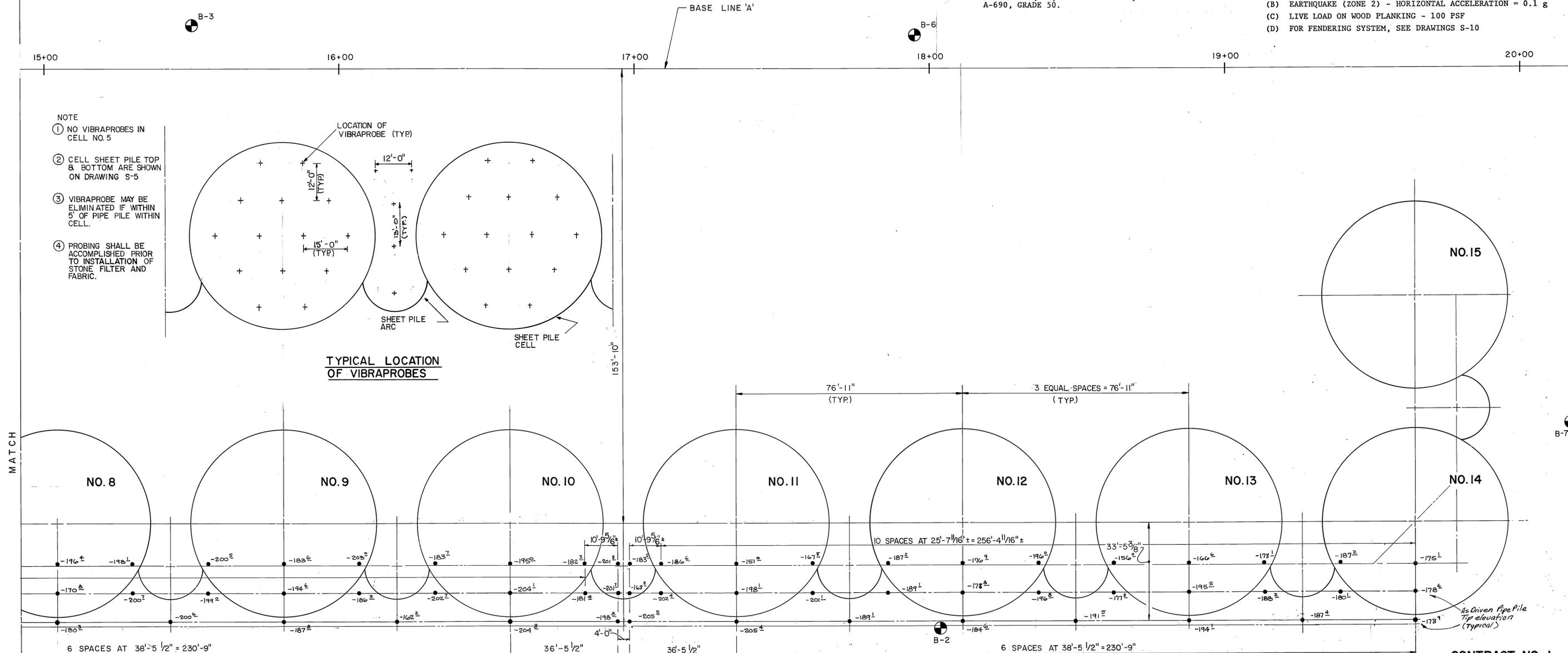
GENERAL NOTES

1. MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE TECHNICAL SPECIFICATIONS.
2. COORDINATE SYSTEM: ALL BEARINGS AND COORDINATES ARE REFERRED TO THE TRUE MERIDIAN AND COORDINATE SYSTEM OF THE STATE PLANE COORDINATE SYSTEM.
3. DATUM: ALL ELEVATIONS ARE REFERRED TO MEAN LOWER LOW WATER. SEE TIDE CHART, SHEET C3.
4. CONCRETE:
 - (A) ALL STRUCTURAL CONCRETE SHALL BE CLASS A-A WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
 - (B) REINFORCING STEEL SHALL CONFORM WITH ASTM A 615 GRADE 60.
 - (C) REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 30 BAR DIAMETERS UNLESS NOTED OTHERWISE.
 - (D) ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4" x 3/4" UNLESS NOTED OTHERWISE.
5. PILES:
 - (A) PIPE PILES:
 - (1) PILES SHALL BE 16-INCH DIAMETER PIPE WITH 0.375 INCH WALL THICKNESS AND MEETING THE REQUIREMENTS OF ASTM A-252, GRADE 2.
 - (B) STEEL SHEET PILING:
 - (1) ALL PILING SHALL BE AS SHOWN ON THE DRAWINGS OR APPROVED EQUAL, MEETING THE REQUIREMENTS OF ASTM A-690, GRADE 50.

GENERAL NOTES (Continued)

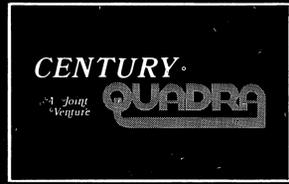
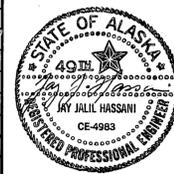
- (C) PROTECTIVE COATING:
 - (1) PIPE PILING SHALL BE COATED ONTO THE EXTERIOR SURFACE ONLY FROM AFTER DREDGING MUDLINE TO TOP OF PILE. PIPE PILES WITHIN CELLS SHALL NOT BE COATED.
 - (2) STEEL SHEET PILING SHALL BE COATED ON EXTERIOR SURFACES FROM AFTER DREDGING MUDLINE TO TOP OF SHEETING. OMIT COATING ON INTERIOR CONTACTING SURFACES OF INTERLOCKS.
 - (D) CATHODIC PROTECTION: SEE SPECIFICATIONS
 - (E) TIMBER PILES: TIMBER PILING SHALL BE 18-INCH MINIMUM BUTT DIAMETER.
6. STRUCTURAL STEEL: ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36 UNLESS NOTED OTHERWISE.
 7. GEOTECHNICAL INFORMATION: SEE BORING LOGS ON DRAWING.
 8. DESIGN LOADS:
 - (A) LIVE LOAD ON WHARF - 600 PSF
 - (B) EARTHQUAKE (ZONE 2) - HORIZONTAL ACCELERATION = 0.1 g
 - (C) LIVE LOAD ON WOOD PLANKING - 100 PSF
 - (D) FOR FENDERING SYSTEM, SEE DRAWINGS S-10

LINE



MATCH

No.	DATE	REVISIONS	BY
2	1-27-80	"As-Built"	LS
1	3/13/82	ADDED VIBRAPROBE	RJP
DRAWN: _____ DESIGNED: _____ CHECKED: _____			



STATE OF ALASKA
 DIV. OF HARBOR DESIGN and CONST.
 D.O.T./P.F.

KETCHIKAN VESSEL
 MAINTENANCE FACILITY
 PROJECT NO. K 61216

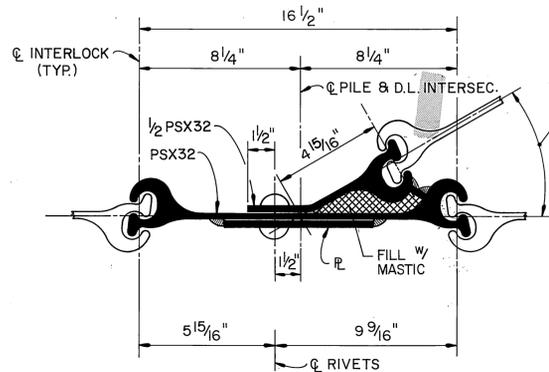
CONTRACT NO. 1

PILE PLAN II

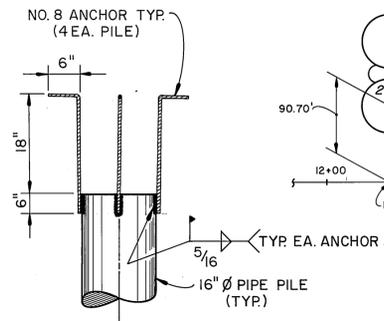
DATE: 7/30/82 SCALE: 1/16" = 1'-0" JOB No. 3881.02

DRAWING NO.
 S-2
 OF
 10

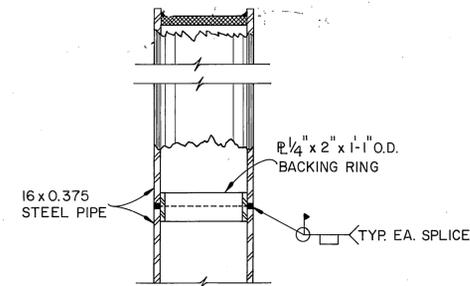
SHEET PILE CELL LAYOUT		
CELL NO.	CENTER OF CELL LOCATION	
	STATION	BASE LINE OFFSET
1.	12+74.38	167.61' L.
2.	12+74.38	90.70' L.
3.	13+51.29	90.70' L.
4.	14+26.95	76.91' L.
5.	14+26.95	0.0
6.	14+26.95	76.91' R.
7.	14+26.95	153.82' R.
8.	15+03.86	
9.	15+80.77	
10.	16+57.68	
11.	17+34.59	
12.	18+11.50	
13.	18+88.41	
14.	19+65.32	153.82' R.
15.	19+65.32	76.91' R.



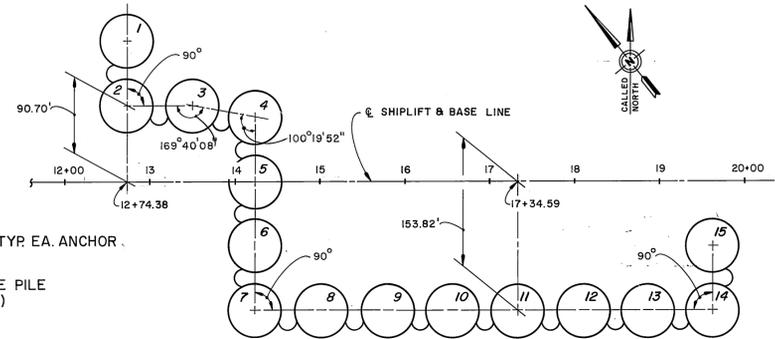
FABRICATED WYE
MINIMUM INTERLOCK STRENGTH 28,000 psi
NO SCALE



TYP. PILE REINF. DET.
NO SCALE



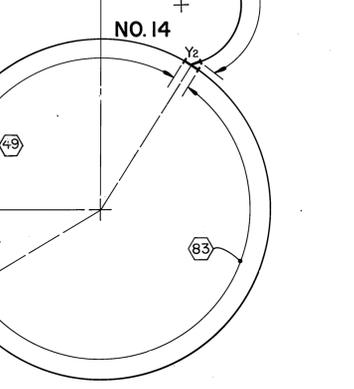
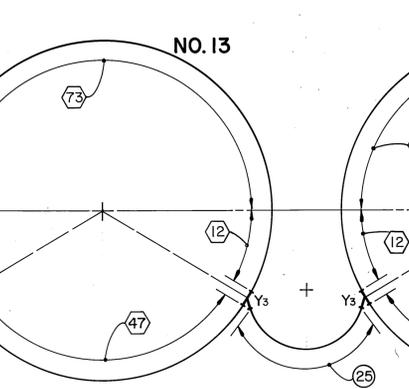
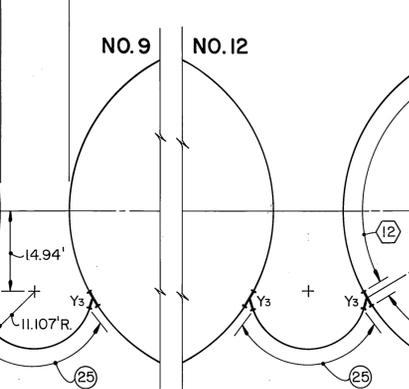
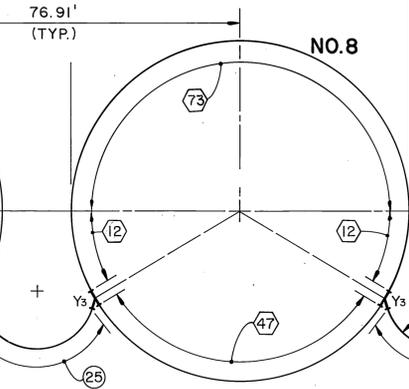
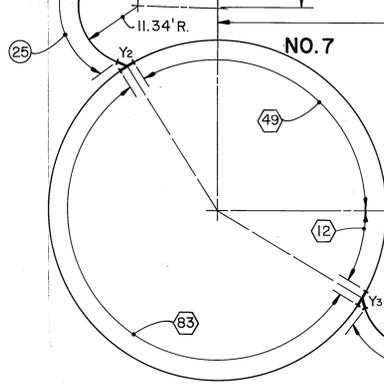
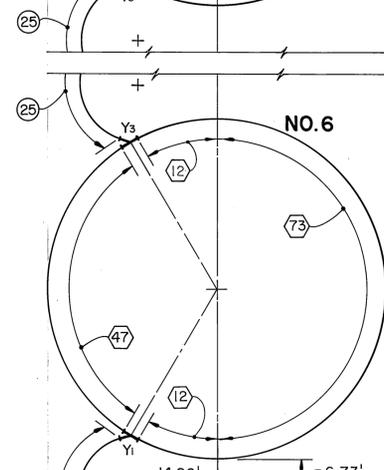
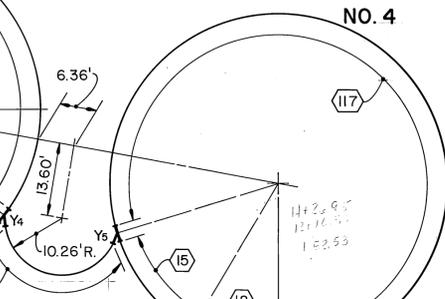
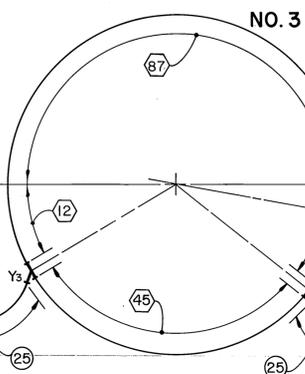
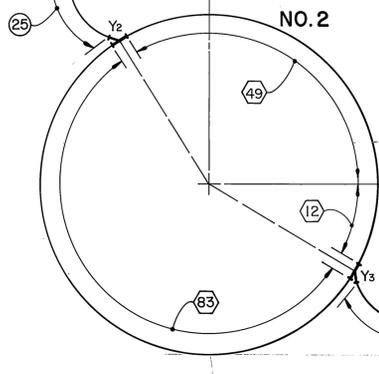
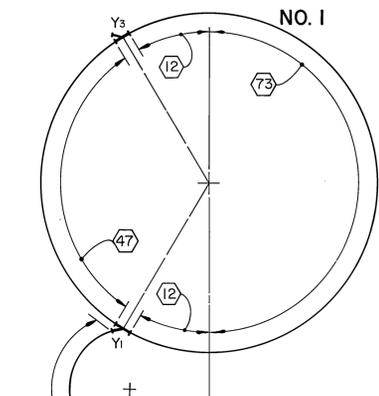
PILE PLUG & SPLICE DETAIL
NO SCALE



LOCATION PLAN
NO SCALE

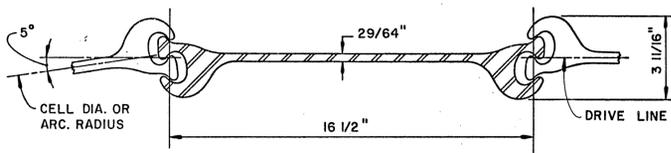
NOTES:

- CONTRACTOR SHALL FURNISH SHOP DRAWINGS PRIOR TO ORDERING SHEET PILES SHOWING LAYOUT, DIMENSIONS AND ALL FABRICATIONS.
- SEE ALSO NOTES ON DRAWINGS S-1 AND S-2.



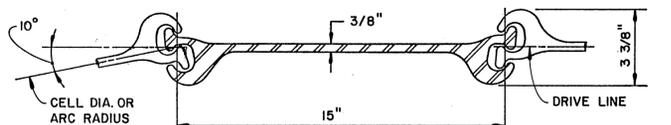
LEGEND

- ⬡ DENOTES NO. OF PSX32 SHEET PILES.
- ◯ DENOTES NO. OF PS28 SHEET PILES.



MINIMUM INTERLOCK STRENGTH OF PS x 32 IS 28,000 lbs. PER LINEAR INCH.

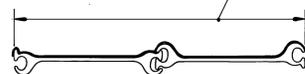
TYPICAL PSx32 SHEET PILE
SCALE: 3"=1'-0"



MINIMUM INTERLOCK STRENGTH OF PS28 IS 16,000 lbs. PER LINEAR INCH.

TYPICAL PS28 SHEET PILE
SCALE: 3"=1'-0"

COAT ONLY OUTSIDE SURFACES OF ALL SHEET PILE FROM TOP CUT OFF TO AFTER DREDGING MUDLINE. OMIT COATING ON INTERIOR CONTACTING SURFACES OF INTERLOCKS.



SHEETPILE COATING DETAIL
NO SCALE

SHAPE	DRIVING PILE PER PILE	WEB THICKNESS	WEIGHT		SECTION MODULUS		GROSS SECTIONAL AREA OF PILE	MOBENT OF INERTIA PER PILE	SURFACE AREA		INTERLOCK STRENGTH	SOURCE
			PER LINEAL FOOT OF PILE	PER SQUARE FOOT OF WALL	INCHES ³	INCHES ³			FT ² /FT.	FT ² /FT.		
U.S.S.												
PSX32	16 1/2"	29/64	44.0	32.0	3.3	2.4	12.9	3.7	3.88	3.10	28.00	U.S.S. STEEL SHEET PILING HANDBOOK APRIL 1979 ARISS 23-6216-03
PS28	15	3/8	35.0	28.0	2.4	1.9	10.3	3.5	3.70	2.86	16.00	
ARBED												
ABP12	19.68	0.47	50.2	30.6	3.39	2.07	14.76	5.94	4.63		28.00	ARBED CATALOGUE 1980 EDITION
PBP9.5	19.68	0.37	44.15	26.91	2.50	1.53	12.97	4.54	4.53		16.00	

TYPICAL SHEETPILE PROPERTIES
LAYOUT DIMENSIONS ARE FOR U.S.S. SHEET PILING.

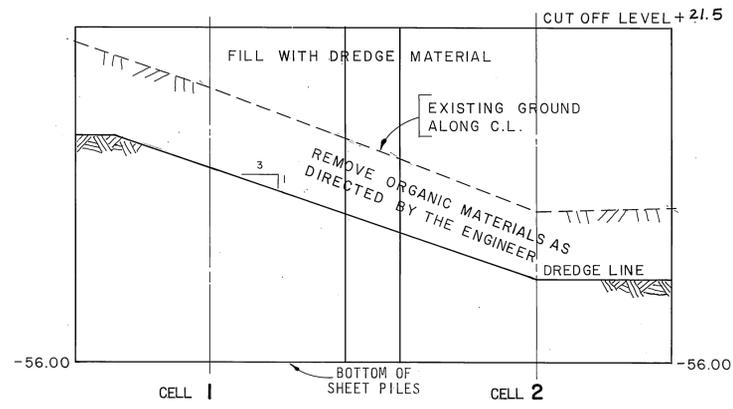
* NOTE
DIVIDE 'COATING AREA' LISTED ABOVE BY 2, FOR COATING OF ONE SIDE OF PILE ONLY.

No.	DATE	REVISIONS	BY
1	1-27-86	"AS-BUILT"	GB
DRAWN:		DESIGNED:	CHECKED:

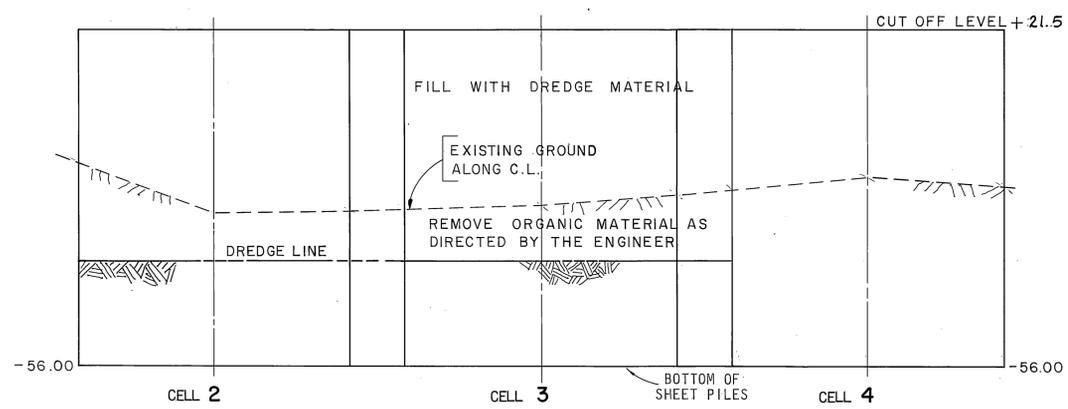


STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.
KETCHIKAN VESSEL MAINTENANCE FACILITY
PROJECT NO. K 61216

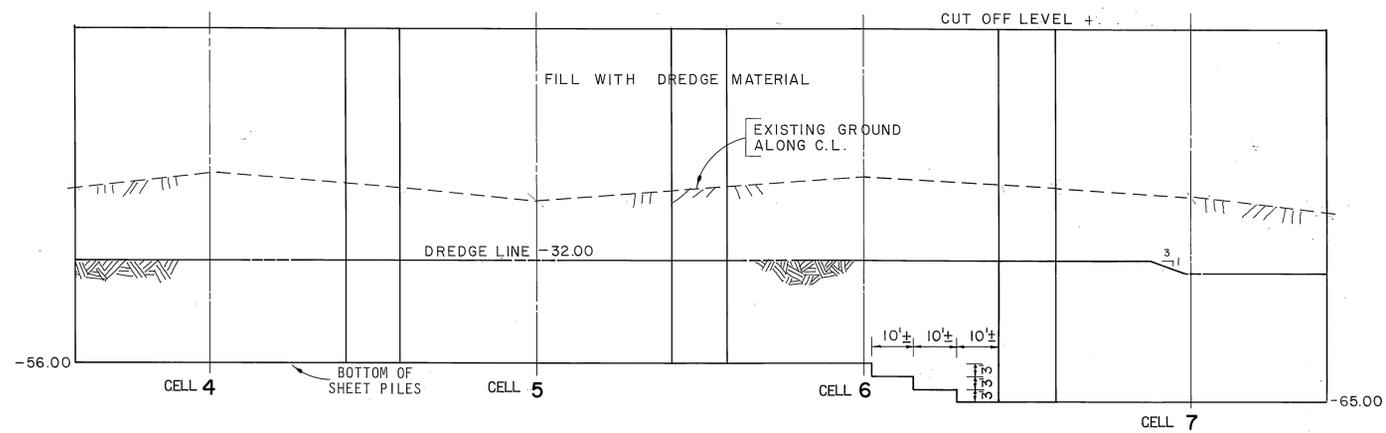
CONTRACT NO. 1		DRAWING NO.
		S-4
		OF
		10
DATE: 7/30/82	SCALE: SHOWN	JOB No. 3881.02



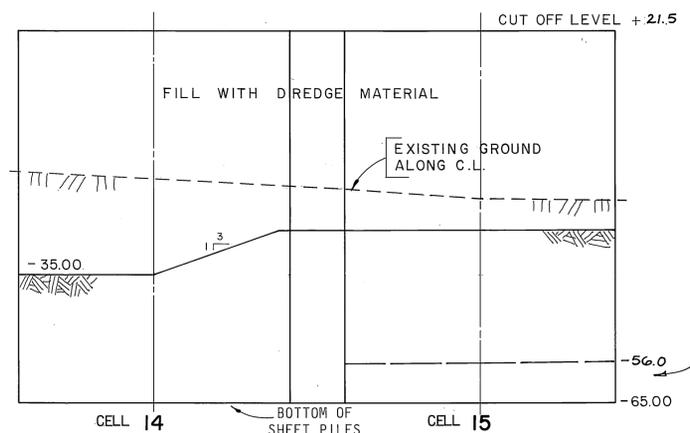
BOAT SHED AREA



SHIPLIFT PIER AREA

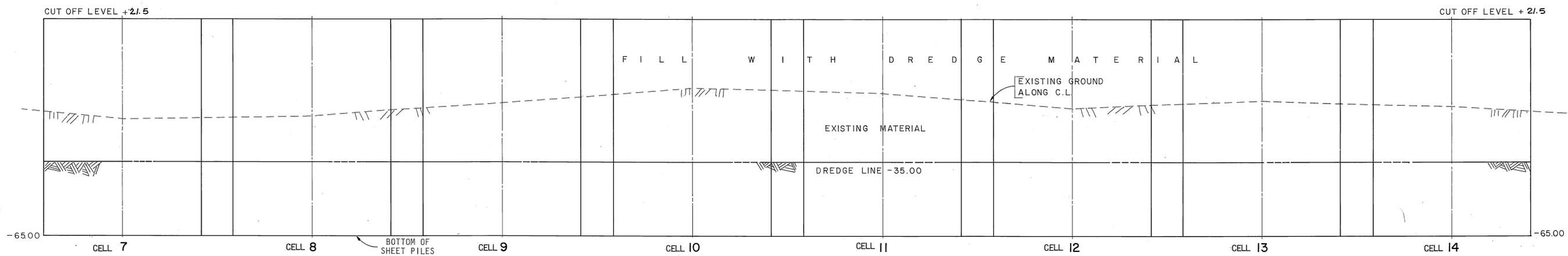


SHIPLIFT HEAD WALL AREA



MAIN WHARF AREA

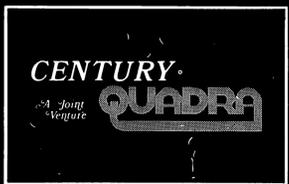
NOTE:
Tips of sheets in cell #15
"As Driven"; vary between
Elev. -56.4 -63.



MAIN WHARF AREA

NOTES:
CUT TOP OF STEEL SHEETS AS REQUIRED
BY CONCRETE AND OTHER CONSTRUCTION
IN THIS CONTRACT.

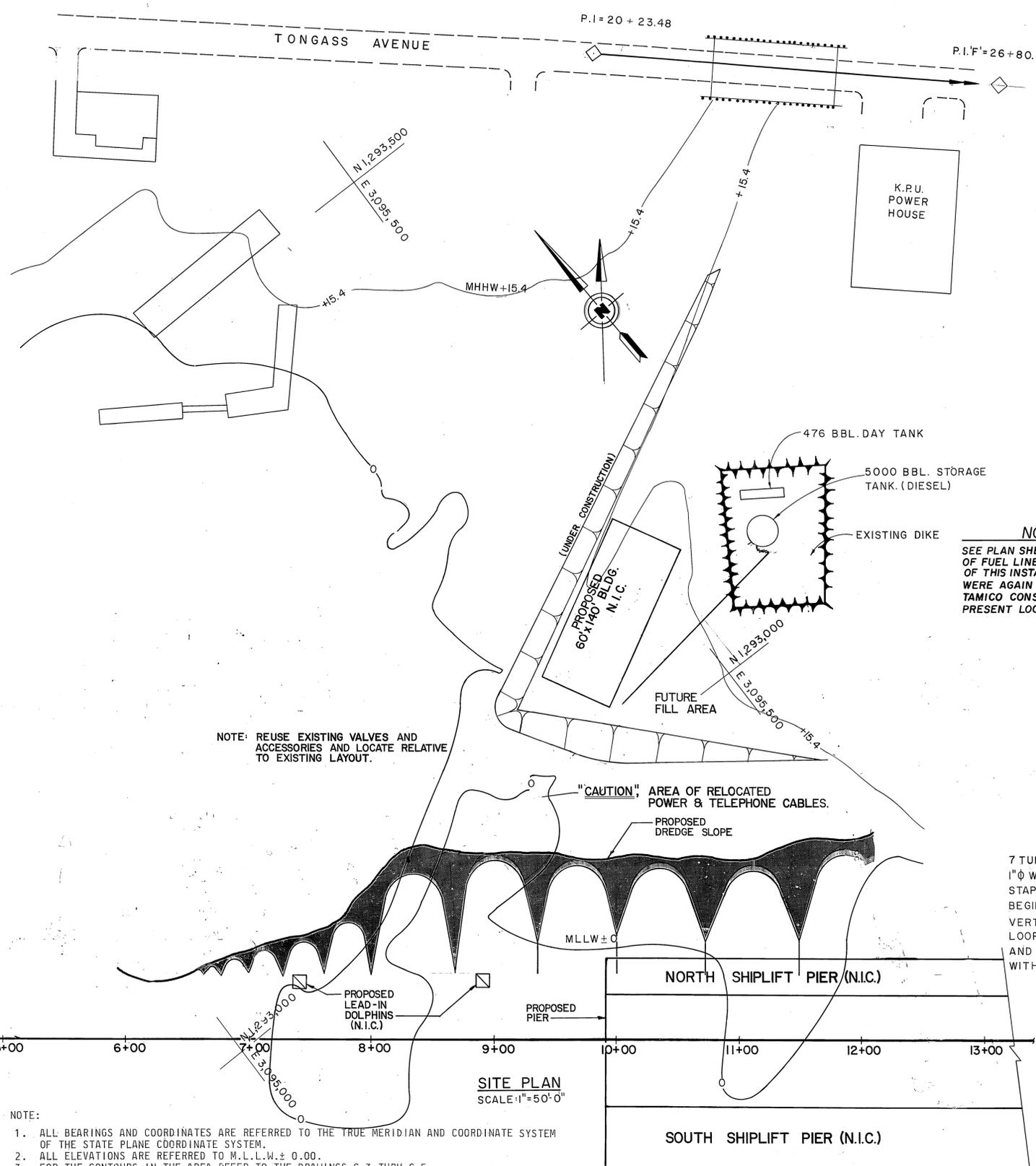
No.	DATE	REVISIONS	BY
1	1-29-80	"As-Built"	LB
DRAWN:	DESIGNED:	CHECKED:	



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MAINTENANCE FACILITY**
PROJECT NO. K 61216

DATE: 7/30/82 SCALE: JOB No. 3881.02

CONTRACT NO. 1
DRAWING NO.
S-5
OF
10



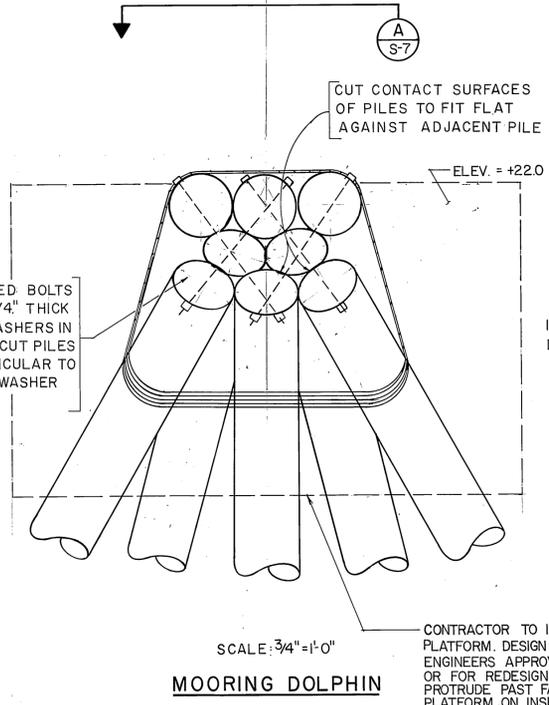
NOTE: REUSE EXISTING VALVES AND ACCESSORIES AND LOCATE RELATIVE TO EXISTING LAYOUT.

"CAUTION" AREA OF RELOCATED POWER & TELEPHONE CABLES.

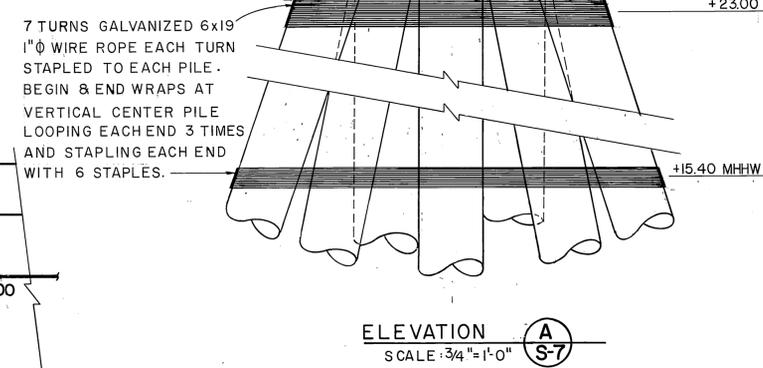
SITE PLAN
SCALE: 1" = 50'-0"

- NOTE:
1. ALL BEARINGS AND COORDINATES ARE REFERRED TO THE TRUE MERIDIAN AND COORDINATE SYSTEM OF THE STATE PLANE COORDINATE SYSTEM.
 2. ALL ELEVATIONS ARE REFERRED TO M.L.L.W. ± 0.00.
 3. FOR THE CONTOURS IN THE AREA REFER TO THE DRAWINGS C-3 THRU C-5.
 4. MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE GENERAL SPECIFICATIONS. CONTRACTOR SHALL REUSE ALL EXISTING VALVES, PUMP AND FITTINGS, BUT SHALL DISPOSE OF THE EXISTING PIPES.
 5. ALL TIMBER PILES SHALL BE TREATED AND SHALL HAVE A MINIMUM BUTT DIAMETER OF 16 INCHES UNLESS OTHERWISE SPECIFIED. THEY SHALL BE DRIVEN TO A MINIMUM OF 15 FEET BELOW MUDLINES.

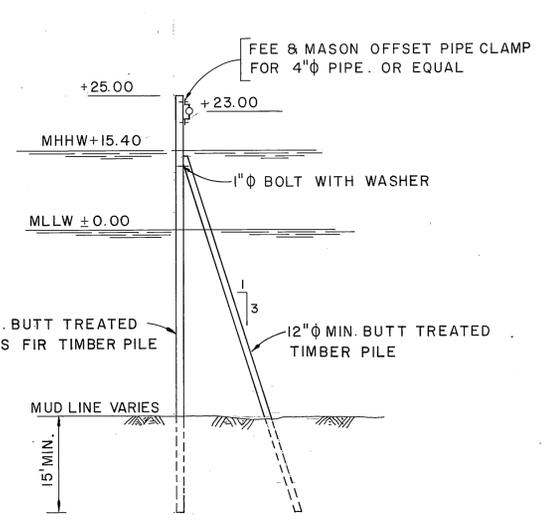
NOTE:
SEE PLAN SHEET C-15 FOR EXISTING LOCATION OF FUEL LINE AND DOLPHINS AFTER COMPLETION OF THIS INSTALLATION. FUEL LINE AND DOLPHINS WERE AGAIN RELOCATED UNDER CONTRACT WITH TAMICO CONSTRUCTION CO. RELOCATION IN PRESENT LOCATION COMPLETED DEC. 10, 1983.



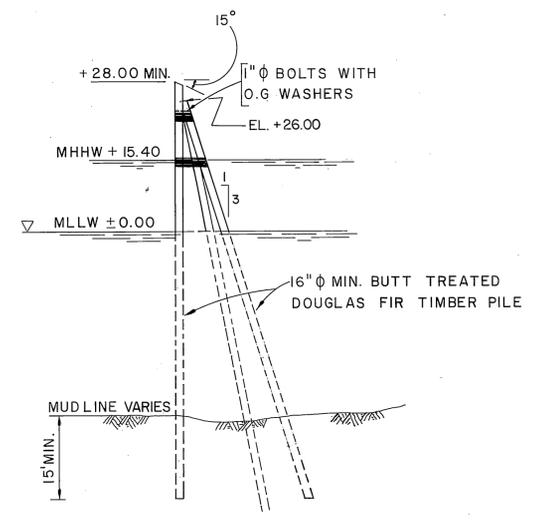
MOORING DOLPHIN
SCALE: 3/4" = 1'-0"



ELEVATION
SCALE: 3/4" = 1'-0"



DETAIL 'CC'
PIPE SUPPORT PILE
SCALE: 1/16" = 1'-0"



SIDE ELEVATION 'B'
SCALE: 1/16" = 1'-0"

1	7-30-86	As-Built	15
No.	DATE	REVISIONS	BY
DRAWN:	DESIGNED:	CHECKED:	

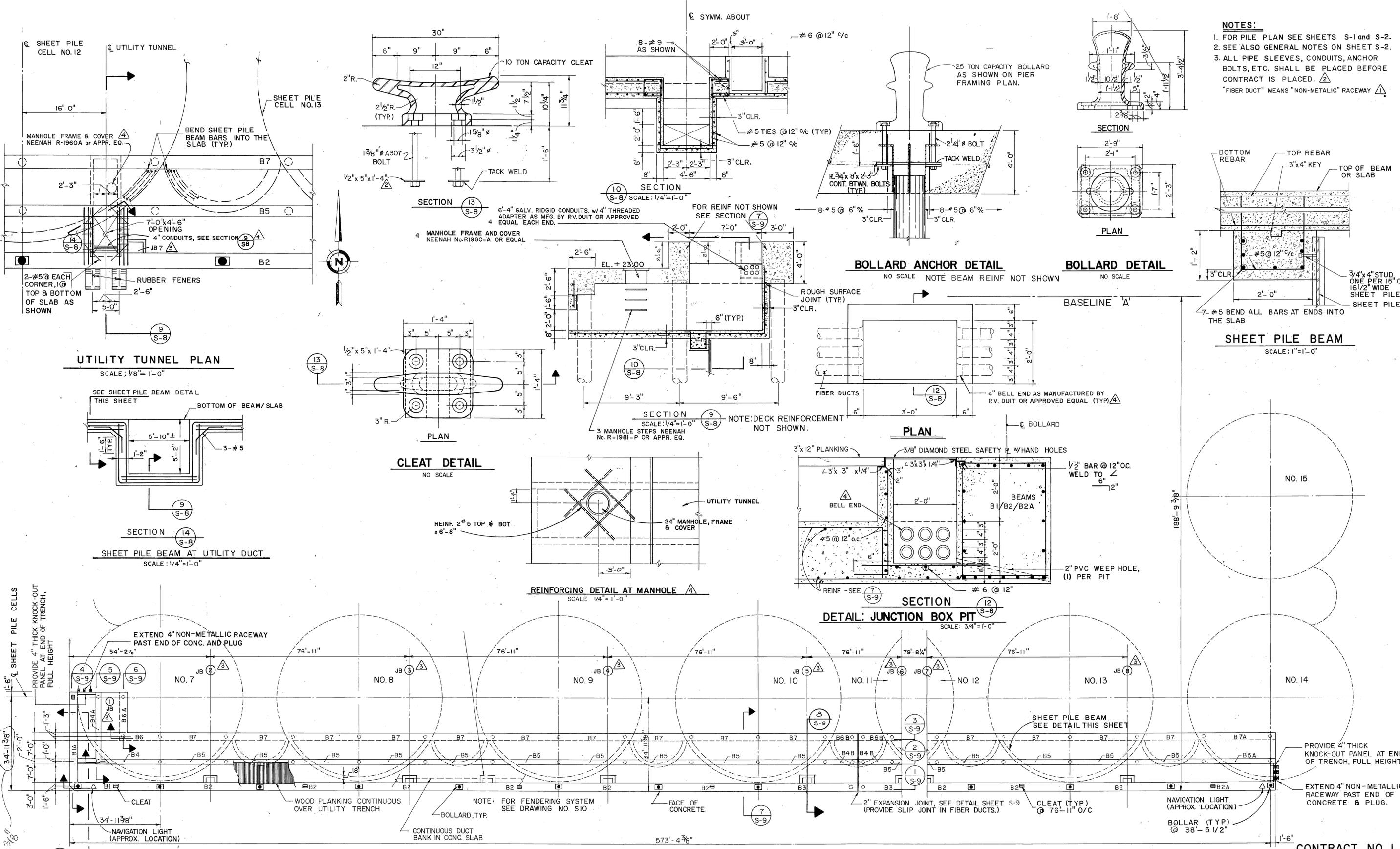


STATE OF ALASKA
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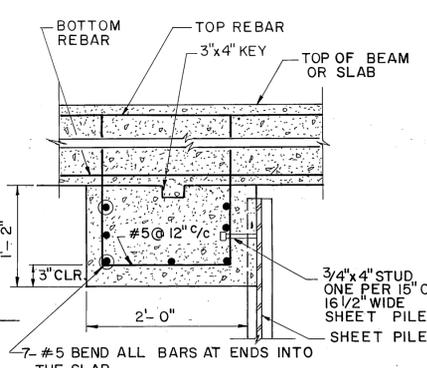
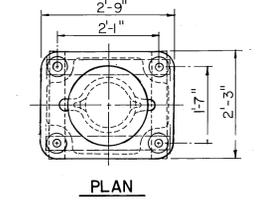
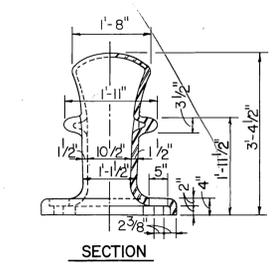
DATE: 7/30/82 SCALE: AS SHOWN JOB No. 3881.02

CONTRACT NO. 1

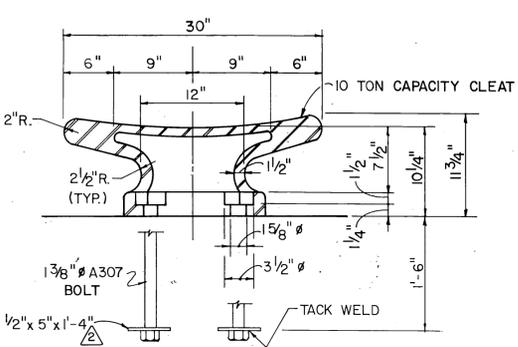
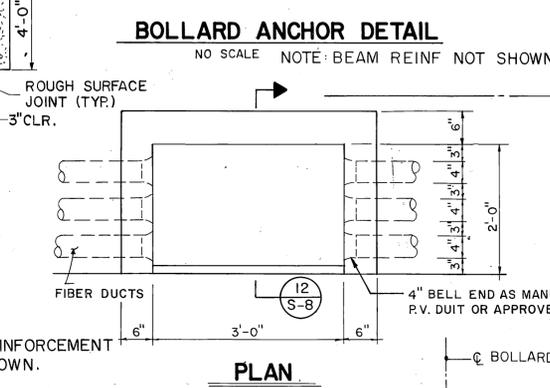
DRAWING NO.
S-7
OF
10



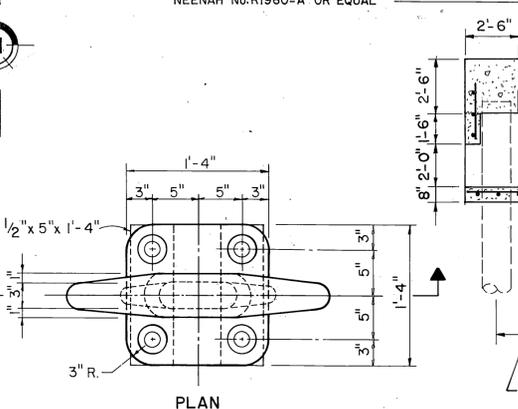
NOTES:
 1. FOR PILE PLAN SEE SHEETS S-1 and S-2.
 2. SEE ALSO GENERAL NOTES ON SHEET S-2.
 3. ALL PIPE SLEEVES, CONDUITS, ANCHOR BOLTS, ETC. SHALL BE PLACED BEFORE CONTRACT IS PLACED. Δ
 "FIBER DUCT" MEANS "NON-METALLIC" RACEWAY Δ



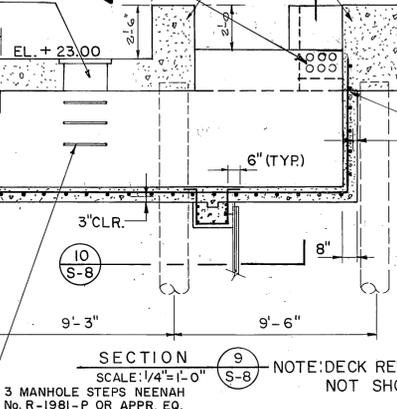
SHEET PILE BEAM
 SCALE: 1"=1'-0"



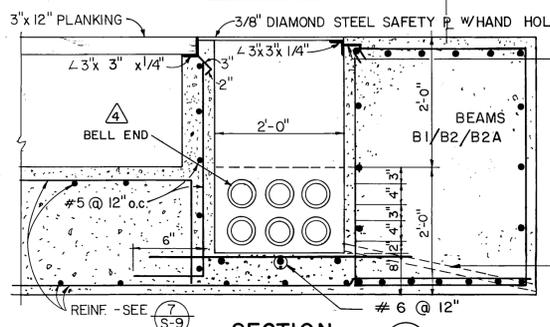
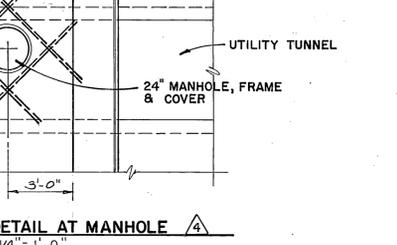
SECTION 13 (S-8)
 6"-4" GALV. RIDGID CONDUITS, w/4" THREADED ADAPTER AS MFG. BY RV. DUIT OR APPROVED EQUAL EACH END.
 4 MANHOLE FRAME AND COVER NEENAH No. R1960-A OR EQUAL



CLEAT DETAIL
 NO SCALE

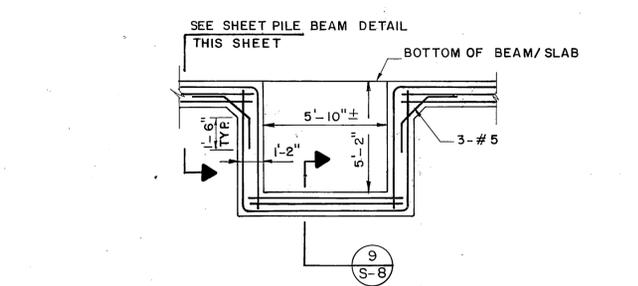


SECTION 9 (S-8)
 SCALE: 1/4"=1'-0"
 NOTE: DECK REINFORCEMENT NOT SHOWN.
 3 MANHOLE STEPS NEENAH No. R-1981-P OR APPR. EQ.



SECTION 12 (S-8)
 SCALE: 3/4"=1'-0"
DETAIL: JUNCTION BOX PIT

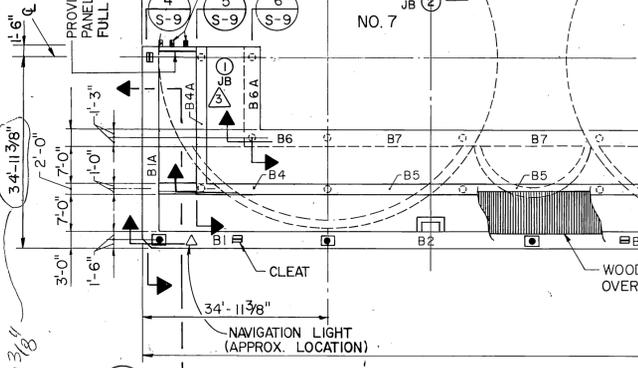
UTILITY TUNNEL PLAN
 SCALE: 1/8"=1'-0"



SECTION 14 (S-8)
SHEET PILE BEAM AT UTILITY DUCT
 SCALE: 1/4"=1'-0"



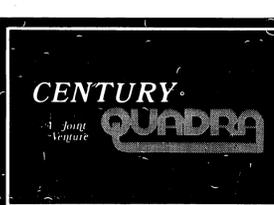
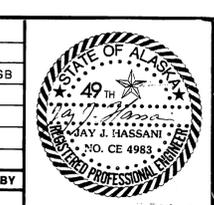
SECTION 11 (S-8)
SECTION



SECTION 11 (S-8)
SECTION

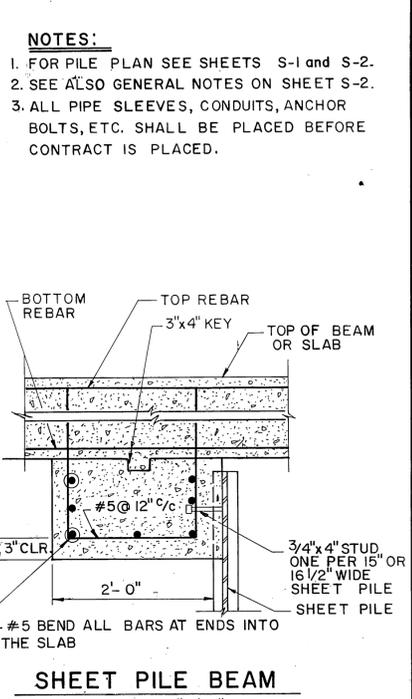
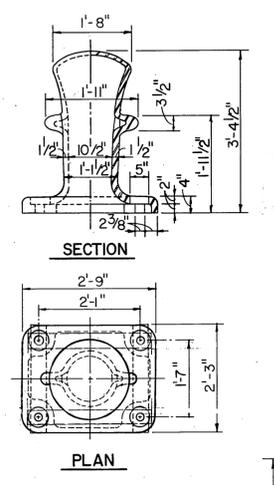
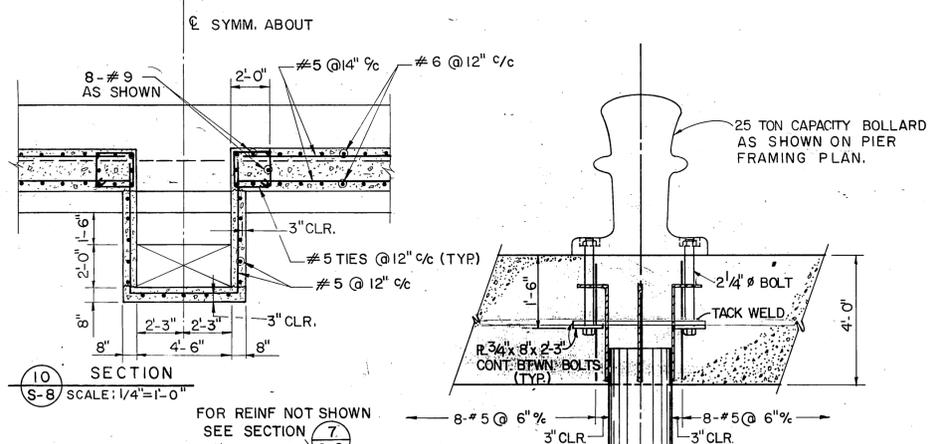
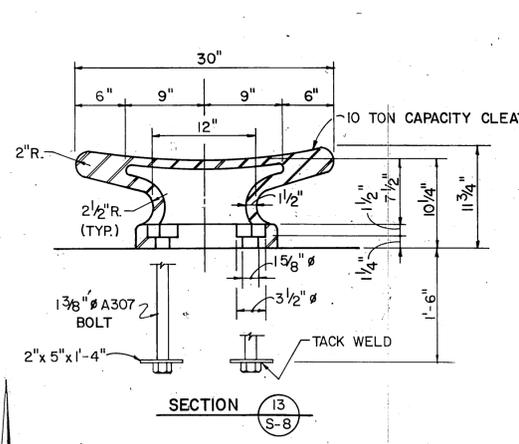
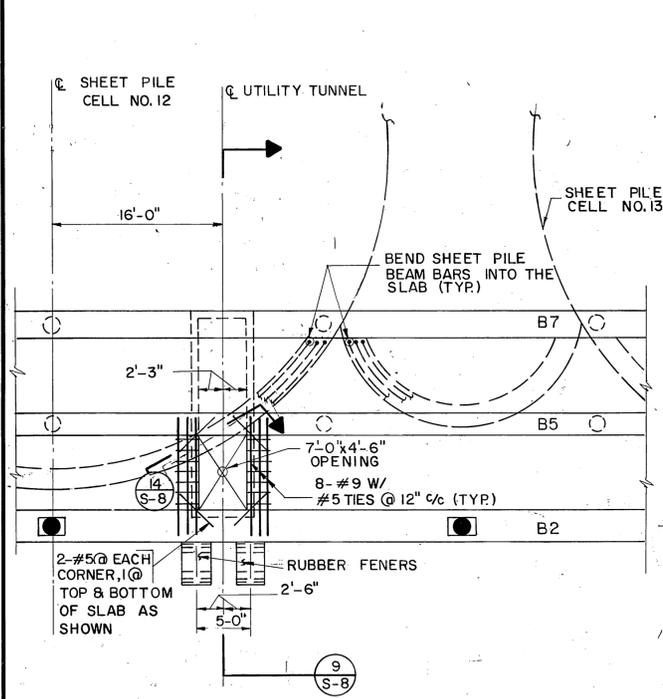
No.	DATE	REVISIONS	BY
5	2-5-86	AS BUILT	GB
4	3-17-83	ADD BELL ENDS & MANHOLE	
3	3-8-83	LOCATION OF JUNCTION BOXES	
2	10-4-82	GENERAL REVISIONS ADDENDUM No. 3	
1	9-8-82	UTILITY TUNNEL INCLUDED ADDENDUM No. 2	

DRAWN: DESIGNED: CHECKED:

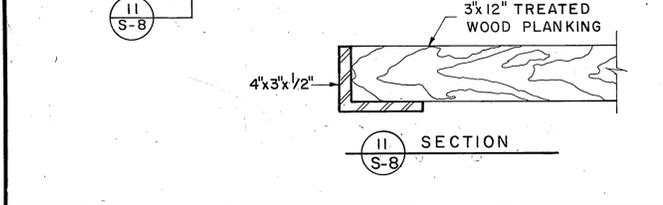
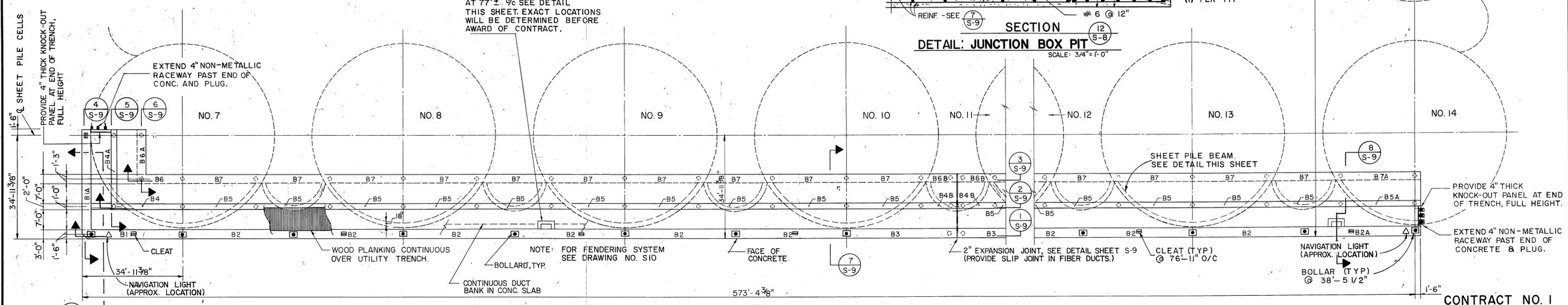
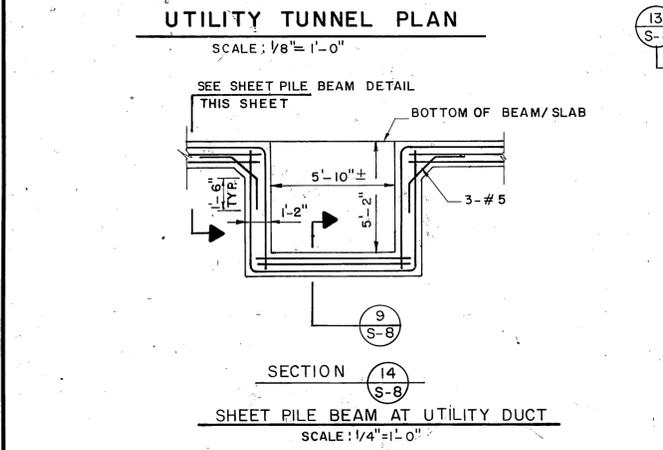
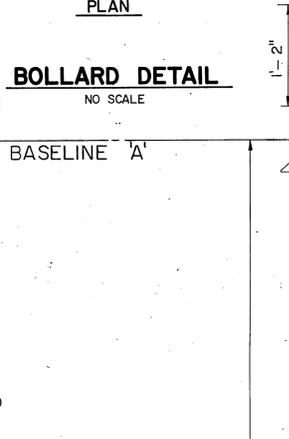
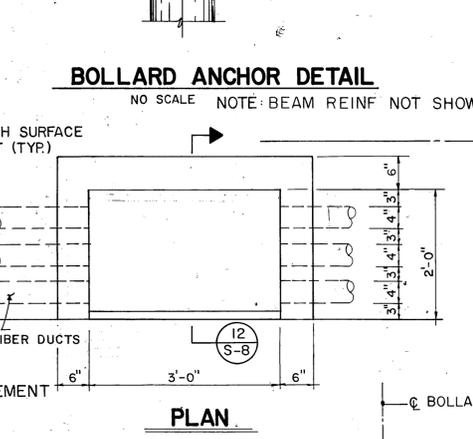
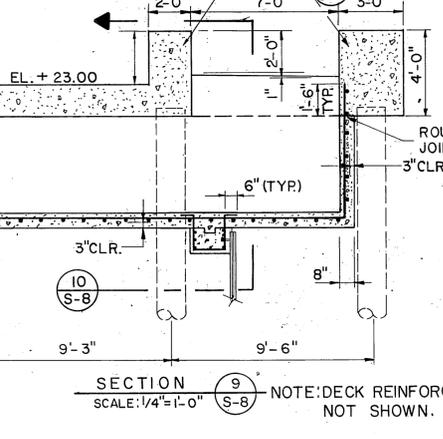
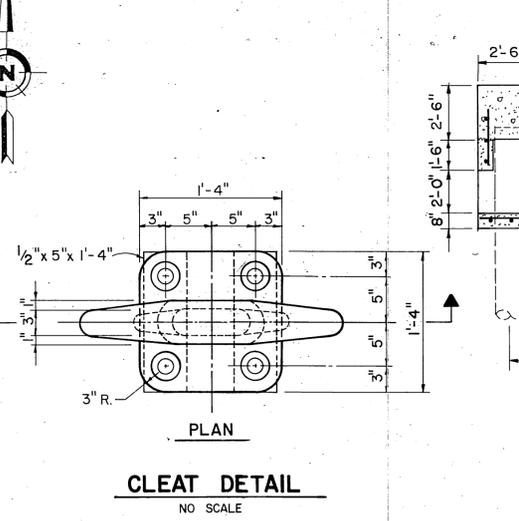


STATE OF ALASKA
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 PROJECT NO. K 61216

CONTRACT NO. 1
DRAWING NO. S 8.
DECK PLAN OF MAIN WHARF
 OF 10
 DATE: 7/30/82 SCALE: 1/16"=1'-0" JOB No. 3881.02

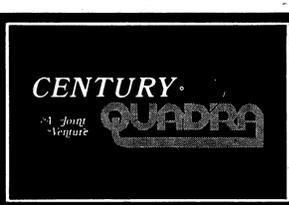
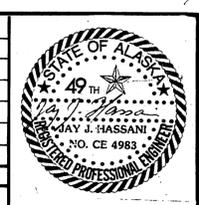


NOTES:
1. FOR PILE PLAN SEE SHEETS S-1 and S-2.
2. SEE ALSO GENERAL NOTES ON SHEET S-2.
3. ALL PIPE SLEEVES, CONDUITS, ANCHOR BOLTS, ETC. SHALL BE PLACED BEFORE CONTRACT IS PLACED.



No.	DATE	REVISIONS	BY
1	9-8-82	UTILITY TUNNEL INCLUDED	

DRAWN: DESIGNED: CHECKED:



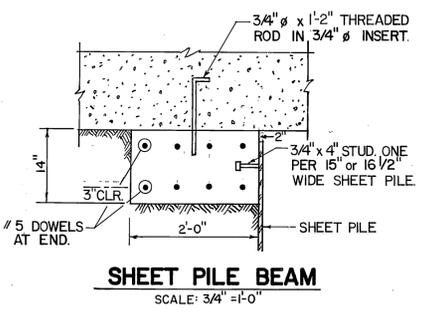
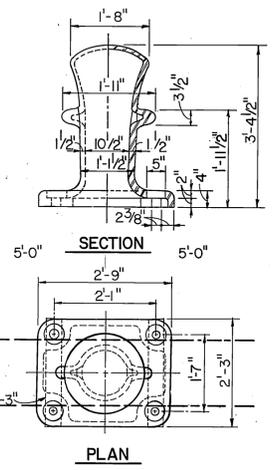
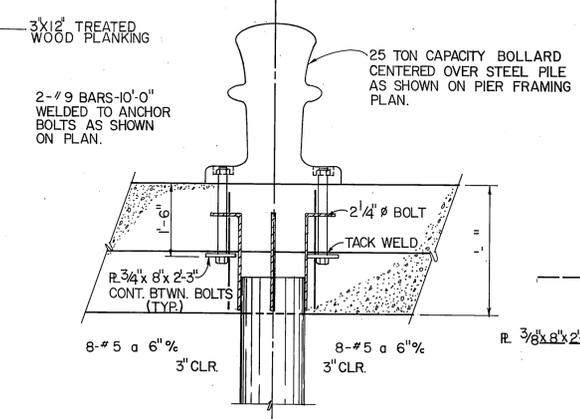
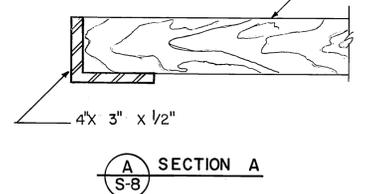
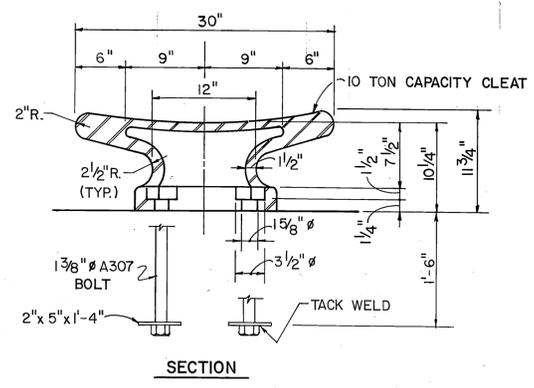
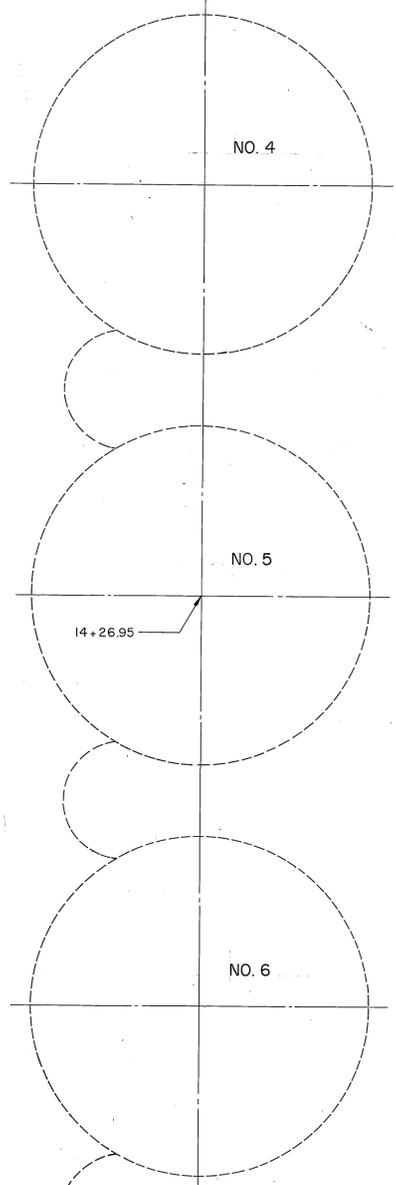
STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.

KETCHIKAN VESSEL
MAINTENANCE FACILITY
PROJECT NO. K 61216

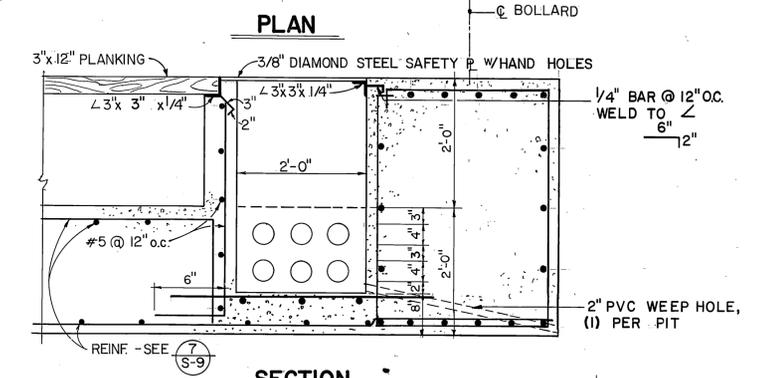
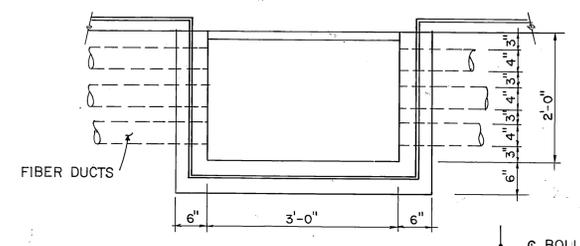
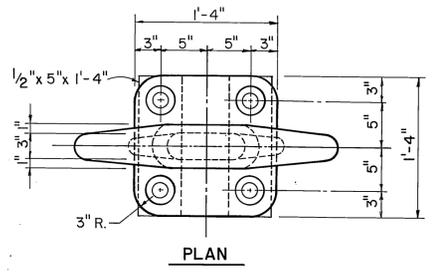
CONTRACT NO. 1

DRAWING NO.
S 8.
OF
10

DATE: 7/30/82 SCALE: 1/16" = 1'-0" JOB No. 3881.02

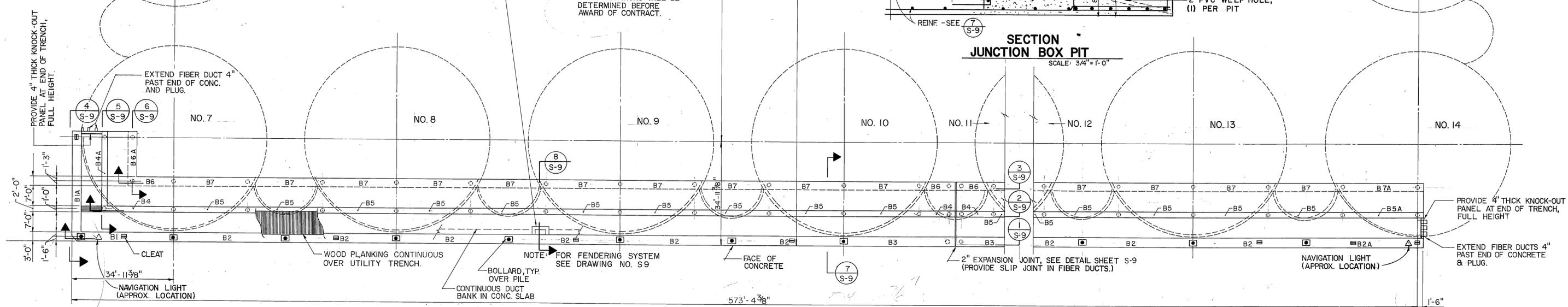


BASELINE 'A'



- NOTES:**
- FOR PILE PLAN SEE SHEETS S-1 and S-2.
 - SEE ALSO GENERAL NOTES ON SHEET S-2.
 - ALL PIPE SLEEVES, CONDUITS, ANCHOR BOLTS, ETC SHALL BE PLACED BEFORE CONTRACT IS PLACED.

8 EA. JUNCTION BOX PIT AT 75° 0' O/C. SEE DETAILS THIS SHEET. EXACT LOCATIONS WILL BE DETERMINED BEFORE AWARD OF CONTRACT.



No.	DATE	REVISIONS	BY



STATE OF ALASKA
 DIV. OF HARBOR DESIGN and CONST.
 D.O.T./P.F.

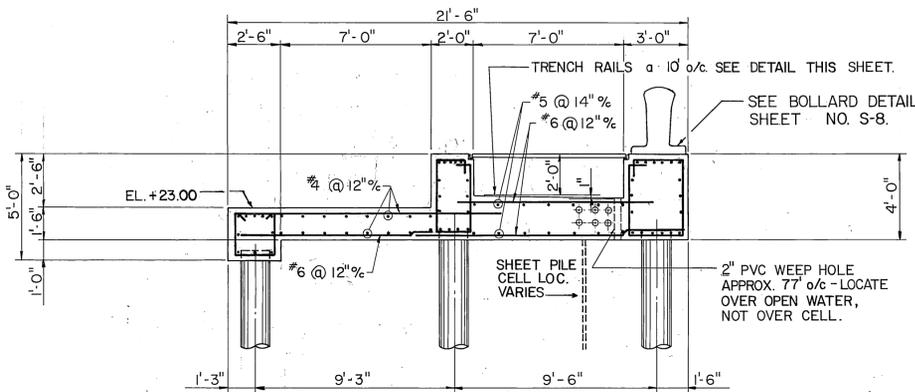
KETCHIKAN VESSEL MAINTENANCE FACILITY
 PROJECT NO. K 61216

CONTRACT NO. 1

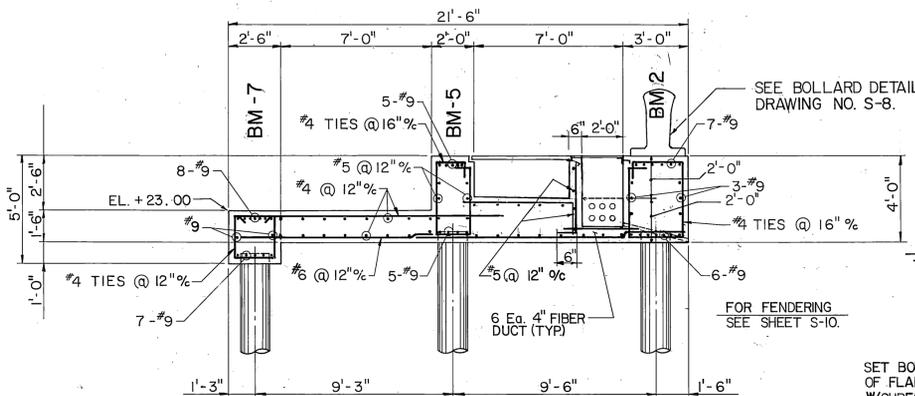
DECK PLAN OF MAIN WHARF

DATE: 7/30/82 SCALE: 1/16" = 1'-0" JOB No. 3881.02

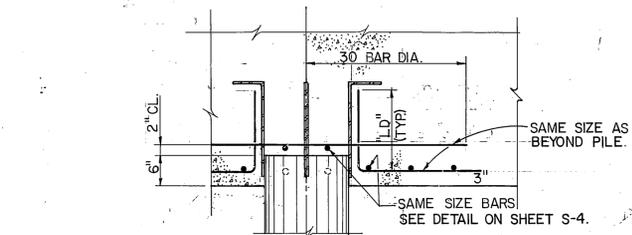
DRAWING NO.
 S 8
 OF
 10



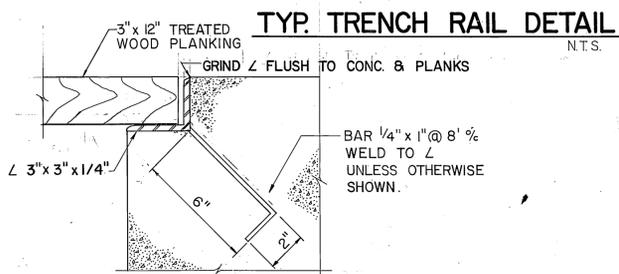
SECTION 7
SCALE: 1/4" = 1'-0"



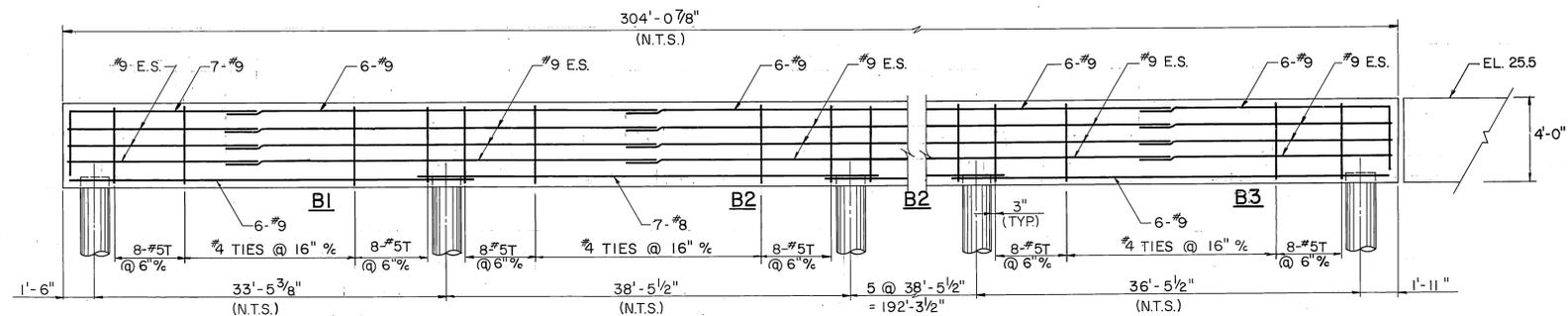
SECTION 8
SCALE: 1/4" = 1'-0"



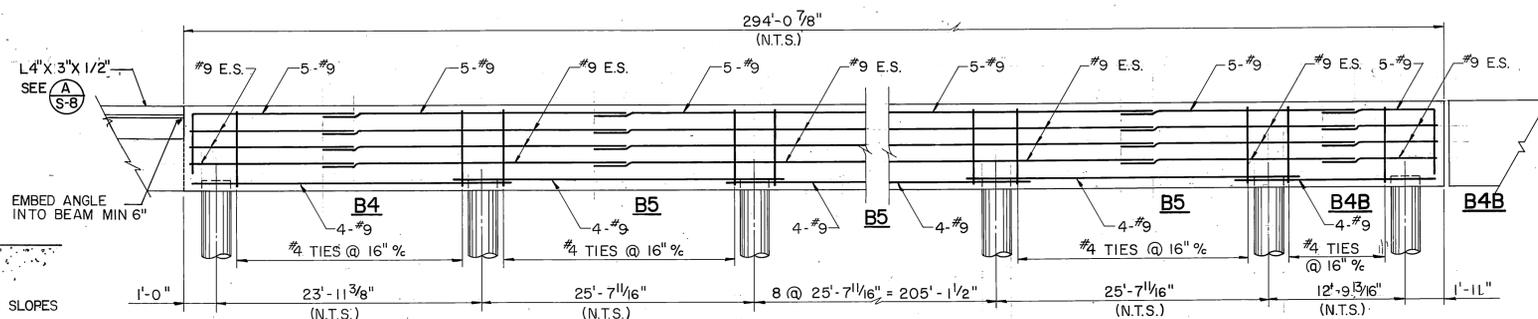
TYPICAL REINFORCING OVER PILES
SCALE: 3/4" = 1'-0"



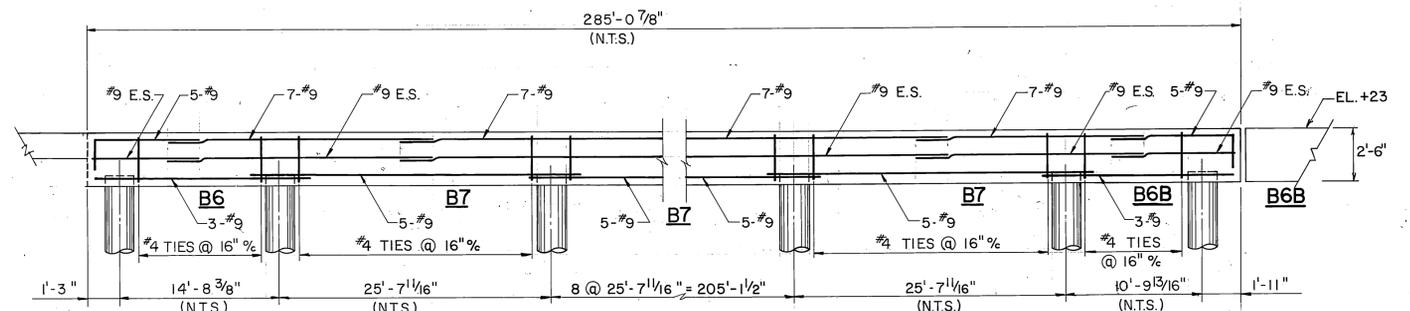
TRENCH COVER SEAT DETAIL
SCALE: 3" = 1'-0"



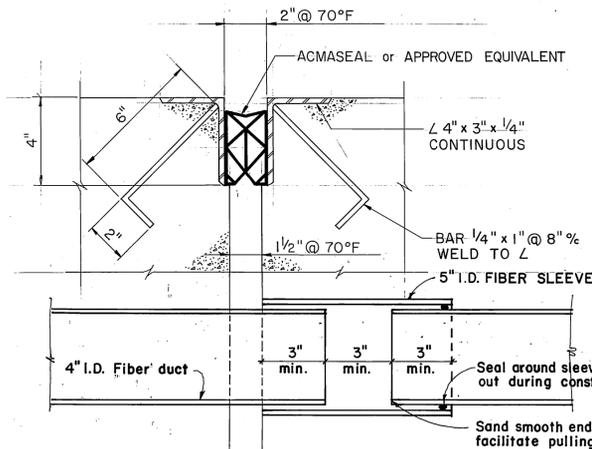
SECTION 1
SCALE: 1/4" = 1'-0"



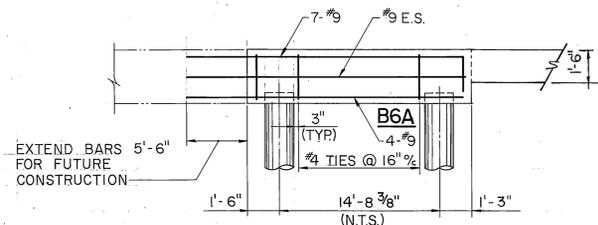
SECTION 2
SCALE: 1/4" = 1'-0"



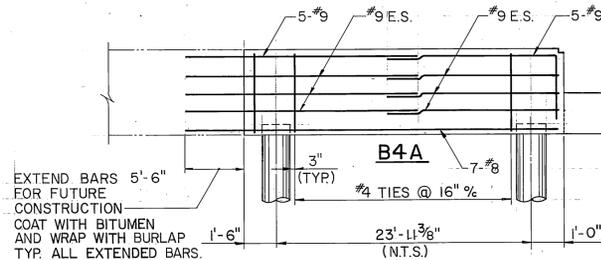
SECTION 3
SCALE: 1/4" = 1'-0"



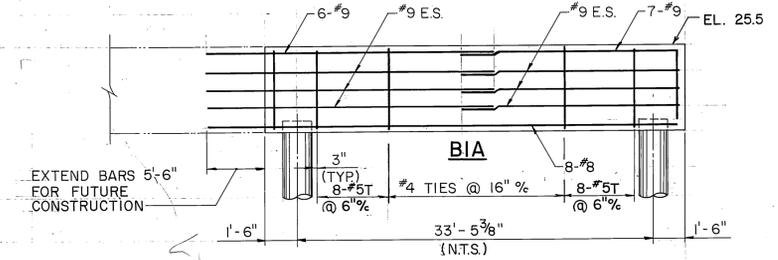
TYP. EXPANSION JOINT DETAIL
SCALE: 3" = 1'-0"



SECTION 6
SCALE: 1/4" = 1'-0"



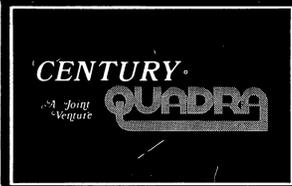
SECTION 5
SCALE: 1/4" = 1'-0"



SECTION 4
SCALE: 1/4" = 1'-0"

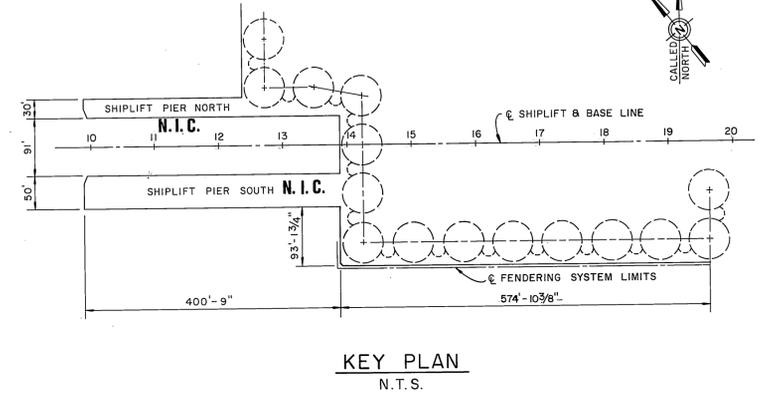
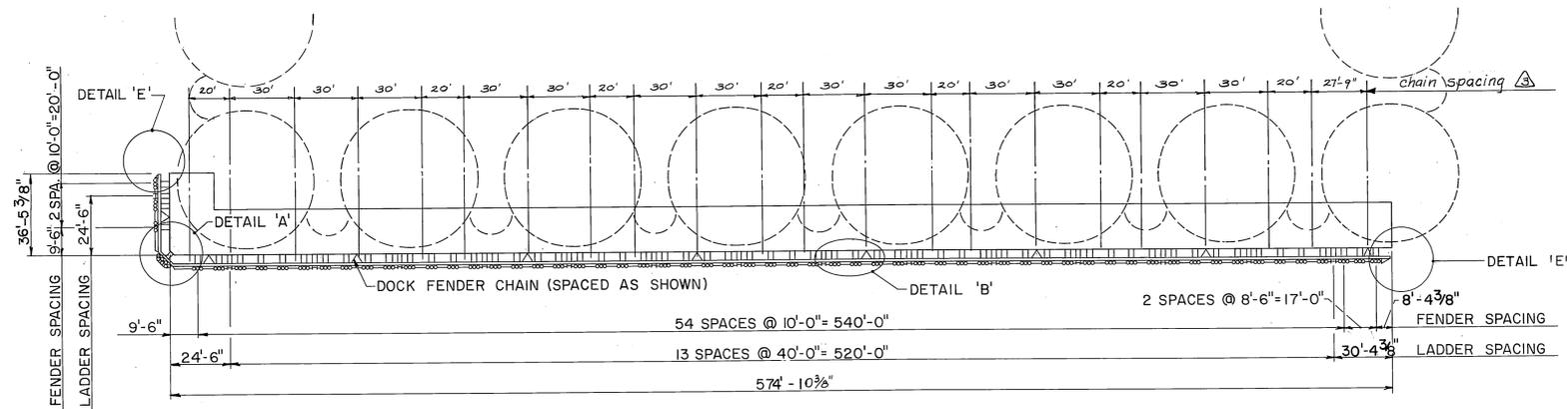
No.	DATE	REVISIONS	BY
3	1/5/86	AS-BUILT	GB
2	1/5/86	ADD FIBER DUCT TO EXPAN. JOINT DET.	GB
1	8/13/82	ADDED PILE EMB. & TRENCH RAIL DETAILS	RJP

DRAWN: _____ DESIGNED: _____ CHECKED: _____



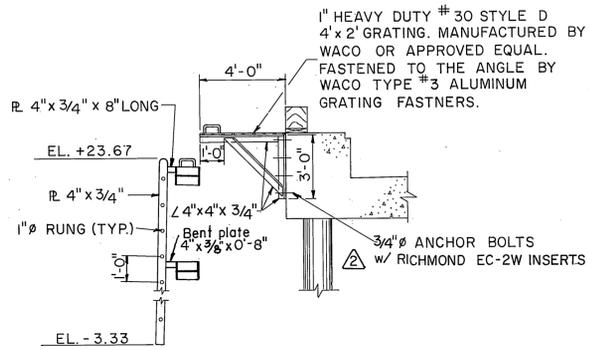
STATE OF ALASKA
 DIV. OF HARBOR DESIGN and CONST.
 D.O.T./P.F.
KETCHIKAN VESSEL
MAINTENANCE FACILITY
 PROJECT NO. K 61216

CONTRACT NO. 1	
DRAWING NO.	
SECTIONS & BEAM DETAILS MAIN WHARF	
S9 OF 10	
DATE: 7/30/82	SCALE: SHOWN
JOB No. 3881.02	

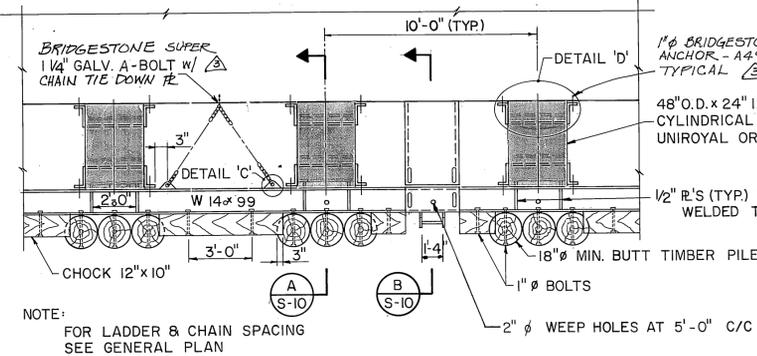


GENERAL PLAN
SCALE: 1" = 40'-0"

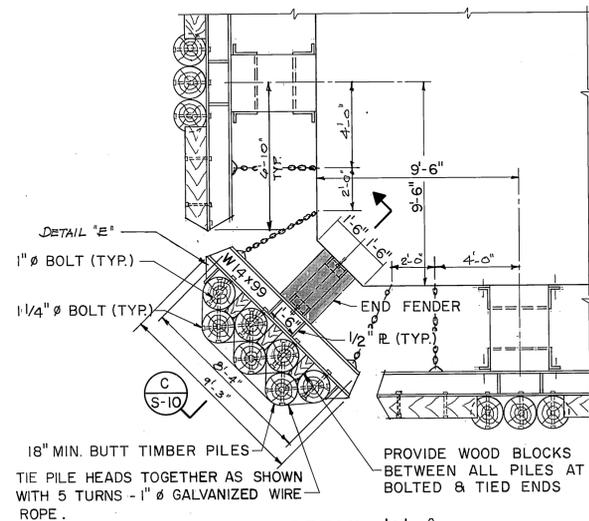
KEY PLAN
N.T.S.



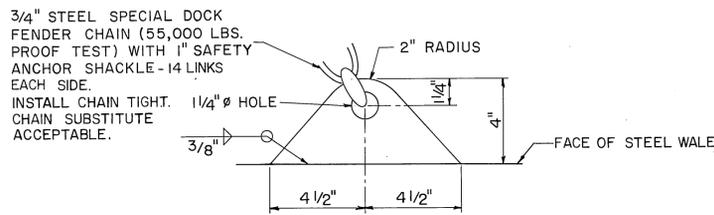
SECTION B
S-10 SCALE: 1" = 4'-0"



DETAIL 'B'
SCALE: 1" = 4'-0"

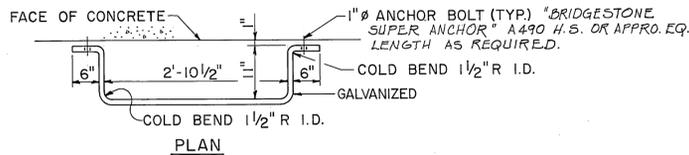


DETAIL 'A'
SCALE: 1" = 4'-0"



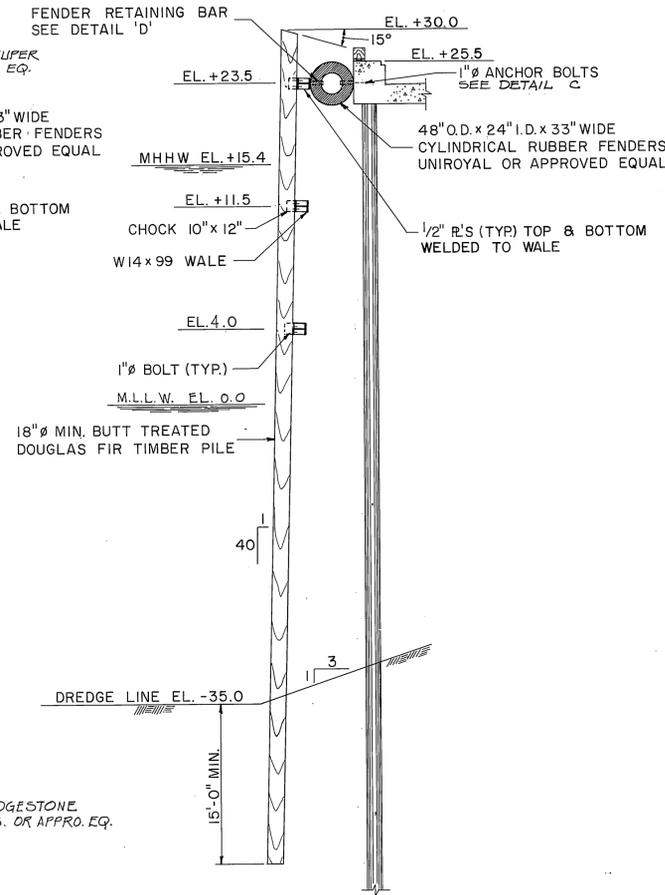
DETAIL 'C'
SCALE: 3" = 1'-0"

CHAIN RESTRAINING PLATE

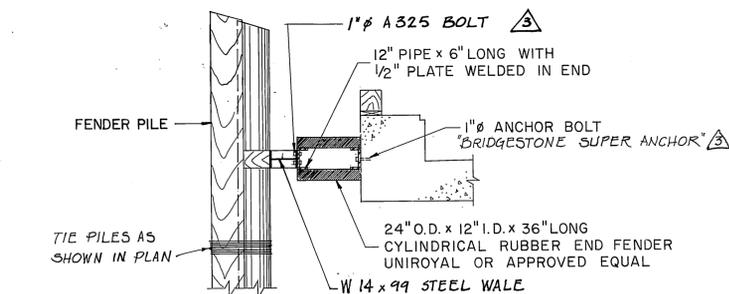


DETAIL 'D'
SCALE: 3/4" = 1'-0"

FENDER RETAINER



SECTION A
S-10 SCALE: 1" = 8'-0"



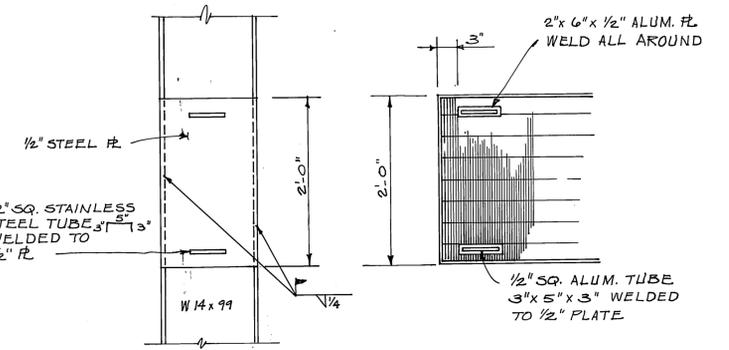
SECTION C
S-10 SCALE: 1" = 4'-0"

NOTES:

- SEE ALSO "GENERAL NOTES" ON SHEET NO. S-2.
- CONTRACTOR SHALL SUBMIT SHOP DETAILS BEFORE PROCEEDING FOR FABRICATION.
- TIMBER PILES SHALL BE TREATED DOUGLAS FIR OF THE DIMENSIONS SHOWN ON THE DRAWING. PILE CUT-OFFS SHALL BE DRESSED IN THE FIELD WITH TWO COATS OF HOT CREOSOTE FOLLOWED BY A COAT OF COAL TAR PITCH.
- ALL METAL SURFACES SHALL BE CLEANED AND PAINTED WITH BITUMEN, EXCEPT LADDERS SHALL BE GALVANIZED PER ASTM A-153.
- ALL HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-153.
- ALL BOLTS ON OUTER RUBBING SURFACES SHALL BE COUNTERSUNK.
- FOR BOLLARDS AND CLEATS, SEE DRAWING S-8.

DESIGN CRITERIA:

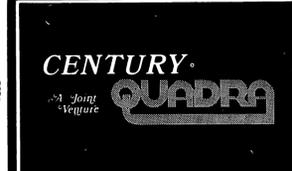
- DESIGN ENERGY ABSORPTION CAPACITY: 170 FT.-KIPS
- A) **FERRY:**
- DISPLACEMENT TONNAGE: 6,700 LT.
 - ANGLE OF APPROACH: 10°
 - APPROACH VELOCITY: 3.5 KNOTS
- B) **CARGO SHIP:**
- DISPLACEMENT TONNAGE: 20,000 LT.
 - APPROACH VELOCITY NORMAL TO WHARF: 0.5 FPS



DETAIL 'N' NO SCALE

DETAIL 'M' NO SCALE

No.	DATE	REVISIONS	BY
1	25-84	AS-BUILT	GB
DRAWN:		DESIGNED:	CHECKED:



STATE OF ALASKA
DIV. OF HARBOR DESIGN and CONST.
D.O.T./P.F.

KETCHIKAN VESSEL MAINTENANCE FACILITY
PROJECT NO. K 61216

CONTRACT NO. 1

DRAWING NO. S-10 OF 10

DATE: 7/30/82 SCALE: AS SHOWN JOB No. 3881.02