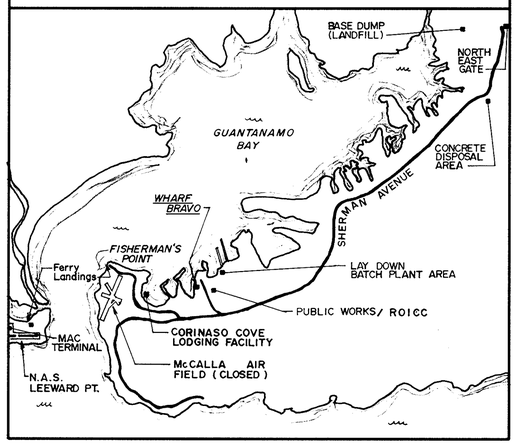
REPAIRS TO WHARF BRAVO

U.S. NAVAL STATION GUANTANAMO BAY, CUBA

STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA

VICINITY MAP



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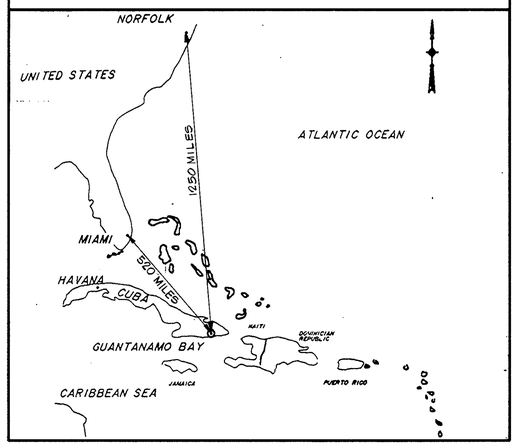
LOCATION MAP



REVISIONS

SP STROUD, PENCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7637

APPROVED PEP NAVSTA GTMO LTR DTD. 7-18-90 CHDR. LOFAGO, NAVO

ACTIVITY - SATISFACTORY TO

APPROVED

DATE 7/26/90

COMMONWEALTH OF VIRGINIA EDWARD W. PENCE, JR. No. 8934 PROFESSIONAL ENGINEER SEAL

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA

U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

TITLE SHEET

CODE ID.NO.80091 SIZE D

SCALE: NONE

EFD NO. 321150

STA. PROJ. NO. R-27-89

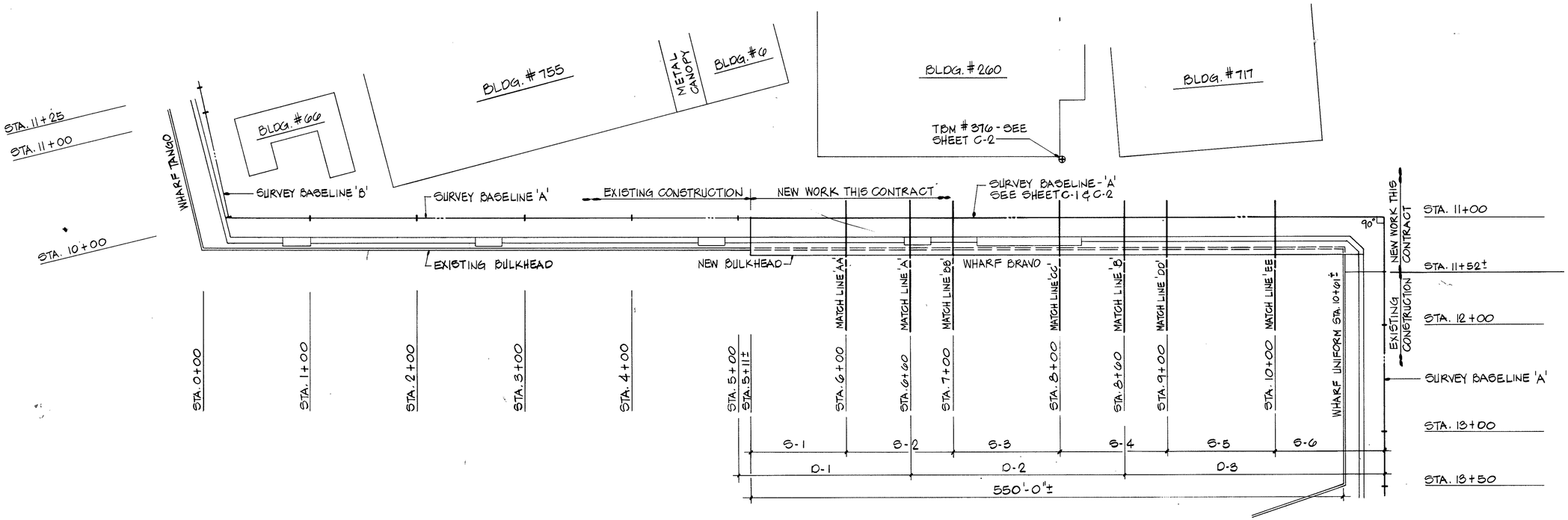
SPEC. NO. 05-90-0082

CONSTRN. CONTR. NO. N62470-87-B-7140

NAVFAC DRAWING NO. 4221150

SHEET 1 OF 32

G-1



OVERALL PLAN - WHARF BRAVO

1" = 50'

GRAPHIC SCALE

1" = 50'

50' 25' 0 50' 100'

REVISIONS

SYM.	DESCRIPTION	DATE	APPROVED

A/E DWN. DESIGN RAUL DRAWN EWP REVIEW TAR CHIEF ARCH./ENGR. PROJECT MANAGER FIRE PROTECTION QUALITY CONTROL BRANCH MANAGER DESIGN DIRECTOR

SP STROUD, PENCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7637

APPROVED DATE

ACTIVITY - SATISFACTORY TO

APPROVED DATE 7/26/90

FOR EFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA — COMMAND W. PENCE, JR. — 8934 — PROFESSIONAL ENGINEER — SEAL

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

NAVAL STATION — ATLANTIC DIVISION — NORFOLK, VIRGINIA

U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

OVERALL PLAN - WHARF BRAVO

CODE I.D. NO. 80091 SIZE D

SCALE: AS NOTED

EFD NO. 321151

STA. PROJ. NO. R-27-89

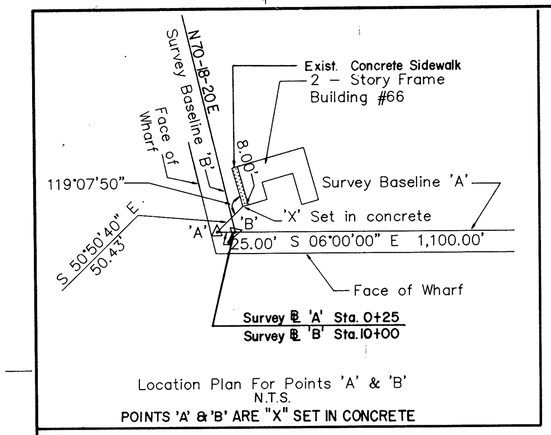
SPEC. NO. 05-90-0082

CONSTRN. CONTR. NO. N62470-87-B-7140

NAVFAC DRAWING NO. 422,1151

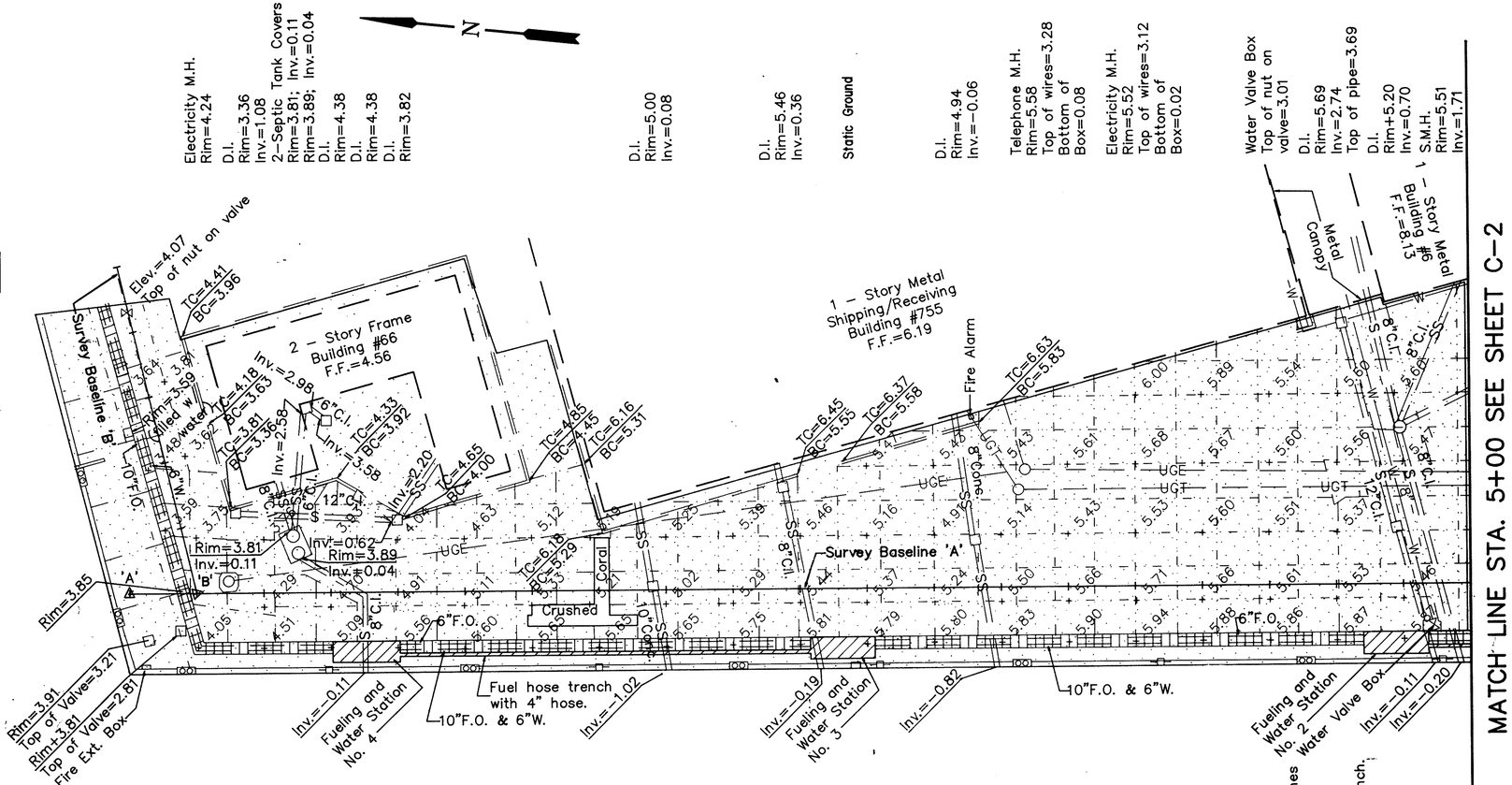
SHEET 2 OF 32

G-2



Location Plan For Points 'A' & 'B'
N.T.S.

POINTS 'A' & 'B' ARE "X" SET IN CONCRETE



WHARF BRAVO

STA. 4+40 Gate Valves in 10" & 6" Fuel Oil Lines in trench.

STA. 4+60 Gate Valve in 6" Water Line in trench.

LEGEND

EXISTING		NEW	EXISTING		NEW
⊙⊙	DOUBLE MOORING POST		5.85	EXISTING ELEVATION	5.85
⊸	CLEAT		⊽	FIRE HYDRANT	
——	BASELINE "℄"		✲ L/P	LIGHT PLOE	
⊸	MOORING POST		□	DROP INLET	
⋈	FUEL OIL / WATER VALVE	⋈	—W—	WATER MAIN	——
○	MANHOLE			PIPE TRENCH WITH CONCRETE COVERS	
═S═	STORM OR COMBINED SEWER LINE	═S═		PIPE TRENCH WITH STEEL PLATE COVERS	
═SS═	SANITARY SEWER LINE	═SS═		CONCRETE PAVEMENT SLAB JOINTS	——
———UGE—	UNDERGROUND ELECTRIC LINE	——UGE——		CONCRETE PAVEMENT	
———UGT—	UNDERGROUND TELEPHONE LINE	——UGT——	F.O.	FUEL OIL LINE	——
—— ——	BUILDING WALL			CONCRETE CURB	
				PLUG PIPE	——▸

ABBREVIATIONS

SHTS	SHEETS
G.V.	GATE VALVE
C.V.	CHECK VALVE
N.T.S	NOT TO SCALE
F.F.	FINISH FLOOR
D.I.	DUCTILE IRON
MSL	MEAN SEA LEVEL

NOTES:
1. Physical Survey Was Done By Miller-Stephenson Associates P.C. April, 1990
2. See Sheet C-3 For Details Of Exist. Fueling & Water Stations
3. See Sheets D-1 Thru D-6 For Demolition Items

GRAPHIC SCALE
25 0 12.5 25 50 100
(IN FEET)
1 inch = 25 ft.

REVISIONS	DESCRIPTION	DATE	APPROVED

DESIGN HJF
DRAWN WGT
REVIEW MAM
CHIEF ARCH / ENGR. TAR
PROJECT MANAGER RFC
FIRE PROTECTION RFC
QUALITY CONTROL [illegible]
BRANCH MANAGER [illegible]
DESIGN DIRECTOR [illegible]
SYM.

STEVENS, PERKINS & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7637
DATE 1/30/90
APPROVED
ACTIVITY – SATISFACTORY TO
APPROVED
FOR OFFICIAL USE ONLY
FOR CDR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA
MARY JOHN HUBBARD
No. 18921
REGISTERED PROFESSIONAL ENGINEER
SEAL

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA
NAVAL STATION
ATLANTIC DIVISION
US. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

EXISTING SITE LAYOUT SURVEY ℄ 'A' 0+00 TO 5+00

CODE I.D. NO. 80091 SIZE D
SCALE: AS SHOWN
EFD NO. 321152
STA. PROJ. NO. R-27-89
SPEC. NO. 05900082
CONSTRN. CONTR. NO. N62470-87-B-7140
NAVFAC DRAWING NO. 421152
SHEET 3 OF 32
C–1

D
C
B
A

8 7 6 5 4 3 2 1

N036

EAGLETON'S

MATCH LINE STA. 5+00 SEE SHEET C-1

Electricity M.H.
Rim=6.14
Top of Wires=3.64
Bottom of
Box=0.64

Telephone M.H.
Rim=6.13
Top of wires=3.83
Bottom of
Box=0.63

D.I.
Rim=5.15
Inv.=2.05
D.I.
Rim=5.35

1 – Story Metal Building #6
F.F.=8.13

S.M.H.
Rim=5.78
Inv.=0.82

TBM #376
Cut "T" S.W. corner
building #260.
Elev.=6.58

D.I.
Rim=5.77
Inv.=−0.87
+8.66' LT.

Electric M.H.+33.34' LT.
Rim=6.29
Top of Wires=4.19
Bottom of
Box=1.29

Telephone M.H.+38.30' LT.
Rim=6.24
Top of Wires=3.24
Bottom of
Box=0.74

D.I.
Rim=5.38
Inv.=3.40
+43.9' LT.

Storm M.H. W/Grate Inlet +43.35' LT.
Rim=5.43
Inv.=2.65

D.I.
Rim=4.78
Inv.=1.05

D.I.
Rim=5.16
Inv.=−0.04

D.I.
Rim=5.58
Inv.=0.08

1 Story Concrete Building #260
F.F.=7.14

1 Story Block Building #717
F.F.=7.21

4" Asphalt Pipe

Conc. Loading Dock Ramp

8"C.I.

Inv.=1.85 UGE

Inv.=1.35 UGE

15"C.I.
End 4" Asphalt Pipe
STA. 6+80

18"C.I.

Survey Baseline 'A'

6" F.O.

Grass Ramp

W.V.=3.30
(top of nut)

To Fire Hyd. w/guard posts

Inv.=3.28'

15"C.I.

6" F.O. & 4" Asphalt Pipe

12"C.I.

24"C.I.

18"C.I.

8"C.I.

Crushed Coral

Pipe trench with covers removed.

Inv.=0.23

Inv.=0.23

Top of nut on W.V.
Elev.=4.25

2–W.V. Rim=5.86

10" F.O. & 8" W.

Inv.=−1.43
Inv.=−0.83

Inv.=−1.25
Fire Ext. Box
Inv.=−1.62

Ship to Shore Telephone Hookup

10" F.O. & 6" W.

Fuel Hose Trench with 4" hose.

Fueling and Water Station No. 1 (See Sheet C-3 for Detail)

Static Ground

Inv.=0.53
Inv.=−0.92

A
C-2 C-3

Note:
Slab Panels shown are depressed over sunken area.

WHARF BRAVO

Wharf Uniform

10" F.O. & 8" W.

6" F.O.

Survey Baseline 'A'

Inv.=−2.05

Fire Ext. Box

8" W.

'D'

M.H.
Rim=5.80
Inv.=−0.20

5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 13+50

11+00

'C'

Exist. Conc. Sidewalk

1 – Story Block Building #717

155°51'55"

'X' Set in Concrete

20.00'

83.45'

N 55°17'10" E

'C' 11+00

S 06°00'00" E
1,100.00'

Survey Baseline 'A'

STA. 10+61.12

Face of Wharf

250.64'

N 84°00'00" E

Survey Baseline 'A'

'D' 13+50.64

'X' Set in Conc.

Location Plan For Points 'C' & 'D'
N.T.S.

BENCH MARK NOTES:

1. **BENCH MARK DATUM, MEAN SEA LEVEL = 0.000 FT.**
2. **THE NORMAL TIDE RANGE FOR THE GTMO AREA IS 1.0 TO 1.4 FT.**
3. **BENCH MARK TG-6 ELEV. 8.020 WAS USED AS THE MASTER BENCH MARK. THE ELEV. OF TG-6 WAS ESTABLISHED FROM CORRESPONDENCE WITH THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION LETTER C233-046/86, DATED 10/11/85 REF. CODE 1603-14-06. THE ELEV. OF 8.020 FOR TG-6 APPROXIMATES THE 1941-1959 TIDAL EPOCH WITH CONSIDERATION GIVEN FOR THE RISE IN SEA LEVEL OF 0.15 FT. DURING THE 1960-1978 EPOCH.**

GRAPHIC SCALE
25 0 12.5 25 50 100
(IN FEET)
1 inch = 25 ft.

NOTES:
1. See Sheet C–1 for Legend and Additional Notes.

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED

DESIGN HJF
DRAWN WGT
REVIEW MAM
CHIEF ARCH./ENGR. JAR
PROJECT MANAGER
FIRE PROTECTION ENGR.
QUALITY CONTROL
BRANCH MANAGER
DESIGN DIRECTOR

STROUD, PRINCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7637

ACTIVITY – SATISFACTORY TO
APPROVED DATE 1/24/90
FOR RFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA
MARY ANN FRASER
No. 14
PROFESSIONAL ENGINEER
SEAL

DEPARTMENT OF THE NAVY
NAVAL STATION ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA NORFOLK, VIRGINIA

REPAIRS TO WHARF BRAVO

EXISTING SITE LAYOUT SURVEY DATA 5+00 TO 13+50

CODE I.D. NO. 80091 SIZE D
SCALE: AS SHOWN
EFD NO. 321153
STA. PROJ. NO. R-27-89
SPEC. NO. 05-90-0089
CONSTRN. CONTR. NO. N62470-87-B-7140
NAVFAC DRAWING NO. 4221153
SHEET 4 OF 32
C-2

D C B A

8 7 6 5 4 3 2 1

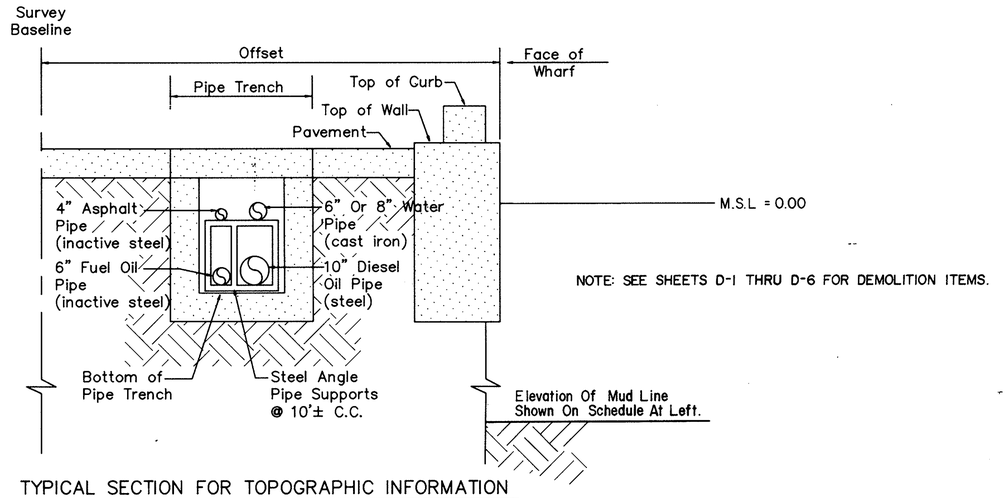
EAGLETON'S

NO36

SCHEDULE OF TOPOGRAPHIC INFORMATION
(REFERENCE TYPICAL SECTION THIS SHEET)

BASE-LINE	STATION	(RIGHT) OFFSET TO BULK-HEAD	ELEVATIONS: TOP OF CURB	TOP OF WALL	PAVE-MENT	BOTTOM OF PIPE TRENCH	ELEV. OF MUD LINE	STATION OF FACE WALL JOINT
A	0+00	30.00	6.61	5.81	3.81	–	-36.7	–
	+25	29.55	6.61	5.76	4.06	–	–	–
	+50	29.76	6.71	5.89	4.31	–	-37.2	0+55.30
	+75	29.52	6.70	5.89	5.26	–	–	–
	1+00	29.47	6.79	6.00	5.86	–	-14.2*	1+05.80
	+25	29.30	6.81	6.03	5.81	–	–	–
	+50	29.44	6.80	6.00	5.78	–	-35.2	1+57.50
	+75	29.46	6.79	6.04	5.81	–	–	–
	2+00	29.43	6.78	6.09	5.79	–	-33.4	1+98.00
	+25	29.50	6.81	6.01	5.81	–	–	–
	+50	29.47	6.91	6.08	5.85	–	-36.7	2+57.50
	+75	29.42	6.85	5.99	5.99	–	–	–
	3+00	29.49	6.86	6.10	5.86	–	-37.0	3+09.50
	+25	29.45	6.88	6.11	5.87	–	–	–
	+50	29.58	6.89	6.08	5.91	–	-33.6	3+60.70
	+75	29.57	6.94	6.12	5.97	–	–	–
	4+00	29.55	6.88	6.10	5.95	–	-32.1	4+08.90
	+25	29.56	6.84	6.06	5.96	–	–	–
	+50	29.60	6.83	6.02	5.86	1.12	-27.5	4+59.50
	+75	29.70	6.88	6.10	6.02	1.25	–	–
	5+00	29.63	6.90	6.06	5.96	1.22	-25.9	5+11.00
	+25	29.63	6.86	6.05	5.95	1.38	–	5+33.00
	+50	29.50	6.82	6.03	5.69	1.48	-30.7	5+64.50
	+75	29.50	6.83	6.02	5.76	1.64	–	–
	6+00	29.43	6.81	6.02	5.86	1.43	-23.5	6+17.30
	+25	29.50	6.81	6.01	5.82	–	–	–
	+50	29.60	6.87	6.06	5.98	0.94	–	6+59.30
	+75	29.70	6.82	6.02	5.86	0.87	–	–
	7+00	29.74	6.83	6.04	5.80	–	-32.5	7+22.30
	+25	30.13	6.80	6.04	5.44	1.34	–	–
	+50	30.55	6.94	6.07	4.90	–	–	–
	+68.50	31.00	–	–	–	–	–	7+74.90
	+75	31.19	6.86	6.11	4.60	–	–	–
	+80	31.21	–	–	–	–	–	–
	+89	31.12	–	–	–	–	–	–
	8+00	30.97	6.93	6.09	5.00	1.19	-27.7	–
	+25	30.50	6.89	6.09	5.40	–	–	8+27.90
	+28	30.33	–	–	–	–	–	–
	+50	30.13	6.88	6.06	5.87	–	-27.6	–
	+75	30.32	6.92	6.04	5.78	0.71	–	8+81.40
	9+00	30.52	6.84	6.07	5.48	0.56	-25.7	–
	+25	30.57	6.85	6.06	5.29	–	–	9+43.80
	+50	30.70	6.88	6.08	5.46	–	-25.1	–
	+75	30.70	6.86	6.07	5.51	–	–	9+96.10
	10+00	30.74	6.82	6.07	5.42	–	-23.2	–
	+25	30.67	6.89	6.08	5.65	1.13	–	10+46.40
	+46.50	30.55	–	–	–	–	–	–
	+50	30.35	6.84	6.07	5.72	–	-21.6	–
	+61.12	30.00	6.85	6.09	5.97	1.70	–	–
	11+30	38.90	–	–	–	–	–	–
	+50	39.15	–	6.06	5.83	–	–	–
	+75	39.30	–	6.04	5.70	–	–	11+78.00
	12+00	39.30	–	5.97	5.67	–	–	–
	+25	39.35	–	5.93	5.72	–	–	–
	+50	39.32	–	5.98	5.73	–	–	–
	+75	39.25	–	5.94	5.86	–	–	12+82.44
	13+00	39.20	–	5.95	5.92	–	–	–
	+25	39.15	–	5.93	5.93	–	–	13+41.74
	+50.64	39.05	–	6.00	5.10	–	–	–
B	9+76.70	31.48	–	–	–	–	–	–
	9+90.45	32.52	–	–	–	–	–	–
	10+00	33.12	–	5.61	3.68	–	–	10+17.00
	10+17.30	33.48	–	–	–	–	–	–
	10+25	33.27	–	5.67	3.51	–	-21.9	–
	+50	33.16	–	5.73	3.60	–	–	–
	+56.85	33.26	–	–	–	–	–	–
	+75	–	–	5.93	3.19	–	-15.1	–

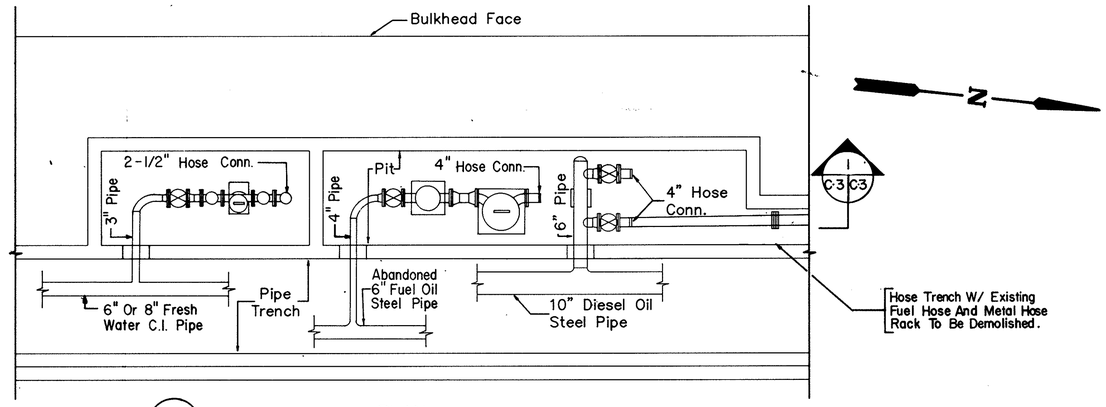
* -39.4 3' OUTBOARD FROM BULKHEAD.



NOTE: SEE SHEETS D-1 THRU D-6 FOR DEMOLITION ITEMS.

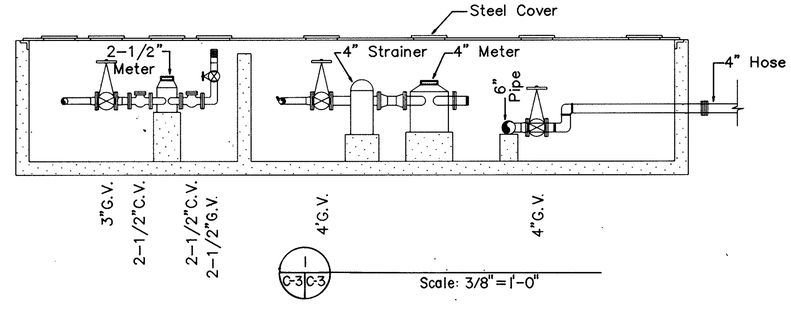
TYPICAL SECTION FOR TOPOGRAPHIC INFORMATION

N.T.S.



PLAN

Existing Fueling and Water Stations No. 1 & 3
(Stations 2 & 4 Opposite Hand)
Scale: 3/8" = 1'-0"



NOTES:
1. SEE SHEET C-1 FOR LEGEND.

GRAPHIC SCALE
3/8" 0 3/8" 1 2
3/8" = 1'-0"

REVISIONS

DESCRIPTION	DATE	APPROVED

HJF DESIGN — WGT DRAWN — MAM REVIEW — CHIEF ARCH./ENGR. — PROJECT MANAGER — FIRE PROTECTION — QUALITY CONTROL — BRANCH MANAGER — DESIGN DIRECTOR

STROUD, PERCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

SP

A/E CONTRACT — APPROVED

ACTIVITY – SATISFACTORY TO — APPROVED
FOR EFD FOR COMMANDER NAVFAC — DATE 7/16/90

REGISTERED PROFESSIONAL ENGINEER — COMMONWEALTH OF VIRGINIA — No. 18631 — MARY ANN MARES — SEAL

DEPARTMENT OF THE NAVY
NAVAL STATION
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA

U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

EXISTING TOPOGRAPHIC INFORMATION

CODE I.D. NO. 80091 | SIZE D
SCALE: AS SHOWN
EFD NO. 321154
STA. PROJ. NO. R-27-89
SPEC. NO. 05900082
CONSTRN. CONTR. NO. N62470-87-B-7140
NAVFAC DRAWING NO. 4221154
SHEET 5 OF 32
C-3

EAGLETON'S

N036

MATCH LINE STA. 5+00 SEE SHEET C-1

N

Electricity M.H. Rim=6.14 Top of Wires=3.64 Bottom of Box=0.64

Telephone M.H. Rim=6.13 Top of wires=3.83 Bottom of Box=0.63

D.I. Rim=5.15 Inv.=2.05

D.I. Rim=5.35

S.M.H. Rim=5.78 Inv.=0.82

TBM #376 Cut □ S.W. corner building #260. Elev.=6.58

D.I. +8,66' LT. Rim=5.77 Inv.=-0.87

Electric MH. +33,34' LT. Rim=6.29 Top of Wires=4.19 Bottom of Box=1.29

Telephone M.H. +38,30' LT. Rim=6.24 Top of Wires=3.24 Bottom of Box=0.74

D.I. +43,9' LT. Rim=5.38 Inv.=3.40

Storm M.H. W/Grate Inlet +43,35' LT. Rim=5.43 Inv.=2.65

D.I. Rim=4.78 Inv.=1.05

D.I. Rim=5.16 Inv.=-0.04

D.I. Rim=5.58 Inv.=0.08

1 Story Wood Building #6 F.F.=8.13

1 Story Concrete Building #260 F.F.=7.14

1 Story Block Building #717 F.F.=7.21

4" Asphalt Pipe

Conc. Loading Dock

Ramp

Grass

Fire Hyd. w/guard posts

CONNECT NEW CONDUIT TO EXIST GALV. STEEL CONDUIT

EXIST. CONSTRUCTION JOINT

Survey Baseline 'A'

TYPICAL EXPANSION JOINT

11+00 REMOVE PAVEMENT TO NEAREST EXIST. CONSTRUCTION JOINT

NEW CONCRETE TRENCH

NEW 6" DIESEL OIL LINE (TEMPORARY)

NEW 10" DIESEL OIL & 6" WATER LINES

NEW 135 L.F 4" DIESEL OIL HOSE IN HOSE TRENCH.

FUELING AND WATER STATION NO.1

NEW 195 L.F 4" DIESEL OIL HOSE IN HOSE TRENCH

EXIST BULKHEAD

NEW 10" DIESEL OIL & 8" WATER LINES

STA 11+52± 22 RT.

EXIST. BULKHEAD

END CONST.

STA 5+11 ℄ 20.5 RT.

EXIST. BULKHEAD

CONDUIT OUTLET BOX IN UTILITY TRENCH (SEE ELECTRICAL SHEET E-1 FOR DETAIL)

BEGIN CONST.

STA 6+50

STA 6+77

STA 8+77 END HOSE TRENCH

WHARF BRAVO

FACE OF NEW BULKHEAD, 34' RT (SEE STRUCTURAL SHEETS S-1 THRU. S-11 FOR DETAILS)

(TYP.)

10" F.O. & 8" W.

6" F.O.

Survey Baseline 'A'

Wharf Uniform

Inv.=-2.05

Fire Ext. Box

'D'

M.H. Rim=5.80 Inv.=-0.20

5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 13+50

GRAPHIC SCALE

25 0 12.5 25 50 100

(IN FEET)

1 inch = 25 ft.

PAVEMENT NOTES:

1. NEW PAVEMENT JOINTS EAST OF UTILITY TRENCH SHALL MATCH EXISTING PAVEMENT JOINTS.
2. NEW PAVEMENT JOINTS WEST OF UTILITY TRENCH SHALL MATCH NEW TRENCH JOINTS.
3. SEE SHEET C-6 FOR JOINT DETAILS.
4. REPAIR PAVEMENT DAMAGED BY INSTALLATION OF SHEET PILES. SEE SHEET D-2.

GENERAL NOTES:

1. SEE SHEET C-1 FOR LEGEND.
2. SEE STRUCTURAL SHEETS S-1 THRU S-6 FOR LOCATION OF DOUBLE BITTS & CLEATS.

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	AS BUILT	5-11-93	TAZ

DESIGN HJF
DRAWN WGT
CHECK MAM
PROJECT MANAGER
FIRE PROTECTION
QUALITY CONTROL
BRANCH MANAGER
DESIGN DIRECTOR

STROUD, PEIRCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7637

ACTIVITY - SATISFACTORY TO
APPROVED
DATE
FOR CO/OIC COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA — JOHN WILLIAM PEIRCE — No. 15050 — REGISTERED PROFESSIONAL ENGINEER

NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA
DEPARTMENT OF THE NAVY ATLANTIC DIVISION
NAVAL STATION U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

NEW SITE LAYOUT & UTILITIES

CODE I.D. NO. 80091	SIZE D
SCALE	AS SHOWN
EFD NO.	321155
STA. PROJ. NO.	R-27-89
SPEC. NO.	05900082
CONSTR. CONTR. NO.	N62470-87-B-7140
NAVFAC DRAWING NO.	4221155
SHEET	6 OF 32
	C-4

8 7 6 5 4 3 2 1

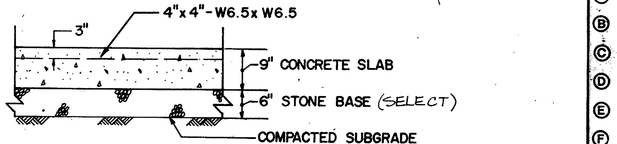
D C B A

EAGLETON'S

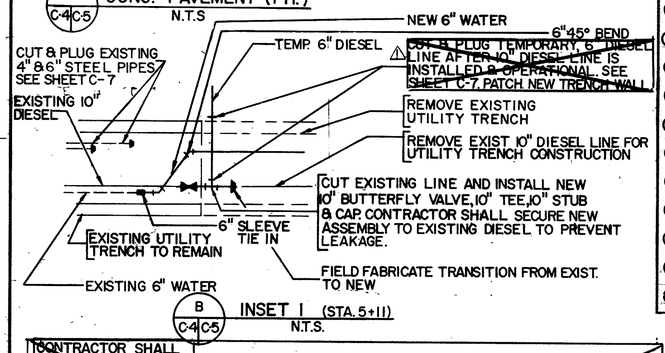
N036

PIPE SCHEDULE

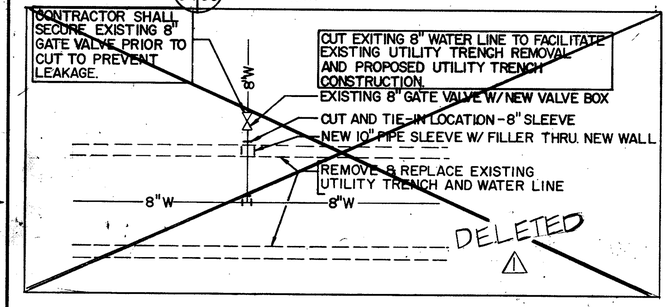
A	4"- HOSE CONNECTION
B	4" - 90° FLANGE BENDS
C	4" - BUBBLE TIGHT BUTTERFLY VALVE
D	6" X 4" TEE
E	6" - CAP
F	6" STEEL PIPE
G	10" X 6" TEE
H	6" X 3" FLANGE DI TEE
I	90° FLANGE DI BEND-3"
J	3" FLANGE PIPE
K	3" LONG RADIUS 90° FLANGE BEND
L	3" - GATE VALVE
M	3" - METER
N	3" REDUCED PRESSURE BACKFLOW PREVENTOR
O	3" 90° FLANGED BEND
P	3" X 2 1/2" REDUCER
Q	2 1/2" GATE VALVE
R	2 1/2" HOSE CONNECTION



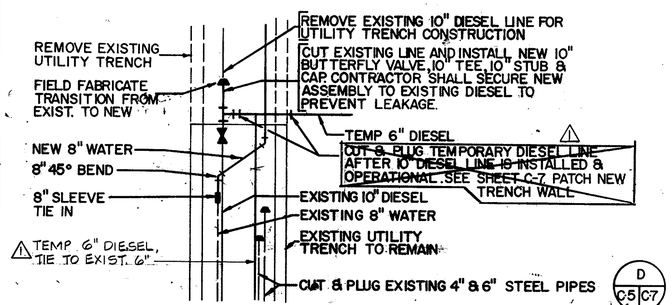
A C-4|C-5 CONC. PAVEMENT (TYP.) N.T.S



B C-4|C-5 INSET 1 (STA. 5+11) N.T.S.

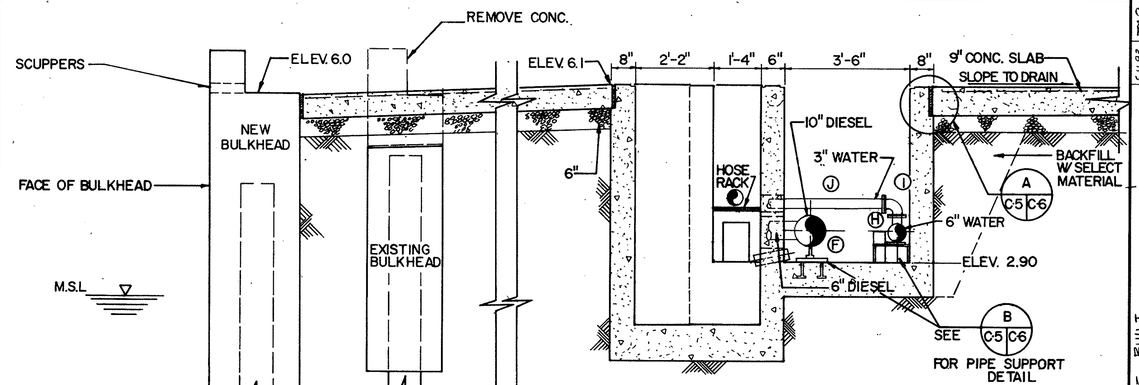


C C-4|C-5 INSET 2 (STA. 8+10) N.T.S.

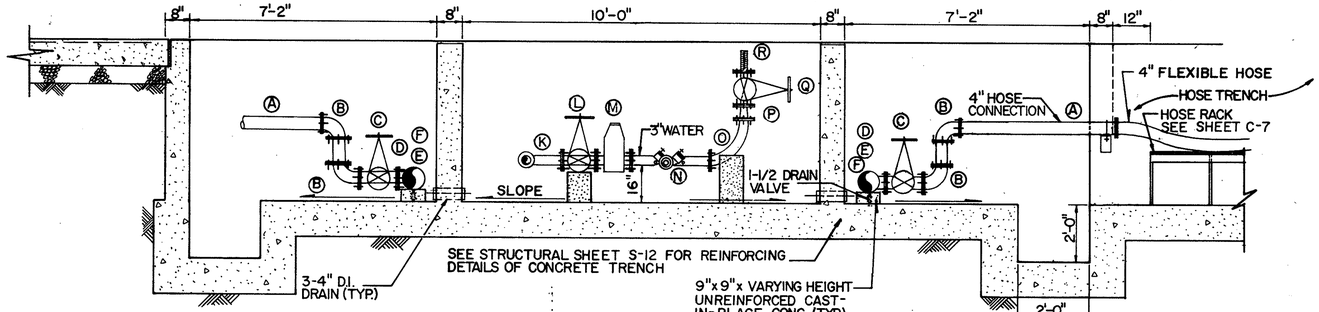


D C-5|C-7 C-4

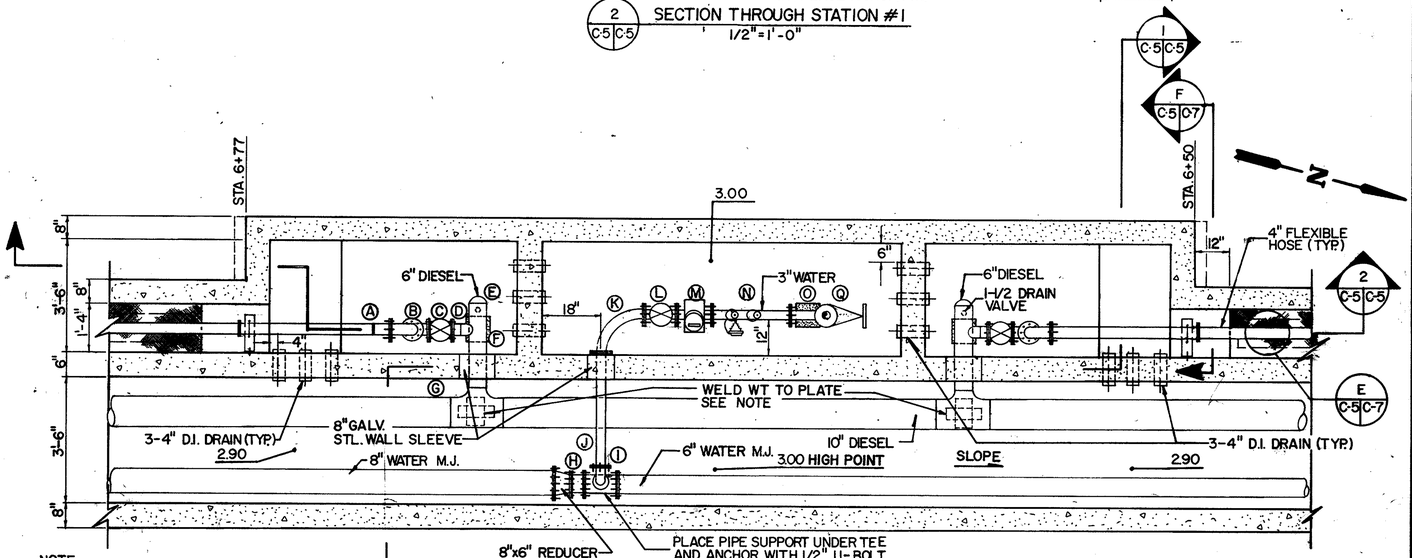
D C-4|C-5 INSET 3 (STA. 11+52) N.T.S.



I C-5 C-4|C-5 SECTION THROUGH CONCRETE TRENCH & BULKHEAD 1/2"=1'-0"



2 C-5|C-5 SECTION THROUGH STATION #1 1/2"=1'-0"



NOTE:
PLACE PIPE SUPPORT UNDER 10"x6" DIESEL TEE AND WELD WT 4x6.5 TO 6"x10"x1/4" PLATE.

E C-4|C-5 PLAN OF FUELING AND WATER STATION NO.1 1/2"=1'-0"

GRAPHIC SCALE
2' 1' 0 2'
1/2" = 1'-0"

NO.	DESCRIPTION	DATE	APPROVED
	AS BUILT	5/1/93	TMR

REVISIONS

DESIGN MANAGER: HJF
DRAWN: WGT
REVIEW: MAM
CHIEF ARCH./ ENG.:
PROJECT MANAGER:
FIRE PROTECTION:
QUALITY CONTROL:
BRANCH MANAGER:
DESIGN DIRECTOR:

STROUD, PERCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7637
APPROVED
DATE
ACTIVITY - SATISFACTORY TO
APPROVED
DATE 7/16/90
FOR OFFICIAL COMMAND MAPS

COMMONWEALTH OF VIRGINIA — MARSHANN NUSBES — No. 18991 — PROFESSIONAL ENGINEER — SEAL

NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION NORFOLK, VIRGINIA
DEPARTMENT OF THE NAVY
NAVAL STATION
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

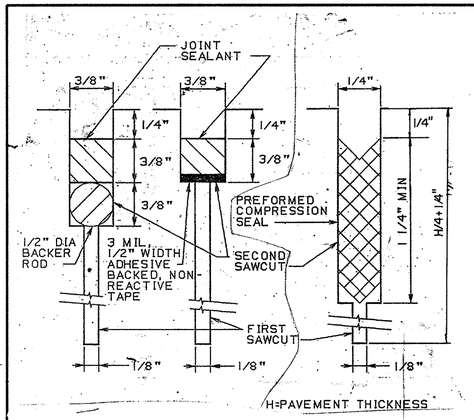
DETAILS

CODE I.D. NO. 80091 | SIZE D
SCALE: AS SHOWN
EFD NO. 321156
STA. PROJ. NO. R-27-89
SPEC. NO. 0590 0082
CONSTRN. CONTR. NO. N62470-87-B-7140
NAVFAC DRAWING NO. 4221156
SHEET 7 OF 32
C-5

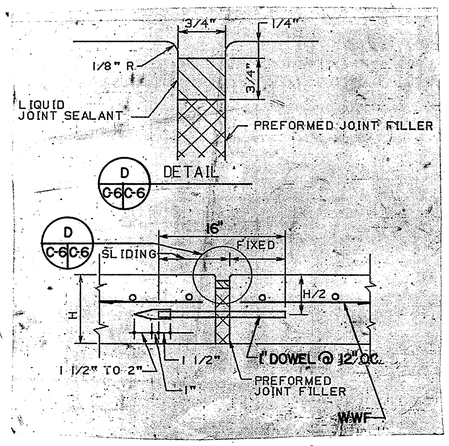
8 7 6 5 4 3 2 1

EAGLETON'S 144537

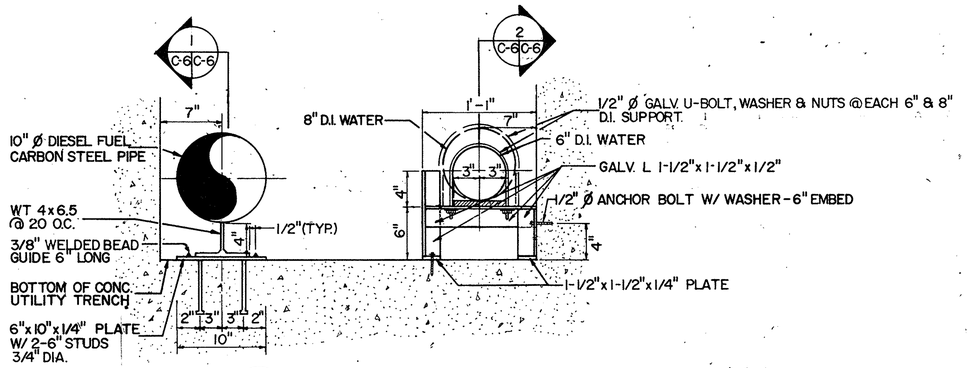
N036



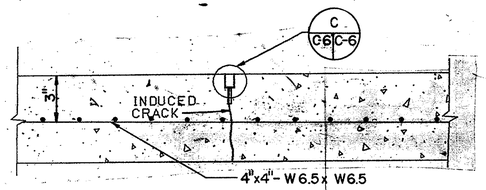
C C-6 C-6 SAWED TRANSVERSE OR LONGITUDINAL CONTRACTION JOINTS
N.T.S.



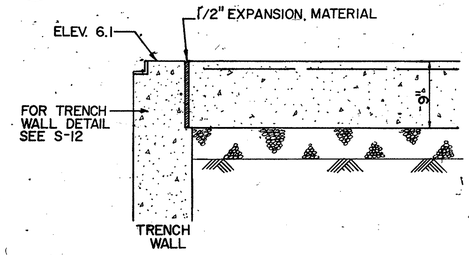
A C-4 C-6 TYPICAL EXPANSION JOINT DETAIL (TYP.)
60' O.C.(MAX.) N.T.S.

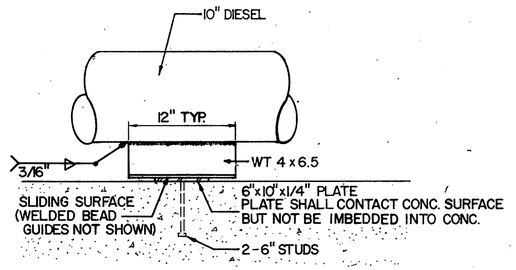


B C-5 C-6 PIPE SUPPORT DETAIL
1-1/2" = 1'

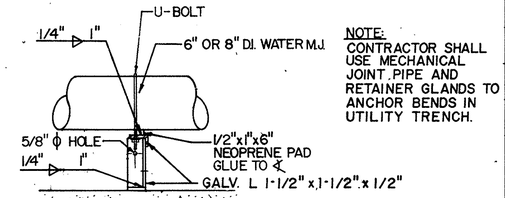


TRANSVERSE & LONGITUDINAL CONTRACTION JOINT (TYP.)
TYPICAL JOINT @ 20' O.C. (MAX.) N.T.S.





1 C-6 C-6 DIESEL SECTION
20' O.C. 1-1/2"=1'



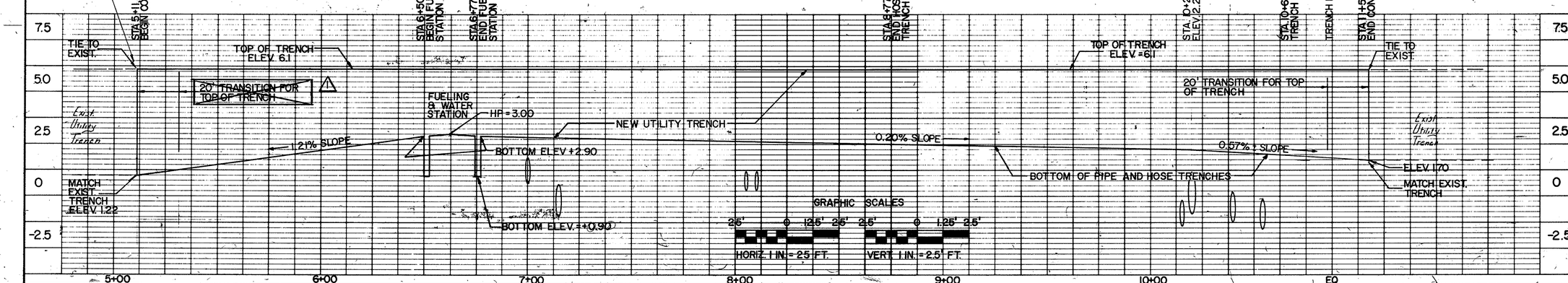
NOTE:
CONTRACTOR SHALL USE MECHANICAL JOINT PIPE AND RETAINER GLANDS TO ANCHOR BENDS IN UTILITY TRENCH.

2 C-6 C-6 WATER SECTION
15' O.C. 1-1/2"=1'

A C-5 C-6 DETAIL
1" = 1'-0"

GRAPHIC SCALE
1/2' 0
1-1/2"=1'

UTILITY TRENCH PROFILE



8	7	6	5	4	3	2	1

D
C
B
A

5/11/95 TMR
AS BUILT
REVISIONS
DESCRIPTION DATE APPROVED

DESIGN THF
DRAWN WGT
REVIEW MAM 7/14/95
CHIEF, ARCH.-ENGR.
PROJECT MANAGER RFC
FIRE PROTECTION
QUALITY CONTROL
BRANCH MANAGER
DESIGN DIRECTOR

STRUCTURE TECHNIQUE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

SP

ACTIVITY - SATISFACTORY TO
APPROVED
FOR CO/OIC
DATE 7/14/95

N62470-90-B-7637

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA
U.S.N. NAVAL BASE, GUANTANAMO BAY, CUBA

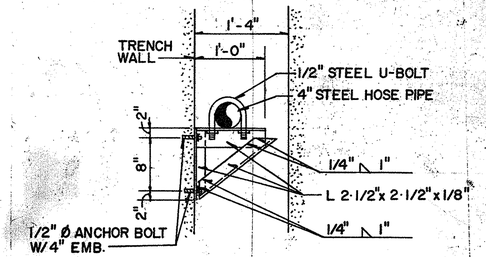
REPAIRS TO WHARF BRAVO

TRENCH PROFILE & DETAILS

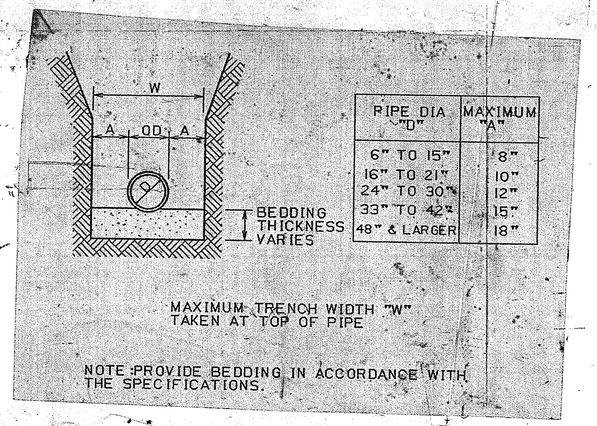
CODE ID NO 80091 SIZE D
SCALE AS SHOWN
EFD NO 321157
STA-PROJ NO R-27-89
SPEC NO 05900082
CONSTRN CONTR NO N62470-87-B-7140
NAVFAC DRAWING NO 4221157
SHEET 8 OF 32
C-6

COMMONWEALTH OF VIRGINIA
HARRY M. HUGHES
No. 10881
PROFESSIONAL ENGINEER

NO36

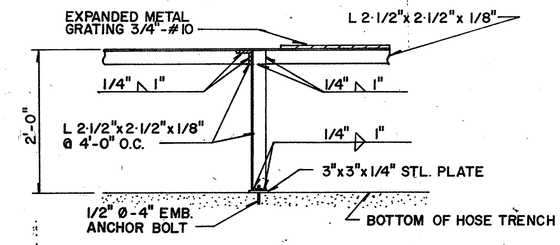


F C-5 C-7 HOSE PIPE SUPPORT
1" = 1'-0"

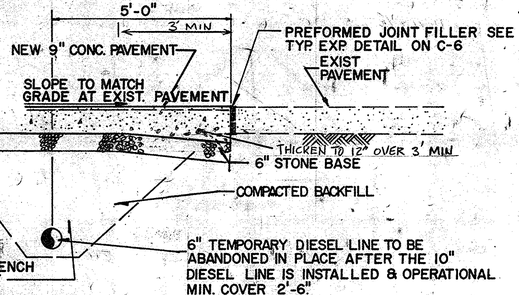


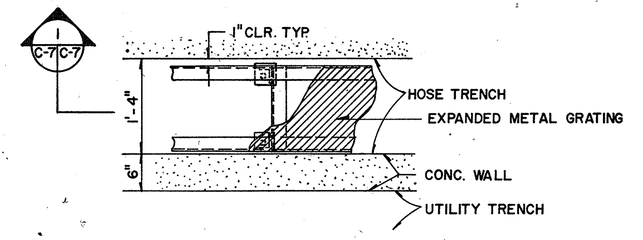
PIPE DIA "D"	MAXIMUM "A"
6" TO 15"	8"
16" TO 21"	10"
24" TO 30"	12"
33" TO 42"	15"
48" & LARGER	18"

BURIED PIPE TRENCH (TYP.)
N.T.S



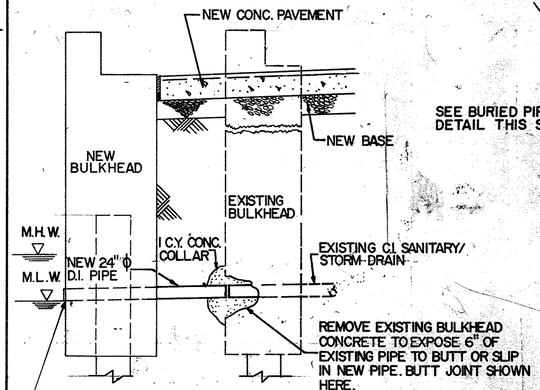
1 C-7 C-7 HOSE RACK SECTION
1"=1'-0"





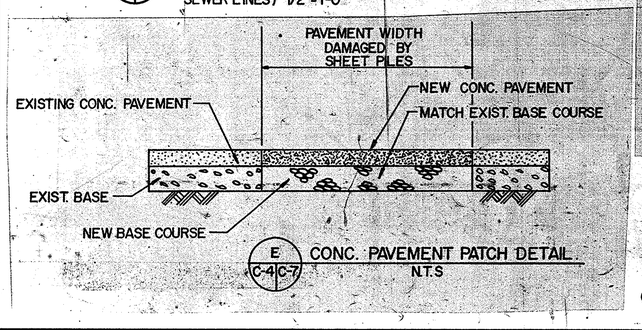
1 C-7 C-7

E C-5 C-7 HOSE RACK DETAIL
1"=1'-0"

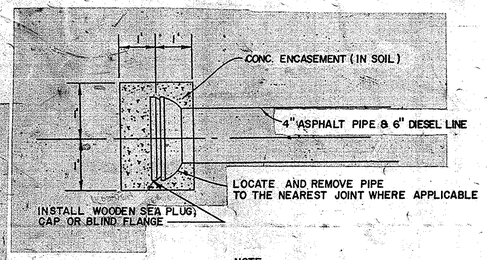


B C-4 C-7 PIPE EXTENSION DETAIL (TYP)
(FOR STORM AND SANITARY SEWER LINES) 1/2" = 1'-0"

C C-4 C-7 PAVEMENT CONNECTION
1/2" = 1'



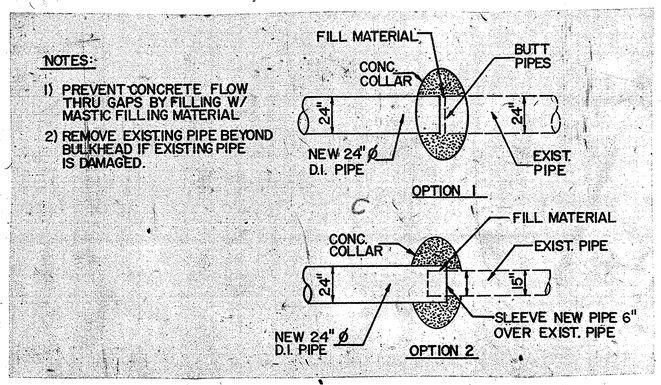
E C-4 C-7 CONC. PAVEMENT PATCH DETAIL
N.T.S



NOTE:
PLUG TEMPORARY 6" DIESEL LINE AFTER COMPLETION OF PERMANENT 10" DIESEL IN UTILITY TRENCH

D C-4 C-7 CONCRETE PLUG
N.T.S.

C-5



CONCRETE COLLAR
N.T.S.

GRAPHIC SCALES
4' 2' 0 4'
1/4"=1'
2' 1' 0 2'
1/2"=1'
1' 1/2' 0 1'
1"=1'

REVISIONS

DESCRIPTION	DATE	APPROVED

H.J.F. DESIGN
W.G.T. DRAWN
M.A.M. CHECK
T.A.R. PROJECT MANAGER
R.C.L. QUALITY CONTROL
BRANCH MANAGER
DESIGN DIRECTOR

STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
NORFOLK, VIRGINIA 23502

SP

A/E CONTRACT N. N62470-90-B-7637

ACTIVITY SATISFACTORY TO
APPROVED DATE 7/26/90
FOR THE COMMANDING OFFICER

COMMONWEALTH OF VIRGINIA
No. 15551
PROFESSIONAL ENGINEER

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA
NAVAL STATION ATLANTIC DIVISION
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO
DETAILS

CODE ID NO. 80009 SIZE D
SCALE AS SHOWN
EFD NO 321158
STA PROJ. NO R-27-89
SPEC NO 05900082
CONSTRN. CONTR NO N62470-87-B-7140
NAVFAC DRAWING NO 4221158
SHEET 9 OF 32
C-7

8 7 6 5 4 3 2 1

D C B A

EAGLETON S

N036

A STATIC GROUND ASSEMBLY DETAIL
C4 E-1 NO SCALE

B COMMUNICATIONS SYSTEM DETAIL
C4 E-1 NO SCALE

STATIC GROUND WIRING DIAGRAM
NO SCALE

BASE PLATE DETAIL
NO SCALE

E-1
SHEET 10 OF 35
E2115R
CONTRACT NO. 0M
ON DRAWING NO
CMT-B-TB-01R5W
ALT. LOAD NO. R-15-89
ELD NO. 3SE1189
SCALE: AS SHOWN
CODE I.D NO 80008 SIZE D

REPAIRS TO NAVAL RADIO STATION
ELEVATED TANK
ABUCO, YAB OMAMATNAUG ISAB JAVAN S.U
NOISIVID OITNATLA
ARMORY
ENGINEERS
CHAMBERS
ENGINEERING CONSULTANTS
ARCHITECTS
ENGINEERS
SURVEYORS
CONSULTING
ARCHITECTURAL
ENGINEERING
SERVICES
ENGINEERS & ARCHITECTS
ENGINEERS
ARCHITECTS
ENGINEERS
ARCHITECTS
ENGINEERS

BORING Nº 1

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	SAMPLE NO	STD. PENETRATION: BLOWS/6 IN; THREE 6 IN. INCREMENTS	STD. PENETRATION: RECOVERY, in.	SHELBY TUBE NO	BORING AND SAMPLING NOTES
SURFACE ELEVATION							
Concrete - 1.0'	1.0		1	-/- 4/4	18		
Gray and brown, moist, loose, Silty, fine to medium SAND (SM) with trace Clay, gravel, shell and cinders.		5	2	3/4 3/3	18		
			3	3/4 3/4	18		
(Hydrocarbon odor)(Fill)	8.0			5/4			
Gray, very moist to saturated, loose to medium dense, Silty, fine to medium SAND (SM) with trace shells and Clay		10	4	4/5	12		
			5	5/5	18		
			6	6/5 6/6	18		
	13.0						
Light gray to yellow, saturated, medium stiff to very stiff, Sandy CLAY (CL) with shells and coral gravel		15	7	4 5/5	18		
		20	8	6 6/9	18		
		25	9	16 19/10	18		
	27.0						
Reddish brown, very moist, very dense, Silty SAND (SM) and coral	30.0	30	10	15/25 50 2"	18		Cave-in@ 11.0' Auger Refusal-39.0'
Bottom of Boring - 30.0'							

BORING Nº 1A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	SAMPLE NO	STD. PENETRATION: BLOWS/6 IN; THREE 6 IN. INCREMENTS	STD. PENETRATION: RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
Concrete 10"							
Brown and gray, dry to very moist, very soft to stiff, fine to medium Sandy CLAY (CL-SC), some gravel, marine shell fragments, coral fragments and wood chips			1	x/x 4/9	10		
			2	6/5 3/3	14		
		5	3	2/1 1/2	20		
			4	2/2 3/2	20		
(Fill)	10.0		5	2/3 2/2	20		
		10	6	2/3 3/3	22		
Light greenish gray and tan, medium stiff to very stiff, fine Sandy CLAY (CL-CH), some marine shell fragments and coral fragments		15	7	3 4/4	18		
		20	8	2 4/12	18		
(Fill)		25	9	6 6/6	18		
		30	10	5 5/6	18		
		35	11	5 5/7	18		
Light greenish gray and tan, medium stiff to very stiff, fine Sandy CLAY (CL-CH), some marine shell fragments and coral fragments	43.0						
Dark brown, moist to very moist, very dense, Clayey fine to meidum SAND (SC), trace gravel		40	12	22 36/41	16		
	45.0	45	13	19 29/38	18		
Bottom of boring 45.0'							

*Caved in @ 17.0'

BORING Nº 1B

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	SAMPLE NO	STD. PENETRATION: BLOWS/6 IN; THREE 6 IN. INCREMENTS	STD. PENETRATION: RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
Concrete 8"							
Brown, dry and moist, medium dense, Clayey fine SAND (SC), some gravel			1	x/5 7/9	14		
			2	6/8 6/7	16		
(Fill)	4.0	5		4/1			
Light gray, very moist, very loose, Clayey fine to coarse SAND (SC), and coral fragments and marine shell fragments			3	1/2	22		
			4	2/2 1/2	20		
		10	5	2/2 0/1	16		
(Fill)	13.0		6	2/2 3/3	18		
Light greenish gray and tan, very moist, medium stiff to very stiff, fine Sandy CLAY (CL-CH), some fine gravel and marine shell fragmetns and coral fragments		15	7	2 3/4	18		
		20	8	4 6/6	18		
		25	9	8 8/9	18		
(Fill)		30	10	6 6/6	18		
**		35	11	9 7/7	18		**Light greenish gray and tan, very moist, medium stiff to very stiff, fine Sandy CLAY (CL-CH), some fine gravel and marine shell fragments and coral fragments (Fill)
	38.0						
Brown, saturated, medium dense, fine to coarse SAND (SP)		40	12	9 12/10	18		
	45.0	45	13	12 11/11	18		
Bottom of boring 45.0'							

*Caved in @ 17.0'

BORING Nº 2

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	SAMPLE NO	STD. PENETRATION: BLOWS/6 IN; THREE 6 IN. INCREMENTS	STD. PENETRATION: RECOVERY, in.	SHELBY TUBE NO	BORING AND SAMPLING NOTES
SURFACE ELEVATION							
Top of Bulkhead to water at 8:AM was 6'9"							
Top of Bulkhead to mud line was 33.0'							
(Roller Bit) Auger Refusal at 41.0'							
		5					
		10					
		15					
		20					
		25					
		30					
Mud Line	33.0						
Brown, saturated, dense to very dense Silty fine to medium SAND (SM) with trace Clay and little coral fragments		35	1	17 29/34	18		
		40	2	33 37/46			
Bottom of Boring - 41.0'							Auger Refusal - 41.0'

BORING Nº 2A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	SAMPLE NO	STD. PENETRATION: BLOWS/6 IN; THREE 6 IN. INCREMENTS	STD. PENETRATION: RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
Concrete 8"							
Light gray, moist, very soft to stiff, fine Sandy CLAY (CL), some coral fragments, trace Silt			1	x/3 7/7	12		
			2	10/9 6/5	20		
(Fill)	6.0	5	3	2/2 2/1	19		
Light greenish gray, very moist, medium stiff to stiff, CLAY (CL-CH), some coral fragments, trace fine to coarse Sand, trace Silt			4	3/3 4/3	20		
		10	5	3/10 14/10	12		
(Fill)	13.0		6	5/6 6/7	19		
Light brown and tan, very moist, medium stiff to stiff, CLAY (CH), some coral fragments		15	7	4 5/6	18		
		20	8	4 4/5	18		
	23.0						
Light gray and tan, very moist, very stiff to hard, fine Sandy CLAY (CL-CH), little coral fragments and gravel		25	9	5 12/14	18		
		30	10	12 17/22	18		
(Fill)	33.0						
Brown, moist to very moist, very dense, GRAVEL (GP), and Clayey fine to coarse SAND (SC), trace coral fragments		35	11	24 31/39	18		
		40	12	26 39/43	18		
	45.0	45	13	21 37/39	18		
Bottom of boring 45.0'							

*Caved in @ 21.0'

BORING Nº 2B

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	SAMPLE NO	STD. PENETRATION: BLOWS/6 IN; THREE 6 IN. INCREMENTS	STD. PENETRATION: RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
Concrete 8.5"							
Tan, moist, stiff, fine Sandy CLAY(CL), trace fine gravel (Fill)	2.0		1	x/1 5/10	14		
Tan, very moist, medium dense to very loose, Clayey fine SAND (SC), and gravel, trace marine shell fragments		5	2	8/6 6/6	19		
			3	3/2 4/5	20		
(Fill)	8.0		4	4/4 3/4	19		
Dark gray, very moist, very soft, fine Sandy CLAY (CL), and marine shell fragments, some coral fragments		10	5	3/1 2/1	22		
			6	2/1 1/1	19		
(Fill)	13.0						
Light greenish gray, very moist, stiff to hard, fine Sandy CLAY (CL-CH) and coral fragments		15	7	4 6/5	18		
		20	8	9 19/15	18		
		25	9	7 14/18	18		
(Fill)		30	10	6 5/6	18		
		35	11	6 7/10	18		
Light greenish gray, very moist, stiff to hard, fine Sandy CLAY(CL-CH), and coral fragments	38.0						
Dark brown, very moist, very dense, Clayey fine to coarse SAND (SC)		40	12	22 31/46	18		
	45.0	45	13	9 36/49	18		
Bottom of boring 45.0'							

*Caved in @ 16.5'

NOTE: BORING LOGS - SEE NOTES AND KEY PLAN ON SHEET B-4

REVISIONS

NO	DESCRIPTION	DATE	APPROVED

STROUD, PERCE & ASSOCIATES, LTD. CONSULTING ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7687

APPROVED _____ DATE _____

ACTIVITY - BATTLE FACTORY TO

APPROVED _____ DATE 7/24/90

FOR EFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA ROLAND E. DUCK 8825 REGISTERED PROFESSIONAL ENGINEER SEAL

DESIGN DRAWN CHIEF ARCH / ENGR. PROJECT MANAGER FIRE PROTECTION QUALITY CONTROL BRANCH MANAGER DESIGN DIRECTOR

DESIGN: DRAWN: REVIEW: CHIEF: PROJECT MANAGER: FIRE PROTECTION: QUALITY CONTROL: BRANCH MANAGER: DESIGN DIRECTOR:

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

BORING LOGS

CODE I.D. NO. 80091	SIZE D
SCALE: NONE	
EFD NO. 321160	
STA. PROJ. NO. R-27-89	
SPEC. NO. 05-90-0082	
CONSTRN. CONTR. NO. N62470-87-B-7140	
NAVFAC DRAWING NO. 4221160	
SHEET 11 OF 82	
B-1	

8 7 6 5 4 3 2 1

D C B A

BORING Nº 3

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	STD. PENETRATION SAMPLE NO	BLOWS/6 IN: THREE 6 IN. INCREMENTS	RECOVERY, in.	SHELBY TUBE NO	BORING AND SAMPLING NOTES
SURFACE ELEVATION							
Concrete - 1.0'	1.0			-/-	12		
Gray and brown, moist to very moist, loose, Silty SAND, gravel, coral, and trace Clay			1	10/10 4/4			
			2	3/4	18		
		5		3/3			
			3	4/3	18		
				4/4			
Hydrocarbon odor (Fill)	8.0		4	4/4	18		
Light gray, saturated, medium stiff, Silty CLAY (CL) with trace Sand, gravel and shell	10.0	10	5	4/4 5/7	12		
Light gray, saturated, medium dense, fine to medium SAND (SM) with coral	13.0		6	4/6 9/10	18		
Light brown to yellow, medium stiff to stiff, fine Sandy CLAY (CL) with shells and coral		15	7	5 5/5	18		
	22.0	20	8	9 6/6	18		
Reddish brown, moist, dense, Clayey, fine SAND (SC) and coral		25	9	12/15 50 4"	12		Cave-in @ 8.0'
	26.0						Auger Refusal-26.0'
Bottom of Boring - 26.0'							

BORING Nº 3A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	STD. PENETRATION SAMPLE NO	BLOWS/6 IN: THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
Concrete 10.5"							
Brown, moist, loose to medium dense, Clayey fine to coarse SAND (SC) and gravel			1	4/4	6		
			2	8/9			
(Fill)	4.5	5		12/16	10		
			3	0 100/0			Refusal at 4.5'
Bottom of boring 4.5'			4				
		10	5				
			6				
		15	7				
		20	8				
		25	9				
		30	10				
		35	11				

BORING Nº 3B

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	STD. PENETRATION SAMPLE NO	BLOWS/6 IN: THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
Concrete 10"							
Light brown and gray, moist, stiff to very stiff, fine Sandy CLAY (CL), some marine shell fragments and gravel (fill)	4.0		1	X/X 6/9 7/9	14		
			2	10/10 3/4	16		
Light brown and gray, very moist to saturated, very loose to medium dense to dense, Clayey fine to coarse SAND (SC), some marine shell fragments, coral fragments, and gravel, little wood chips		5	3	4/6 3/3	19		
			4	2/3 3/2	19		
		10	5	3/4 4/4	18		
			6	9/4 5	14		
(fill)		15	7	7/11	18		
	23.0	20	8	13 19/23	18		
Light greenish gray, very stiff, fine Sandy CLAY (CL-CH), some marine shell fragments, gravel and coral fragments		25	9	6 12/16	18		
(Fill)	29.0						
Dark brown, saturated, medium dense, Clayey coarse SAND (SC), trace to little Gravel		30	10	12 11/17	18		
		35	11	9 14/12	16		
			12	7 9/8	16		
	43.0	40					
Dark brown, very moist, hard, fine Sandy CLAY (CL), trace coarse Sand	45.0	45	13	21 36/45	18		*Caved in @ 16.5'
Bottom of boring 45.0'							

BORING Nº 4

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	STD. PENETRATION SAMPLE NO	BLOWS/6 IN: THREE 6 IN. INCREMENTS	RECOVERY, in.	SHELBY TUBE NO	BORING AND SAMPLING NOTES
SURFACE ELEVATION							
Top of Bulkhead to water at 2:00PM was 5'11"							
Top of Bulkhead to mud line 34.0'							
Mud Line	34.0			1			
Light gray, saturated, loose, Clayey, fine SAND (SC) with trace shells and coral		35	1	1/1	18		
	42.0	40	2	4 3/4	6		
Brown and gray, moist to very moist, medium dense to dense, Silty fine to medium SAND (SM) with shell and coral fragments		45	3	12 12/11	18		
		50	4	12 19/21	18		
	57.0	55	5	13 16/16	4		
Brown, moist, dense to very dense, Clayey fine SAND (SC) with trace coral		60	6	23 23/26	18		
		65	7	31 35/43			
	67.0						Auger Refusal - 67.0'
Bottom of Test Boring - 67.0'							

NOTE: BORING LOGS - SEE NOTES AND KEY PLAN ON SHEET B-4

REVISIONS				
DESCRIPTION	STK.	DATE	APPROVED

SP — STROUD, PENCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-C-7637 APPROVED DATE

ACTIVITY - SATISFACTORY TO APPROVED DATE 7/30/92

FOR BID FOR COMMANDER NAVFAC

A/E: CWM DESIGN; KMH DRAWN; KMH REVIEW; PIC CHIEF ARCH./ENGR.; PIC PROJECT MANAGER; KMH QUALITY CONTROL; PIC BRANCH MANAGER; PIC DESIGN SUPERVISOR

COMMONWEALTH OF VIRGINIA — ROLAND E. DUKES — 8825 — REGISTERED PROFESSIONAL ENGINEER — SEAL

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND — ATLANTIC DIVISION — NORFOLK, VIRGINIA

NAVAL STATION — U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

BORING LOGS

CODE I.D. NO. 80091	SIZE D
SCALE: NONE	
EFD NO. 3211161	
STA. PROJ. NO. R-27-89	
SPEC. NO. 05-90-0082	
CONSTR. CONTR. NO. N62470-87-B-7140	
NAVFAC DRAWING NO. 4221161	
SHEET 12 OF 32	
B-2	

D C B A

8 7 6 5 4 3 2 1

BORING Nº 4A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	STD. PENETRATION SAMPLE NO	BLOWS/6IN. THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
CONCRETE 8.5"							
Brown and dark gray, moist, medium stiff to stiff, fine Sandy CLAY (CL), trace fine Gravel (fill)			1	X/3 6/6 6/8	16		
			2	5/4	20		
	6.0	5	3	6/7 5/6	14		
Light gray and tan, very loose to medium dense, Clayey fine to coarse SAND (SC), and coral fragments and marine shell fragments (fill)			4	4/4 3/3	16		
		10	5	4/3 3/2	22		
			6	3/3	22		
		15	7	10 8/9	18		
		20	8	9 7/8	18		
		25	9	6 8/9	18		
		30	10	4 6/5	18		
		35	11	5 5/5	18		
		40	12	6 5/6	18		
	45.0	45	13	5 4/6	18		
Bottom of boring 45.0'							*Caved in @ 15.5'

BORING Nº 4B

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	STD. PENETRATION SAMPLE NO	BLOWS/6IN. THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
CONCRETE 8"							
Note 1	2.0		1	X/3 5/5	14		Note 1: Tan, moist, medium stiff, fine Sandy CLAY (CL), trace coarse Sand and marine shell fragments (fill)
Note 2	4.0		2	5/6 11/10	22		
Tan, very moist, medium stiff to stiff, fine Sandy CLAY (CL), trace marine shell fragments and gravel (fill)		5	3	6/5 4/4	20		Note 2: Reddish brown moist, medium dense Clayey fine to coarse SAND (SC), some Gravel (fill)
	8.0		4	4/3 4/4	18		
White, saturated, loose to medium dense broken coral (fill)		10	5	4/1 3/3	22		
	13.0		6	6/5 5/7	18		
Light greenish gray, saturated, medium dense to loose, Clayey fine to coarse SAND (SC) and coral fragments (fill)		15	7	9 9/7	18		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
		20	8	6 6/5	18		
		25	9	5 6/7	18		
		30	10	6 5/8	18		
		35	11	6 6/6	18		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
		40	12	5 5/5	18		
	45.0	45	13	6 5/6	18		
Bottom of boring 45.0'							*Caved in @ 21.0'

BORING Nº 5

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	STD. PENETRATION SAMPLE NO	BLOWS/6IN. THREE 6 IN. INCREMENTS	RECOVERY, in.	SHELBY TUBE NO	BORING AND SAMPLING NOTES
SURFACE ELEVATION							
Concrete - 1.0'	1.0			-/-	12		
Brown and gray, moist to very moist, loose, Clayey, fine to medium SAND (SC) gravel, coral and shells			1	8/10 3/4			
			2	3/3	18		
		5	3	6/6 5/4	18		
			4	3/4 4/3	12		
(Fill)	10.0	10	5	4/4 3/4	18		
Reddish-brown to gray, saturated, loose, fine to medium SAND (SM) with little gravel and shell fragments			6	4/6	18		
		15	7	4 4/4	18		
(Possible Fill)	17.0						
Gray, saturated, very loose, Silty, fine to medium SAND (SM) with little shell fragments		20	8	2 2/1	18		
	22.0						
Light gray, saturated, medium stiff, fine Sandy CLAY (CL) with trace to little coral and shell fragments		25	9	6 5/5	18		
	32.0	30	10	4 5/6	18		
Gray, very moist to saturated, medium dense, Clayey, fine SAND (SC) with trace shell and coral		35	11	6 8/6	18		
		40	12	7 9/15	18		
	42.0						
Dark gray, very moist, dense, Silty, fine to medium SAND (SM) with trace Clay and coral fragments		45	13	21 22/22	18		
	50.0	50	14	23/32 50/3"	18		Cave-in @ 10.0' Auger Refusal- 50.0'
Bottom of Boring - 50.0'							

BORING Nº 5A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	STD. PENETRATION SAMPLE NO.	BLOWS/6 IN. THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
Concrete 8"							
Dark brown, dry, medium dense, Clayey fine SAND (SC) and Gravel, trace marine shell fragments (fill)			1	X/8 7/8	12		
	4.0		2	6/6 6/6	20		
White, moist, loose to medium dense, Silty fine to medium SAND (SM) and coral fragments (fill)	6.0	5	3	3/3 11/9	12		
Light gray, very moist to saturated, very loose, Silty fine to coarse SAND (SM) and Gravel and coral fragments (fill)			4	3/2 2/1	12		
		10	5	3/1 1/2	19		
			6	2/1 2/2	9		
		15	7	2 3/4	18		
	18.0						
Light greenish gray, very moist to saturated, very loose, Clayey fine SAND (SC), some marine shell fragments and coral fragments (fill)		20	8	1 1/2	18		
	28.0	25	9	2 2/2	18		
Light greenish gray, very moist to saturated, medium stiff, fine Sandy CLAY (CL-SC), some marine shell fragments and coral fragments (fill)		30	10	2 3/3	18		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
		35	11	3 3/4	18		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
		40	12	3 4/3	18		
	45.0	45	13	4 4/4	18		
Bottom of boring 45.0'							*Caved in @ 14.5

BORING Nº 5B

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	STD. PENETRATION SAMPLE NO	BLOWS/6IN. THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
CONCRETE 8.5"							
Light brown and tan, moist to very moist, medium stiff to stiff, fine to coarse Sandy CLAY (CL-SC), some marine shell fragments and Gravel (fill)			1	X/5 5/6	14		
			2	6/8 7/8	12		
	6.0	5	3	6/5 4/4	17		
Light brown and tan, very moist to saturated, medium dense, Clayey fine to coarse SAND (SC), some gravel and coral fragments			4	5/6 7/6	20		
		10	5	9/8 7/7	14		
			6	6/7 5/7	18		
	13.0	15	7	2 1/2	18		
Dark gray, moist to very moist, very soft, fine Sandy CLAY (CL-SC), some marine shell fragments, trace fine gravel (fill)		20	8	2 2/2	18		
	23.0	25	9	3 2/3	18		
Light greenish gray, very moist, very loose to loose, Clayey fine to coarse SAND (SC), some marine shell fragments and coral fragments (fill)		30	10	3 3/4	18		
		35	11	4 4/3	18		
		40	12	4 3/4	18		
	45.0	45	13	4 4/6	18		
Bottom of boring 45.0'							*Caved in @ 15.0

NOTE: BORING LOGS - SEE NOTES AND KEY PLAN ON SHEET B-4

SUMMARY OF LABORATORY TEST DATA

Boring Number or Sampling Location	Sample Number	Sample Depth, Ft.	Unified Soil Classification Symbol	CLASSIFICATION PROPERTIES: Average Natural Moisture Content, %	Dry Unit Weight, pcf	Liquid Limit, %	Plastic Limit, %	Plasticity Index, %	% Passing #200 Sieve	Grain Size Data, Figure #
1	10	28.5-30.0	SM	14.7					11.0	3
2	11	33.5-35.0	SM	22.1					13.1	4
3	8	18.5-20.0	CH	23.1		57	30	27		
5	9	23.5-25.0	MH	27.5		33	25	9		
6	7	63.5-65.0	SC	17.3					35.2	5

REVISIONS				
STA.	DESCRIPTION	DATE	APPROVED	

DESIGN	DWM		
DRAWN	RAUL		
REVIEW	RO		
CHIEF ARCH./ENGR.	ENP		
PROJECT MANAGER			
FIRE PROTECTION			
QUALITY CONTROL			
BRANCH MANAGER			
DESIGN DIRECTOR			

STROUD, PRIME & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7687

ACTIVITY - SATISFACTORY TO
APPROVED _____ DATE 1/24/92
FOR EFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA — ROLAND E. PRIME, JR. — LICENSED PROFESSIONAL ENGINEER — 5825 — REGISTERED PROFESSIONAL ENGINEER — SEAL

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION — ATLANTIC DIVISION — NORFOLK, VIRGINIA
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

BORING LOGS

CODE I.D. NO. 80091	SIZE D
SCALE: NONE	
EFD NO. 321162	
STA. PROJ. NO. R-27-90	
SPEC. NO. 05-90-0082	
CONSTRN. CONTR. NO.	N62470-87-B-7140
NAVFAC DRAWING NO.	4221162
SHEET 13 OF 32	
B-3	

BORING Nº 6

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	SAMPLE NO	STD. PENETRATION BLOWS/6 IN. (THREE 6 IN. INCREMENTS)	STD. PENETRATION RECOVERY in.	SHELBY TUBE NO	BORING AND SAMPLING NOTES
SURFACE ELEVATION							
Top of Bulkhead to water at 8:00AM 6'10"							
Top of Bulkhead to mud line 34.0'							
		5					
		10					
		15					
		20					
		25					
		30					
Mud Line	34.0			1			
Gray, very moist to saturated, loose, Silty, fine to medium SAND (SM) with trace shell and coral fragments		35	1	0/1	18		
		40	2	4 5/6	2		
Brown, moist to very moist, Silty, fine to medium SAND (SM) with trace to little shell, gravel and coral fragments		45	3	9 14/16	18		
		50	4	15 18/25	18		
	57.0	55	5	15 15/17	18		
Brown, moist to very moist, dense, Clayey fine SAND (SC-CL) with trace coral fragments		60	6	17 21/25	18		
		65	7	27 31/39	16		
		70	8	50 2"	2		
	72.0						Auger Refusal - 72.0'
Bottom of Boring - 72.0'							

BORING Nº 6A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	SAMPLE NO	STD. PENETRATION BLOWS/6 IN. (THREE 6 IN. INCREMENTS)	STD. PENETRATION RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
CONCRETE 8.5"							
Light brown and tan, moist to very moist, loose to medium dense, Clayey fine SAND (SC), some coral fragments and marine shell fragments (fill)			1	X/4 7/8	10		
			2	10/10 10/8	22		
	6.0	5	3	8/8 4/5	14		
Light gray and tan, very moist to saturated, very loose to loose, Clayey fine to medium SAND (SC), little to some marine shell fragments and coral fragments (fill)			4	3/2 3/3 3/2	16		
		10	5	3/2 2/1	14		
			6	2/2	16		
		15	7	2 1/2	18		
			8	3 3/3	18		
		20					
			9	3 4/3	18		
		25					
			10	4 4/4	18		
		30					
			11	3 4/3	18		
		35					
			12	4 5/5	18		
		40					
	45.0		13	5 4/5	18		
		45					
Bottom of boring 45.0'							

*Caved in @ 21.0

BORING Nº 6B

MATERIAL DESCRIPTION	STRATUM DEPTH, FT	DEPTH, FT	SAMPLE NO	STD. PENETRATION BLOWS/6 IN. (THREE 6 IN. INCREMENTS)	STD. PENETRATION RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
CONCRETE 8.5"							
Dark gray, dry to moist, loose to medium dense, Silty Clayey fine SAND (SM-SC), some gravel (fill)			1	X/3 7/5	12		
			2	4/4 4/4	10		
	4.0	5	3	2/2 3/3	11		
Gray, very moist, very soft to medium stiff, fine to medium Sandy CLAY (CL-SC), some gravel and marine shell fragments (fill)			4	3/2 2/1	12		
			5	2/3 4/2	14		
	10.0	10	6	3/3 3/5	22		
Brown, very moist, very loose to loose, Clayey fine to coarse SAND (SC), some gravel and marine shell fragments (fill)		15	7	3 2/3	18		
	18.0		8	1 1/1	18		
Dark gray, very moist, very soft, CLAY (CL-CH), some sand, marine shell fragments and gravel (fill)		20					
	23.0		9	3 4/4	18		
Light greenish gray, very moist, loose, Clayey fine SAND (SC), some marine shell fragments and coral fragments (possible fill)		25					
			10	3 4/4	18		
		30					
			11	4 4/4	18		
		35					
			12	4 5/4	18		
		40					
	45.0		13	5 4/5	18		
		45					
Bottom of boring 45.0'							

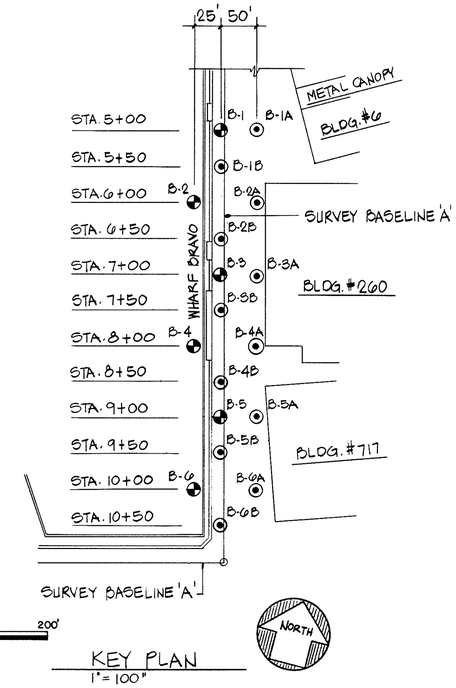
*Caved in @ 17.0'

SOIL BORING NOTES

1. SOIL BORINGS DENOTED B-XA WERE DRILLED BY ATEC ASSOCIATES OF VIRGINIA, INC., NORFOLK, VIRGINIA, ON 11/89. SOIL BORINGS DENOTED B-X WERE DRILLED BY ATEC ASSOCIATES OF VIRGINIA, INC., NORFOLK, VIRGINIA ON 4/90.
2. ALL DEPTHS AND LOCATIONS ARE APPROXIMATE.
3. DRILLING WAS ACCOMPLISHED BY CONTINUOUS FLIGHT HOLLOW-STEM AUGER. STANDARD PENETRATION TEST IS OBTAINED BY DRIVING A 2.0" O. D., 1-3/8" I.D., SAMPLER A DISTANCE OF 1.0 FOOT INTO UNDISTURBED SOIL WITH A 140 POUND HAMMER, FREE FALLING A DISTANCE OF 30.0 INCHES. IT IS CUSTOMARY FOR THE TESTING LABORATORY TO DRIVE THE SPOON 6.0 INCHES TO SEAT INTO UNDISTURBED SOIL, THEN PERFORM THE TEST. THE NUMBER OF HAMMER BLOWS FOR SEATING THE SPOON AND MAKING THE TEST ARE RECORDED FOR EACH 6.0 INCHES OF PENETRATION OF THE SPOON (EXAMPLE - 6/8/9.) THE STANDARD PENETRATION TEST RESULT CAN BE OBTAINED BY ADDING THE LAST TWO FIGURES (I.E. 8+9 = 17 BLOWS/FT.). (ASTM D-1586-67). 50/2" INDICATES 50 BLOWS FOR 2" OF PENETRATION.
4. AUGER REFUSAL INDICATES BOREHOLE ADVANCEMENT TERMINATED TO AVOID DAMAGING EQUIPMENT.
5. STRATA CHANGES - IN THE COLUMN "MATERIAL DESCRIPTION" ON THE DRILL LOG THE HORIZONTAL LINES REPRESENT STRATA CHANGES. A SOLID LINE (___) REPRESENTS AN ACTUALLY OBSERVED CHANGE, A DASHED LINE (- - - -) REPRESENTS AN ESTIMATED CHANGE.
6. GROUND WATER OBSERVATIONS WERE MADE WHEN FIRST NOTED ON RODS (INDICATED BY ▽), AND AT COMPLETION OF THE BORING (INDICATED BY ▼). POROSITY OF SOIL STRATA, WEATHER CONDITIONS, TIDAL VARIATIONS, ETC., MAY CAUSE CHANGES IN THE WATER LEVELS INDICATED ON THE LOGS. OBSERVATIONS ARE REFERENCED TO EXISTING GRADES AT TIME OF DRILLING.
7. SOIL CLASSIFICATIONS (SP, SM, CH, CL, ETC.) ARE IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM, AND ARE BASED ON VISUAL INSPECTION OF THE SAMPLES BY THE LABORATORY TECHNICIAN.
8. SEE KEY PLAN BELOW FOR BORING LOCATIONS.

BORING LOG LEGEND:

- ◕ B-X — DENOTES BORINGS PERFORMED 4/90 BY ATEC ASSOCIATES.
- ◉ B-XA ◉ B-XB — DENOTES BORINGS PERFORMED 11/87 BY ATEC ASSOCIATES.
- ▽ — INDICATES WATER LEVEL FIRST NOTED ON ROD.
- ▼ — INDICATES WATER LEVEL OBSERVED AT COMPLETION.



GRAPHIC SCALE

1" = 100' 100' 50' 0 100' 200'

KEY PLAN
1" = 100'

NORTH

REVISIONS					
STA.	DESCRIPTION	DATE	APPROVED		

DESIGN	OWN	
DRAWN	KAUL	
REVIEW	BO	
CHIEF ARCH / ENG	EWP	
PROJECT MANAGER		
FIRE PROTECTION		
QUALITY CONTROL		
BRANCH MANAGER		
DESIGN DIRECTOR		

STROUD, PERCE & ASSOCIATES, LTD.
CIVIL & STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7987

APPROVED _____ DATE _____

ACTIVITY - SATISFACTORY TO _____
APPROVED _____ DATE 7/26/90

FOR BID FOR COMMANDER NAVFAC

SEAL: COMMONWEALTH OF VIRGINIA — ROXANNE E. DUKE — No. 8825 — PROFESSIONAL ENGINEER

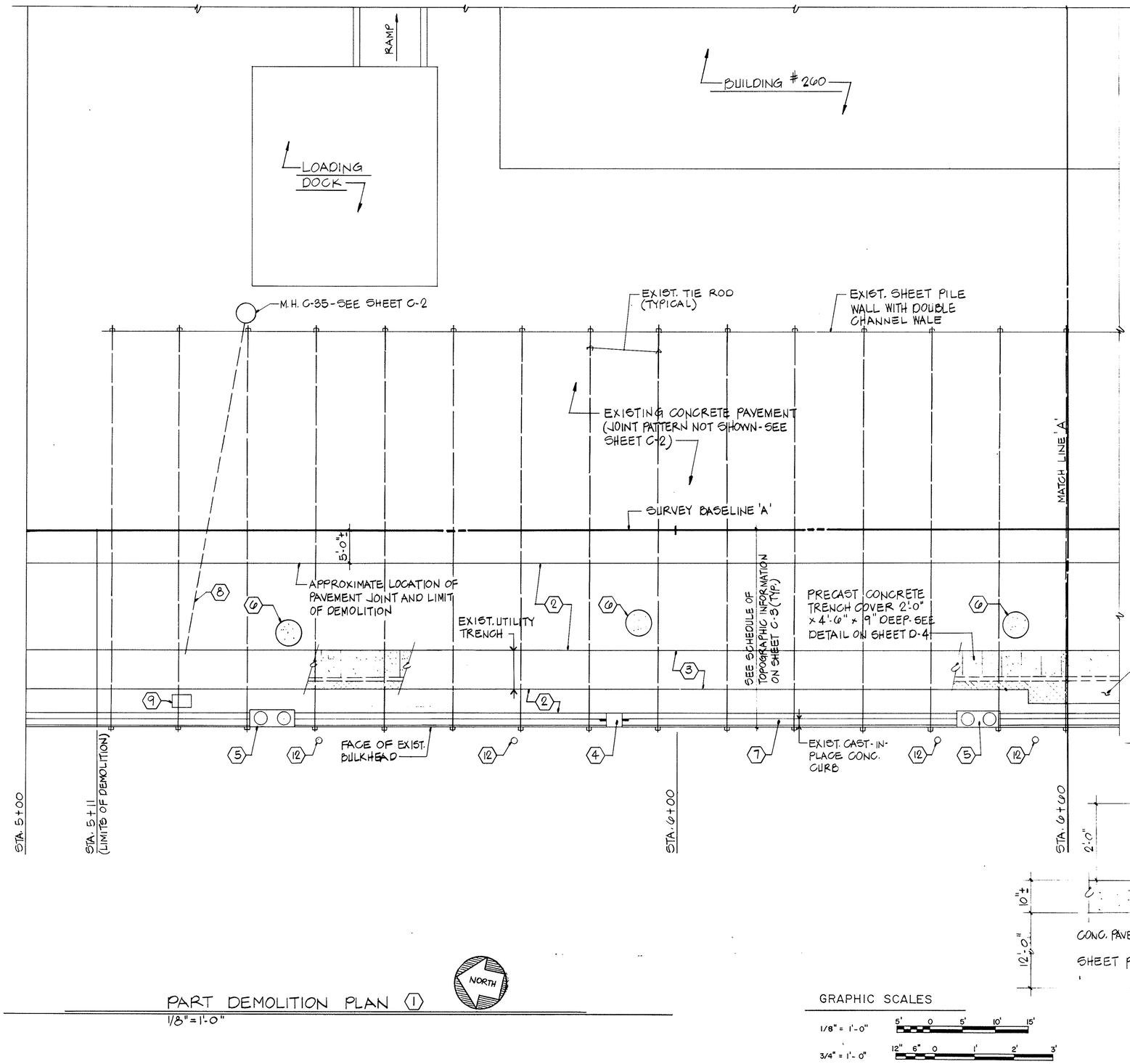
DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND — NAVAL STATION — ATLANTIC DIVISION — NORFOLK, VIRGINIA

U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

BORING LOGS, NOTES & KEY PLAN

CODE I.D. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO. 321163	
STA. PROJ. NO. R-27-89	
SPEC. NO. 05-90-0082	
CONSTRN. CONTR. NO. N62470-87-B-7140	
NAVFAC DRAWING NO. 4221163	
SHEET 4 OF 32	
B-4	



PART DEMOLITION PLAN (1)

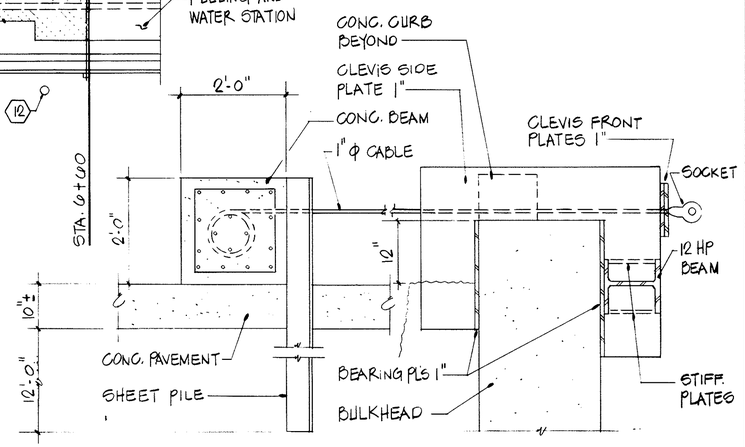
1/8" = 1'-0"

NORTH

GRAPHIC SCALES

1/8" = 1'-0" 5' 0 5' 10' 15'

3/4" = 1'-0" 12" 6" 0 1' 2' 3'



SECTION (1 / D2D1)

3/4" = 1'-0"

DEMOLITION NOTES:

1. SEE CONSTRUCTION SEQUENCE NOTES ON SHEET S-8 .
2. REMOVE CONCRETE PAVEMENT BACK TO EXISTING JOINT.
3. REMOVE REINFORCED CONCRETE UTILITY TRENCH, AND REINFORCED CONCRETE HOSE TRENCH AND FUELING AND WATER STATION, INCLUDING ALL PIPES, CONDUIT, PIPE SUPPORTS, VALVES, PUMPS AND RELATED ITEMS.
4. REMOVE CLEAT. SEE DETAIL ON SHEET D-4.
5. REMOVE AND RELOCATE DOUBLE BITT.
6. REMOVE TEMPORARY BOLLARD INCLUDING PULLING THE STEEL H-PILE. SEE DETAIL ON SHEET D-4.
7. REMOVE THE CAST-IN-PLACE REINFORCED CONCRETE CURB AND BULKHEAD WALL TO ELEVATION +4.0' INCLUDING PEDESTALS FOR DECK FITTINGS AND STEEL SHEET PILING. SEE DETAILS ON SHEET D-4 FOR EXISTING CONDITIONS.
8. REMOVE TWO 1-1/2" COMMUNICATION CONDUITS BACK TO THE LIMIT OF DEMOLITION AT EXISTING CONCRETE PAVEMENT JOINT.
9. REMOVE SHIP TO SHORE TELEPHONE PEDESTAL AND ASSOCIATED WIRING AND CONDUITS. RELOCATE PEDESTAL AS INDICATED.
10. REMOVE FUEL STATION STATIC GROUND ASSEMBLY INCLUDING CABLE, SWITCH AND PEDESTAL. RELOCATE SIGNAGE - SEE DETAIL ON SHEET E-1.
11. REMOVE AND RELOCATE CLEAT.
12. REMOVE WOOD FENDER PILE. PROJECTION OF STUB ABOVE THE MUDLINE VARIES FROM 3 FT TO 5 FT. MAXIMUM TIP ELEVATION -43.0'±.
13. REMOVE TEMPORARY BULKHEAD SUPPORT STRUCTURE INCLUDING PULLING THE SHEET PILES. SEE DETAILS ON THIS SHEET.
14. REMOVE AND RELOCATE FIRE EXTINGUISHER BOX.
15. REMOVE DOUBLE BITT.

REVISIONS

DESCRIPTION	DATE	APPROVED

A/E: DOWN, RAUL, EMP — DESIGN: RCL — DRAWN: — REVIEW: — CHIEF: — MECH / ENGR: — PROJECT MANAGER: — FIRE PROTECTION: — QUALITY CONTROL: — BRANCH MANAGER: — DESIGN DIRECTOR: — SYM.

STROUD, PEIRCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-C-7437

APPROVED — DATE

ACTIVITY — SATISFACTORY TO — DATE 7/24/90

APPROVED — FOR BID FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA — DAVID R. PEIRCE — No. 8934 — PROFESSIONAL ENGINEER — SEAL

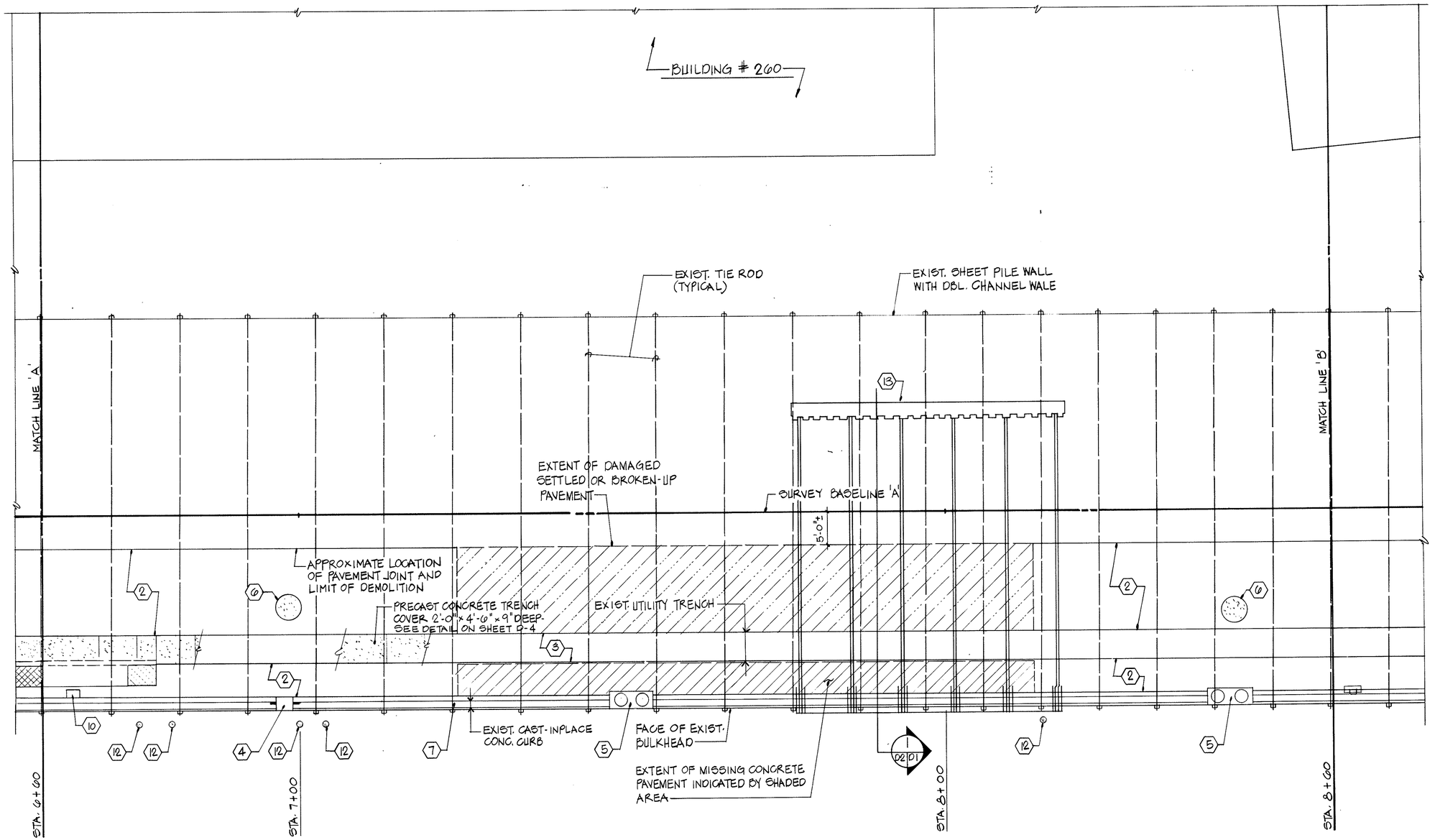
DEPARTMENT OF THE NAVY — NAVAL STATION — NAVAL FACILITIES ENGINEERING COMMAND — ATLANTIC DIVISION — NORFOLK, VIRGINIA

U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

PART DEMOLITION PLAN & NOTES

CODE I.D. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO. 321164	
STA. PROJ. NO. R-27-89	
SPEC. NO. 05-90-0082	
CONSTRN. CONTR. NO.	N62470-87-B-7140
NAVFAC DRAWING NO.	4221164
SHEET 15 OF 32	
D-1	



NOTE: SEE DEMOLITION NOTES ON SHEET D-1

PART DEMOLITION PLAN (1)

1/8" = 1'-0"

NORTH

GRAPHIC SCALE

1/8" = 1'-0" 5' 0 5' 10' 15'

REVISIONS			
DESCRIPTION	DATE	APPROVED

DES. DRN. CHK. DES'N. REVIEW. CHIEF ARCH./ENGR. PROJECT MANAGER RSL FIRE PROTECTION QUALITY CONTROL BRANCH MANAGER DESIGN DIRECTOR SYM.

STROUD, PEIRCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462 757-490-5225

A/E CONTRACT NO. N62470-90-B-7627 APPROVED DATE

ACTIVITY - SATISFACTORY TO SPHERE OF RESPONSIBILITY DATE 7/26/90 FOR EFD CONTROL PURPOSES

COMMONWEALTH OF VIRGINIA EDWARD R. PEIRCE, JR. No. 8934 PROFESSIONAL ENGINEER SEAL

DEPARTMENT OF THE NAVY NAVAL STATION NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NORFOLK, VIRGINIA

U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

PART DEMOLITION PLAN

CODE I.D. NO. 80091 SIZE D

SCALE: AS NOTED

EFD NO. 321605

STA. PROJ. NO. R-27-89

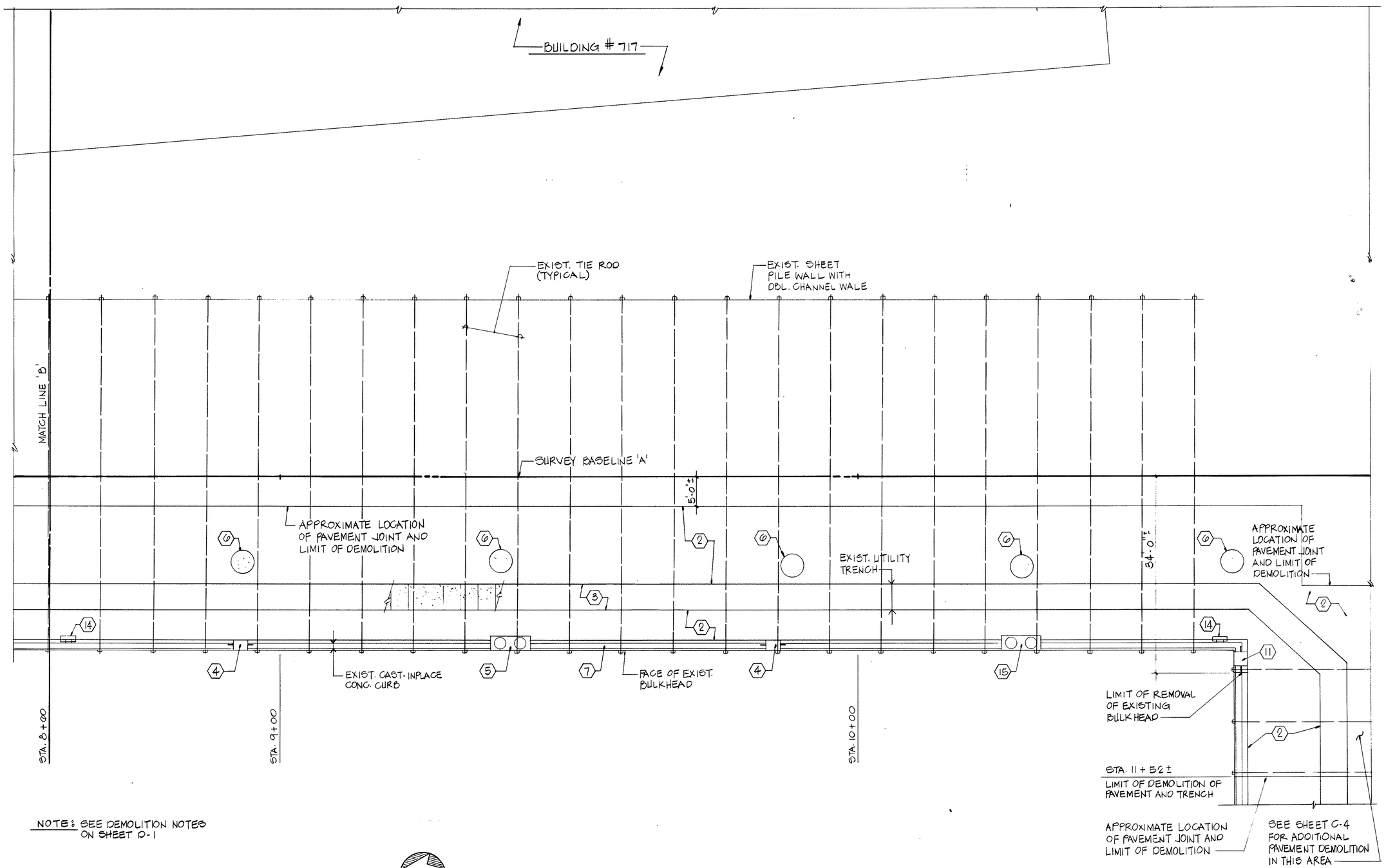
SPEC. NO. 05-90-0082

CONSTRN. CONTR. NO. N62470-87-B-7140

NAVFAC DRAWING NO. 4221105

SHEET 10 OF 82

D-2



NOTE: SEE DEMOLITION NOTES ON SHEET D-1

PART DEMOLITION PLAN (1)

1/8" = 1'-0"

GRAPHIC SCALE

1/8" = 1'-0"

5' 0 5' 10' 15'

REVISIONS

SYM.	DESCRIPTION	DATE	APPROVED

A/E DWM DESIGN EFD
RAUL DRAWN
EWP REVIEW RCK
CHIEF ARCH./ENGR.
PROJECT MANAGER
FIRE PROTECTION BEC
QUALITY CONTROL EWP
BRANCH MANAGER
DESIGN DIRECTOR

SP STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7637

APPROVED DATE

ACTIVITY - SATISFACTORY TO

APPROVED DATE 7/26/90

FOR EFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA
EDWARD W. PENCE, JR.
No. 8934
PROFESSIONAL ENGINEER
SEAL

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA

U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

PART DEMOLITION PLAN

CODE I.D. NO. 80091 SIZE D

SCALE: AS NOTED

EFD NO. 321166

STA. PROJ. NO. R-27-89

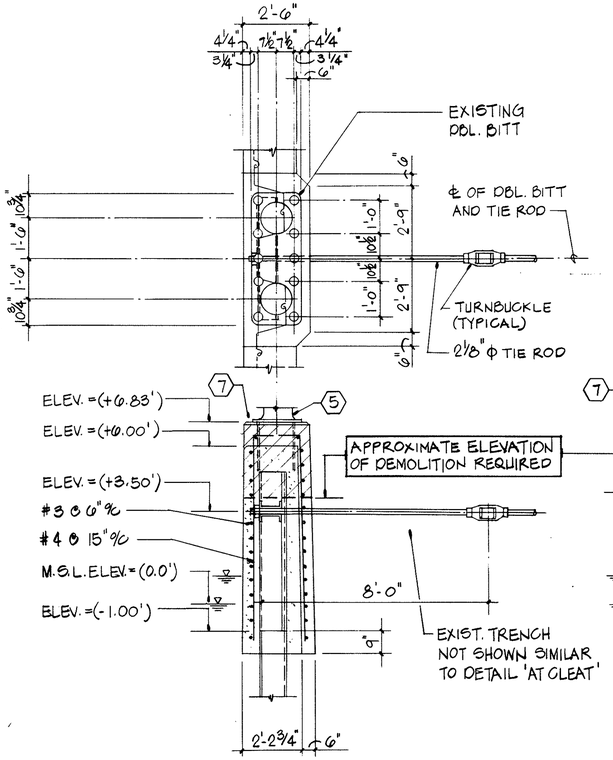
SPEC. NO. 05-90-0082

CONSTRN. CONTR. NO. N62470-87-B-7140

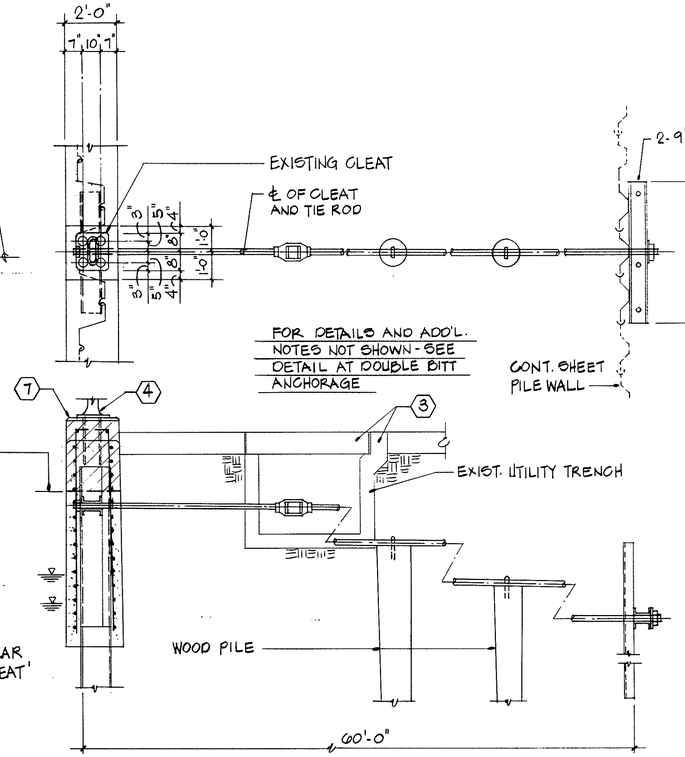
NAVFAC DRAWING NO. 4221166

SHEET 17 OF 32

D-3



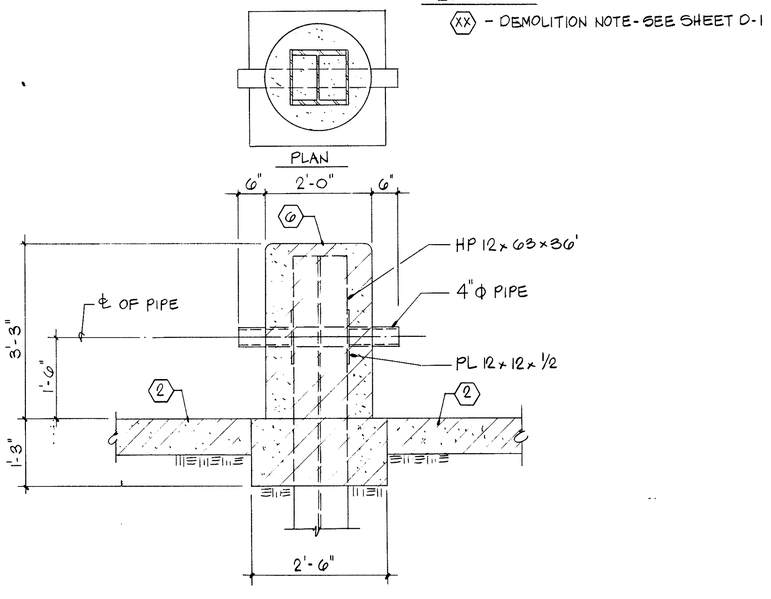
'AT DOUBLE BITT'



'AT CLEAT'

TYPICAL DETAIL OF EXISTING DOUBLE BITT AND CLEAT ANCHORAGE

3/8" = 1'-0"



ELEVATION

TYPICAL DETAIL OF EXISTING TEMPORARY BOLLARD

3/4" = 1'-0"

GRAPHIC SCALES

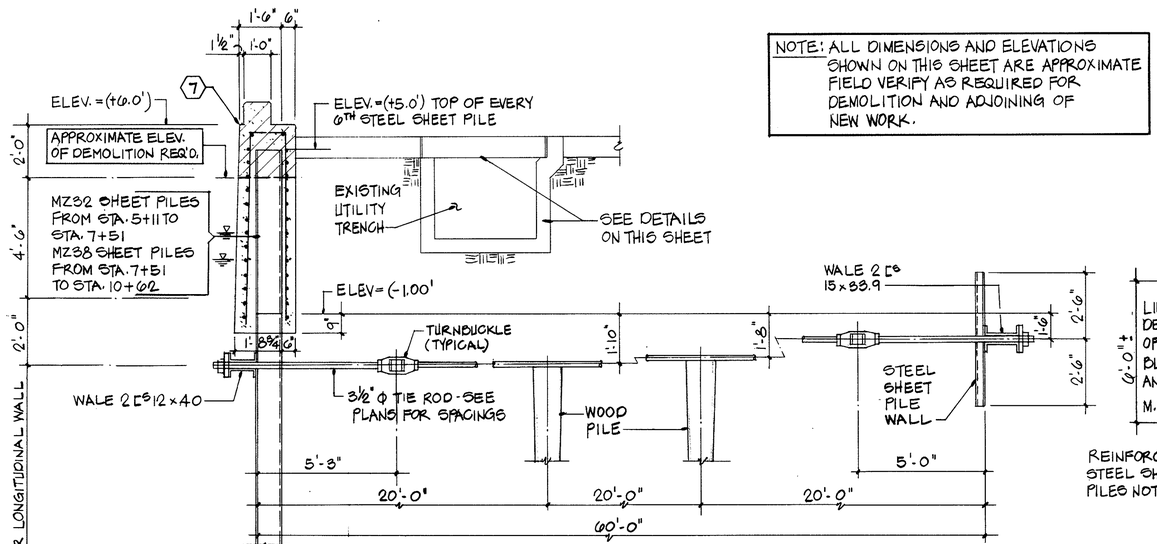
3/8" = 1'-0" 12" 6" 0 1' 2' 3' 4' 5' 6' 7'

3/4" = 1'-0" 12" 6" 0 1' 2' 3'

LEGEND:

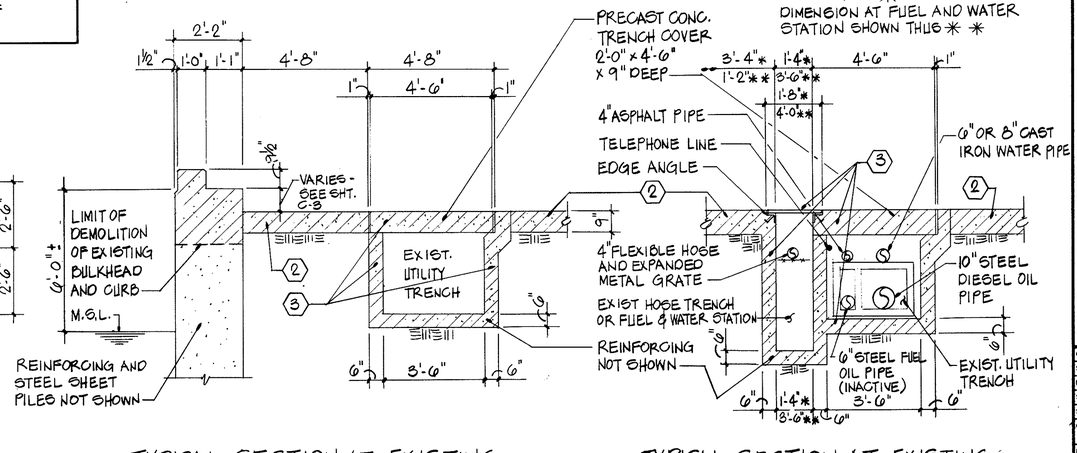
(XX) - DEMOLITION NOTE - SEE SHEET D-1

NOTE: ALL DIMENSIONS AND ELEVATIONS SHOWN ON THIS SHEET ARE APPROXIMATE FIELD VERIFY AS REQUIRED FOR DEMOLITION AND ADJOINING OF NEW WORK.



TYPICAL SECTION THRU EXISTING BULKHEAD AND ANCHORAGE

3/8" = 1'-0"



TYPICAL SECTION AT EXISTING UTILITY TRENCH

3/8" = 1'-0"

TYPICAL SECTION AT EXISTING HOSE TRENCH AND FUEL AND WATER STATION

3/8" = 1'-0"

NO.	DESCRIPTION	DATE	APPROVED
	REVISIONS		

STROUD, PENCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7637

APPROVED DATE

ACTIVITY - SATISFACTORY TO

APPROVED DATE 7/20/90

FOR OFFICIAL USE ONLY

DESIGN — CHIEF ARCH. / ENGR. — PROJECT MANAGER — FIRE PROTECTION — QUALITY ASSURANCE — DESIGN DIRECTOR

COMMONWEALTH OF VIRGINIA — JAMES W. PENCE, JR. — 8924 — PROFESSIONAL ENGINEER — SEAL

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND — NAVAL STATION — ATLANTIC DIVISION — NORFOLK, VIRGINIA

U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

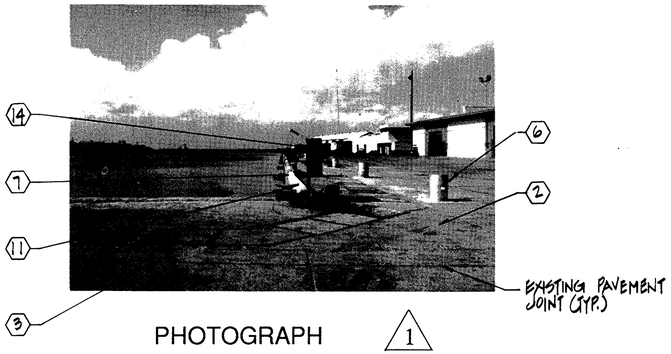
TYPICAL DEMOLITION SECTIONS & DETAILS

CODE I.D. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO. 321167	
STA. PROJ. NO. R-67-89	
SPEC. NO. 05-90-0082	
CONSTR. CONTR. NO. N62470-87-B-7140	
NAVFAC DRAWING NO. 4221107	
SHEET 18 OF 32	
D-4	

8 7 6 5 4 3 2 1

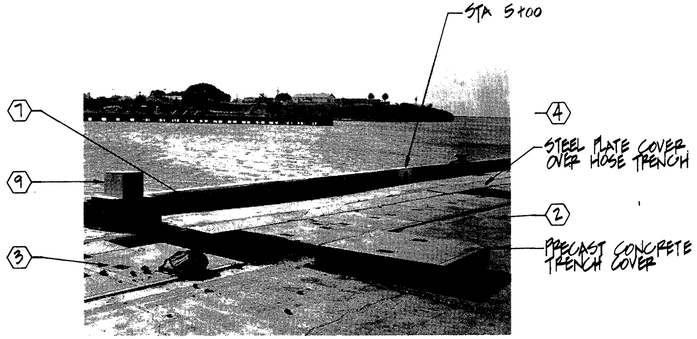
D C B A

NOTE: SEE SHEET D-1 FOR NOTES INDICATED THUS (X).



PHOTOGRAPH 1

VIEW LOOKING NORTH FROM WHARF UNIFORM

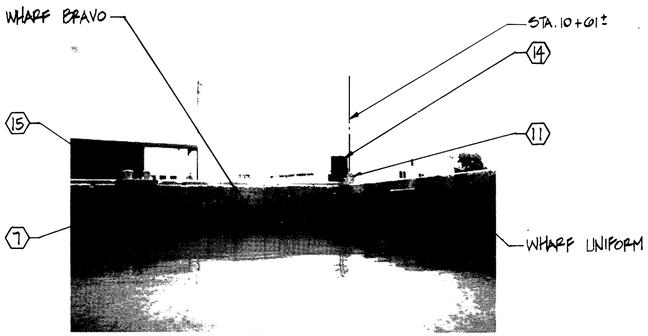


PHOTOGRAPH 2

UTILITY TRENCH WITH HOSE TRENCH

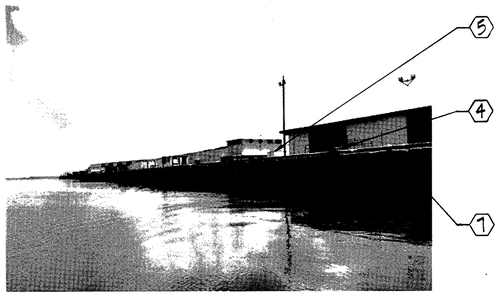
PHOTOGRAPH 3

VIEW LOOKING SOUTH ON WHARF BRAVO



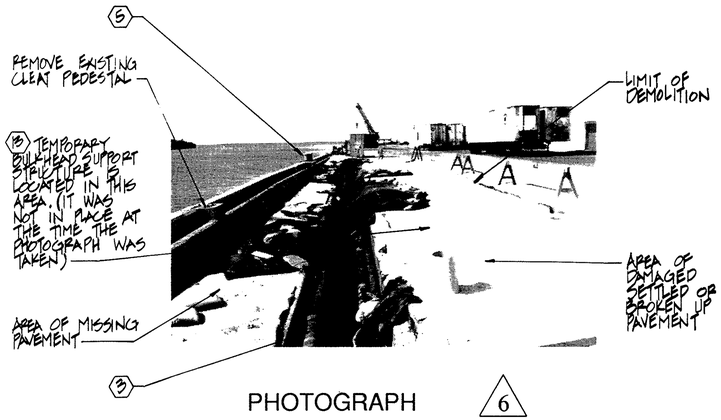
PHOTOGRAPH 4

VIEW OF SOUTH-EAST CORNER



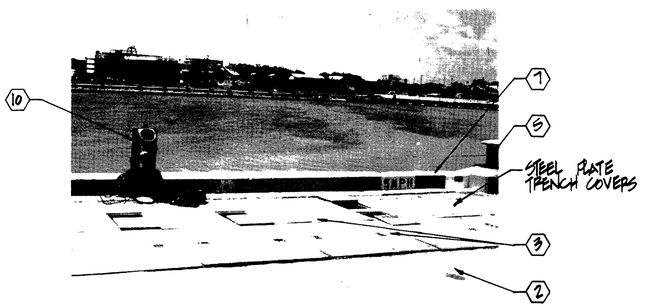
PHOTOGRAPH 5

TYPICAL VIEW OF EXISTING BULKHEAD



PHOTOGRAPH 6

VIEW OF DAMAGED WHARF NEAR STA 7+50

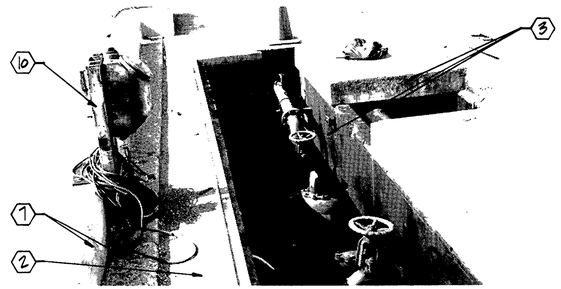


PHOTOGRAPH 7

VIEW OF EXISTING FUEL AND WATER STATION (COVERED)

PHOTOGRAPH 8

VIEW OF EXISTING FUEL AND WATER STATION (PARTIALLY UNCOVERED)



PHOTOGRAPH 9

VIEW OF VALVES AND PIPING AT EXISTING FUEL AND WATER STATION

REVISIONS				
SYM.	DESCRIPTION	DATE	APPROVED	

DES. CHIEF RALL DRAWN BWP PATTERN MCH / CHK. PROJECT MANAGER RBS QUALITY CONTROL EMS BRANCH MANAGER WEFAN DESIGN DIRECTOR WMF

SP

STROUD, PERCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7937 DATE

APPROVED

ACTIVITY - SATISFACTORY TO DATE

SPECIFICATION WRITER

FOR DOD CONTRACTS ONLY

COMMONWEALTH OF VIRGINIA — DENNIS R. PERCE — No. 8934 — PROFESSIONAL ENGINEER — SEAL

DEPARTMENT OF THE NAVY
NAVAL STATION
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA

U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

PHOTOGRAPHS 1 TO 9

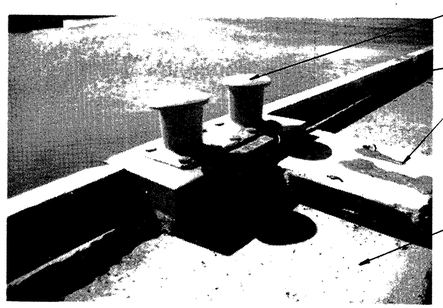
CODE I.D. NO. 80091	SIZE D
SCALE: NONE	
EFD NO. 321168	
STA. PROJ NO. R-27-89	
SPEC. NO. 05-90-0082	
CONSTRN. CONTR. NO. N62470-87-B-7140	
NAVFAC DRAWING NO. 321168	
SHEET 19 OF 32	

D-5

D C B A

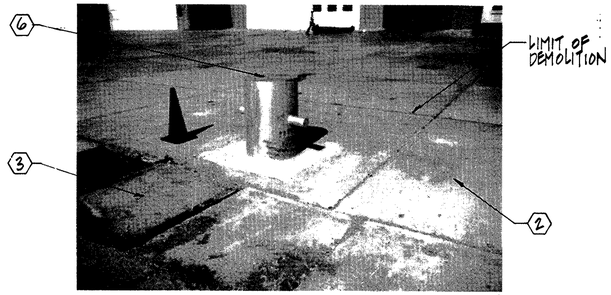
8 7 6 5 4 3 2 1

NOTE: SEE SHEET D-1 FOR NOTES INDICATED THUS (X)



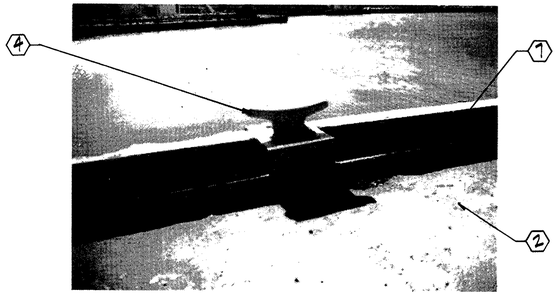
PHOTOGRAPH 10

TYPICAL DOUBLE BITT



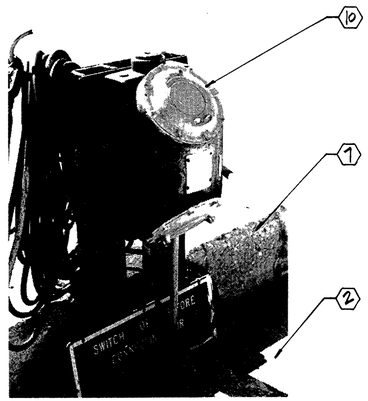
PHOTOGRAPH 11

TYPICAL TEMPORARY BOLLARD



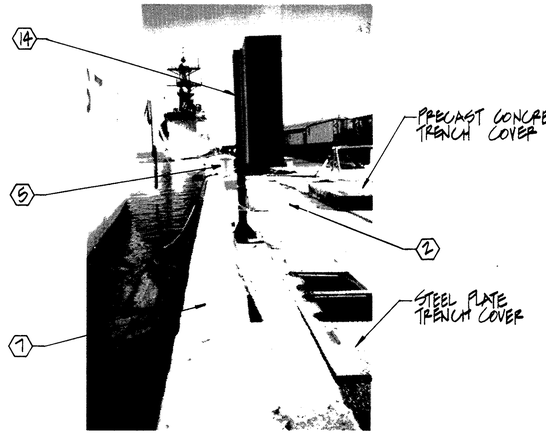
PHOTOGRAPH 12

TYPICAL CLEAT



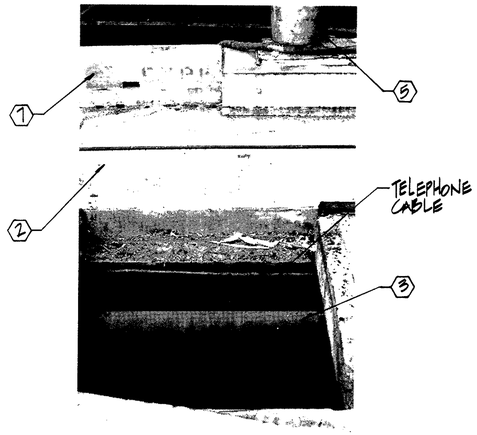
PHOTOGRAPH 13

STATIC GROUND ASSEMBLY WITH SIGNAGE



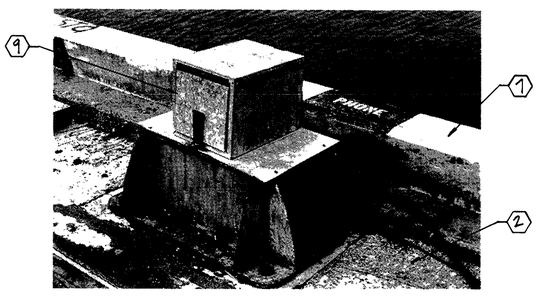
PHOTOGRAPH 14

TYPICAL FIRE EXTINGUISHER BOX



PHOTOGRAPH 15

TYPICAL TRENCH PIPING AND CONDUIT

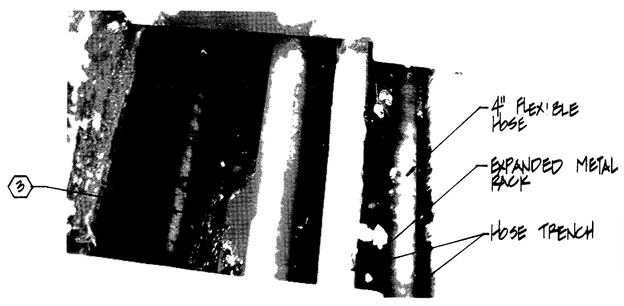


PHOTOGRAPH 16

TELEPHONE PEDESTAL

PHOTOGRAPH 17

TELEPHONE JACK



PHOTOGRAPH 18

TYPICAL PIPING IN UTILITY TRENCH

REVISIONS

SYM.	DESCRIPTION	DATE	APPROVED

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA

U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

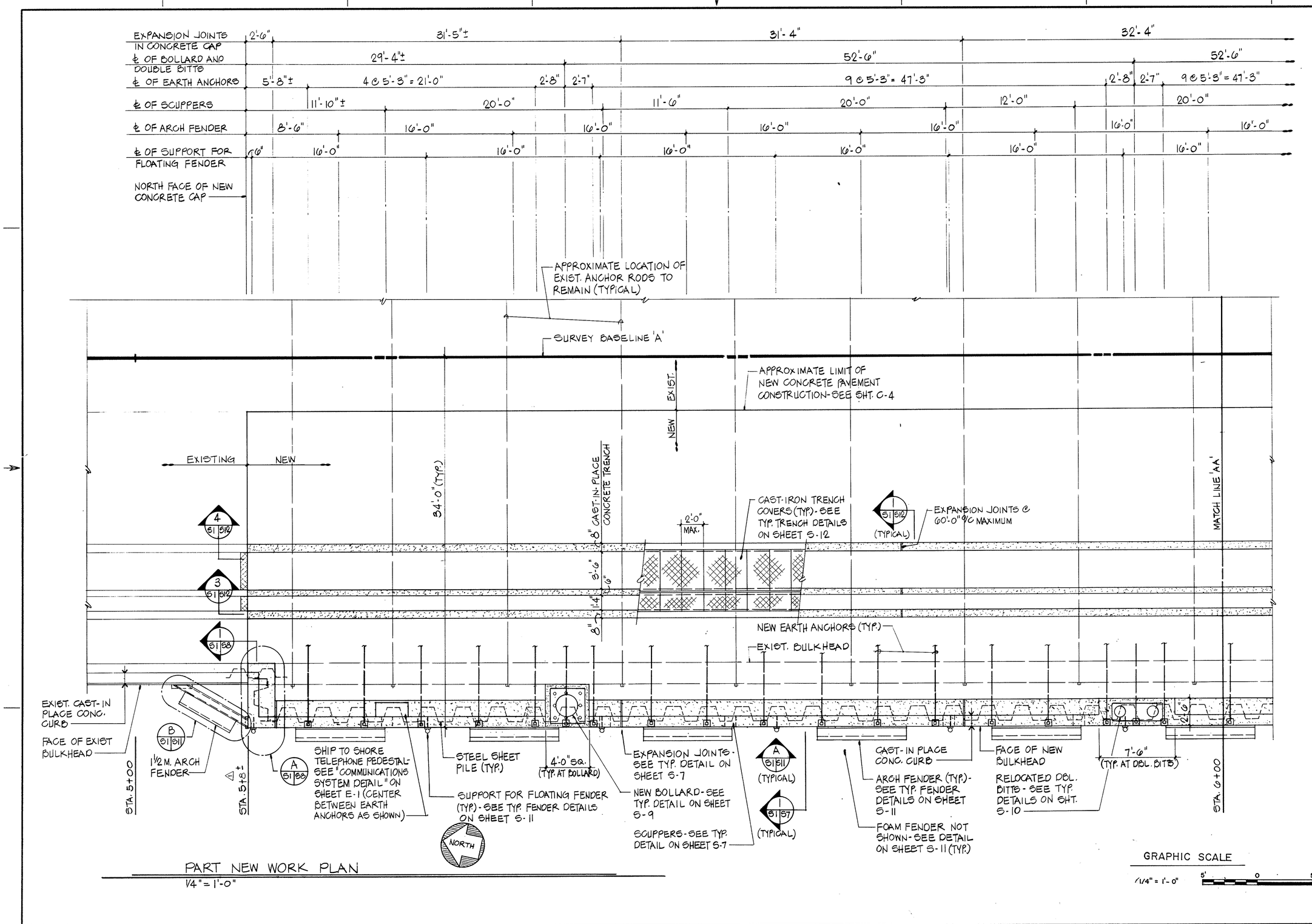
PHOTOGRAPHS 10 TO 18

CODE I.D. NO. 80091 SIZE D
SCALE: NONE
EFD NO. 321169
STA. PROJ. NO. R-27-89
SPEC. NO. 05-90-0082
CONSTRN. CONTR. NO. N62470-87-B-7140
NAVFAC DRAWING NO. 4221169
SHEET 20 OF 32
D-6

STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462
A/E CONTRACT NO. N62470-90-B-7637
APPROVED DATE
ACTIVITY - SATISFACTORY TO
APPROVED DATE 7/26/90
FOR EFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA
EDWARD W. PENCE, JR.
No. 8984
PROFESSIONAL ENGINEER
SEAL

DWM DESIGN
RAUL DRAWN
EWP REVIEW
CHIEF MECH./ENGR.
PROJECT MANAGER
FIRE PROTECTION
QUALITY CONTROL
BRANCH MANAGER
DESIGN DIRECTOR



PART NEW WORK PLAN
1/4" = 1'-0"

STM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT	5/3/43	WEB

REVISIONS

A/E DWN DESIGN RAUL DRAWN EWP REVIEW CHIEF ARCH./ENGR. PROJECT MANAGER FIRE PROTECTION QUALITY CONTROL BRANCH MANAGER DESIGN DIRECTOR

STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7687

APPROVED DATE

ACTIVITY - SATISFACTORY TO

APPROVED DATE 7/26/90

FOR EFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA
EDWARD W. PENCE, JR.
No. 8934
PROFESSIONAL ENGINEER
SEAL

DEPARTMENT OF THE NAVY
NAVAL STATION
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA

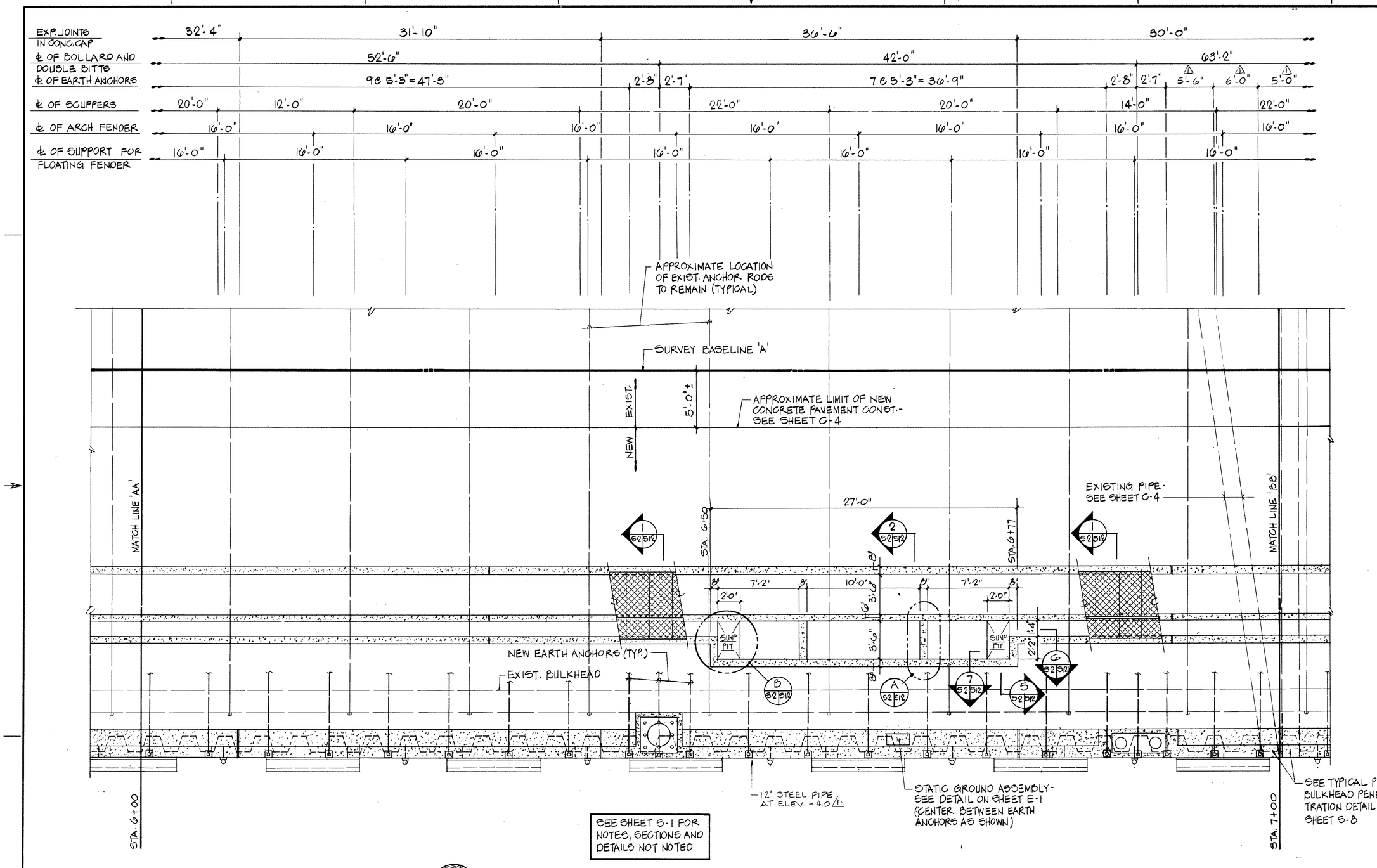
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

PART NEW WORK PLAN

CODE I.D. NO. 80091 SIZE D
SCALE: AS NOTED
EFD NO. 321170
STA. PROJ. NO. R-27-89
SPEC. NO. 05-90-0082
CONSTRN. CONTR. NO. N62470-87-B-7140
NAVFAC DRAWING NO. 4221170
SHEET 21 OF 32

S-1



PART NEW WORK PLAN
1/4" = 1'-0"

GRAPHIC SCALE
1/4" = 1'-0"
5' 0 5'

REVISIONS

SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT	5/5/93	WEPB

DESIGN DWN RAUL DRAWN EWP REVIEW CHIEF ARCH./ENGR. PROJECT MANAGER FIRE PROTECTION QUALITY CONTROL BRANCH MANAGER DESIGN DIRECTOR

STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462
A/E CONTRACT NO. N62470-90-B-7637
APPROVED DATE
ACTIVITY - SATISFACTORY TO
APPROVED DATE 7/26/90
FOR EFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA
EDWARD W. PENCE, JR.
No. 8934
PROFESSIONAL ENGINEER
SEAL

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA
REPAIRS TO WHARF BRAVO
PART NEW WORK PLAN

CODE I.D. NO. 80091 SIZE D
SCALE: AS NOTED
EFD NO. 321171
STA. PROJ. NO. R-27-89
SPEC. NO. 05-90-0082
CONSTRN. CONTR. NO. N62470-87-B-7140
NAVFAC DRAWING NO. 4221171
SHEET 22 OF 32
S-2

EXPANSION JOINTS IN CONCRETE CAP
℄ OF BOLLARD AND DOUBLE BITTS
℄ OF EARTH ANCHORS
℄ OF SCUPPERS
℄ OF ARCH FENDER
℄ OF SUPPORT FOR FLOATING FENDER

30'-0" | 33'-0" | 31'-8" | 32'-9"

63'-2"

45'-0"

46'-9"

5'-0" | 4@5'-0" = 20'-0" | 5'-2" | 2@5'-6" = 11'-0" | 5'-3" | 2'-8 | 2'-7" | 2@5'-3" = 10'-6" | 5'-4" | 5'-1" | 4'-9" | 2@4'-6" = 9'-0" | 2'-3" | 2'-3" | 6'-0"

22'-0" | 20'-0" | 23'-0" | 4@20'-0" = 80'-0"

16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0"

APPROXIMATE LOCATION OF EXIST. ANCHOR RODS TO REMAIN (TYPICAL)

SURVEY BASELINE 'A'

EXIST.

5'-0"±

NEW

APPROXIMATE LIMIT OF NEW CONCRETE PAVEMENT CONSTRUCTION - SEE SHEET C-4

MATCH LINE 'BB'

EXIST. PIPE - SEE SHEET C-4

MATCH LINE 'CC'

NEW EARTH ANCHORS (TYP.)

EXIST. BULKHEAD

STA. 7+00

STA. 8+00

SEE SHEET S-1 FOR NOTES, SECTIONS AND DETAILS NOT NOTED

NORTH

PART NEW WORK PLAN

1/4" = 1'-0"

GRAPHIC SCALE

1/4" = 1'-0"

5' 0 5'

8 7 6 5 4 3 2 1

D C B A

REVISIONS				
SYM.	DESCRIPTION	DATE	APPROVED	
△	AS BUILT	5/5/98		

DES. DNM DESIGN | RAUL DRAW | ENP REVIEW | PROJECT MANAGER | CHIEF ARCH./ENG. | FIRE PROTECTION | QUALITY CONTROL | BRANCH MANAGER | DESIGN DIRECTOR

SP STROUD, PENCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-D-1697

APPROVED DATE

ACTIVITY - SATISFACTORY TO

APPROVED DATE 7/24/98

FOR RFO FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA DONALD W. PENCE JR. 8324 PROFESSIONAL ENGINEER SEAL

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA

U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

PART NEW WORK PLAN

CODE I.D. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO. 321172	
STA. PROJ. NO. R-27-89	
SPEC. NO. 05-90-0082	
CONSTR. CONTR. NO. N62470-87-B-7140	
NAVFAC DRAWING NO. 422172	
SHEET 23 OF 32	

S-3

REVISIONS

SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT	5/5/93	WEB

A/E: DWM DESIGN; RAUL DRAWN; EWP REVIEW
EFD: CHIEF ARCH./ENGR.; PROJECT MANAGER REL; FIRE PROTECTION; QUALITY CONTROL; BRANCH MANAGER; DESIGN DIRECTOR

SP STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7637

APPROVED DATE

ACTIVITY – SATISFACTORY TO

APPROVED DATE 7/26/90

FOR EFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA
EDWARD W. PENCE, JR.
8934
PROFESSIONAL ENGINEER
SEAL

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
NAVAL STATION
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

PART NEW WORK PLAN

CODE I.D. NO. 80091 SIZE D
SCALE: AS NOTED
EFD NO. 321173
STA. PROJ. NO. R-27-89
SPEC. NO. 05-90-0082
CONSTRN. CONTR. NO. N62470-87-B-7140
NAVFAC DRAWING NO. 4221173
SHEET 24 OF 32

S-4

EXPANSION JOINTS IN CONCRETE CAP & OF BOLLARD AND DOUBLE BITTS & OF EARTH ANCHORS & OF SCUPPERS & OF ARCH FENDER & OF SUPPORT FOR FLOATING FENDER

31'-6" | 31'-8" | 31'-6" | 31'-6"

54'-0" | 45'-0" | 36'-0"

11 @ 4'-6" = 49'-6" | 2'-3" 2'-3" | 9 @ 4'-6" = 40'-6" | 2'-3" 2'-3" | 4 @ 4'-6" = 18'-0"

4 @ 20'-0" = 80'-0" | 18'-8" | 20'-0" | 12'-0" | 20'-0"

16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0" | 16'-0"

APPROXIMATE LOCATION OF EXIST. ANCHOR RODS TO REMAIN (TYPICAL)

SURVEY BASELINE 'A'

EXIST.

NEW

5'-0"

APPROXIMATE LIMIT OF NEW CONCRETE PAVEMENT CONSTRUCTION - SEE SHEET C-4

MATCH LINE 'DD'

MATCH LINE 'EE'

NEW EARTH ANCHORS (TYP.)

EXIST. BULKHEAD

STA. 9+00

STA. 10+00

SEE SHEET S-1 FOR NOTES, SECTIONS AND DETAILS NOT NOTED

NORTH

PART NEW WORK PLAN

1/4" = 1'-0"

GRAPHIC SCALE

1/4" = 1'-0"

5' 0 5'

REVISIONS

BY	DESCRIPTION	DATE	APPROVED

DESIGN DIRECTION
QUALITY CONTROL
FIRE PROTECTION
PROJECT MANAGER
CHIEF ARCH / ENGR
REVIEW
DRAWN
DESIGN

SP

STROUD, PEIRCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7057

APPROVED DATE

ACTIVITY - SATISFACTORY TO

APPROVED DATE

FOR EFD USE COMMANDER ASSIST.

COMMONWEALTH OF VIRGINIA
JOHN W. PEIRCE
8934
PROFESSIONAL ENGINEER
SEAL

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

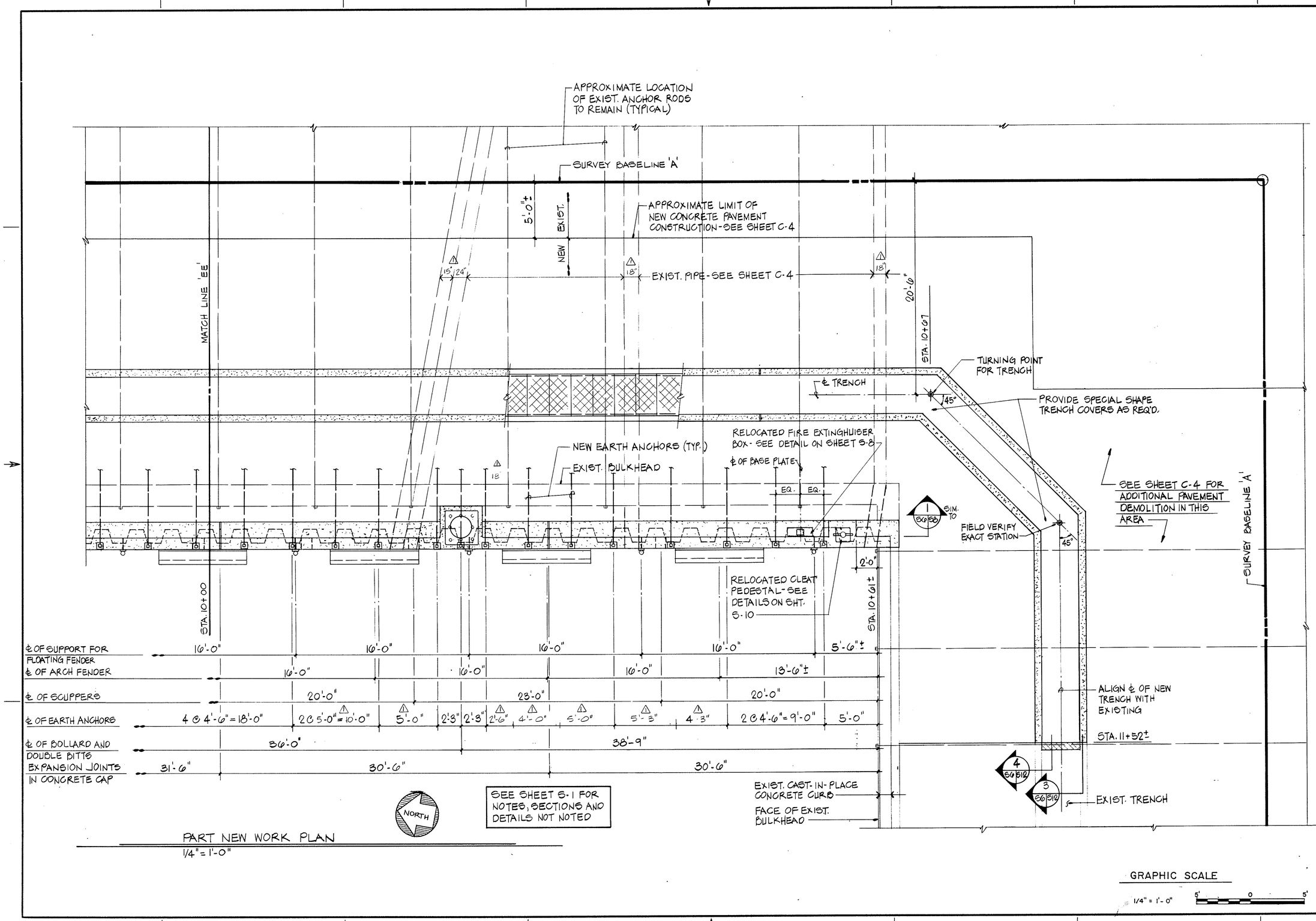
PART NEW WORK PLAN

CODE I.D. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO. 321174	
STA. PROJ. NO. R-27-89	
SPEC. NO. 05-90-0082	
CONSTRN. CONTR. NO.	N62470-87-B-7140
NAVFAC DRAWING NO.	4221174
SHEET 25 OF 32	

S-5

8 7 6 5 4 3 2 1

D C B A



PART NEW WORK PLAN
1/4" = 1'-0"

1	AS BUILT	5/5/93	WEB
STN.	DESCRIPTION	DATE	APPROVED

REVISIONS

SP STROUD, PENCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7637

APPROVED DATE

ACTIVITY - SATISFACTORY TO

APPROVED DATE 7/26/90

FOR EFD FOR COMMANDER NAVFAC

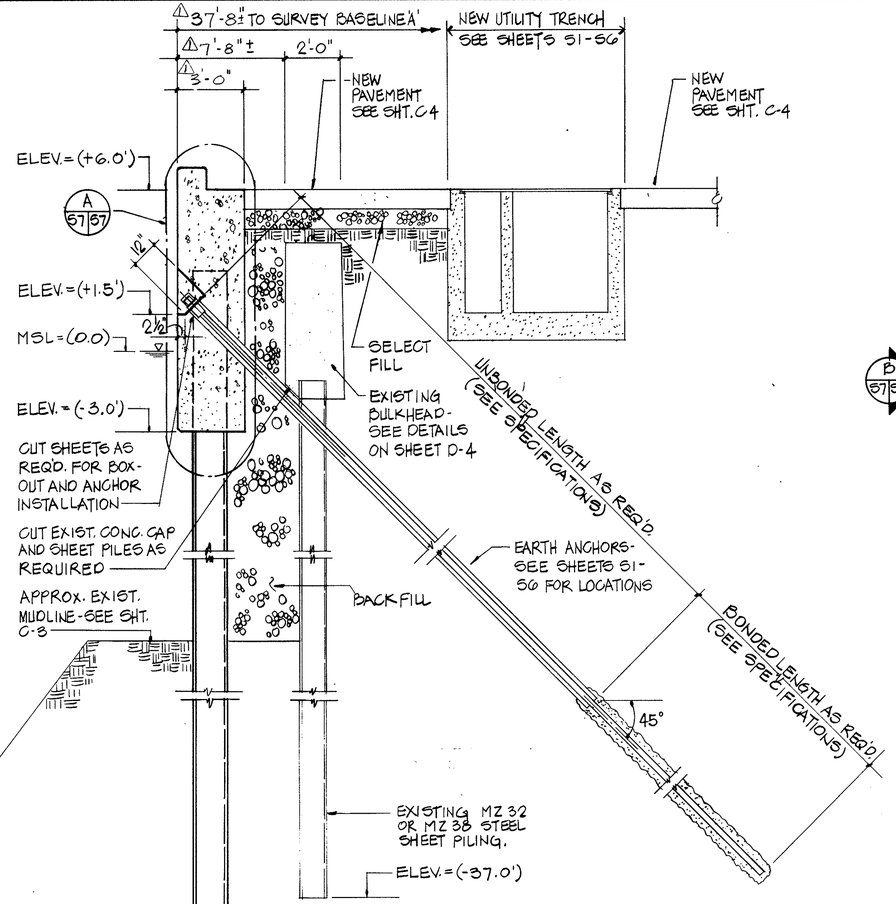
COMMONWEALTH OF VIRGINIA EDWARD W. PENCE, JR. 8934 PROFESSIONAL ENGINEER SEAL

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

PART NEW WORK PLAN

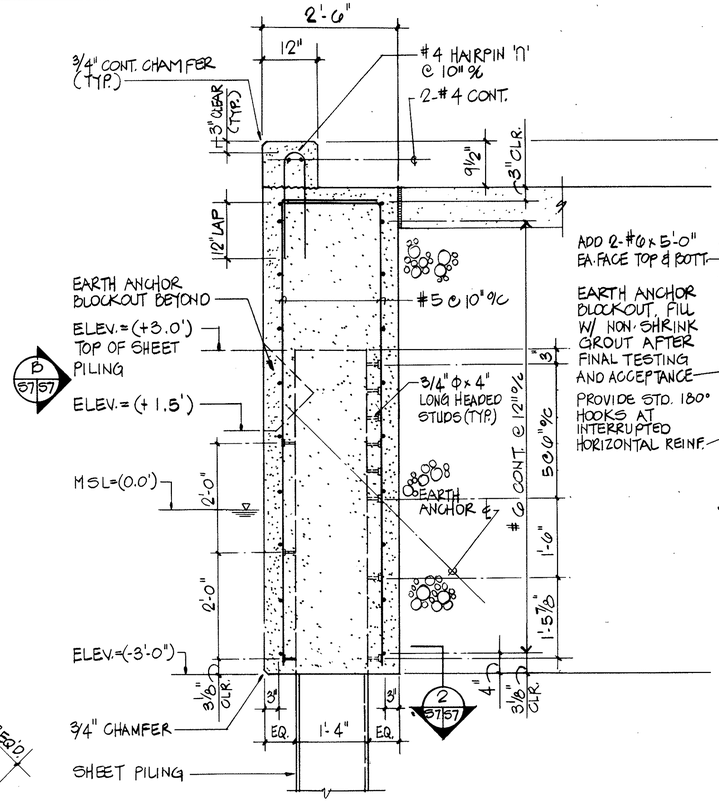
CODE I.D. NO. 80091 SIZE D
SCALE: AS NOTED
EFD NO. 321175
STA. PROJ. NO. R-27-89
SPEC. NO. 05-90-0082
CONSTRN. CONTR. NO. N62470-87-B-7140
NAVFAC DRAWING NO. 4221175
SHEET 26 OF 32
S-6

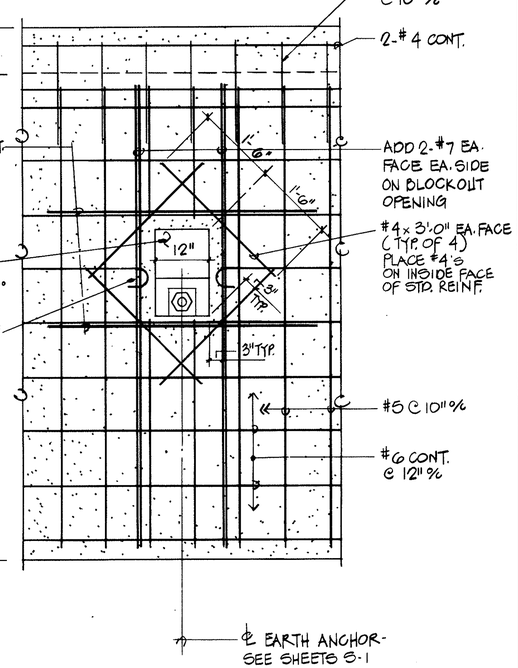


TYPICAL BULKHEAD SECTION

S7/S7 (1)

3/8" = 1'-0"

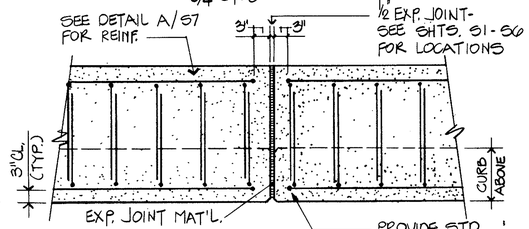




TYPICAL CAP DETAIL

A S7/S7

3/4" = 1'-0"



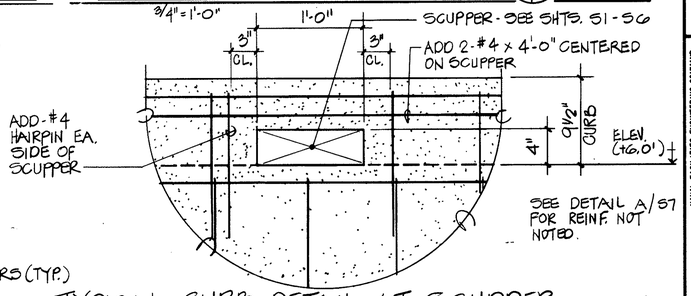
TYPICAL BULKHEAD EXPANSION JOINT DETAIL

NOT-TO-SCALE

PARTIAL ELEVATION

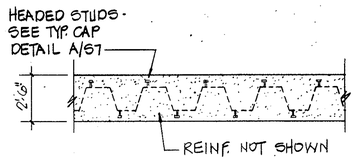
B S7/S7

3/4" = 1'-0"



TYPICAL CURB DETAIL AT SCUPPER

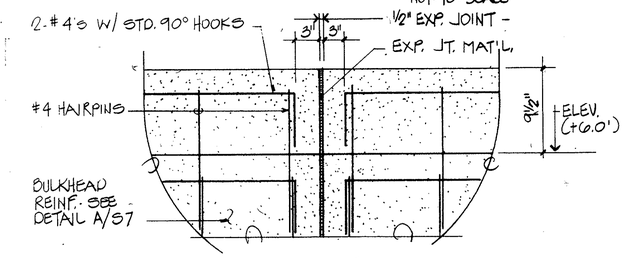
NOT-TO-SCALE



TYPICAL HORIZONTAL STUD SPACING SECTION

2 S7/S7

1/4" = 1'-0"



TYPICAL CURB EXPANSION JOINT DETAIL

NOT TO SCALE

GRAPHIC SCALES

3/8" = 1'-0" — 12" 6" 0 1' 2' 3' 4' 5' 6' 7'

1/4" = 1'-0" — 5' 0 5'

3/4" = 1'-0" — 12" 6" 0 1' 2' 3'

1½" = 1'-0" — 12" 9" 6" 3" 0 1'

REVISIONS				
DESCRIPTION	STIL	DATE	APPROVED
AS BUILT		5/6/93	

DES: DNM DESIGN: RAW REVIEW: BWF CHIEF ARCH./ENGR.
PROJECT MANAGER: FIRE PROTECTION: QUALITY CONTROL: BRANCH MANAGER: DESIGN DIRECTOR:

STROUD, PENCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462
A/E CONTRACT NO. N62470-90-D-7631
APPROVED DATE 7/28/90
ACTIVITY - SATISFACTORY TO
APPROVED DATE
FOR BID FOR COMMANDER ROTAC

COMMONWEALTH OF VIRGINIA — DONALD NEIL MCKINNEY — REGISTERED PROFESSIONAL ENGINEER — 8924

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND — ATLANTIC DIVISION — NORFOLK, VIRGINIA
NAVAL STATION — U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

BULKHEAD DETAILS

CODE I.D. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO. 32117G	
STA. PROJ. NO. P-271-89	
SPEC. NO. 05-90-0082	
CONSTR. CONTR. NO. N62470-87-B-7140	
NAVFAC DRAWING NO. 4221176	
SHEET 27 OF 32	
S-7	

D C B A

8 7 6 5 4 3 2 1

DETAIL A (S8/S8, S1)
3/4" = 1'-0"

SECTION 1 (S1/S8, S6)
3/8" = 1'-0"

SECTION 2 (S8/S8)
3/4" = 1'-0"

TYPICAL PIPE/ BULKHEAD PENETRATION DETAIL
NOT-TO-SCALE

TYPICAL TRENCH SLAB EXPANSION JOINT DETAIL
NOT-TO-SCALE

TYPICAL TRENCH WALL EXPANSION JOINT DETAIL
NOT-TO-SCALE

TYPICAL CONNECTION OF EXISTING FIRE EXTINGUISHER BOX
NOT-TO-SCALE

GENERAL NOTES:

1. BEFORE PROCEEDING WITH ANY WORK ADJACENT TO THE EXISTING STRUCTURES, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH EXISTING STRUCTURAL CONDITIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE ALL NECESSARY BRACING, SHORING AND OTHER SAFEGUARDS TO MAINTAIN ALL PARTS OF THE STRUCTURES IN A SAFE CONDITION AT ALL TIMES DURING THE PROCESS OF DEMOLITION AND CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF THE EXISTING STRUCTURES WHICH ARE TO REMAIN.

2. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS, ELEVATIONS, ETC. NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE STRUCTURE TO THE EXISTING. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS NECESSARY FOR FABRICATION AND ERECTION OF STRUCTURAL MEMBERS. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER.

3. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE CIVIL DRAWINGS, AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, INSERTS, ANCHORS, HOLES, ETC. TO BE PLACED OR SET IN THE STRUCTURAL WORK.

4. DESIGN LIVE LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:

   SURCHARGE .... 300 PSF
   TRENCH COVER .... H2O WHEEL LOAD

5. ALL ELEVATIONS SHOWN ARE REFERENCE MEAN SEA LEVEL (MSL) = 0.00'

6. APPLICABLE DESIGN CRITERIA:
   THE FOLLOWING PUBLICATIONS HAVE BEEN USED IN THE DESIGN OF THIS FACILITY:

DM 2.1	STRUCTURAL GENERAL
DM 2.2	STRUCTURAL LOADS
DM 2.3	STRUCTURAL STEEL
DM 2.4	STRUCTURAL CONCRETE
P-355	SEISMIC
DM 7	GEOTECHNICAL ENGINEERING
MIL-HDBK 1025/1	PIERS AND WHARVES

   ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND "GUANTANAMO BAY, CUBA DESIGN CRITERIA" AUGUST 1986.

   ACI 318-89 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.

   AISC MANUAL OF STEEL CONSTRUCTION 9TH EDITION.

CONSTRUCTION SEQUENCE NOTES:

THE FOLLOWING IS THE PROPOSED SEQUENCE OF CONSTRUCTION FOR THE BULKHEAD:

1. DRIVE SHEET PILES.
2. INSTALL NEW UTILITY PIPE EXTENSIONS.
3. CAST CONCRETE BULKHEAD CAP.
4. INSTALL EARTH ANCHORS W/NOMINAL TENSION.
5. BACKFILL BETWEEN NEW AND EXISTING BULKHEAD.
6. TEST EARTH ANCHORS.
7. REMOVE EXISTING DECK FITTINGS (CLEATS AND DOUBLE BITTS).
8. INSTALL RELOCATED DOUBLE BITTS ON NEW BULKHEAD.
9. DEMOLISH TOP OF EXISTING CONCRETE CAP BEAM AS INDICATED AND REMOVE TEMPORARY BOLLARDS.
10. INSTALL FENDERS.

THE DEMOLITION OF EXISTING UTILITY TRENCH AND INSTALLATION OF THE NEW TRENCH MAY OCCUR CONCURRENT WITH THE BULKHEAD INSTALLATION.

GRAPHIC SCALES

STEEL SHEET PILING:

1. STEEL SHEET PILING SHALL CONFORM TO ASTM SPECIFICATION A 572.
2. WHERE HANDLING HOLES IN SHEET PILE REMAIN EXPOSED AFTER DRIVING, CONTRACTOR SHALL COVER HANDLING HOLES WITH WELDED 3/8" THICK STEEL PLATE PATCHES.
3. STEEL SHEET PILING SHALL BE COATED WITH COAL TAR EPOXY AS SPECIFIED.
4. SHEET PILE SECTIONS SHALL BE STANDARD SHEETS WITH THE FOLLOWING MINIMUM SECTION PROPERTIES:

   NOMINAL WEB THICKNESS - 0.453 INCHES

   SECTION MODULUS (PER LIN. FT. OF WALL) - 58.6 $INCHES^3$

   MOMENT OF INERTIA (PER LIN. FT. OF WALL) - 392.2 $INCHES^4$

5. SHEET PILES SHALL BE DRIVEN TO A TIP ELEVATION OF -62.0'.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:

   ROLLED PLATES AND SHAPES .. ASTM A-36, FY=36 KSI
   STRUCTURAL TUBING ASTM A-500, GRADE B, FY=46 KSI

2. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1, STRUCTURAL WELDING CODE. PROVIDE 3/16" CONT. FILLET WELDS UNLESS OTHERWISE NOTED.
3. ALL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED.

REINFORCED CONCRETE NOTES:

1. THE CONCRETE PORTIONS OF THIS STRUCTURE ARE DESIGNED IN ACCORDANCE WITH THE REPORTS AND SPECIFICATIONS OF THE "AMERICAN CONCRETE INSTITUTE BUILDING CODE" (ACI 318-89).
2. ALL CONCRETE SHALL OBTAIN A 28 DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I. ALL CONCRETE SHALL BE AIR ENTRAINED.
3. REINFORCING STEEL SHALL BE IN ACCORDANCE WITH A.S.T.M. A-615, GRADE 60 (MINIMUM YIELD 60,000 P.S.I.) ALL REINFORCING STEEL IN THE CONCRETE BULKHEAD SHALL BE EPOXY COATED.
4. ALL REINFORCING MARKED CONTINUOUS (CONT.) ON THE PLANS AND DETAILS SHALL BE LAPPED 36 X BAR DIAMETER AT SPLICES UNLESS OTHERWISE NOTED.
5. GENERAL DETAILS OF FABRICATION AND PLACING OF REINFORCING AND CONCRETE COVER FOR REINFORCING SHALL BE IN ACCORDANCE WITH ACI 318-89. MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS INDICATED ON THE DRAWINGS SHALL GOVERN WHEN IN CONFLICT WITH ACI 318.89.
6. ALL REINFORCING SHALL BE HELD SECURELY IN PLACE DURING POURING OPERATIONS TO PREVENT DISLOCATION. BAR SUPPORTS AND HOLDING BARS SHALL BE PROVIDED BY THE FABRICATOR FOR ALL REINFORCING STEEL TO INSURE MINIMUM CONCRETE PROTECTION (INDICATE SUCH ON REINFORCING SHOP DRAWINGS). BAR SUPPORTS SHALL BE PLASTIC TIPPED OR STAINLESS STEEL.
7. AT ALL CONSTRUCTION JOINTS AT TOPS OF WALLS AND FOUNDATIONS, THE CONTACT SURFACE OF PREVIOUSLY POURED CONCRETE SHALL BE INTENTIONALLY ROUGHENED TO 1/4" MINIMUM AMPLITUDE, THOROUGHLY CLEANED, AND PAINTED WITH PORTLAND CEMENT/WATER GROUT IMMEDIATELY PRIOR TO PLACING NEW POUR.

EARTH ANCHOR NOTES:

1. DESIGN LOAD FOR ALL EARTH ANCHORS SHALL BE 220 KIPS.
2. EARTH ANCHORS SHALL BE LOCATED TO AVOID CONFLICTS WITH EXISTING UTILITIES, EXISTING BULKHEAD ANCHOR RODS ETC. APPROXIMATE LOCATIONS OF ALL KNOWN CONSTRUCTION ARE INDICATED ON THE PLANS. CONTRACTOR SHALL FIELD VERIFY CONDITIONS PRIOR TO SUBMISSION OF SHOP DRAWINGS OR CALCULATIONS FOR THE EARTH ANCHORS.
3. EARTH ANCHORS SHALL BE DESIGNED, INSTALLED AND TESTED BY A CONTRACTOR EXPERIENCED IN THIS TYPE OF WORK. SEE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS AND DOCUMENTATION REQUIRED.

REVISIONS
SYM. | DESCRIPTION | DATE | APPROVED

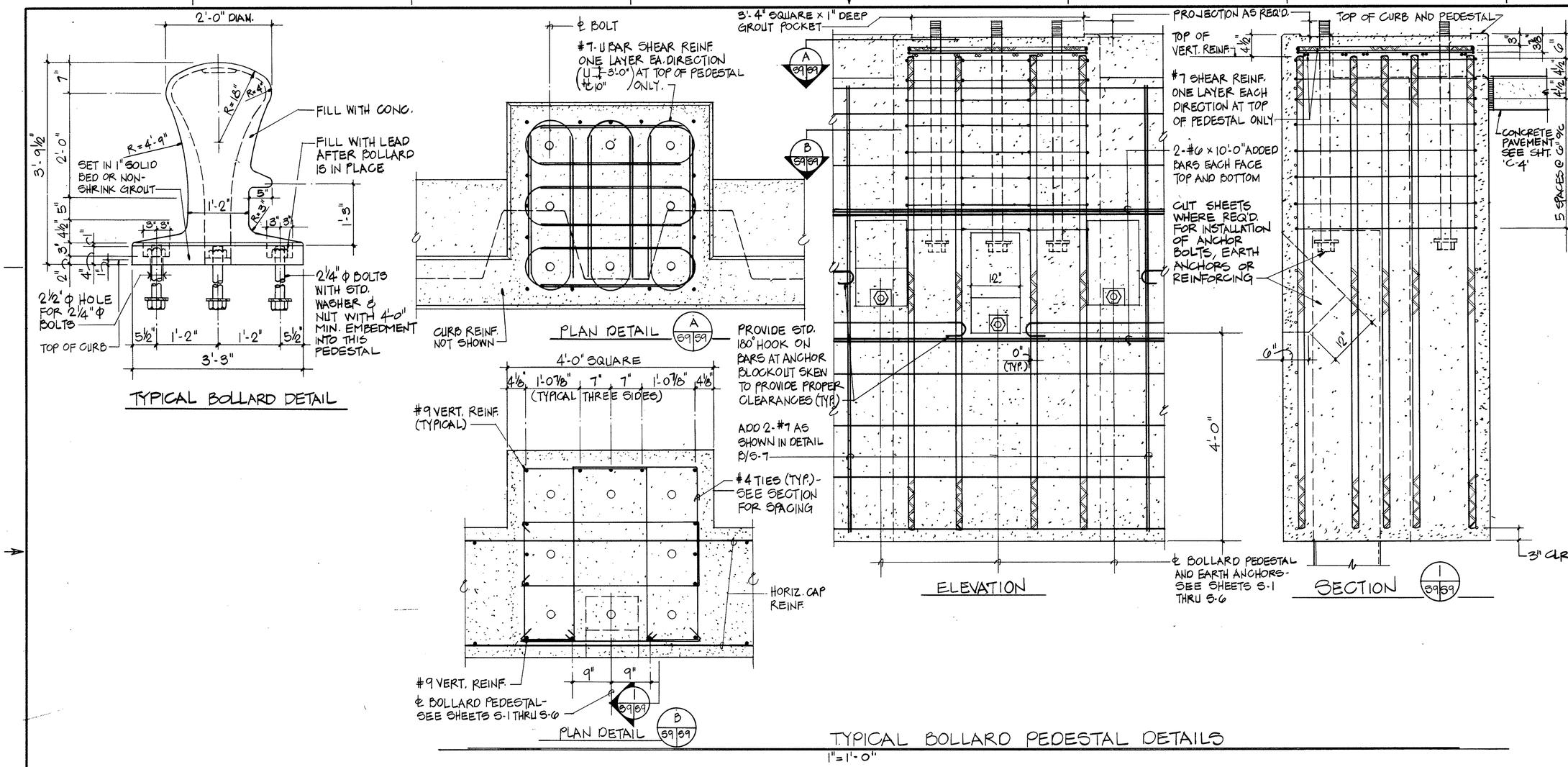
A/E: DNM DESIGN; RAUL DRAWN; EWP REVIEW; EFD: RCK
PROJECT MANAGER RFK; FIRE PROTECTION; QUALITY CONTROL EWP; BRANCH MANAGER; DESIGN DIRECTOR

SP STROUD, PENCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462
A/E CONTRACT NO. N62470-90-B-7631
APPROVED DATE
ACTIVITY - SATISFACTORY TO
APPROVED DATE 7/26/90
FOR EFD FOR COMMANDER NAVFAC

SEAL: COMMONWEALTH OF VIRGINIA — EDWARD W. PENCE, JR. 8934 — PROFESSIONAL ENGINEER

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION — ATLANTIC DIVISION — NORFOLK, VIRGINIA
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA
REPAIRS TO WHARF BRAVO
BULKHEAD DETAILS

CODE I.D. NO. 80091 | SIZE D
SCALE: AS NOTED
EFD NO. 321177
STA. PROJ. NO. P-27-89
SPEC. NO. 05-90-0082
CONSTRN. CONTR. NO. N62470-87-B-7140
NAVFAC DRAWING NO. 4221177
SHEET 28 OF 32
S-8



TYPICAL BOLLARD PEDESTAL DETAILS

1"=1'-0"

GRAPHIC SCALE

1" = 1'-0"

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION	ATLANTIC DIVISION NORFOLK, VIRGINIA
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA	
REPAIRS TO WHARF BRAVO	
TYPICAL BOLLARD AND BOLLARD PEDESTAL DETAILS	
CODE I.D. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO. 321178	
STA. PROJ. NO. R-27-89	
SPEC. NO. 05-90-0082	
CONSTRN. CONTR. NO. N62470-87-B-7140	
NAVFAC DRAWING NO. 422178	
SHEET 29 OF 32	
S-9	

REVISIONS

STROUD, PENCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7637

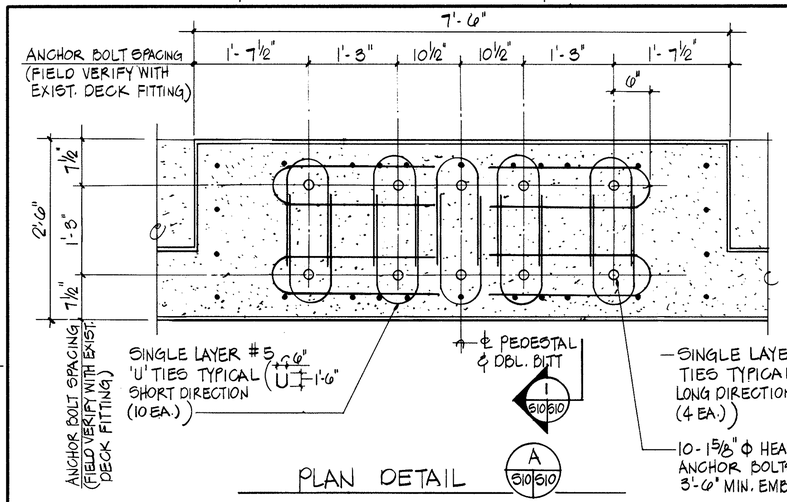
ACTIVITY - SATISFACTORY TO

COMMONWEALTH OF VIRGINIA — EDWARD W. PENCE, JR. — 8934 — PROFESSIONAL ENGINEER

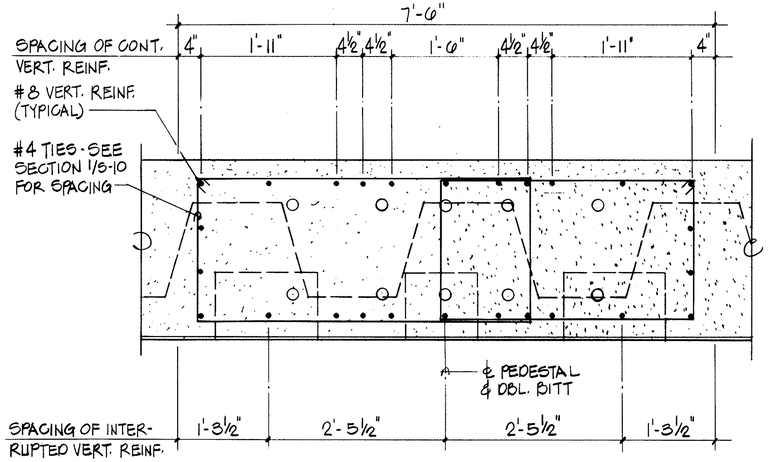
DWM DESIGN — RAUL DRAWN — EWP REVIEW — PROJECT MANAGER — FIRE PROTECTION — QUALITY CONTROL — BRANCH MANAGER — DESIGN DIRECTOR

8 7 6 5 4 3 2 1

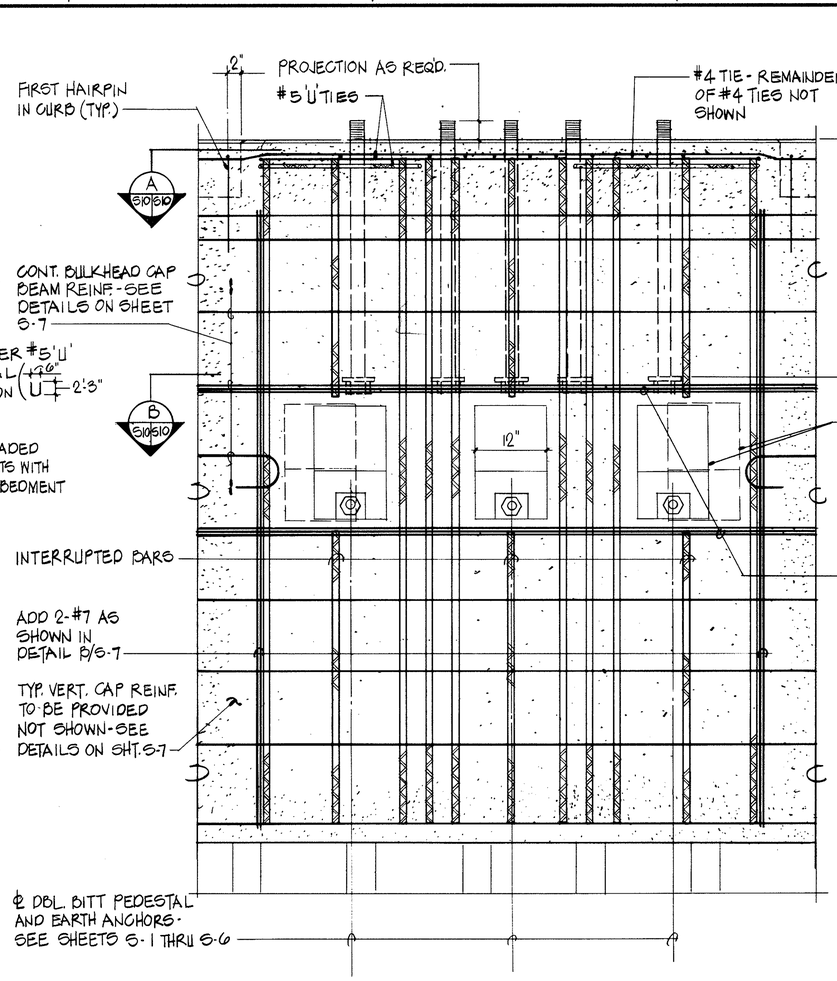
D C B A



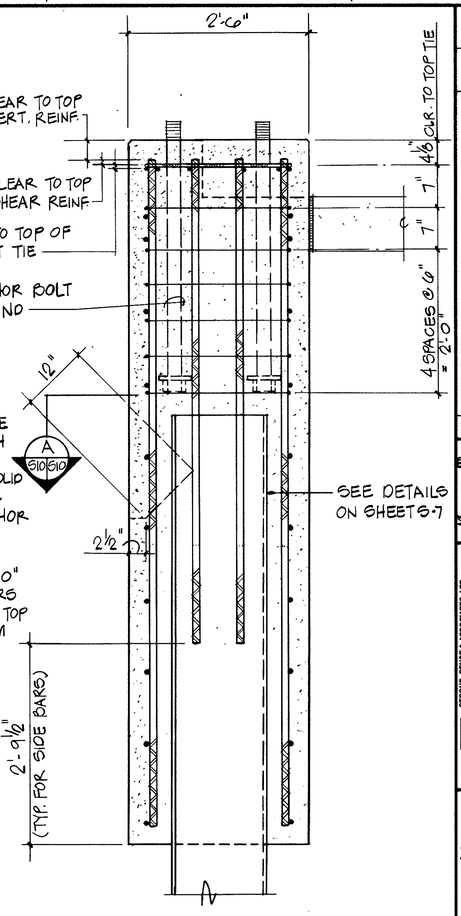
PLAN DETAIL



PLAN DETAIL B S10/S10

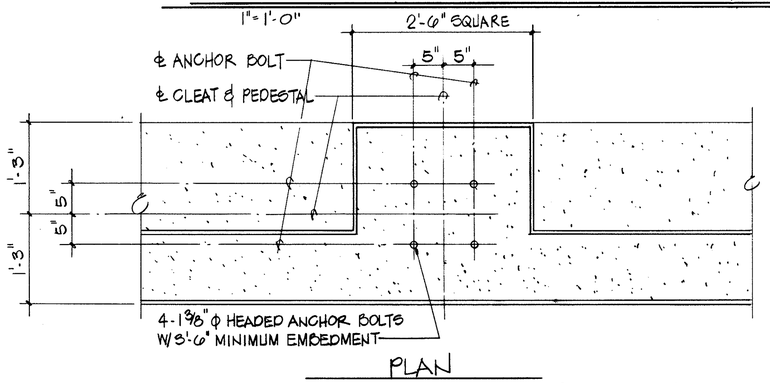


ELEVATION

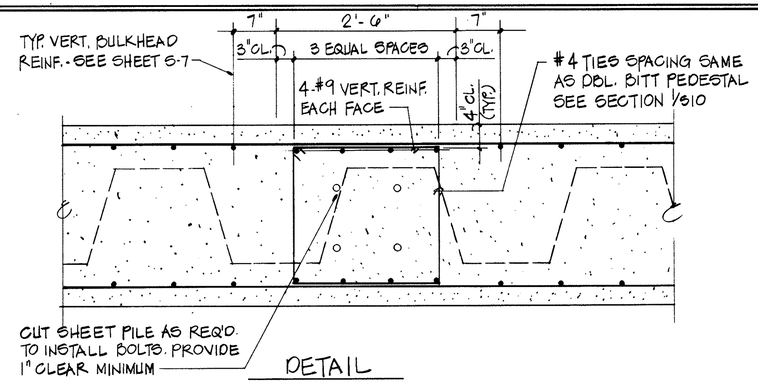


SECTION 1 S10/S10

TYPICAL RELOCATED DOUBLE BITT PEDESTAL DETAILS



PLAN



DETAIL

RELOCATED CLEAT PEDESTAL DETAILS

1"=1'-0"

GRAPHIC SCALES

1" = 1'-0" 12" 9" 6" 3" 0 1' 2'

REVISIONS				
DESCRIPTION			DATE	APPROVED

DESIGN DIRECTOR DWM
BRANCH MANAGER
QUALITY CONTROL
PROJECT MANAGER
FIRE PROTECTION
CHIEF MECH./ ENGR.
REVIEW
DRAWN RAU
DESIGN DWM

STROUD, RENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

SP

A/E CONTRACT NO. N62470-90-D-7691
DATE
ACTIVITY - SATISFACTORY TO
APPROVED
DATE
FOR EFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA
LICENSED PROFESSIONAL ENGINEER
8934
SEAL

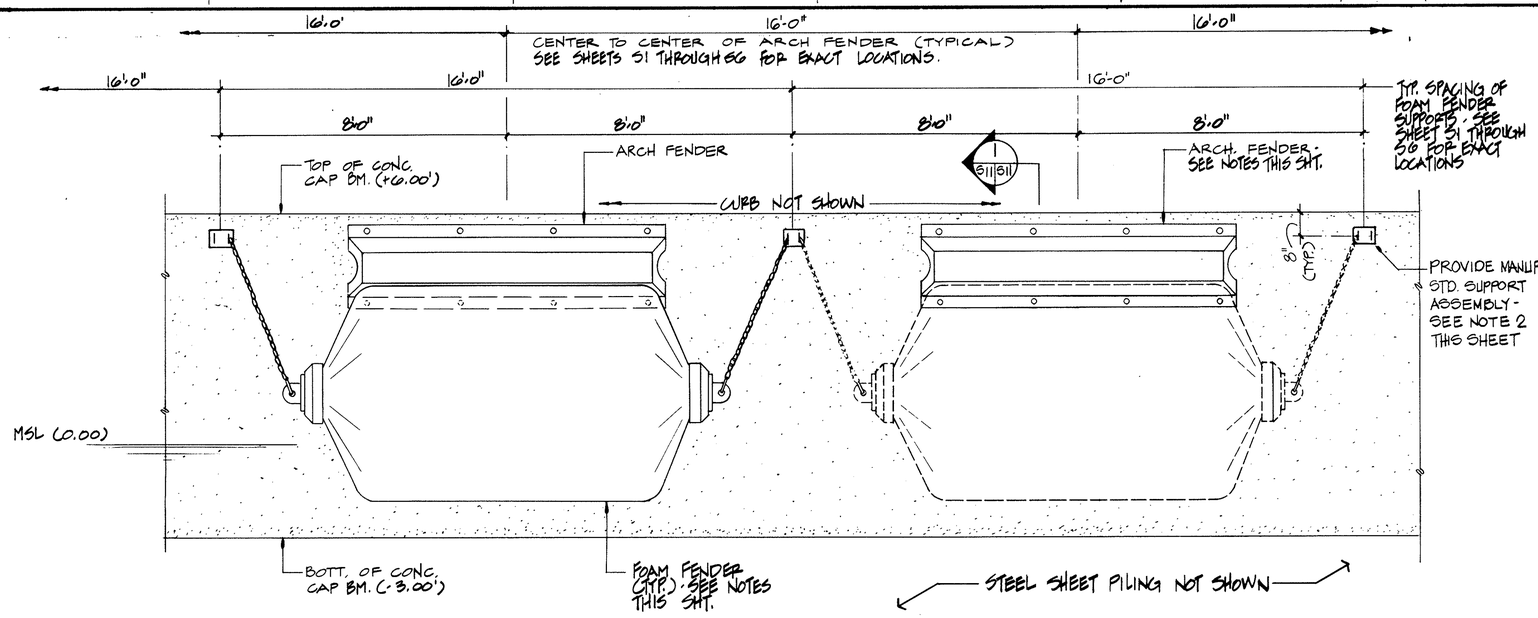
DEPARTMENT OF THE NAVY
NAVAL STATION ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA

U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

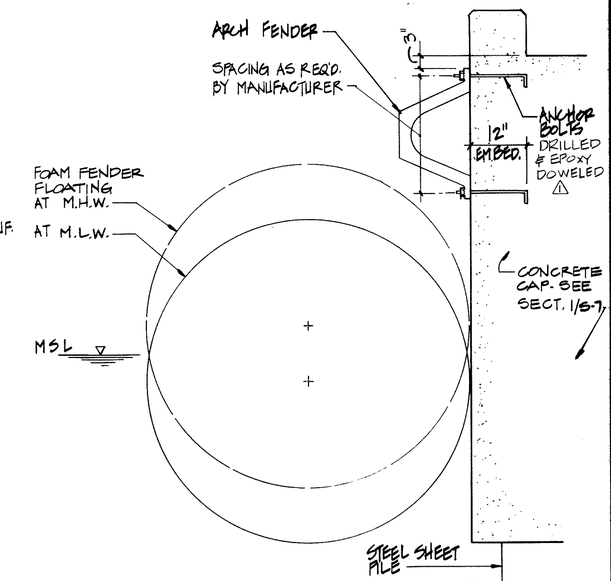
LOW BITT WITH LIP PEDESTAL DETAILS

CODE I.D. NO. 80091	SIZE D
SCALE:	AS NOTED
EFD NO.	321179
STA. PROJ. NO.	R-27-89
SPEC. NO.	05-90-0082
CONSTRN. CONTR. NO.	N62470-87-D-7140
NAVFAC DRAWING NO.	4221179
SHEET	30 OF 32
	S-10



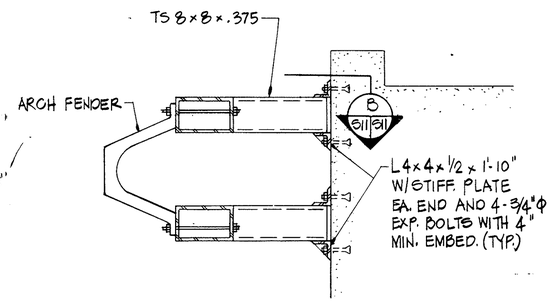
ELEVATION

1/2" = 1'-0"



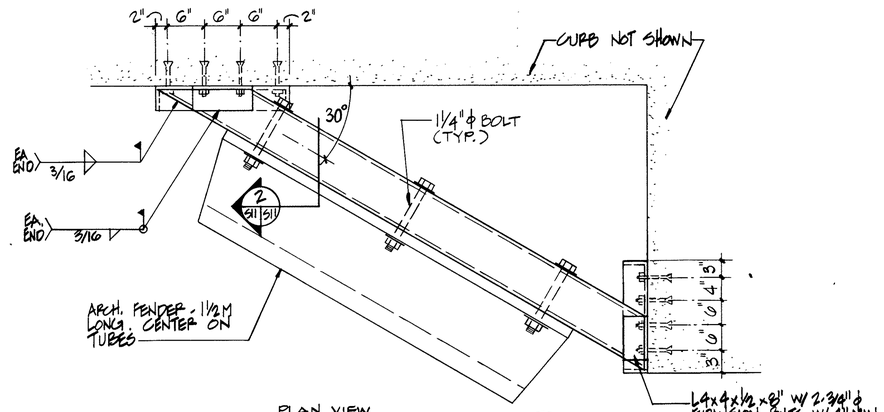
SECTION

3/4" = 1'-0"



SECTION

3/4" = 1'-0"



DETAIL

1" = 1'-0"

FENDER NOTES:

1. FOAM FILLED FENDERS SHALL BE CYLINDRICAL IN SHAPE AND BE A MINIMUM OF 6 FT. MID-BODY DIAMETER AND 12 FT. IN LENGTH. MINIMUM ENERGY ABSORPTION WHEN COMPRESSED 60% SHALL BE 300 FT. KIPS RESULTING REACTION FORCE SHALL NOT EXCEED 186 KIPS THE TOTAL QUANTITY OF FOAM FILLED FENDERS SHALL BE SIX (6). TO BE INSTALLED AT LOCATIONS AS DIRECTED BY THE CONTRACTING OFFICER.
2. PROVIDE FOAM FILLED FENDER MANUFACTURERS STANDARD SUPPORT ASSEMBLY, ANCHOR BOLTS, SHACKLES, AND CHAIN. SINGLE SUPPORT PLATE SHALL HAVE 2 PAD EYES ALL HARDWARE SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.
3. ARCH FENDERS SHALL PROJECT OFF THE FACE OF THE CONCRETE CAP BEAM A MINIMUM OF 400 mm (15-3/4 INCHES). ALL ARCH FENDERS SHALL BE A MINIMUM 2.5 M (8 FT. 2-3/8 INCHES) LONG UNLESS OTHERWISE NOTED. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. FOR ARCH FENDERS PROVIDE ANCHOR BOLTS OF THE SIZE AND SPACING RECOMMENDED BY THE MANUFACTURER, BUT IN NO CASE LESS THAN 8 - 1-1/4" DIAMETER ANCHOR BOLTS WITH 12" EMBEDMENT FOR 2.5 M ARCH FENDERS, AND 6 - 1-1/4" DIAMETER ASTM A325 BOLTS FOR 1.5 M ARCH FENDERS. ALL ANCHOR BOLTS SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.

GRAPHIC SCALES

1/2" = 1'-0"
3/4" = 1'-0"
1" = 1'-0"

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	AS BUILT	5/5/98	LEES

STROUD, PIERCE & ASSOCIATES, LTD. CIVIL, STRUCTURAL & MARINE ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-D-7691

APPROVED - SATISFACTORY TO ACTIVITY

DATE 7/24/98

FOR CO'S FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA - ENGINEER - EDWARD LYNE, JR. - No. 8934 - PROFESSIONAL - SEAL

DESIGN CWM
DRAWN BGR EWP
REVIEW R.C.M.
CHIEF ARCH./ENGR.
PROJECT MANAGER
FIRE PROTECTION
QUALITY CONTROL EWP
BRANCH MANAGER
DESIGN DIRECTOR

DEPARTMENT OF THE NAVY
NAVAL STATION
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA

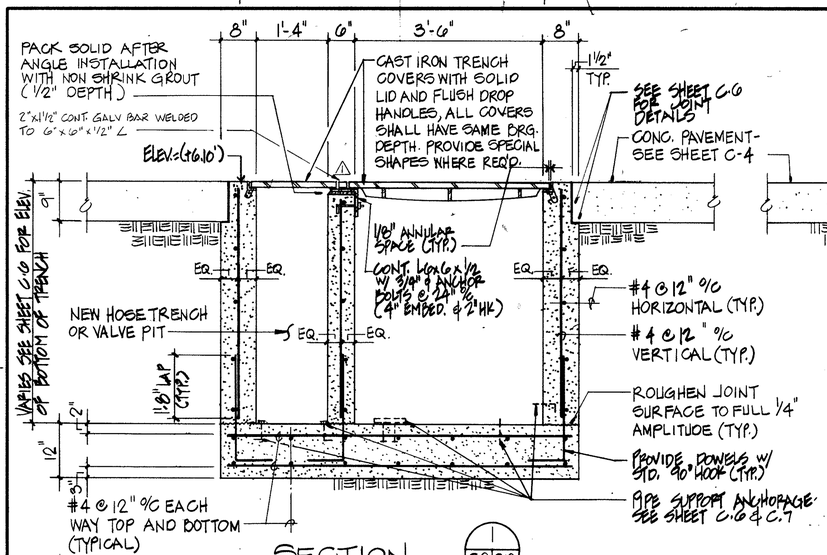
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

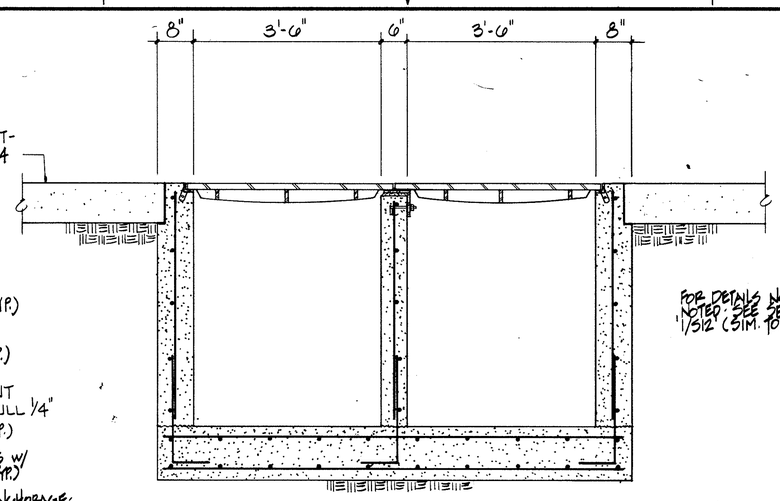
FENDER DETAILS AND NOTES

CODE I.D. NO. 80091	SIZE D
SCALE:	AS NOTED
EFD NO.	321180
STA. PROJ. NO.	F-27-81
SPEC. NO.	05-90-0082
CONSTRN. CONTR. NO.	N62470-87-B-7140
NAVFAC DRAWING NO.	4221180
SHEET	31 OF 32

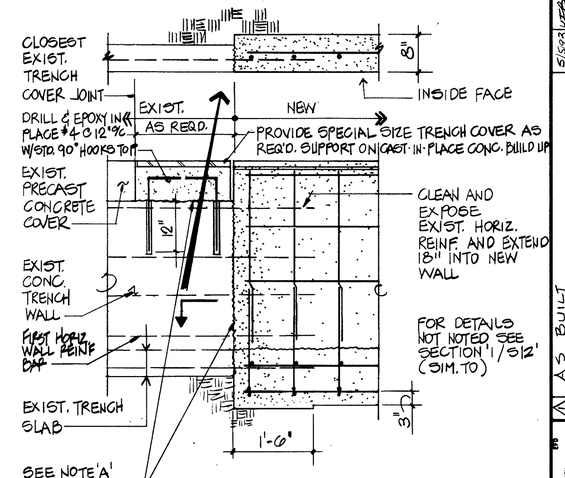
5-11



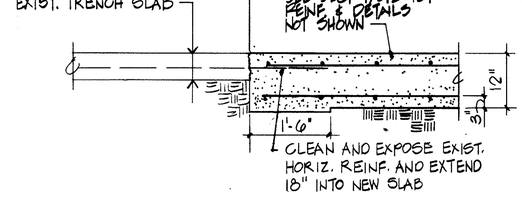
SECTION
3/4" = 1'-0"
1 | 52 | 512 | 54



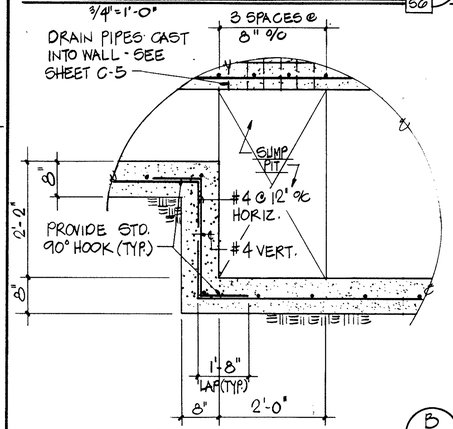
SECTION
3/4" = 1'-0"
2 | 52 | 512



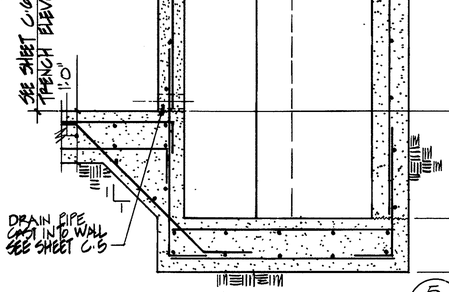
SECTION
3/4" = 1'-0"
3 | 51 | 512 | 60



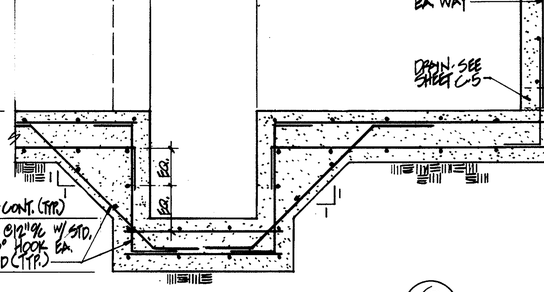
SECTION
3/4" = 1'-0"
4 | 51 | 512 | 60



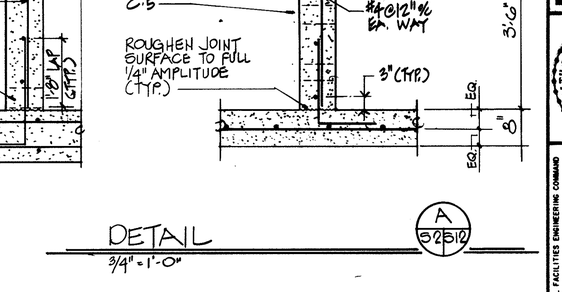
DETAIL
3/4" = 1'-0"
B | 52 | 512



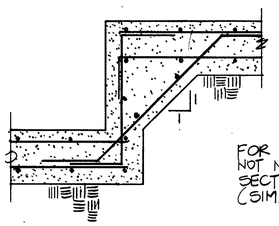
SECTION
3/4" = 1'-0"
5 | 52 | 512



SECTION
3/4" = 1'-0"
6 | 52 | 512

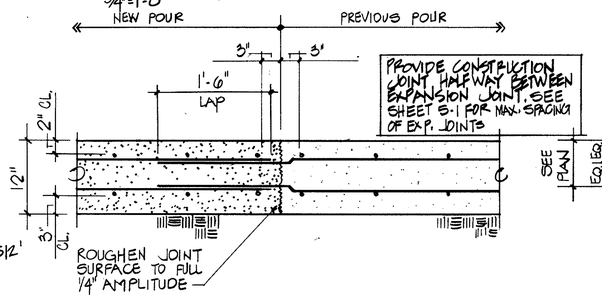


DETAIL
3/4" = 1'-0"
A | 52 | 512

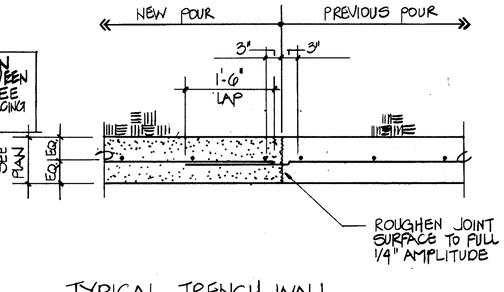


FOR DETAILS NOT NOTED SEE SECTION '6/512' (SIM. TO)

SECTION
3/4" = 1'-0"
7 | 52 | 512



TYPICAL TRENCH MAT FOUNDATION CONSTRUCTION JOINT DETAIL
NOT-TO-SCALE



TYPICAL TRENCH WALL CONSTRUCTION JOINT DETAIL
NOT-TO-SCALE

GRAPHIC SCALE
3/4" = 1'-0"
12" 6" 0 1' 2' 3'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED
1	AS BUILT	5/93	WEB

DES. CHIEF: ANDY EMR; PROJECT MANAGER: JOE; FIRE PROTECTION: ENGR; QUALITY CONTROL: STEVE; BRANCH MANAGER: STEVE; DESIGN DIRECTOR: STEVE

DR: CHK: KEVIN RAUL; DES: KEVIN; REVIEW: BWP; E/C: RCE

STROUD, FENDIG & ASSOCIATES, LTD. CONSULTING ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

SP

A/E CONTRACT NO. N62470-90-B-1651 DATE 7/26/90

APPROVED

ACTIVITY SATISFACTORY TO

APPROVED DATE 7/26/90

FOR BFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA — JOHN P. FIDEL — No. 8934 — PROFESSIONAL ENGINEER — SEAL

NAVAL FACILITIES ENGINEERING COMMAND
DEPARTMENT OF THE NAVY
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA
U.S. NAVAL BASE, GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO

TRENCH DETAILS

CODE I.D. NO. 80091 | SIZE D
SCALE: AS NOTED
EFD. NO. 32118
STA. PROJ. NO. R-27-89
SPEC. NO. 05-90-0082
CONSTR. CONTR. NO. N62470-87-B-7140
NAVFAC DRAWING NO. 422118
SHEET 32 OF 32
5-12

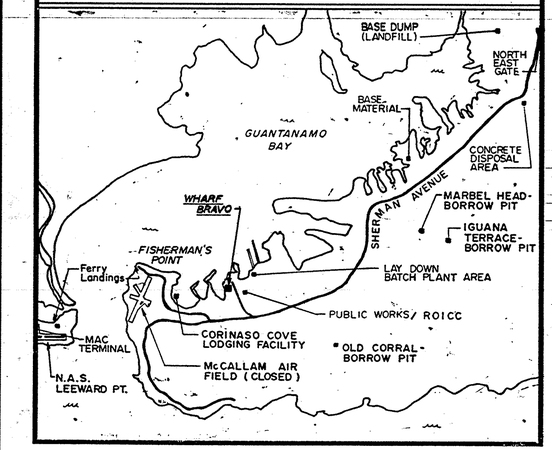
8 7 6 5 4 3 2 1
D C B A

REPAIRS TO WHARF BRAVO
(PHASE II)

U.S. NAVAL STATION GUANTANAMO BAY, CUBA

STROUD, PENCE AND ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
204-A GRAYSON RD. VIRGINIA BEACH, VIRGINIA
PHONE: (804) 671-8626

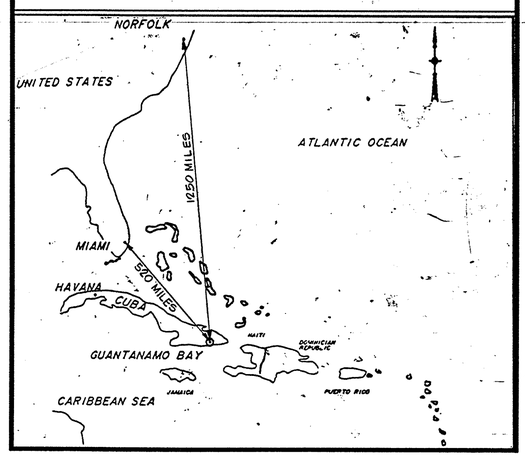
VICINITY MAP



INDEX OF DRAWINGS

	SHEET TITLE	EFD No.	NAVFAC DWG. No.
T-1	TITLE SHEET	349498	4249498
C-1	EXISTING SITE LAYOUT	349499	4249499
C-2	EXISTING TOPOGRAPHIC INFORMATION	349500	4249500
C-3	SITE PLAN & PIPE TRENCH PROFILE	349501	4249501
C-4	DETAILS & SECTIONS	349502	4249502
C-5	DETAILS & SECTIONS	349503	4249503
C-6	DETAILS & SECTIONS	349504	4249504
D-1	BORING LOGS, KEY PLAN AND NOTES	349505	4249505
D-2	BORING LOGS	349506	4249506
D-1	PART DEMOLITION PLANS	349507	4249507
D-2	PART DEMOLITION PLAN, SECTIONS AND NOTES	349508	4249508
D-3	PART DEMOLITION PLANS	349509	4249509
D-4	PHOTOGRAPHS 1 TO 9	349510	4249510
D-5	PHOTOGRAPHS 10 TO 18	349511	4249511
S-1	PART NEW WORK PLAN AND CAP ELEVATION	349512	4249512
S-2	PART NEW WORK PLAN AND CAP ELEVATION	349513	4249513
S-3	PART NEW WORK PLAN AND CAP ELEVATION	349514	4249514
S-4	PART NEW WORK PLANS	349515	4249515
S-5	TYPICAL DETAILS AND SECTIONS	349516	4249516
S-6	SECTIONS, DETAILS AND ELEVATION	349517	4249517
S-7	DETAILS	349518	4249518
E-1	ELECTRICAL DETAILS	349519	4249519

LOCATION MAP



REVISIONS			
STA.	DESCRIPTION	DATE	APPROVED

A/E CONTRACT No. N62470-90-D-7681
NAVSTA GTMO ACTIVITY - SATISFACTORY TO
DATE 7/18/95
FOR O/I'S TIR COMMANDER NAVFAC

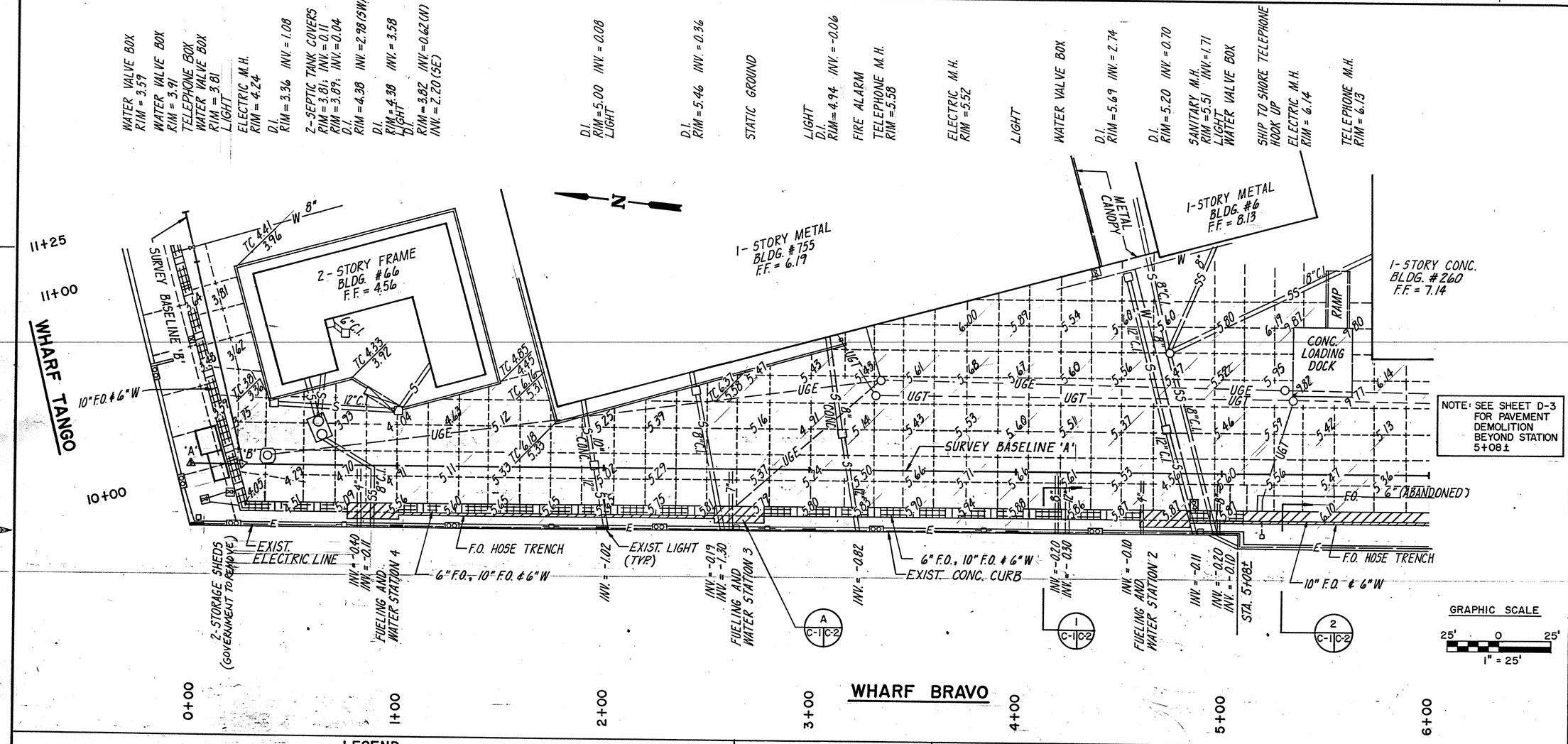
DESIGN DIRECTOR
BRANCH MANAGER
QUALITY CONTROL
PROJECT MANAGER
CHIEF ARCH./ENGR.
REVIEW
DRAWN
DESIGN
A/E

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
NAVAL STATION
U.S. NAVAL STATION
GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)
TITLE SHEET

CODE ID. No. 80091	SIZE D
SCALE	NONE
EFD No.	349498
STA. PROJ. No.	R27-92
SPEC. No.	05911269
CONSTRN. CONTR. No.	N62470-91-D-1269
NAVFAC DRAWING No.	4249498
SHEET	1 OF 22
	T-1

COMMONWEALTH OF VIRGINIA
No. 021332
DAVID W. HYNDS
PROFESSIONAL ENGINEER
7/18/95



LEGEND

EXISTING	NEW
DOUBLE MOORING POST	
CLEAT	
SURVEY BASELINE (℄)	
FUEL OIL / WATER VALVE	
MANHOLE (M.H.)	
STORM OR COMBINED SEWER LINE	
SANITARY SEWER LINE	
UNDERGROUND ELECTRIC LINE	
UNDERGROUND TELEPHONE LINE	
BUILDING WALL	
SPOT ELEVATION	5.85
DROP INLET (D.I.)	
WATER MAIN	W

EXISTING	NEW
PIPE TRENCH WITH CONCRETE COVER	
PIPE TRENCH WITH STEEL PLATE COVER	
CONCRETE PAVEMENT SLAB JOINT	
CONCRETE	
FUEL OIL LINE	F.O.
CONCRETE CURB	
UNDERGROUND DRAIN PIPE	
ABOVE GROUND ELECTRIC LINE	

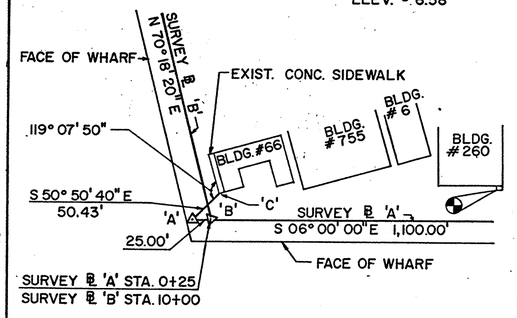
ABBREVIATIONS

BLDG.	BUILDING
C.I.	CAST IRON
C.V.	CHECK VALVE
CONC.	CONCRETE
D.I.	DUCTILE IRON
EXT.	EXTINGUISHER
ELEV.	ELEVATION
F.F.	FINISHED FLOOR ELEV.
G.V.	GATE VALVE
INV.	INVERT
M.S.L.	MEAN SEA LEVEL
N.T.S.	NOT TO SCALE
NW	NORTHWEST
SE	SOUTHEAST
SW	SOUTHWEST
TC	TOP OF CURB
TBM	TEMPORARY BENCH MARK
EXIST.	EXISTING

NOTES:

1. PHYSICAL SURVEY WAS DONE BY MILLER-STEPHENSON ASSOCIATES P.C. APRIL, 1990.
2. SEE SHEET C-2 FOR DETAILS OF EXIST. FUELING & WATER STATIONS 2, 3 & 4.
3. SEE SHEETS D-1 THRU D-5 FOR DEMOLITION ITEMS.
4. BENCH MARK DATUM, MEAN SEA LEVEL = 0.000 FT.
5. THE NORMAL TIDE RANGE FOR THE GTMO AREA IS 1.0 TO 1.4 FT.
6. BENCH MARK TG-6 ELEV. 8.020 WAS USED AS THE MASTER BENCH MARK. THE ELEV. OF TG-6 WAS ESTABLISHED FROM CORRESPONDENCE WITH THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION LETTER C233-046/86, DATED 10/11/85 REF. CODE 1603-14-06. THE ELEV. OF 8.020 FOR TG-6 APPROXIMATES THE 1941-1959 TIDAL EPOCH WITH CONSIDERATION GIVEN FOR THE RISE IN SEA LEVEL OF 0.15 FT. DURING THE 1960-1978 EPOCH.
7. SEE BASELINE REFERENCE SKETCH, AT RIGHT FOR T.B.M. INFORMATION.

TBM #376
CUT "□" S.W. CORNER BUILDING #260
ELEV. = 6.58'



BASELINE REFERENCE
N.T.S.
(POINTS 'A', 'B' & 'C' ARE "X" SET IN CONCRETE)

REVISIONS

DESCRIPTION	DATE	APPROVED

STROUD, PERCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7681

DESIGN MAM
DRAWN MRP
REVIEW RSM
CHIEF ARCH./ENGR. SWP
PROJECT MANAGER
QUALITY CONTROL
BRANCH MANAGER
DESIGN DIRECTOR

ACTIVITY - SATISFACTORY TO
DATE 7/18/95

COMMONWEALTH OF VIRGINIA
JAMES T. BRIGHAM
No. 22381
PROFESSIONAL ENGINEER

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
NAVAL STATION
U.S. NAVAL STATION
GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)

EXIST. SITE LAYOUT

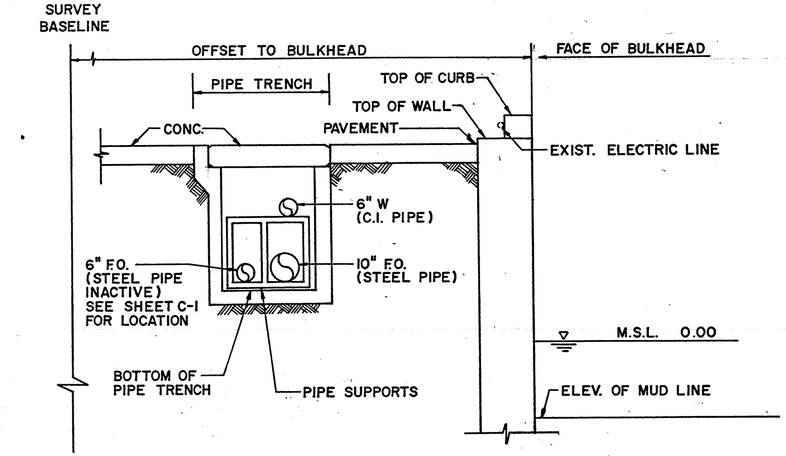
CODE I.D. NO. 80091	SIZE D
SCALE: AS SHOWN	
EFD NO. 349499	
STA. PROJ. NO. R27-92	
SPEC. NO. 05911269	
CONSTRN. CONTR. NO.	N62470-91-B-1269
NAVFAC DRAWING NO.	4249499
SHEET 2 OF 22	
C-1	

EAGLETON'S 158439

SCHEDULE OF TOPOGRAPHIC INFORMATION
(SEE SECTION 1 THIS SHEET FOR REFERENCE)

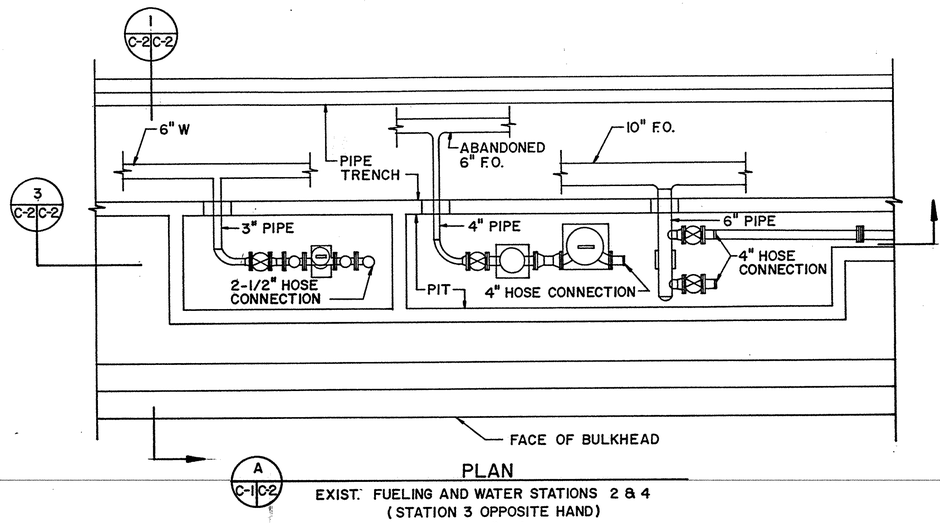
BASE-LINE	STATION	OFFSET TO BULK-HEAD	ELEVATIONS: TOP OF CURB	TOP OF WALL	PAVE-MENT	BOTTOM OF PIPE TRENCH	ELEV. OF MUD LINE	STATION OF FACE WALL JOINT
'A'	0+00	30.00	6.61	5.81	3.81	0.8±	-36.7	-
	+25	29.55	6.61	5.76	4.06	-	-	-
	+50	29.76	6.71	5.89	4.31	-	-37.2	0+55.30
	+75	29.52	6.70	5.89	5.26	-	-	-
	1+00	29.47	6.79	6.00	5.86	-	-14.2*	1+05.80
	+25	29.30	6.81	6.03	5.81	-	-	-
	+50	29.44	6.80	6.00	5.78	-	-35.2	1+57.50
	+75	29.46	6.79	6.04	5.81	-	-	-
	2+00	29.43	6.78	6.09	5.79	-	-33.4	1+98.00
	+25	29.50	6.81	6.01	5.81	-	-	-
	+50	29.47	6.91	6.08	5.85	-	-36.7	2+57.50
	+75	29.42	6.85	5.99	5.99	-	-	-
	3+00	29.49	6.86	6.10	5.86	-	-37.0	3+09.50
	+25	29.45	6.88	6.11	5.87	-	-	-
	+50	29.58	6.89	6.08	5.91	-	-33.6	3+60.70
	+75	29.57	6.94	6.12	5.97	-	-	-
	4+00	29.55	6.88	6.10	5.95	-	-32.1	4+08.90
	+25	29.56	6.84	6.06	5.96	-	-	-
	+50	29.60	6.83	6.02	5.86	1.12	-27.5	4+59.50
	+75	29.70	6.88	6.10	6.02	1.25	-	-
	5+00	29.63	6.90	6.06	5.96	1.22	-25.9	5+11.00
	+25	34.0±	6.8±	6.0±	6.0±	-	-	-
'B'	10+00	33.12	-	5.61	3.68	-	-	10+17.00
	+25	33.27	-	5.67	3.51	-	-21.9	-
	+50	33.16	-	5.73	3.60	-	-	-
	+75	-	-	5.93	3.19	-	-15.1	-

* -39.4 3' OUTBOARD FROM BULKHEAD

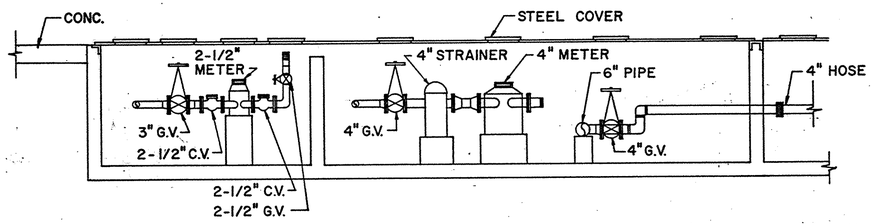


1 / C-1 | C-2 — C-2

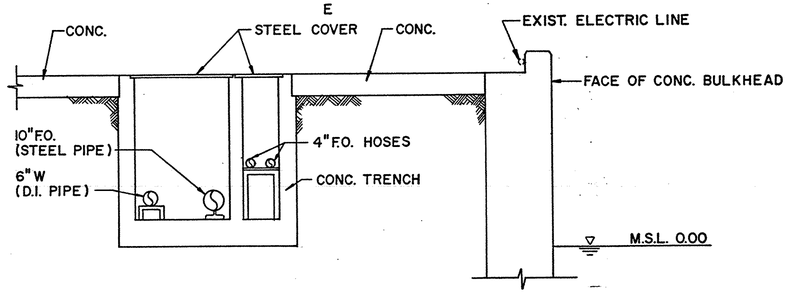
EXIST. PIPE TRENCH SECTIONS
NORTH OF STA. 5+08± (TYPICAL)
3/8" = 1'



PLAN
EXIST. FUELING AND WATER STATIONS 2 & 4
(STATION 3 OPPOSITE HAND)
3/8" = 1'



3 / C-2 | C-2 — SECTION
3/8" = 1'



2 / C-1 | C-2 — EXIST. PIPE TRENCH SECTION
SOUTH OF STA. 5+08± (TYPICAL)
3/8" = 1'

GRAPHIC SCALE
24" 12" 0 1' 2'
3/8" = 1'-0"

REVISIONS			
	DESCRIPTION	DATE	APPROVED

D
C
B
A

DES MAM DESIGN
DRN MRP DRAWN
CHK RSM CHECKED
QA BWP QUALITY ASSURANCE
PROJECT MANAGER
CONSTRUCTION MANAGER
DESIGN MANAGER

STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462
A/E CONTRACT NO. N62470-90-B-7681
APPROVED DATE

ACTIVITY - SATISFACTORY TO
APPROVED DATE 7/18/95
FOR OFFICIAL COMMERCE PURPOSES

COMMONWEALTH OF VIRGINIA — MICHAEL R. PENCE — No. 22381 — PROFESSIONAL ENGINEER — 5-30-97

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
U.S. NAVAL STATION GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)

EXIST. TOPOGRAPHIC INFORMATION

CODE I.D. NO. 80091	SIZE D
SCALE	AS SHOWN
EFD NO.	349500
STA. PROJ. NO.	R 27-92
SPEC. NO.	05911269
CONSTR. CONTR. NO.	N62470-91-B-1269
NAVFAC DRAWING NO.	4249500
SHEET	3 OF 22
	C-2

8 7 6 5 4 3 2 1

EAGLETON'S 158428

WATER VALVE BOX RIM = 3.59
STORAGE SHED LIGHT
ELECTRIC M.H. RIM = 4.24
D.I. RIM = 3.36 INV. = 1.08
2-SEPTIC TANK COVERS RIM = 3.81; INV. = 0.11 RIM = 3.89; INV. = 0.04
D.I. RIM = 4.38 INV. = 2.78 (SW)
D.I. RIM = 4.38 INV. = 3.58
LIGHT
D.I. RIM = 3.82 INV. = 0.62 (NI) INV. = 2.20 (SE)
D.I. RIM = 5.00 INV. = 0.08
LIGHT
D.I. RIM = 5.46 INV. = 0.96
STATIC GROUND
LIGHT
D.I. RIM = 4.94 INV. = -0.06
FIRE ALARM
TELEPHONE M.H. RIM = 5.58
ELECTRIC M.H. RIM = 5.52
LIGHT
WATER VALVE BOX
D.I. RIM = 5.69 INV. = 2.74
D.I. RIM = 5.20 INV. = 0.70
SANITARY M.H. RIM = 5.51 INV. = 1.71
LIGHT
WATER VALVE
SHIP TO SHORE TELEPHONE HOOK UP
ELECTRIC M.H. RIM = 6.14
TELEPHONE M.H. RIM = 6.13

N

2-STORY FRAME BLDG. #66 F.F. = 4.56

1-STORY METAL BLDG. #755 F.F. = 6.19

METAL CANOPY

1-STORY METAL BLDG. #6 F.F. = 8.13

1-STORY CONCRETE BLDG. #260 F.F. = 7.14

RAMP

CONC. LOADING DOCK

SURVEY BASELINE 'B'

WHARF TANGO

SURVEY BASELINE 'A'

11+25

11+00

10+00 BEGIN CONST. STA. 10+00, @ 'B' STA. 0+25, @ 'A'

MATCH EXIST. ELEV. 3.68±

10" F.O. & 6" W

8" W

8" SS

8" C.I.

12" C.I.

12" SS

UGE

UGT

2ND

F.O. 6"

5'(TYP.)

F.O. 6" (TEMPORARY)

F.O. 6" (ABANDONED)

10" F.O. & 6" W IN PIPE TRENCH (TYP.)

4" F.O. HOSES IN HOSE TRENCH (TYP.)

EXIST. CONC. CURB

F.O. HOSE TRENCH

EXIST. ELECTRIC LINE

10" F.O. & 6" W

INSET H C-3|C-6

INSET B C-3|C-5

INSET A C-3|C-4

INSET A C-3|E-1

INSET F C-3|C-6

INSET G C-3|C-6

STA. 0+96.50 INV. = -0.40 INV. = -0.11

STA. 1+22.00 FUELING AND WATER STATION 4

STA. 2+63.00 INV. = -0.19 INV. = -0.30 FUELING AND WATER STATION 3

STA. 3+02.67 INV. = -0.82 INV. = -1.02

STA. 4+44.33 INV. = -0.20 INV. = -0.30 FUELING AND WATER STATION 2

STA. 4+84.00 INV. = -0.10 INV. = -0.11

END CONST. STA. 5+08± INV. = -0.20 INV. = -0.10

WHARF

BRAVO

NOTE: SEE SHEET S-4 FOR NEW PAVEMENT INSTALLATION BEYOND STA. 5+08±

GRAPHIC SCALE
25' 0 25'
1" = 25'
2' 1' 0 2'
1" = 2'

SITE PLAN
1" = 25'

0+25± 0+97.17 1+00 2+00 2+82.84 3+00 4+00 4+64.17 5+00 6+00

ELEV. 4.33
MATCH EXIST. ELEV. 3.85±
2.2% ±
BEND IN TRENCH
MATCH EXIST. ELEV. 0.85 ±
ELEV. 5.88
GRADE AT TOP OF EXIST. PIPE TRENCH
FUELING AND WATER STATION 4
ELEV. 0.92
GRADE AT BOTTOM OF NEW PIPE TRENCH
0.07%
8"S
4"
ELEV. -1.51
FUELING AND WATER STATION 3
12"S
7"
ELEV. -1.28
GRADE AT TOP OF NEW PIPE TRENCH
ELEV. 1.05
GRADE AT BOTTOM OF EXIST. PIPE TRENCH
FUELING AND WATER STATION 2
ELEV. 1.19
8" 12"
4"
12"S
8"
8"SS
ELEV. -1.14
MATCH EXIST. ELEV. 6.1 ±
MATCH EXIST. ELEV. 1.22±
6
4
2
0
-2

UGE MAY BE ENCOUNTERED IN THIS AREA

PIPE TRENCH PROFILE
HORIZONTAL — 1" = 25'
VERTICAL — 1" = 2'

NOTE:
SEE STRUCTURAL SHEETS S-1 THROUGH S-7 FOR DETAILS OF CONC. PAVEMENT AND TRENCH REPLACEMENT.

REVISIONS			
STA.	DESCRIPTION	DATE	APPROVED

DES	MAM
DRAWN	MRP
REVIEW	RSM
CHIEF ARCH/ ENGR	EWP
PROJECT MANAGER	
FIRE PROTECTION	
QUALITY CONTROL	
BRANCH MANAGER	
DESIGN DIRECTOR	

STRONG, PEIRCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

SP

A/E CONTRACT NO. N62470-90-B-7681

APPROVED ACTIVITY — SATISFACTORY TO
APPROVED DATE 7/18/95
FOR CTO FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA No. 22381 DAVID A. BINGHAM PROFESSIONAL ENGINEER 5-30-95

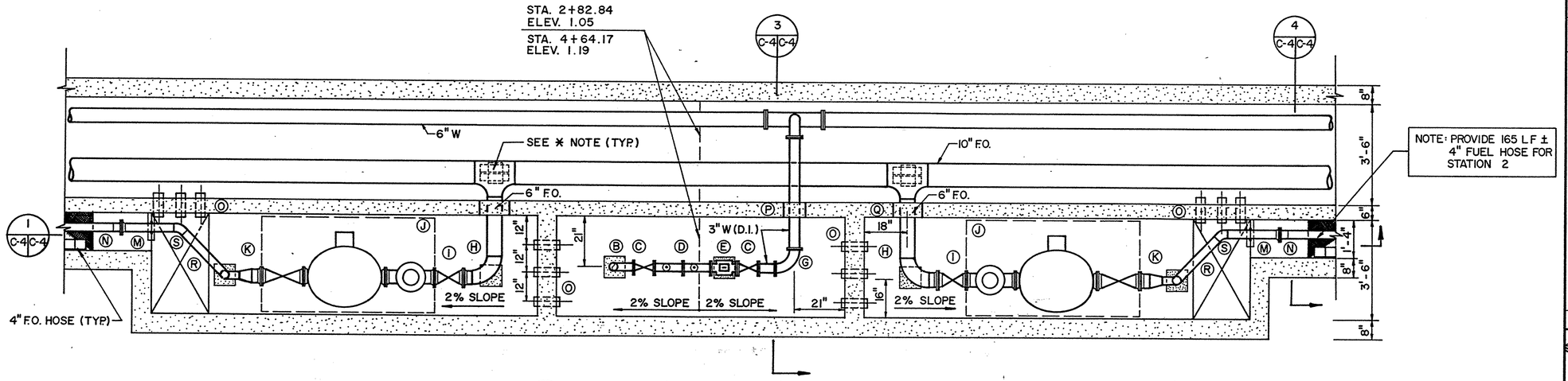
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
NAVAL STATION
U.S. NAVAL STATION
GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)
SITE PLAN & PIPE TRENCH PROFILE

CODE I.D. NO. 80091	SIZE D
SCALE:	AS SHOWN
EFD NO.	349501
STA. PROJ. NO.	R27-92
SPEC. NO.	05911269
CONSTRN. CONTR. NO.	N62470-91-B-1269
NAVFAC DRAWING NO.	4249501
SHEET	4 OF 22
	C-3

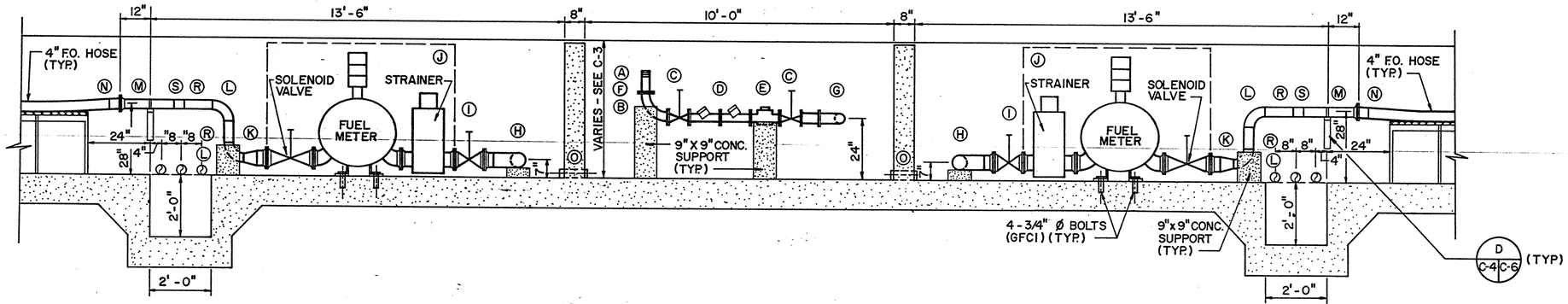
EAGLETON'S 188429

8 7 6 5 4 3 2 1
D C B A

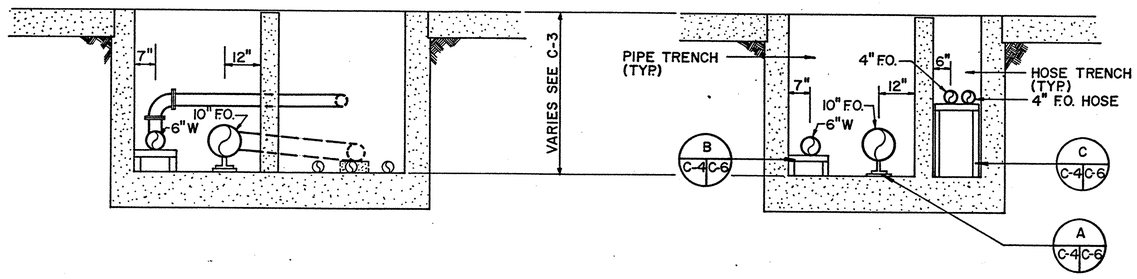


A C-3 C-4 PLAN – FUELING & WATER STATIONS 2 & 3
1/2" = 1'

* NOTE: PROVIDE PIPE SUPPORT UNDER F.O. TEE AS SHOWN ON DETAIL A/C-4/C-6 EXCEPT PROVIDE 1/4-INCH WELD BETWEEN WT. 4X6.5X1'-0" AND PL 6X10X1/4.



1 C-4 C-4 SECTION – FUELING & WATER STATIONS 2 & 3
1/2" = 1'



3 C-4 C-4 C-5 SECTION
1/2" = 1'

4 C-4 C-4 C-5 SECTION
1/2" = 1'

GRAPHIC SCALE
24" 12" 0 1' 2'
1/2" = 1'

EQUIPMENT SCHEDULE

(A)	2 1/2" HOSE CONNECTION
(B)	3" - 90° D.I. FLANGED LONG RADIUS BEND
(C)	3" GATE VALVE
(D)	3" BACKFLOW PREVENTOR
(E)	3" WATER METER
(F)	3" X 2 1/2" D.I. REDUCING FLANGE
(G)	3" - 90° D.I. FLANGED LONG RADIUS BEND
(H)	6" - 90° STEEL LONG RADIUS BEND WITH WELD NECK FLANGE AT VALVE END
(I)	6" GATE VALVE
(J)	FUEL METER ASSEMBLY - LIQUID CONTROLS, MODEL MS 120-N-1. GOVERNMENT FURNISHED, CONTRACTOR INSTALLED (GFCI).
(K)	6" X 4" STEEL CONCENTRIC REDUCER WITH WELD NECK FLANGE AT VALVE END
(L)	4" - 90° STEEL LONG RADIUS BEND
(M)	4" STEEL PIPE WITH WELD NECK FLANGE AT HOSE END
(N)	4" FLANGED ADAPTER AND COUPLING FOR 4" F.O. HOSE CONNECTION
(O)	4" D.I. PIPE DRAIN
(P)	6" STEEL PIPE SLEEVE
(Q)	8" STEEL PIPE SLEEVE
(R)	4" STEEL PIPE
(S)	4" - 45° STEEL LONG RADIUS BEND

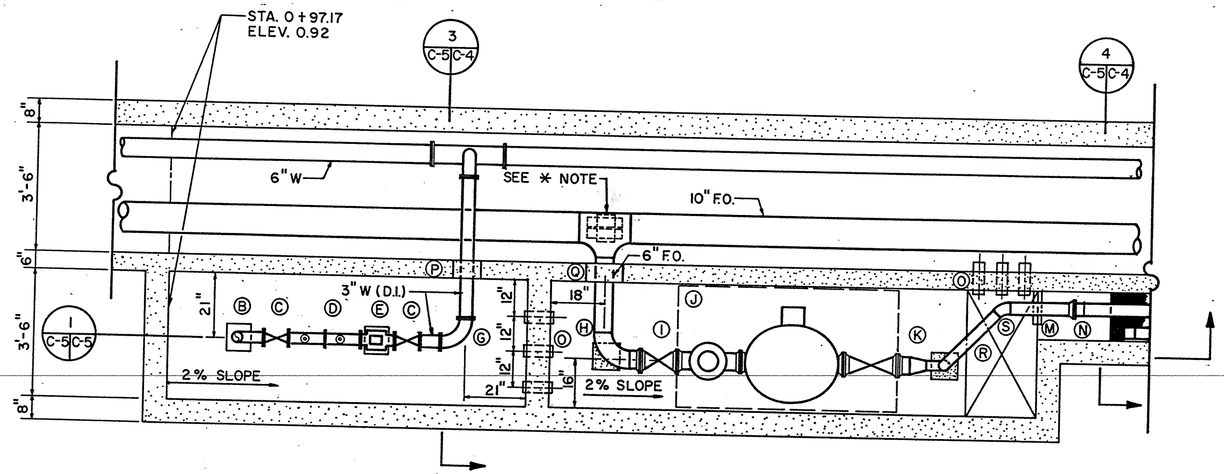
REVISIONS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
U.S. NAVAL STATION GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)

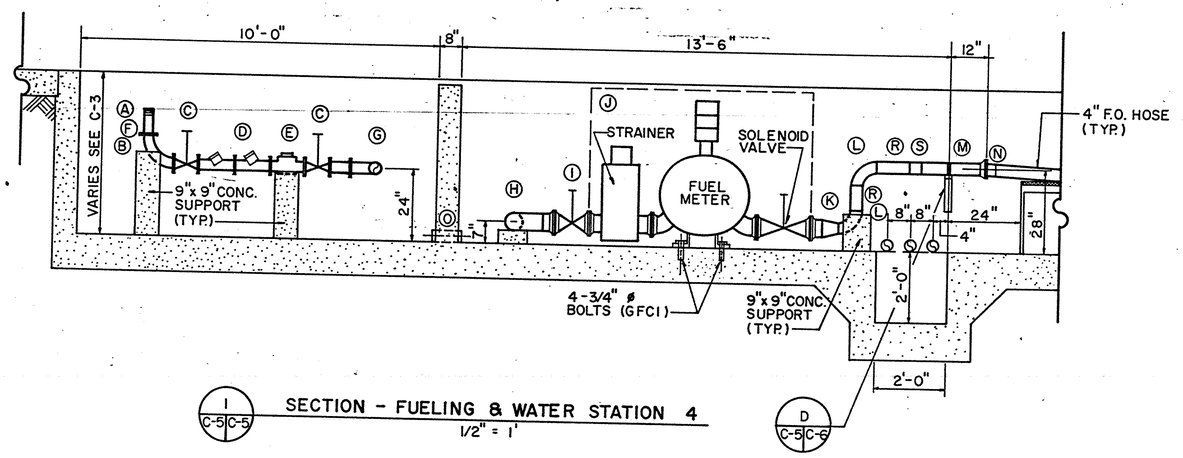
DETAILS & SECTIONS

CODE I.D. NO. 80091 SIZE D
SCALE: AS SHOWN
EFD NO. 349502
STA. PROJ. NO. R27-92
SPEC. NO. 05911269
CONSTRN. CONTR. NO. N62470-91-B-1269
NAVFAC DRAWING NO. 4249502
SHEET 5 OF 22
C-4



* NOTE: PROVIDE PIPE SUPPORT UNDER F.O. TEE AS SHOWN ON DETAIL A/C-4 / C-6 EXCEPT PROVIDE 1/4-INCH WELD BETWEEN WT. 4 X 6.5 X 1'-0" AND PL 6 X 10 X 1/4.

B C-3 C-5 PLAN - FUELING & WATER STATION 4
1/2" = 1'



1 C-5 C-5 SECTION - FUELING & WATER STATION 4
1/2" = 1'

D C-5 C-6

NOTE: SEE SHEET C-4 FOR EQUIPMENT SCHEDULE.

GRAPHIC SCALE
24" 12" 0 1' 2'
1/2" = 1'

REVISIONS

STN.	DESCRIPTION	DATE	APPROVED

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
NAVAL STATION
U.S. NAVAL STATION
GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)

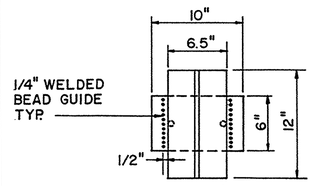
DETAIL & SECTION

STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462
A/E CONTRACT NO. N62470-90-B-7681

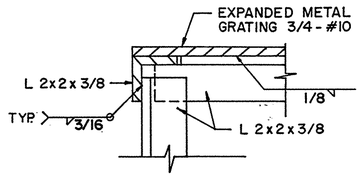
ACTIVITY - SATISFACTORY TO
APPROVED DATE 7/18/95
FOR EFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA
DAVID A. BROUSSAIN
No. 22381
5-30-95
PROFESSIONAL ENGINEER

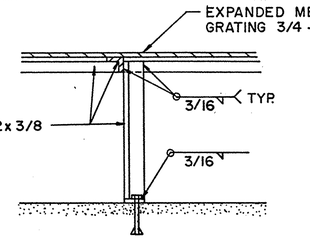
CODE I.D. NO. 80091	SIZE D
SCALE: AS SHOWN	
EFD NO. 349503	
STA. PROJ. NO. R 27-92	
SPEC. NO. 05911269	
CONSTRN. CONTR. NO. N62470-91-B-1269	
NAVFAC DRAWING NO. 4249503	
SHEET 6 OF 22	
C-5	



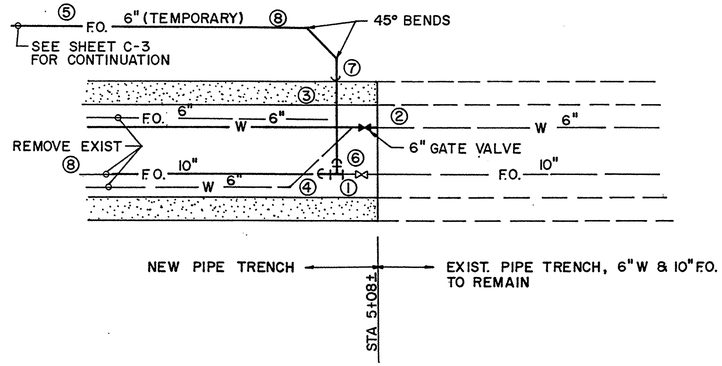
1 C-6 C-6 SECTION
1 1/2" = 1'

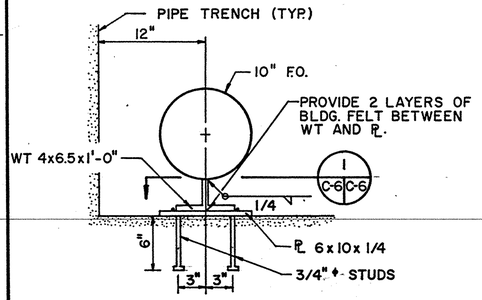


J C-6 C-6 INSET
N.T.S.



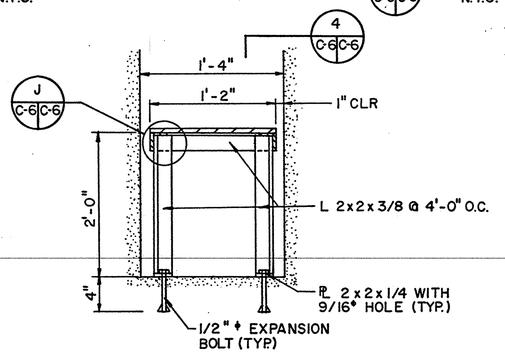
4 C-6 C-6 SECTION
N.T.S.

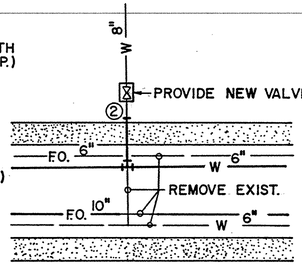




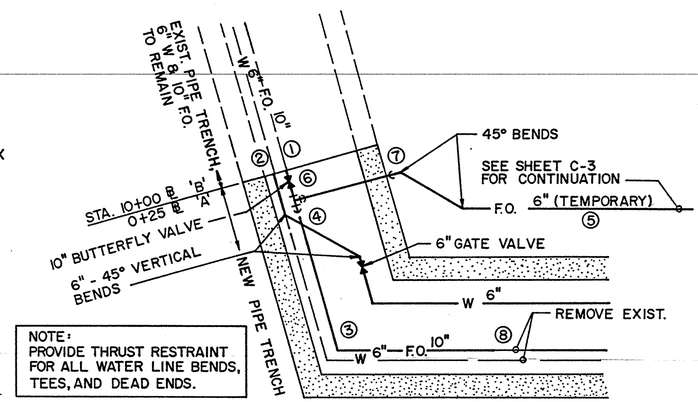
NOTE: PL SHALL CONTACT CONC. SURFACE BUT NOT BE IMBEDDED IN CONC.

A C-4 C-6 PIPE SUPPORT (20' O.C.)
1 1/2" = 1'





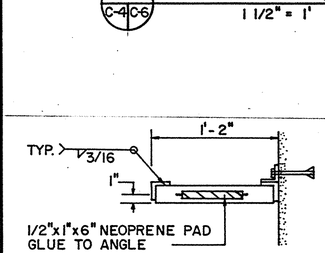
G C-3 C-6 INSET
N.T.S.



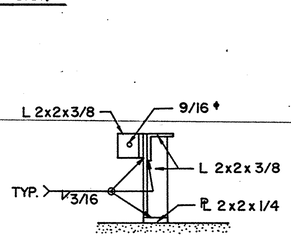
NOTE:
PROVIDE THRUST RESTRAINT FOR ALL WATER LINE BENDS, TEES, AND DEAD ENDS.

F C-3 C-6 INSET
N.T.S.

H C-3 C-6 INSET
N.T.S.

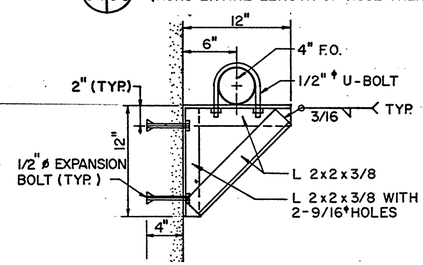


2 C-6 C-6 SECTION
N.T.S.

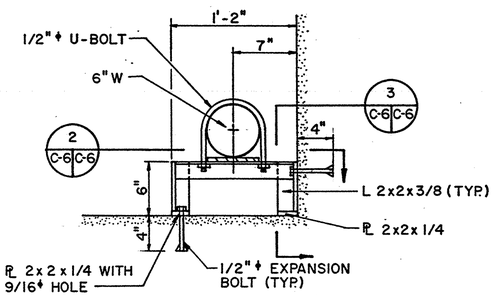


3 C-6 C-6 SECTION
N.T.S.

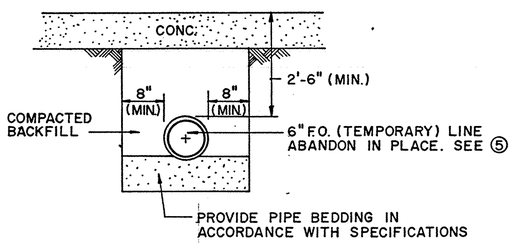
C C-4 C-6 F.O. HOSE RACK (NTS)
(RUNS ENTIRE LENGTH OF HOSE TRENCH)



D C-4 C-6 PIPE SUPPORT
1 1/2" = 1'
C-5



B C-4 C-6 PIPE SUPPORT (15' O.C.)
1 1/2" = 1'



E C-3 C-6 BURIED PIPE TRENCH
N.T.S.

GRAPHIC SCALE
12" 6" 0 1'
1 1/2" = 1'

CONSTRUCTION NOTES:

① CUT EXISTING 10" F.O. AND REMOVE EXISTING 10" F.O. PIPE; IF NECESSARY FIELD FABRICATE CONNECTION FROM EXISTING PIPE TO NEW PIPE. PROVIDE NEW WELD NECK FLANGED 10" X 6" TEE. PLUG THE (10") FREE END OF THE TEE WITH A 10" BLIND FLANGE.

② LOCATE THE EXISTING PIPE JOINT NEAREST TO THE LIMIT OF THE NEW TRENCH AND REMOVE EXISTING 6" OR 8" W LINE. PROVIDE PIPE SLEEVE AND OTHER FITTINGS AS REQUIRED TO CONNECT NEW 6" W LINE TO EXISTING 6" OR 8" W LINE. PROVIDE RESTRAINT FOR EXISTING VALVE.

③ REMOVE EXISTING PIPE TRENCH. INSTALL NEW PIPE TRENCH AS DETAILED ON STRUCTURAL SHEETS S-1 THROUGH S-7. INSTALL NEW 6" W AND 10" F.O. LINES.

④ REMOVE THE 10" BLIND FLANGE FROM THE 10" X 6" TEE AND CONNECT 10" F.O.

⑤ ABANDON THE TEMPORARY 6" F.O. LINE ONLY AFTER FINAL ACCEPTANCE OF THE NEW 10" F.O. BY THE GOVERNMENT.

⑥ CUT THE CONNECTION OF THE 6" F.O. LINE AT THE 10" X 6" TEE; PLUG THE (6") FREE END OF THE TEE WITH A 6" BLIND FLANGE.

⑦ CUT THE 6" F.O. LINE AT THE EXTERIOR TRENCH WALL AND PLUG THE END OF THE PIPE TO BE ABANDONED WITH A BLIND FLANGE. REMOVE 6" F.O. PIPE BETWEEN CUTS AT WALL AND TEE. REPAIR AND PATCH HOLE IN TRENCH WALL.

⑧ MAINTAIN CONTINUOUS FLOW OF FUEL OIL THROUGH THE PIPES DURING CONSTRUCTION. REMOVE THE EXISTING 10" F.O. LINE ONLY AFTER THE TEMPORARY 6" F.O. LINE HAS BEEN INSTALLED.

REVISIONS

DESCRIPTION	DATE	APPROVED

BIS
MAM DESIGN
MRP DRAWN
RSM REVIEW
PROJECT MANAGER
FIRE PROTECTION
QUALITY CONTROL
BRANCH MANAGER
DESIGN DIRECTOR

STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7681
APPROVED DATE
ACTIVITY - SATISFACTORY TO
APPROVED DATE 7/18/95
FOR RITA COMMISSION ACTING

COMMONWEALTH OF VIRGINIA
No. 22381
DAVID A. BRADSHAW
5-30-95
PROFESSIONAL ENGINEER

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
NAVAL STATION
U.S. NAVAL STATION
GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)
DETAILS & SECTIONS

CODE I.D. NO. 80091	SIZE D
SCALE:	AS SHOWN
EFD NO.	3495O4
STA. PROJ. NO.	R27-92
SPEC. NO.	05911269
CONSTRN. CONTR. NO.	N62470-91-B-1269
NAVFAC DRAWING NO.	4249504
SHEET	7 OF 22

C - 6

D C B A

8 7 6 5 4 3 2 1

EAGLETON'S

BORING Nº 1A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	SAMPLE NO.	BLOWS/6 IN. THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO.	BORING AND SAMPLING NOTES
CONCRETE 9.5"							
Dark brown, dry to moist, very soft to medium stiff, fine to medium Sandy CLAY (CL-SC), some gravel, marine shell fragments, coral fragments			1	x/x 2/2	10		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
			2	3/2 1/1	16		
		5	3	3/1 1/1	14		
			4	3/3 2/3	15		
		10	5	3/1 3/3	12		
			6	3/2 2/2	16		
(Fill)	18.0	15	7	3 4/4	16		
Dark gray, very moist, medium stiff, fine Sandy CLAY (CL), coral fragments, and marine shell fragments (Fill)	23.0	20	8	4 4/4	18		
Gray and brown, very moist to saturated, very soft to medium stiff, fine to medium Sandy CLAY (CL-SC), some marine shell fragments, gravel and coral fragments (Fill)		25	9	1 1/1	18		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
		30	10	1 2/1	18		
		35	11	4 3/3	16		
Gray and brown, very moist to saturated, very soft to medium stiff, fine to medium Sandy CLAY (CL-SC), some marine shell fragments, gravel and coral fragments		40	12	4 4/5	18		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
(Fill)	45.0	45	13	5 4/6	18		
Bottom of boring 45.0'							Caved in @ 6.5'

BORING Nº 2A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	SAMPLE NO.	BLOWS/6 IN. THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO.	BORING AND SAMPLING NOTES
CONCRETE 10"							
**	2.0		1	x/x 16/5	8		**Gray and tan, moist, medium dense, Clayey fine to coarse SAND (SC), some gravel and coral fragments (Fill)
Greenish gray, very moist, medium stiff to stiff, fine Sandy CLAY (CL), trace marine shell fragments and fine gravel (Fill)	6.0		2	3/3 6/7	14		
		5	3	6/6 4/6	12		
Greenish gray, moist to very moist, medium dense to loose, Clayey fine to medium SAND (SC), some coral fragments, gravel trace Silt and marine shell frag. (Fill)	10.0		4	6/9 8/8	10		
		10	5	3/5 5/3	14		
Light greenish gray, very moist to saturated, very loose to medium dense, Clayey fine to medium SAND (SC-CL), some coral fragments, little marine shell fragments, trace roots			6	7/9 9/14	12		Although the material is generally the same SAND and CLAY proportions vary from sample to sample
		15	7	5 9/12	16		
		20	8	5 4/4	14		
(Fill)		25	9	7 4/6	18		
		30	10	2 1/4	18		
		35	11	5 7/7	18		
Light greenish gray, very moist to saturated, very loose to medium dense, Clayey fine to medium SAND (SC-CL), some coral fragments, little marine shell fragments, trace roots		40	12	5 6/8	16		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
(Fill)	45.0	45	13	7 6/7	12		
Bottom of boring 45.0'							*Caved in @ 27.0'

BORING Nº 3

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	SAMPLE NO.	BLOWS/6 IN. THREE 6 IN. INCREMENTS	RECOVERY, in.	SHELBY TUBE NO.	BORING AND SAMPLING NOTES
SURFACE ELEVATION							
Concrete - 1.0'	1.0						
Brown, moist, loose, Clayey, fine SAND (SC) with shells and gravel (Fill)	4.0		1	-/- 7/9	3		
			2	5/5 4/3	18		
Dark gray, moist to very moist, loose, Silty, fine to medium SAND (SM) with trace Clay and gravel hydrocarbon odor (Fill)	8.0	5	3	3/6 6/3	18		
			4	4/5 3/3	18		
Gray to brown, very moist, very loose to medium dense, Silty, fine SAND (SM) with trace Clay and trace shell fragments		10	5	2/2 2/2	14		
			6	1/2 2/2	12		
		15	7	6 6/6	18		
	22.0	20	8	6 7/8	18		
Light gray, saturated, very loose to loose, Clayey, fine to medium SAND (SC) with trace shell fragments and coral		25	9	3 3/3	18		
		30	10	3 2/1	18		
		35	11	1 2/2	18		
Light gray, saturated, very loose to loose, Clayey, fine to medium SAND (SC) with trace shell fragments and coral		40	12	3 2/3	18		
		45	13	2 2/2	18		
		50	14	4 3/4	18		
	57.0	55	15	4 3/4	18		
Light gray, very moist to saturated, very stiff, fine Sandy CLAY (CL) with trace shell fragments and coral		60	16	5 7/9	16		
		65	17	7 7/11	18		
		70	18	9 10/10	18		
		75	19	11 11/14	18		
		80	20	16 32/39	18		Cave-in @ 13.0' Bottom of Boring-80.0'

BORING Nº 4A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	SAMPLE NO.	BLOWS/6 IN. THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO.	BORING AND SAMPLING NOTES
CONCRETE 8"							
Brown, moist to very moist, medium stiff to very stiff, fine Sandy CLAY (CL-SC), some gravel, little marine shell fragments and coral fragments	3A		1	x/x 4/5	10		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
			2	6/7 9/11	14		
		5	3	5/6 6/10	24		
			4	7/9 9/12	20		
		10	5	4/3 3/4	24		
			6	4/4 4/3	18		
(Fill)	18.5	15	7	4 2/5	18		
Gray, very moist to saturated, very loose to loose, Clayey fine SAND (SC-CL), some gravel, marine shell fragments and coral fragments		20	8	4 4/3	10		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
		25	9	3 4/1	18		
(Fill)		30	10	3 2/2	16		
		35	11	3 3/3	14		
Gray, very moist to saturated, very loose to loose, Clayey fine SAND (SC-CL). some gravel, marine shell fragments, and coral fragments		40	12	4 3/3	18		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
(Fill)	45.0	45	13	3 5/5	18		
Bottom of boring 45.0'							*Caved in @ 17.5'

BORING LOG LEGEND:

- ⌖ B-X = DENOTES BORING DRILLED 4/90.
- ⌖ B-XA = DENOTES BORING DRILLED 11/89.
- ▽ = DENOTES WATER LEVEL FIRST NOTED ON ROD.
- ▼ = DENOTES WATER LEVEL OBSERVED AT COMPLETION.

SOIL BORING NOTES

1. SOIL BORINGS DENOTED B-XA WERE DRILLED BY ATEC ASSOCIATES OF VIRGINIA, INC., NORFOLK, VIRGINIA, ON 11/89. SOIL BORINGS DENOTED B-X WERE DRILLED BY ATEC ASSOCIATES OF VIRGINIA, INC., NORFOLK, VIRGINIA ON 4/90.
2. ALL DEPTHS AND LOCATIONS ARE APPROXIMATE.
3. DRILLING WAS ACCOMPLISHED BY CONTINUOUS FLIGHT HOLLOW-STEM AUGER. STANDARD PENETRATION TEST IS OBTAINED BY DRIVING A 2.0" 0. D., 1-3/8" I.D., SAMPLER A DISTANCE OF 1.0 FOOT INTO UNDISTURBED SOIL WITH A 140 POUND HAMMER, FREE FALLING A DISTANCE OF 30.0 INCHES. IT IS CUSTOMARY FOR THE TESTING LABORATORY TO DRIVE THE SPOON 6.0 INCHES TO SEAT INTO UNDISTURBED SOIL, THEN PERFORM THE TEST. THE NUMBER OF HAMMER BLOWS FOR SEATING THE SPOON AND MAKING THE TEST ARE RECORDED FOR EACH 6.0 INCHES OF PENETRATION OF THE SPOON (EXAMPLE - 6/8/9.) THE STANDARD PENETRATION TEST RESULT CAN BE OBTAINED BY ADDING THE LAST TWO FIGURES (I.E. 8+9 = 17 BLOWS/FT.). (ASTM D-1586-67). 50/2" INDICATES 50 BLOWS FOR 2" OF PENETRATION.
4. AUGER REFUSAL INDICATES BOREHOLE ADVANCEMENT TERMINATED TO AVOID DAMAGING EQUIPMENT.
5. STRATA CHANGES - IN THE COLUMN "MATERIAL DESCRIPTION" ON THE DRILL LOG THE HORIZONTAL LINES REPRESENT STRATA CHANGES. A SOLID LINE (___) REPRESENTS AN ACTUALLY OBSERVED CHANGE, A DASHED LINE (----) REPRESENTS AN ESTIMATED CHANGE.
6. GROUND WATER OBSERVATIONS WERE MADE WHEN FIRST NOTED ON RODS (INDICATED BY ▽), AND AT COMPLETION OF THE BORING (INDICATED BY ▼). POROSITY OF SOIL STRATA, WEATHER CONDITIONS, TIDAL VARIATIONS, ETC., MAY CAUSE CHANGES IN THE WATER LEVELS INDICATED ON THE LOGS. OBSERVATIONS ARE REFERENCED TO EXISTING GRADES AT TIME OF DRILLING.
7. SOIL CLASSIFICATIONS (SP, SM, CH, CL, ETC.) ARE IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM, AND ARE BASED ON VISUAL INSPECTION OF THE SAMPLES BY THE LABORATORY TECHNICIAN.
8. SEE KEY PLAN BELOW FOR BORING LOCATIONS.

KEY PLAN
NOT TO SCALE

REVISIONS

A/E: DWM DESIGN, RAJL DRAWN, EWP REVIEW, EWP CHIEF ARCH./ENGR. — DAP

STROUD, PENCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7681

ACTIVITY - SATISFACTORY TO 7/18/95

FOR EFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA ROLAND E. DUBBE No. 8825 PROFESSIONAL ENGINEER

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION — NORFOLK, VIRGINIA
NAVAL STATION
U. S. NAVAL STATION GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)

BORING LOGS, KEY PLAN AND NOTES

CODE I.D. NO. 80091	SIZE D
SCALE:	AS NOTED
EFD NO.	349505
STA. PROJ. NO.	R27-92
SPEC. NO.	05911269
CONSTRN. CONTR. NO.	N62470-91-B-1269
NAVFAC DRAWING NO.	4249505
SHEET	8 OF 22
	B-1

BORING Nº 5A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	SAMPLE NO.	BLOWS/6 IN; THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
CONCRETE 6"							
Dark brown, dry to moist, soft to stiff, fine to medium Sandy CLAY (CL-SC), some gravel, marine shell fragments, and coral fragments 4A			1	x/4 7/8	14		
			2	6/6 8/6	16		
		5	3	3/2 2/3	24		
			4	3/3 4/4	20		
(Fill)	10.0	10	5	3/4 3/3	19		
Brown and gray, very moist to saturated, very loose to loose, Clayey fine to medium SAND (SC), some gravel, marine shell fragments and coral fragments			6	3/2 3/3	19		
		15	7	3 4/3	16		
		20	8	3 2/2	18		
(Fill)	23.0						
Light greenish gray, very moist to saturated, soft to medium stiff, fine to medium Sandy CLAY (CL-SC), some gravel, marine shell fragments and coral fragmetns		25	9	3 3/2	18		Although the material is generally the same SAND and CLAY proportions vary from sample to sample
		30	10	2 2/2	18		
(Fill)							
		35	11	2 3/3	18		
Light greenish gray, very moist to sa·urted, soft to medium stiff, fine t· medium Sandy CLAY (CL-SC), some g..vel, marine shell fragments and coral fragments		40	12	4 4/3	18		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
(Fill)	45.0	45	13	4 4/4	18		
Bottom of boring 45.0'							*Caved in @ 18.5'

BORING Nº 7A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	SAMPLE NO.	BLOWS/6 IN; THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
CONCRETE 9.5"							
Light and dark gray, moist to saturated, very soft to stiff, fine Sandy CLAY (CL), some gravel, marine shell fragments and coral fragments			1	x/1 1/2	12		
			2	5/7 6/7	20		
		5	3	4/3 2/2	20		
(Fill)	8.0		4	2/2 2/2	19		
Gray, very moist to saturated, very soft to very stiff, fine to medium Sandy CLAY (CL-SC), some marine shell fragments, coral fragments and gravel 6A		10	5	4/5 3/3	24		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
			6	2/1 1/1	18		
		15	7	2 1/0	18		
		20	8	2 1/2	18		
(Fill)		25	9	3 2/2	18		
		30	10	4 4/4	18		
		35	11	6 7/11	18		
**	38.0						**Gray, very moist to saturated, very soft to very stiff,fine to medium Sandy CLAY(CL-SC), some marine shell fragments, coral fragments and gravel (Fill)
Light gray, saturated, medium dense, Clayey fine SAND (SC), some marine shell fragments, and coral fragments		40	12	6 8/7	18		
	45.0	45	13	5 8/8	18		
Bottom of boring 45.0'							*Caved in @ 16.5'

BORING Nº 8A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	SAMPLE NO.	BLOWS/6 IN; THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
CONCRETE 7"							
Tan and brown, moist to very moist, soft to very soft, fine to coarse Sandy CLAY (CL), some gravel 7A			1	x/3 7/12	9		
			2	9/8 8/7	12		
(Fill)	6.5	5	3	2/2 3/2	10		Refusal at 6.5'
			4	3 100/5"	3		
Bottom of boring 6.5'							*Caved in @ 5.0'

BORING Nº 10

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	SAMPLE NO.	BLOWS/6 IN; THREE 6 IN. INCREMENTS	RECOVERY, in.	SHELBY TUBE NO.	BORING AND SAMPLING NOTES
SURFACE ELEVATION							
Concrete	1.0			-/-	12		
Gray and brown, moist, medium dense to loose, Silty SAND (SM) gravel and shells			1	7/8			
(Fill)	4.0		2	5/4 4/3	18		
Gray, very moist to saturated, loose to very loose, Clayey, fine SAND (SC) with shells, gravel and coral B-4		5	3	4/3 3/2	18		
			4	2/2 2/2	10		
		10	5	3/3 2/1	12		
	13.0		6	3/3 2/3	10		
Gray, very moist, medium stiff, fine Sandy CLAY (CL-SC) with trace shells and coral gravel		15	7	2 3/3	18		
	22.0	20	8	4 3/3	18		
Light gray, saturated, medium dense to dense, Silty, fine to medium SAND (SM) with trace Clay and coral gravel		25	9	9 9/9	18		
		30	10	13 12/12	18		
	37.0	35	11	21 27/46	18		
Gray and brown, moist, very dense, Clayey, fine to medium SAND (SC) and coral	39.0	40	12	50 4"			Refusal at 39.0'
Bottom of Boring - 39.0'							Cave-in @ 13.0'

BORING Nº 12A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	SAMPLE NO.	BLOWS/6 IN; THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO.	
Concrete 11"							
Dark brown, dry to moist, medium dense, Clayey fine SAND (SC-CL), some gravel, wood chips, marine shell fragments and coral fragments 9A			1	x/x 2/11	10		
			2	7/7 6/6	20		
		5	3	7/7 4/8	16		
(Fill)	8.0		4	12/7 6/4	12		
Refusal at 8.0'		10	5	100/3	2		
Bottom of boring 8.0'			6				
		15	7				
		20	8				
		25	9				
		30	10				
		35	11				
*Refusal at 7.0'							

BORING Nº 13

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	SAMPLE NO.	BLOWS/6 IN; THREE 6 IN. INCREMENTS	RECOVERY, in.	SHELBY TUBE NO.
SURFACE ELEVATION						
Concrete - 1.0'	1.0			-/-	18	
Gray and brown, moist, loose, Silty, fine to medium SAND (SM) with trace Clay, gravel, shell and cinders.			1	4/4		
			2	3/4 3/3	18	
		5	3	3/4 3/4	18	
(Hydrocarbon odor)(Fill)	8.0		4	5/4 4/5	12	
Gray, very moist to saturated, loose to medium dense, Silty, fine to medium SAND (SM) with trace shells and Clay		10	5	5/5 5/5	18	
	13.0		6	6/5 6/6	18	
Light gray to yellow, saturated, medium stiff to very stiff, Sandy CLAY (CL) with shells and coral gravel B.6		15	7	4 5/5	18	
		20	8	6 6/9	18	
	27.0	25	9	16 19/10	18	
Reddish brown, very moist, very dense, Silty SAND (SM) and coral	30.0	30	10	15/25 50 2"	18	
Bottom of Boring - 30.0'						

BORING Nº 6A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	SAMPLE NO.	BLOWS/6 IN; THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO	BORING AND SAMPLING NOTES
CONCRETE 8"							
Brown and gray, moist to very moist, very soft to stiff, fine Sandy CLAY (CL) and gravel, trace marine shell fragments 5A			1	x/6 5/5	14		
			2	8/7 6/5	16		
		5	3	3/2 1/2	19		
(Fill)	8.0		4	4/2 0/1	16		
Light greenish gray, very moist to saturated, very soft to medium stiff,fine Sandy CLAY (CL-SC), some coral fragments and marine shell fragments		10	5	4/1 0/1	19		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
			6	2/1 1/1	19		
		15	7	1 1/1	18		
		20	8	3 2/2	18		
(Fill)		25	9	3 2/2	18		
		30	10	3 3/3	18		
		35	11	4 3/3	18		
Light greenish gray, very moist to saturated, very soft to meidum stiff, fine Sandy CLAY (CL-SC), some coral fragments and marine shell fragments		40	12	3 3/3	18		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
(Fill)	45.0	45	13	3 4/4	18		
Bottom of boring 45.0'							*Caved in @ 19.0'

BORING Nº 9A

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	SAMPLE NO.	BLOWS/6 IN; THREE 6 IN. INCREMENTS	RECOVERY	SHELBY TUBE NO.	BORING AND SAMPLING NOTES
Concrete 8.5"							
Dark gray and brown, dry to moist, loose to medium dense, Clayey fine to coarse SAND (SC) and gravel, marine shell fragments and coral fragments 8A			1	x/5 6/6	12		
			2	5/4 6/17	16		
		5	3	5/5 6/5	10		
			4	6/6 5/5	16		
(Fill)	10.0	10	5	2/3 1/3	19		
Dark gray, very moist, soft to stiff, fine to medium Sandy CLAY (CL-SC), some gravel, marine shell fragments and coral fragments			6	2/2 3/2	16		Although the material is generally the same, SAND and CLAY proportions vary from sample to sample
		15	7	3 6/5	18		
		20	8	5 5/5	18		
		25	9	5 4/5	18		
(Fill)	28.0						
Light greenish gray, very moist to saturated, medium dense, Clayey fine SAND (SC), and marine shell fragments and coral fragments		30	10	6 7/10	18		
(Possible fill)		35	11	7 10/12	18		
Light greenish gray, very moist to saturated, medium dense, Clayey fine SAND (SC), and marine shell fragments and coral fragments		40	12	9 9/14	18		
	45.0	45	13	8 7/9	18		
Bottom of boring 45.0'							*Caved in @ 22.0'

BORING Nº 11

MATERIAL DESCRIPTION	STRATUM DEPTH, FT.	DEPTH, FT.	SAMPLE NO.	BLOWS/6 IN; THREE 6 IN. INCREMENTS	RECOVERY, in.	SHELBY TUBE NO.	BORING AND SAMPLING NOTES
SURFACE ELEVATION							
Concrete - 1.0'	1.0			-/-	18		
Gray and brown, moist, medium dense, Silty SAND, gravel, shell and coral B-12			1	11/10			
			2	6/7 7/6	12		
		5	3	8/8 8/8	6		
(Fill)	8.0		4	7/7 6/6	12		
Gray, very moist, very loose, Silty, fine SAND (SM) with trace Clay and shell fragments		10	5	2/1 1/2	24		
	13.0		6	3/3 3/3	24		
Gray, very moist to saturated, medium dense, Silty, fine to medium SAND (SM) with trace Clay and coral gravel		15	7	5/6 6/5	13		
	22.0	20	8	7/7 6/6	18		
Light gray to yellow, very moist, very stiff, fine Sandy CLAY (CL) with shells and gravel		25	9	7 8/10	18		
	32.0	30	10	4 4/13	18		
Light gray, saturated, very dense, Silty SAND (SM) and coral with trace shells		35	11	27 31/33	16		Cave-in @ 14.0'
	39.0	40	12	50 4"	4		Refusal - 39.0'
Bottom of Boring - 39.0'							

REVISIONS

SYM.	DESCRIPTION	DATE	APPROVED

A/E DWM DESIGN; RAHL DRAWN; EWP REVIEW; EWP CHIEF ARCH./ENGR.; DAP EFD; PROJECT MANAGER; FIRE PROTECTION; QUALITY CONTROL; BRANCH MANAGER; DESIGN DIRECTOR

SP STROUD, PENCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL-ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-D-7081

APPROVED / DATE

ACTIVITY - SATISFACTORY TO

APPROVED / DATE 7/18/95

FOR EFD FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA ROLAND E. DUBBE No. 8825 PROFESSIONAL ENGINEER

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NORFOLK, VIRGINIA

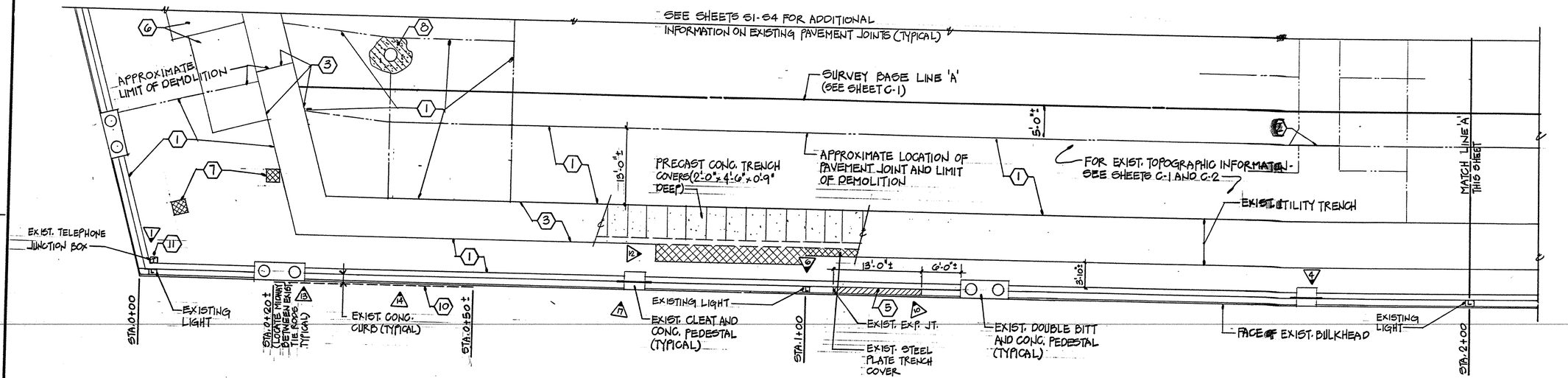
NAVAL STATION GUANTANAMO BAY, CUBA

U. S. NAVAL STATION

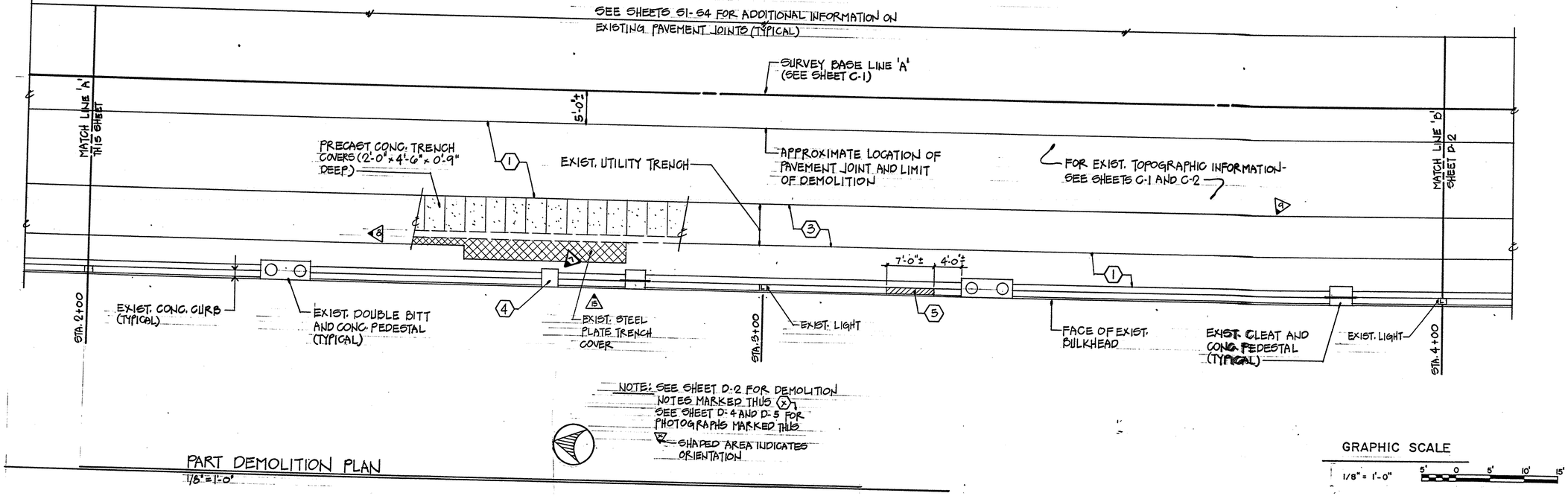
REPAIRS TO WHARF BRAVO (PHASE II)

BORING LOGS

CODE I.D. NO. 80091 SIZE D
SCALE: NONE
EFD NO. 349506
STA. PROJ. NO. R27-92
SPEC. NO. 05911269
CONSTRN. CONTR. NO. N62470-91-B-1269
NAVFAC DRAWING NO. 4249506
SHEET 9 OF 22
B-2



PART DEMOLITION PLAN
1/8" = 1'-0"



PART DEMOLITION PLAN
1/8" = 1'-0"

GRAPHIC SCALE
1/8" = 1'-0"
5' 0 5' 10' 15'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED

A/E DWN. R.A.U. CHK'D E.W.P. APPV'D
PROJECT ENGINEER
FIRE PROTECTION
QUALITY CONTROL
BRANCH MANAGER
DESIGN DIRECTOR

STROUD, PEIGLE & ASSOCIATES, LTD.
CIVIL & STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7681

ACTIVITY - BATSF&FACTORY TO
APPROVED
DATE 7/18/95
FOR BID/FOR COMMENCED WORK/AC

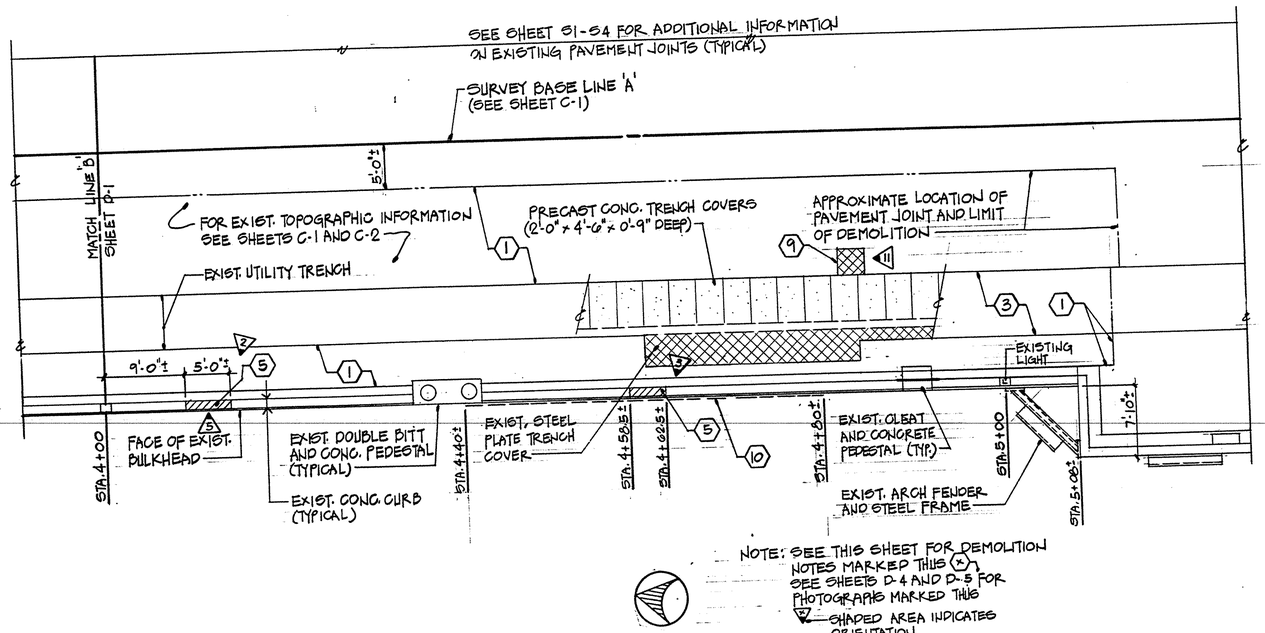
COMMONWEALTH OF VIRGINIA
No. 02.1332
DAVID W. WILKINS
PROFESSIONAL ENGINEER
7/18/95

NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
DEPARTMENT OF THE NAVY
NAVAL STATION
U.S. NAVAL STATION
GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)
PART DEMOLITION PLANS

CODE I.D. NO. 80081 SIZE D
SCALE: AS NOTED
DWG NO. 349507
STA. PROJ. NO. R27-92
SPEC. NO. 059112269
CONSTR. CONTR. NO. N62470-91-B-1269
NAVFAC DRAWING NO. 4249507
SHEET 10 OF 22
D-1

8 7 6 5 4 3 2 1
D C B A



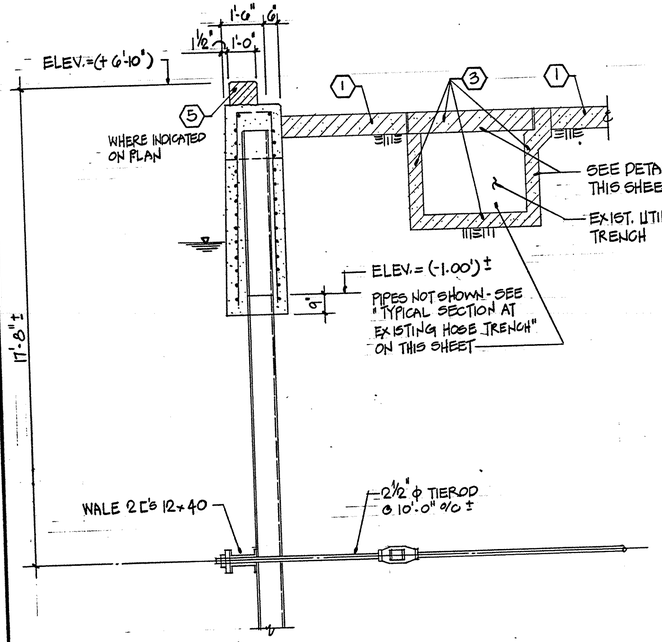
NOTE: SEE THIS SHEET FOR DEMOLITION NOTES MARKED THUS (*) SEE SHEETS D-4 AND D-5 FOR PHOTOGRAPHS MARKED THUS (#) —SHAPED AREA INDICATES ORIENTATION

PART DEMOLITION PLAN

1/8"=1'-0"

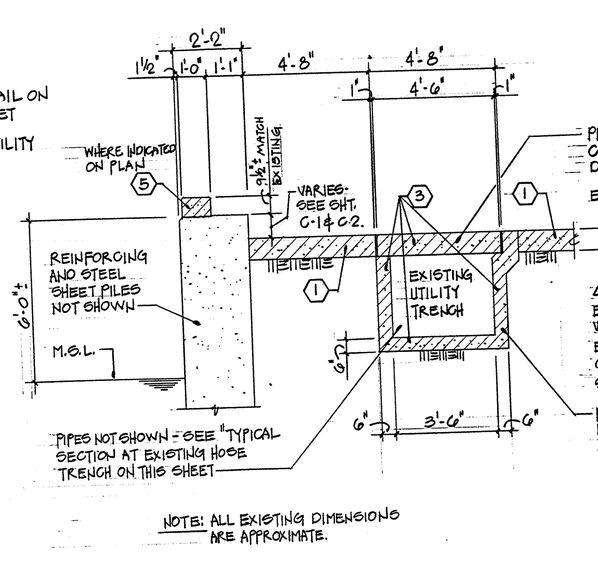
DEMOLITION NOTES:

1. REMOVE REINFORCED CONCRETE PAVEMENT (9-12 INCHES THICK) TO EXISTING PAVEMENT JOINT LINES WITHIN THE LIMITS SHOWN.
2. SAWCUT PAVEMENT 3" MINIMUM ALONG THE LINES INDICATED AND REMOVE TO THE LIMITS SHOWN.
3. REMOVE REINFORCED CONCRETE UTILITY TRENCH, VALVE PITS, HOSE TRENCH, AND FUELING AND WATER STATIONS, INCLUDING ALL COVERS, PIPES, CONDUIT, WIRE, PIPE SUPPORTS, VALVES PUMPS AND RELATED ITEMS. DISPOSE OF OILY WASTE AND OIL CONTAMINATED MATERIAL AS SPECIFIED.
4. REMOVE FUELING STATION STATIC GROUND ASSEMBLY INCLUDING CABLE, SWITCH, AND PEDESTAL. SEE SHEET E-1.
5. REMOVE REINFORCED CONCRETE CURB FLUSH WITH TOP OF CONCRETE CAP BEAM BETWEEN LIMITS SHOWN. CLEAN AND RE-USE EXISTING REINFORCING AS INDICATED IN THE "TYPICAL CURB REPAIR DETAILS ON SHEET S-5.
6. HAZARDOUS STORAGE BUILDINGS WILL RELOCATED BY THE GOVERNMENT. NOT INCLUDED IN THIS CONTRACT.
7. REMOVE EXISTING REINFORCED CONCRETE VALVE PITS,VALVES, PIPES, AND ASSOCIATED ITEMS.
8. REMOVE EXISTING ASPHALT PAVEMENT AROUND 24 INCH DIAMETER MANHOLE TO REMAIN. TAKE CARE TO PRESERVE AND PROTECT EXISTING CONDUITS AND/OR PIPING TO MANHOLE.
9. REMOVE EXISTING REINFORCED CONCRETE VALVE PIT. VALVE AND PIPING TO EAST WILL REMAIN. SEE DETAIL G/C-5 FOR CONNECTION OF NEW PIPE TO EXISTING.
10. REMOVE EXISTING DAMAGED DOUBLE CHANNEL WALE. APPROXIMATE LIMITS OF REMOVAL ARE SHOWN ON PLAN. CONTRACTOR SHALL FIELD VERIFY EXTENT OF DAMAGE PRIOR TO START OF WORK. NOTIFY THE CONTRACTING OFFICER OF ANY DISCREPANCIES.
11. REMOVE AND RELOCATE EXISTING TELEPHONE JUNCTION BOX AS DIRECTED BY THE CONTRACTING OFFICER.



TYPICAL SECTION THRU EXISTING BULKHEAD AND ANCHORAGE

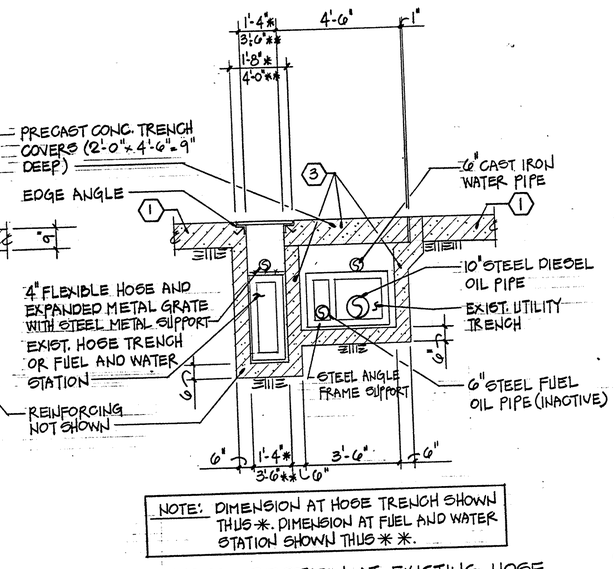
3/8"=1'-0"



NOTE: ALL EXISTING DIMENSIONS ARE APPROXIMATE.

TYPICAL SECTION AT EXISTING UTILITY TRENCH

3/8"=1'-0"



NOTE: DIMENSION AT HOSE TRENCH SHOWN THUS *. DIMENSION AT FUEL AND WATER STATION SHOWN THUS **.

TYPICAL SECTION AT EXISTING HOSE TRENCH AND FUEL AND WATER STATION

3/8"=1'-0"

GRAPHIC SCALES

1/8" = 1'-0" 5' 0 5' 10' 15'

3/8" = 1'-0" 12"6" 0 1' 2' 3' 4' 5' 6' 7'

REVISIONS

DESCRIPTION	DATE	APPROVED

STROUD, PEIRCE & ASSOCIATES, LTD. CIVIL & STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7681

APPROVED DATE

ACTIVITY - BATSF ACTORY TO

APPROVED DATE 7/18/95

FOR RFS FOR COMMANDER CNAVFAC

EFD			
OWN'R DESIGN			
KAULL DESIGN			
ENGR REVIEW			
ENGR CHIEF ARCH / ENGR.			
PROJECT MANAGER			
FIRE PROTECTION			
QUALITY CONTROL			
BRANCH MANAGER			
DESIGN DIRECTOR			

COMMONWEALTH OF VIRGINIA No. 021332 DAVID M. BRIGGS 6/1/95 PROFESSIONAL ENGINEER

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NORFOLK, VIRGINIA NAVAL STATION U.S. NAVAL STATION GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)

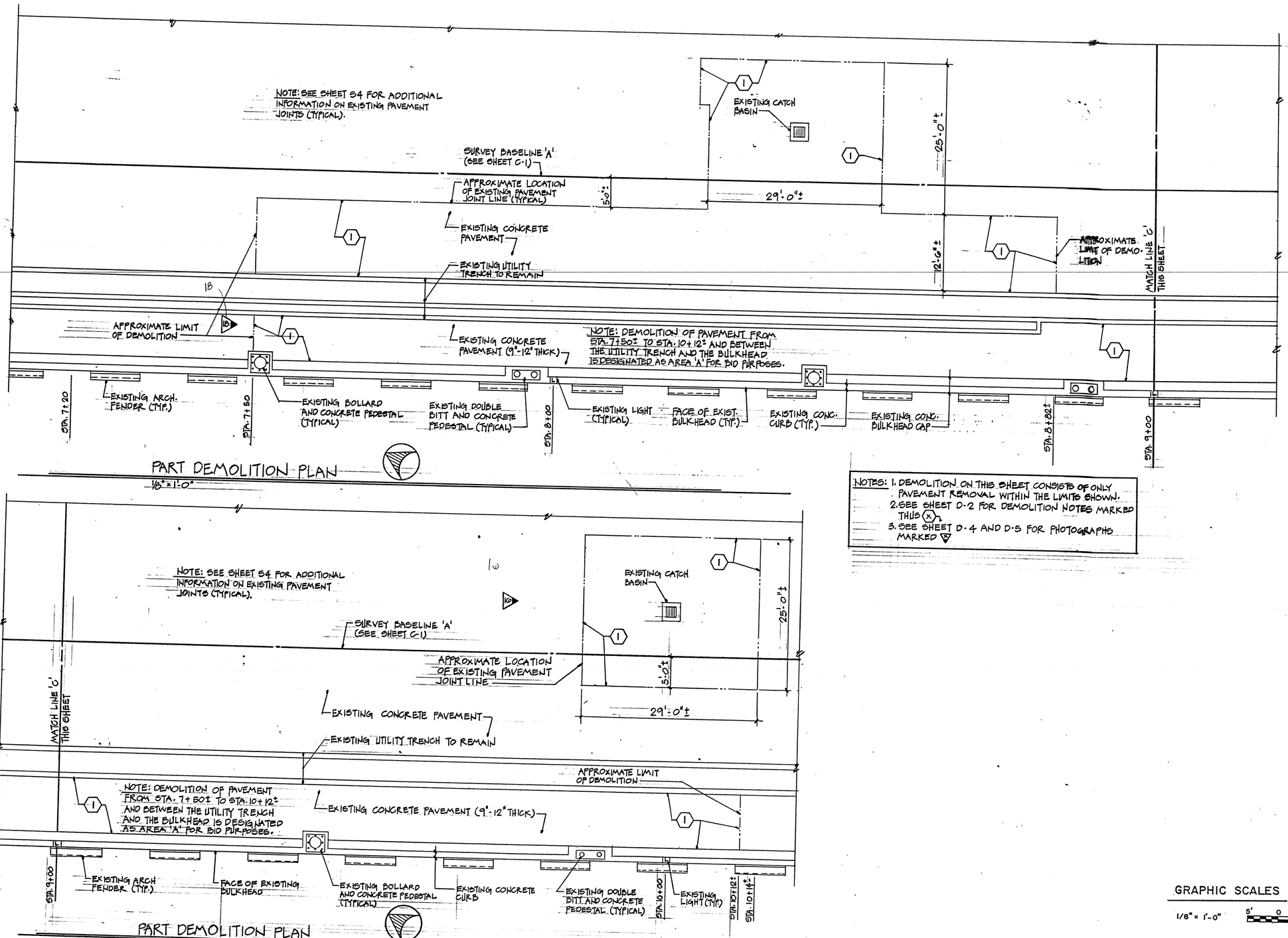
PART DEMOLITION PLAN, SECTIONS AND NOTES

CODE I.D. NO. 80009	SIZE D
SCALE: AS NOTED	
EFD NO. 349508	
STA. PROJ. NO. R27-92	
SPEC. NO. 05911269	
CONSTR. CONTR. NO.	N62470-91-B-1269
NAVFAC DRAWING NO.	4249508
SHEET 11 OF 12	

D-2

D C B A

8 7 6 5 4 3 2 1



NOTES:
1. DEMOLITION ON THIS SHEET CONSISTS OF ONLY PAVEMENT REMOVAL WITHIN THE LIMITS SHOWN.
2. SEE SHEET D-2 FOR DEMOLITION NOTES MARKED THUS (X)
3. SEE SHEET D-4 AND D-5 FOR PHOTOGRAPHS MARKED (V)

GRAPHIC SCALES
1/8" = 1'-0" 5' 0 5' 10' 15'

REVISIONS				
NO.	DESCRIPTION	BY	CHIEF ENGR.	DATE

DESIGN DIRECTOR			
QUALITY CONTROL			
PROJECT MANAGER			
CHIEF ENGR.			
DESIGN			
DRAWN			
CHECKED			

STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7681
APPROVED
ACTIVITY – BATSE FACTORY TO
APPROVED 7/18/95
FOR BID/NEGOTIATION
FOR BID FOR COMMERCIAL BIDDING

COMMONWEALTH OF VIRGINIA
DAVID V. HYDE
No. 021332
PROFESSIONAL ENGINEER
7/18/95

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
NAVAL STATION
U.S. NAVAL STATION
GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)

PART DEMOLITION PLANS

CODE I.D. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO. 349509	
STA. PROJ. NO. R27-92	
SPEC. NO. 059112G9	
CONSTRN. CONTR. NO.	N62470-91-B-1269
NAVFAC DRAWING NO.	4249509
SHEET 12 OF 22	
D-3	

8 7 6 5 4 3 2 1
D C B A

PHOTOGRAPH 1

PHOTOGRAPH 2

PHOTOGRAPH 3

PHOTOGRAPH 4

PHOTOGRAPH 5

PHOTOGRAPH 6

PHOTOGRAPH 7

PHOTOGRAPH 8

PHOTOGRAPH 9

REVISIONS			
DESCRIPTION	DATE	APPROVED

DES	DWN	RSWM	
	CHK	ENE	
PROJECT MANAGER			
FIRE PROTECTION			
QUALITY CONTROL			
BRANCH MANAGER			
DESIGN DIRECTOR			

STEVENS, PEIRCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

APPROVED — DATE
A/E CONTRACT NO. N62470-90-B-7061
APPROVED — DATE 7/18/92
ACTIVITY - SATISFACTORY TO
FOR GFE FOR COMMANDER NAVFAC

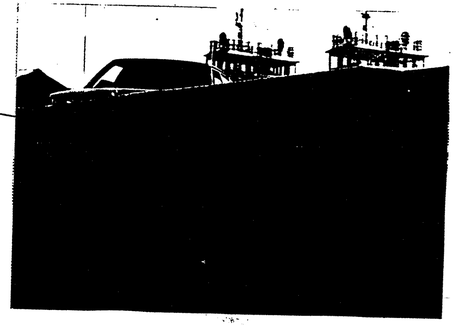
COMMONWEALTH OF VIRGINIA — DAVID W. GOODES — No. 021332 — PROFESSIONAL ENGINEER — 7/18/92

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND — ATLANTIC DIVISION — NORFOLK, VIRGINIA
NAVAL STATION — U.S. NAVAL STATION — GUANTANAMO BAY, CUBA

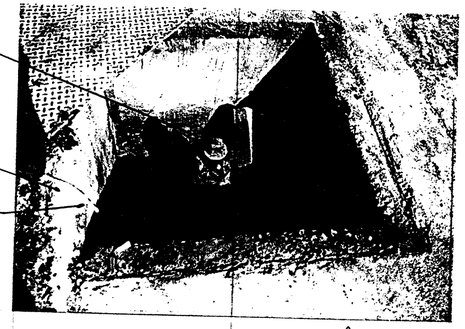
REPAIRS TO WHARF BRAVO (PHASE II)

PHOTOGRAPHS 1 TO 9

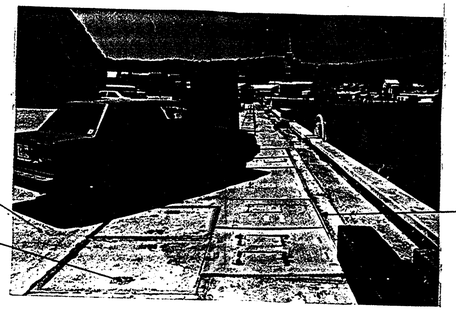
CODE I.D. NO. 80009	SIZE D
SCALE: NONE	
EFD NO. 349510	
STA. PROJ. NO. R27-92	
SPEC. NO. 05911269	
CONSTR. CONTR. NO. N62470-91-B-R269	
NAVFAC DRAWING NO. 4249510	
SHEET 13 OF 22	
D-4	



PHOTOGRAPH 10



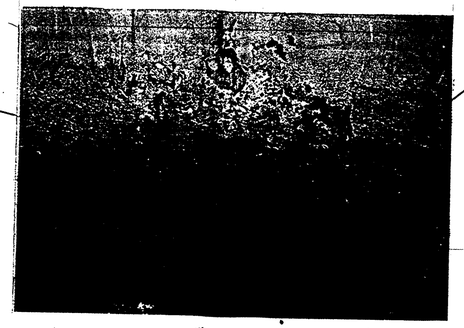
PHOTOGRAPH 11



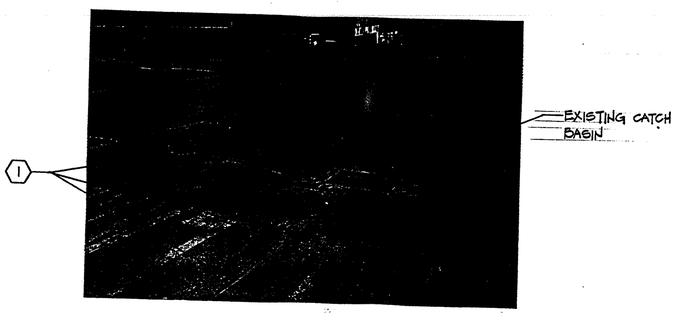
PHOTOGRAPH 12

PHOTOGRAPH 13

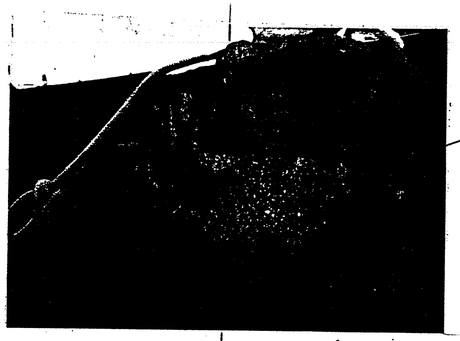
PHOTOGRAPH 14



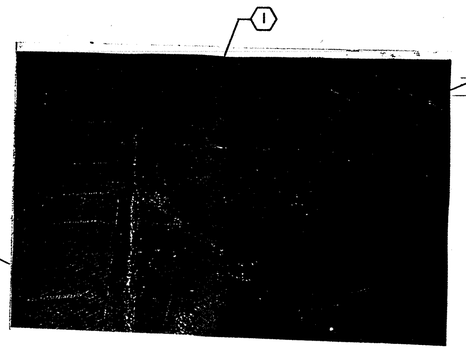
PHOTOGRAPH 15



PHOTOGRAPH 16



PHOTOGRAPH 17



PHOTOGRAPH 18

REVISIONS

SYM.	DESCRIPTION	DATE	APPROVED

A/E DWM DESIGN
RAUL DRAWN
BNP REVIEW
BNP CHIEF ARCH/ ENGR.
PROJECT MANAGER
FIRE PROTECTION
QUALITY CONTROL
BRANCH MANAGER
DESIGN DIRECTOR

STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462
A/E CONTRACT NO. N62470-90-B-7681
APPROVED DATE
ACTIVITY - SATISFACTORY TO
APPROVED DATE 7/18/95
FOR EFD FOR COMMANDER NAVFAC

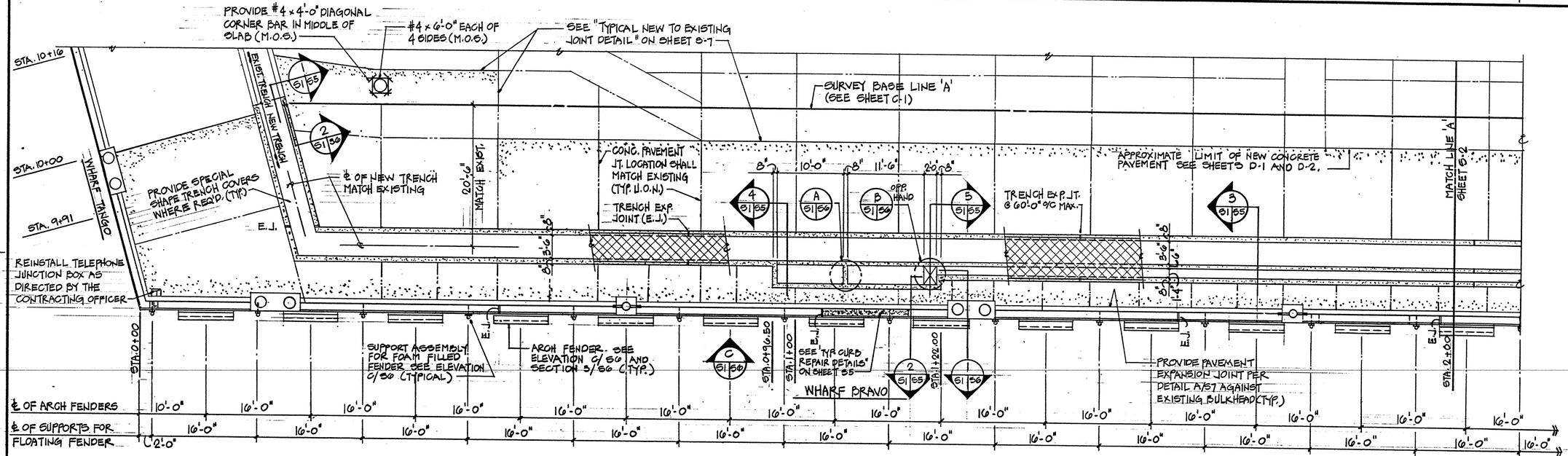
COMMONWEALTH OF VIRGINIA
DAVID W. MYERS
No. 021332
6/1/95
PROFESSIONAL ENGINEER

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA
U. S. NAVAL STATION GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)

PHOTOGRAPHS 10 TO 18

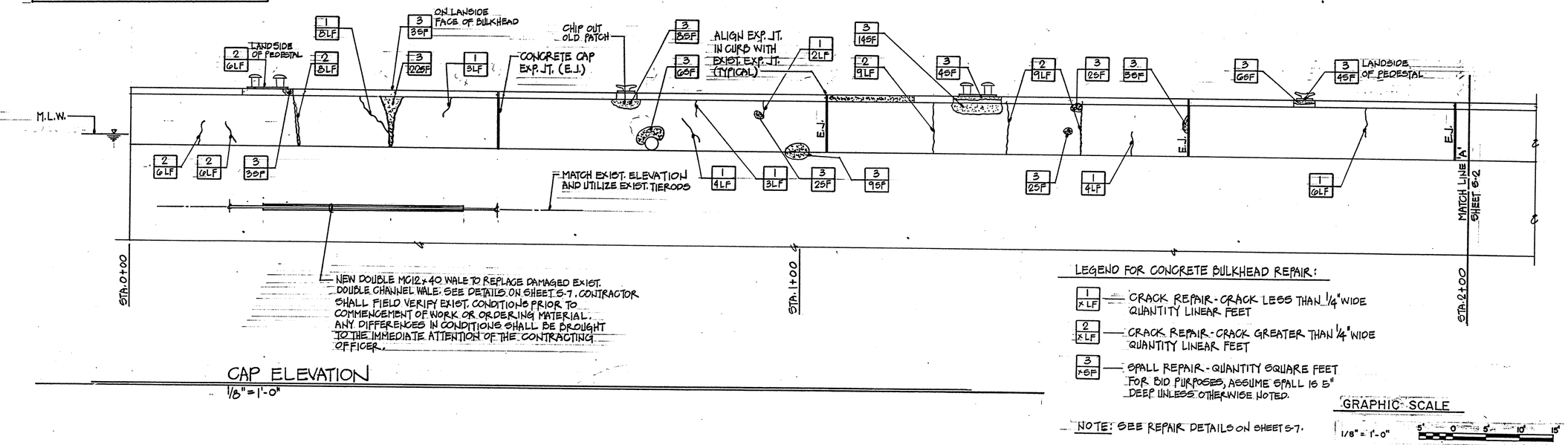
CODE I.D. NO. 80091 SIZE D
SCALE: NONE
EFD NO. 349511
STA. PROJ. NO. R27-92
SPEC. NO. 05911269
CONSTRN. CONTR. NO. N62470-91-B-1269
NAVFAC DRAWING NO. 4249511
SHEET 14 OF 22
D-5



PART NEW WORK PLAN

1/8"=1'-0"

NOTE: NEW ARCH FENDERS AND SUPPORTS FOR FLOATING FENDERS NOT SHOWN ON THIS ELEVATION - SEE ELEVATIONS C/S6 AND SECTION 3/S6. EXISTING LIGHTS NOT SHOWN ON THIS ELEVATION.



CAP ELEVATION

1/8"=1'-0"

LEGEND FOR CONCRETE BULKHEAD REPAIR:

- 1 x LF — CRACK REPAIR - CRACK LESS THAN 1/4" WIDE QUANTITY LINEAR FEET
- 2 x LF — CRACK REPAIR - CRACK GREATER THAN 1/4" WIDE QUANTITY LINEAR FEET
- 3 x SF — SPALL REPAIR - QUANTITY SQUARE FEET FOR BID PURPOSES, ASSUME SPALL IS 5" DEEP UNLESS OTHERWISE NOTED.

NOTE: SEE REPAIR DETAILS ON SHEET S-7.

GRAPHIC SCALE

1/8" = 1'-0" 5' 0 5' 10' 15'

REVISIONS

DESCRIPTION	DATE	APPROVED

DES DWH
DRN RAUL
REVIEW EMP
CHKD EMP
ARCH/ENG STRUCTURAL
PROJECT MANAGER AUS
FIRE PROTECTION AUS
QUALITY CONTROL
BRANCH MANAGER
DESIGN DIRECTOR

STRONG, REPPE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

SP

A/E CONTRACT NO. N62470-90-B-1601

APPROVED DATE

ACTIVITY - SATISFACTORY TO

APPROVED DATE 7/18/95

FOR OIC FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA — No. 021332 — JAMES W. ROSS — PROFESSIONAL ENGINEER — 6/11/95

NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA

DEPARTMENT OF THE NAVY
NAVAL STATION
U. S. NAVAL STATION
GUANTANAMO BAY, CUBA

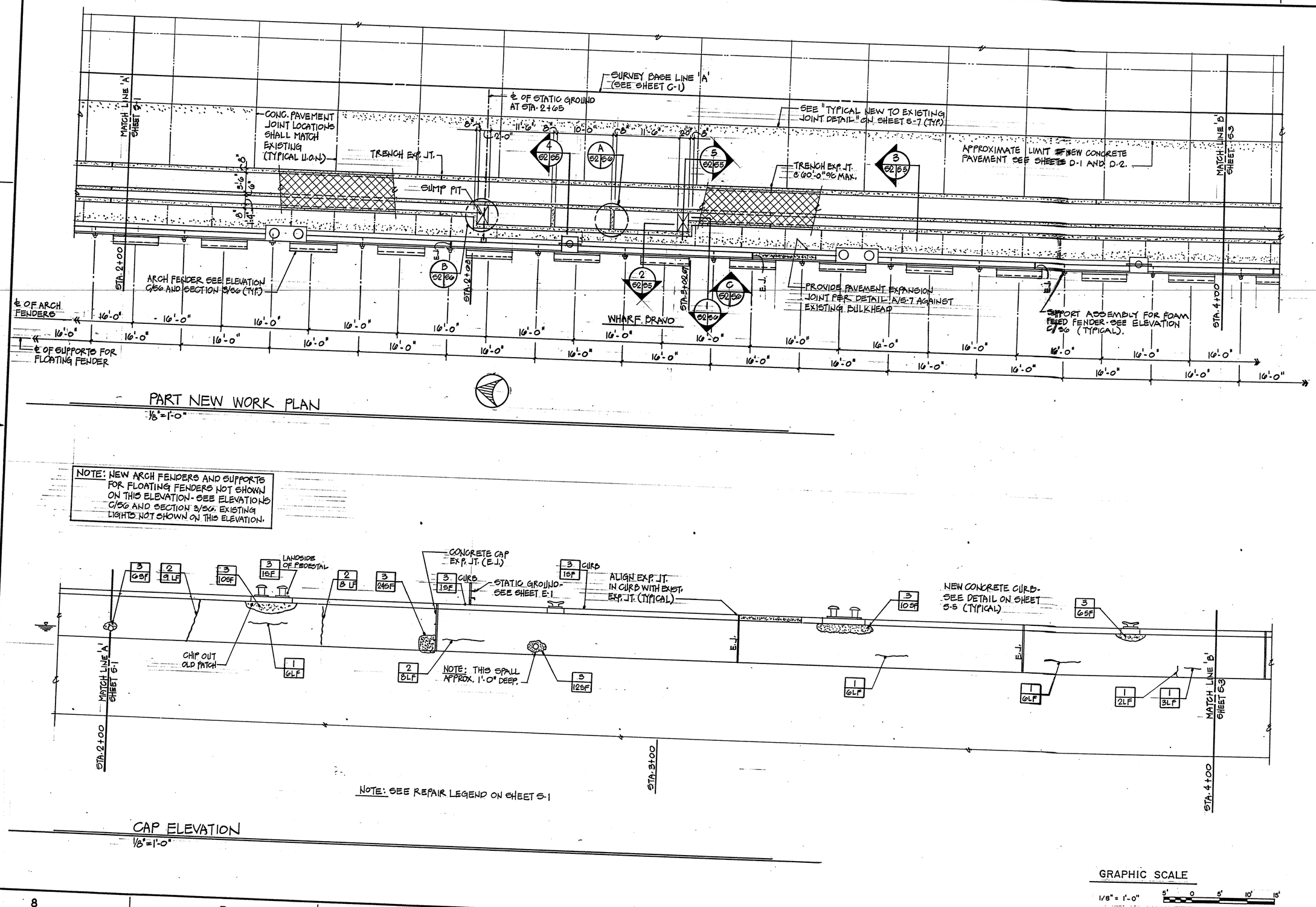
REPAIRS TO WHARF BRAVO (PHASE II)

PART NEW WORK PLAN AND CAP ELEVATION

CODE I.D. NO. 80091 SIZE D
SCALE: AS NOTED
EFD NO. 349512
STA. PROJ. NO. R27-92
SPEC. NO. 059 11269
CONSTRN. CONTR. NO. N62470-91-B-1269
NAVFAC DRAWING NO. 429152
SHEET 15 OF 22
S-1

8 7 6 5 4 3 2 1

D C B A



PART NEW WORK PLAN
1/8"=1'-0"

NOTE: NEW ARCH FENDERS AND SUPPORTS FOR FLOATING FENDERS NOT SHOWN ON THIS ELEVATION - SEE ELEVATIONS C/S6 AND SECTION 3/S6. EXISTING LIGHTS NOT SHOWN ON THIS ELEVATION.

NOTE: SEE REPAIR LEGEND ON SHEET S-1

CAP ELEVATION
1/8"=1'-0"

GRAPHIC SCALE
1/8" = 1'-0"

REVISIONS

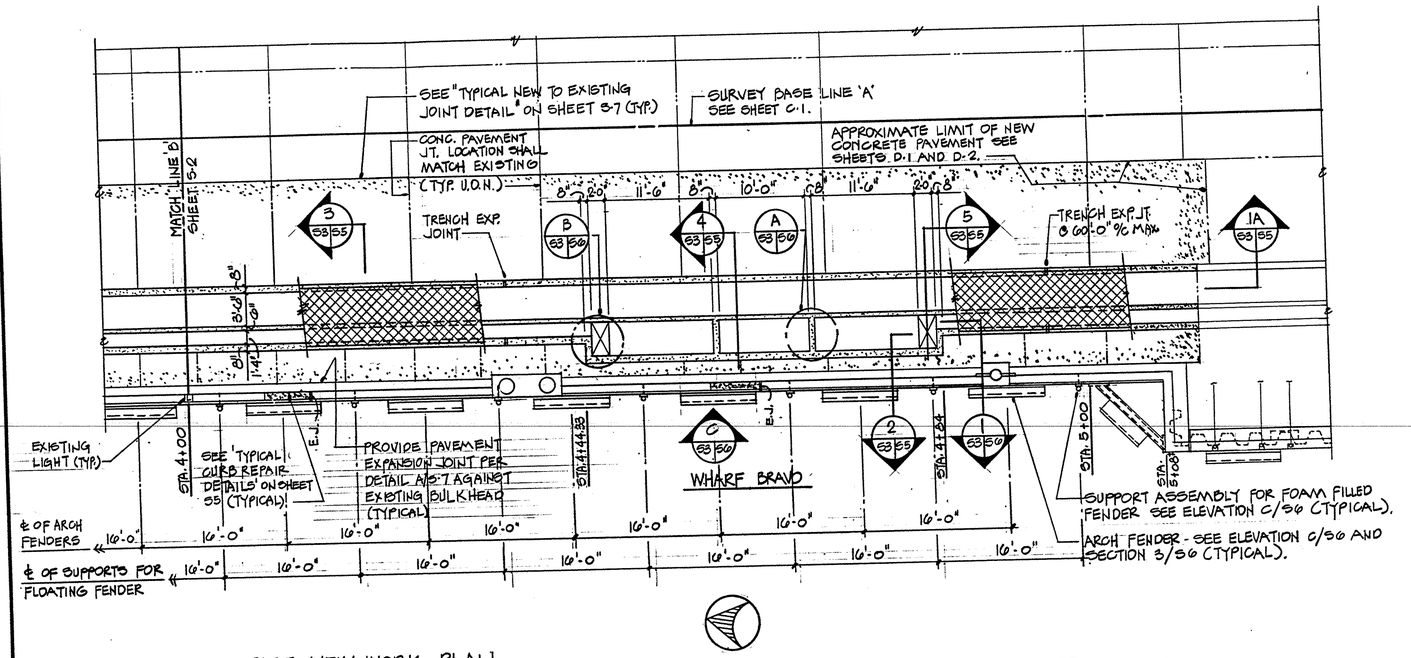
DEPARTMENT OF THE NAVY
NAVAL STATION ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA
U. S. NAVAL STATION GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)
PART NEW WORK PLAN AND CAP ELEVATION

STROUD, PENCE & ASSOCIATES, LTD. CONSULTING STRUCTURAL ENGINEERS VIRGINIA BEACH, VIRGINIA 23462
A/E CONTRACT NO. N62470-90-B-7681
ACTIVITY - SATISFACTORY TO
7/18/85

COMMONWEALTH OF VIRGINIA
DAVID W. WYNNS
No. 021332
6/1/95
PROFESSIONAL ENGINEER

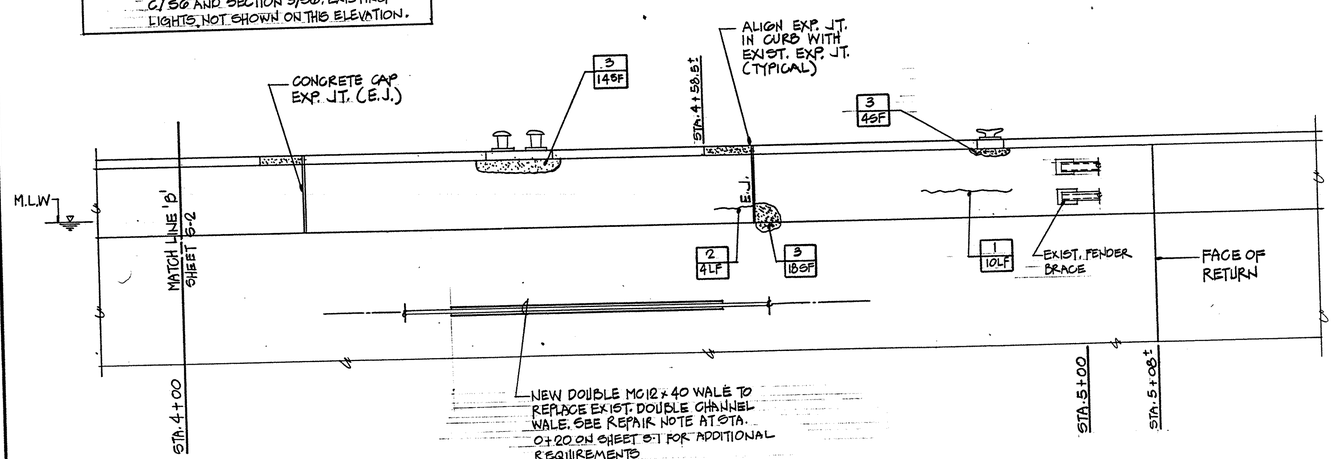
CODE I.D. NO. 80091 SIZE D
SCALE: AS NOTED
EFD NO. 349513
STA. PROJ. NO. R27-92
SPEC. NO. 05911269
CONSTRN. CONTR. NO. N62470-91-B-1269
NAVFAC DRAWING NO. 4249513
SHEET 16 OF 22
S-2



PART NEW WORK PLAN

1/8" = 1'-0"

NOTE: NEW ARCH FENDERS AND SUPPORTS FOR FLOATING FENDERS NOT SHOWN ON THIS ELEVATION - SEE ELEVATIONS C/S6 AND SECTION 3/S6. EXISTING LIGHTS NOT SHOWN ON THIS ELEVATION.



CAP ELEVATION

1/8" = 1'-0"

GENERAL NOTES:

1. BEFORE PROCEEDING WITH ANY WORK ADJACENT TO THE EXISTING STRUCTURES, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH EXISTING STRUCTURAL CONDITIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE ALL NECESSARY BRACING, SHORING AND OTHER SAFEGUARDS TO MAINTAIN ALL PARTS OF THE STRUCTURES IN A SAFE CONDITION AT ALL TIMES DURING THE PROCESS OF DEMOLITION AND CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF THE EXISTING STRUCTURES WHICH ARE TO REMAIN.

2. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS, ELEVATIONS, ETC. NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE STRUCTURE TO THE EXISTING. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS NECESSARY FOR FABRICATION AND ERECTION OF STRUCTURAL MEMBERS. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER.

3. CONTRACTOR SHALL PROVIDE TEMPORARY FUEL LINE PRIOR TO REMOVAL OF EXISTING ACTIVE FUEL LINES.

4. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE CIVIL AND ELECTRICAL DRAWINGS, AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, INSERTS, ANCHORS, HOLES, ETC. TO BE PLACED OR SET IN THE STRUCTURAL WORK.

5. DESIGN LIVE LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:

   SURCHARGE ..... 300 PSF
   TRENCH COVER ..... H20 WHEEL LOAD

6. ALL ELEVATIONS SHOWN ARE REFERENCE MEAN SEA LEVEL (MSL) = 0.00'

7. APPLICABLE DESIGN CRITERIA:
   THE FOLLOWING PUBLICATIONS HAVE BEEN USED IN THE DESIGN OF THIS FACILITY:

MIL-HDBK 1002/1	STRUCTURAL ENGINEERING GENERAL REQUIREMENTS
MIL-HDBK 1002/2	LOADS
MIL-HDBK 1002/3	STRUCTURAL ENGINEERING, STEEL STRUCTURES
DM 2.04	CONCRETE STRUCTURES, STRUCTURAL ENGINEERING
P-355	SEISMIC
DM 7	GEOTECHNICAL ENGINEERING
MIL-HDBK 1025/1	PIERS AND WHARVES

ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND "GUANTANAMO BAY, CUBA DESIGN CRITERIA" AUGUST 1986.

ACI 318-89 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.

AISC MANUAL OF STEEL CONSTRUCTION 9TH EDITION.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL BE ASTM A-36, FY=36 KSI.
2. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1, STRUCTURAL WELDING CODE. PROVIDE 3/16" CONT. FILLET WELDS UNLESS OTHERWISE NOTED.
3. ALL STEEL SHALL BE HOT-DIP GALVANIZED.

REINFORCED CONCRETE NOTES:

1. THE CONCRETE PORTIONS OF THIS STRUCTURE ARE DESIGNED IN ACCORDANCE WITH THE REPORTS AND SPECIFICATIONS OF THE "AMERICAN CONCRETE INSTITUTE BUILDING CODE" (ACI 318-89).
2. ALL CONCRETE SHALL OBTAIN A 28 DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I. ALL CONCRETE SHALL BE AIR ENTRAINED.
3. REINFORCING STEEL SHALL BE IN ACCORDANCE WITH A.S.T.M. A-615, GRADE 60 (MINIMUM YIELD 60,000 P.S.I.).
4. ALL REINFORCING MARKED CONTINUOUS (CONT.) ON THE PLANS AND DETAILS SHALL BE LAPPED 36 X BAR DIAMETER AT SPLICES UNLESS OTHERWISE NOTED.
5. GENERAL DETAILS OF FABRICATION AND PLACING OF REINFORCING AND CONCRETE COVER FOR REINFORCING SHALL BE IN ACCORDANCE WITH ACI 318-89. MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS INDICATED ON THE DRAWINGS SHALL GOVERN WHEN IN CONFLICT WITH ACI 318.89.
6. ALL REINFORCING SHALL BE HELD SECURELY IN PLACE DURING POURING OPERATIONS TO PREVENT DISLOCATION. BAR SUPPORTS AND HOLDING BARS SHALL BE PROVIDED BY THE FABRICATOR FOR ALL REINFORCING STEEL TO INSURE MINIMUM CONCRETE PROTECTION (INDICATE SUCH ON REINFORCING SHOP DRAWINGS). BAR SUPPORTS SHALL BE PLASTIC TIPPED OR STAINLESS STEEL.
7. AT ALL CONSTRUCTION JOINTS AT TOPS OF WALLS AND FOUNDATIONS, THE CONTACT SURFACE OF PREVIOUSLY POURED CONCRETE SHALL BE INTENTIONALLY ROUGHENED TO 1/4" MINIMUM AMPLITUDE, THOROUGHLY CLEANED, AND PAINTED WITH PORTLAND CEMENT/WATER GROUT IMMEDIATELY PRIOR TO PLACING NEW POUR.

GRAPHIC SCALE

1/8" = 1'-0" 5' 0 5' 10' 15'

REVISIONS

DESCRIPTION	DATE	APPROVED

STROUD, PERCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA
A/E CONTRACT NO. N62470-90-B-7681
APPROVED DATE

ACTIVITY - SATISF ASTORY TO
APPROVED DATE 7/18/95

COMMONWEALTH OF VIRGINIA
DAVID W. PERCE
No. 021332
PROFESSIONAL ENGINEER
7/18/95

NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
U.S. NAVAL STATION
GUANTANAMO BAY, CUBA

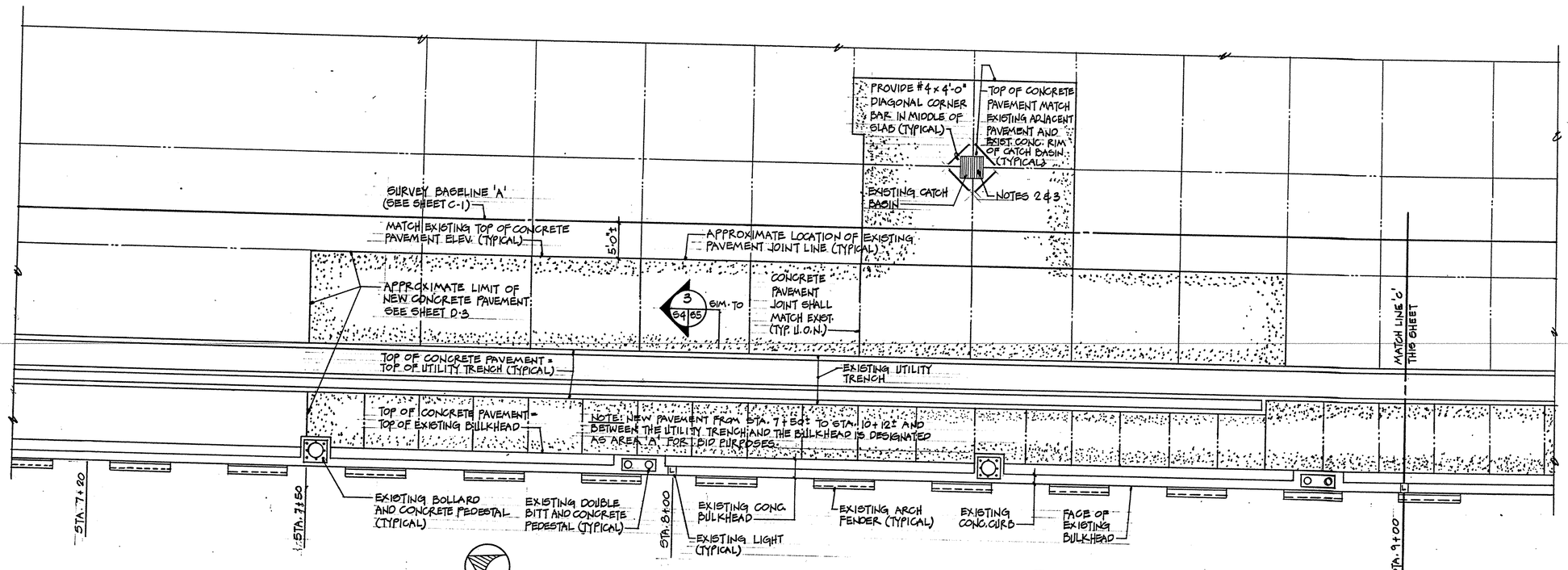
REPAIRS TO WHARF BRAVO (PHASE II)

PART NEW WORK PLAN AND CAP ELEVATION

DEPARTMENT OF THE NAVY
NAVAL STATION

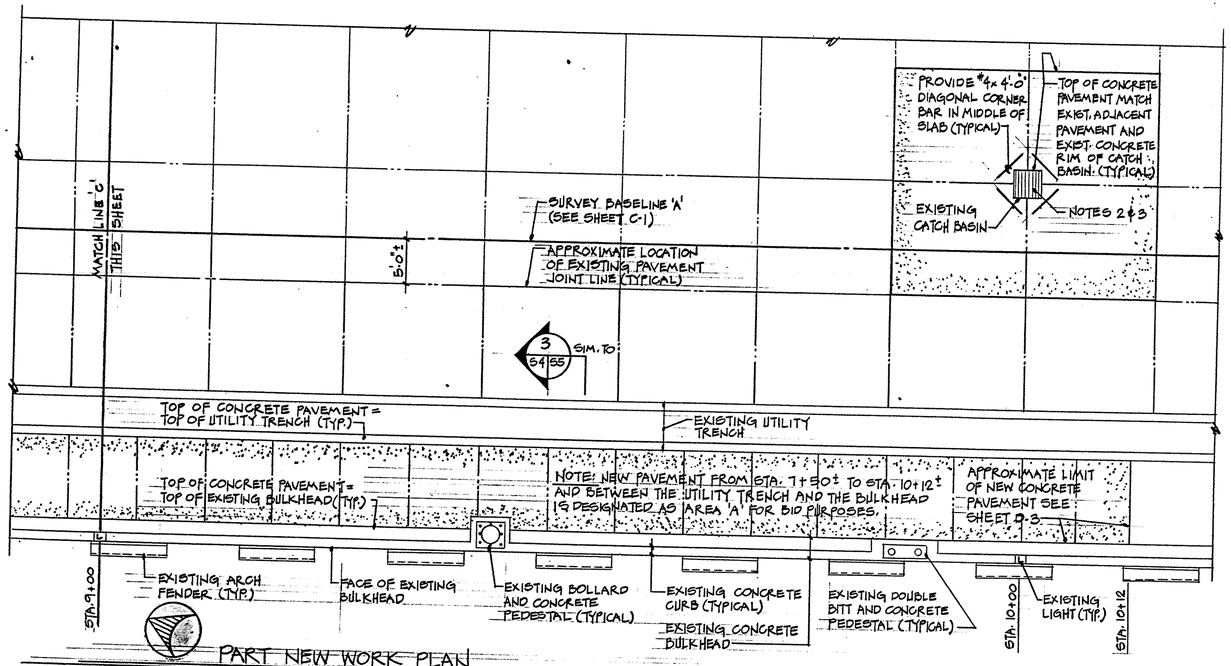
CODE I.D. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO. 349514	
STA. PROJ. NO. R27-92	
SPEC. NO. 05911269	
CONSTR. CONTR. NO.	N62470-91-B-1269
NAVFAC DRAWING NO.	4249514
SHEET 17 OF 22	

5-3



PART NEW WORK PLAN

1/8" = 1'-0"



PART NEW WORK PLAN

1/8" = 1'-0"

NOTE:
1. NEW WORK ON THIS SHEET CONSISTS ONLY OF PAVEMENT REPLACEMENT AND CATCH BASIN CLEANING.
2. CONTRACTOR SHALL CLEAN CATCH BASINS OF SILT, DIRT AND DEBRIS TO 2'-0" DOWN PIPE FROM CATCH BASIN.
3. AFTER REMOVAL OF EXISTING PAVEMENT, CONTRACTOR SHALL INSPECT THE EXISTING SUBGRADE AND NOTIFY THE CONTRACTING OFFICER OF ANY EVIDENCE OF VOIDS IN OR AROUND EXISTING PIPES.

GRAPHIC SCALES

1/8" = 1'-0" 5' 0 5' 10' 15'

NO.	DESCRIPTION	DATE	APPROVED
	REVISIONS		

DES. DWM
DESIGN
DRAW. RWL
REVIEW EHF
CHIEF DES. EHF
PROJECT MANAGER
FIRE PROTECTION
QUALITY CONTROL
BRANCH MANAGER
DETAIL DIRECTION

STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-B-7691

APPROVED
ACTIVITY - BATTELFACTORY TO
APPROVED
DATE 7/18/95
FOR RECOMMENDED APPROVAL

COMMONWEALTH OF VIRGINIA
No. 021332
DAVID W. WOODS
PROFESSIONAL ENGINEER
7/18/95

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION
NORFOLK, VIRGINIA
U.S. NAVAL STATION GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)

PART NEW WORK PLANS

CODE I.D. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO. 3499515	
STA. PROJ. NO. R27-92	
SPEC. NO. 05911269	
CONSTR. CONTR. NO. N62470-91-B-1269	
NAVFAC DRAWING NO. 4299515	
SHEET 18 OF 22	

5-4

8 7 6 5 4 3 2 1

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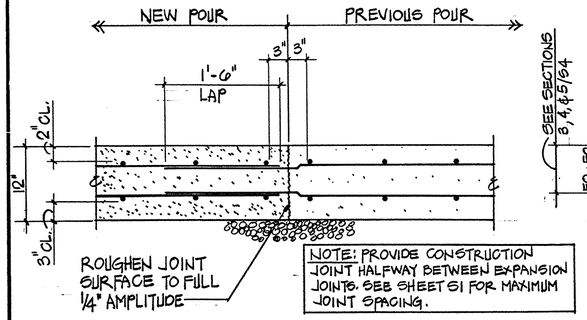
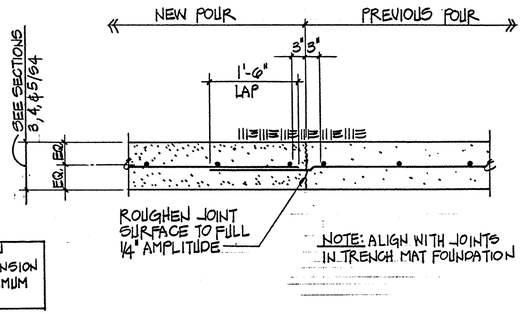


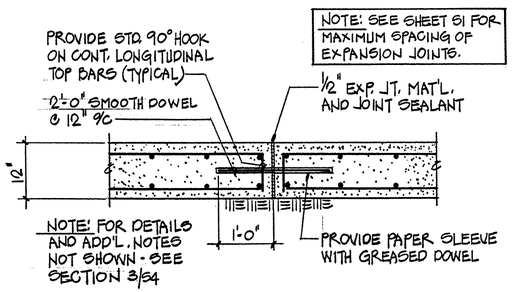
TYPICAL TRENCH MAT FOUNDATION CONSTRUCTION JOINT DETAIL

NOT-TO-SCALE



TYPICAL TRENCH WALL CONSTRUCTION JOINT DETAIL

NOT-TO-SCALE



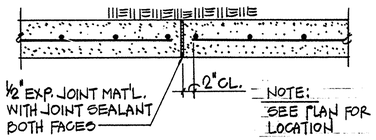
TYPICAL TRENCH SLAB EXPANSION JOINT DETAIL

NOT-TO-SCALE

GRAPHIC SCALE

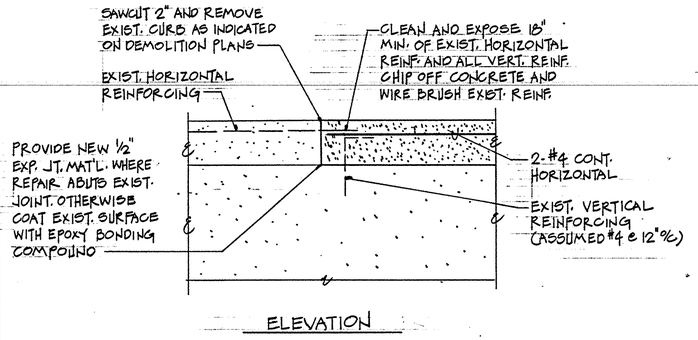
3/4" = 1'-0"

12" 6" 0 1' 2' 3'

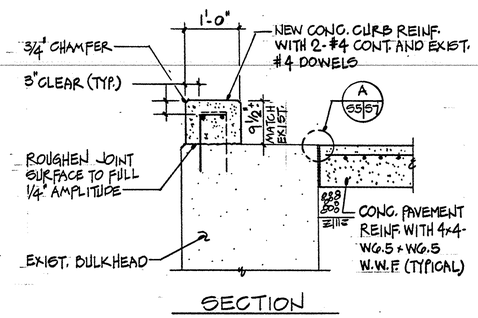


TYPICAL TRENCH WALL EXPANSION JOINT DETAIL

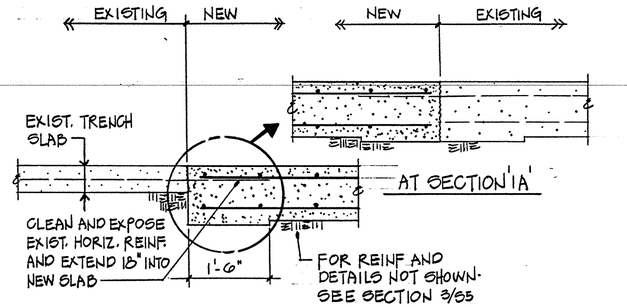
NOT-TO-SCALE

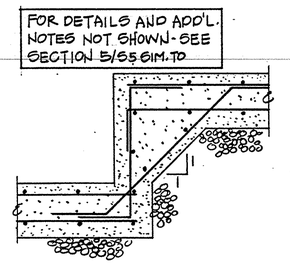


ELEVATION



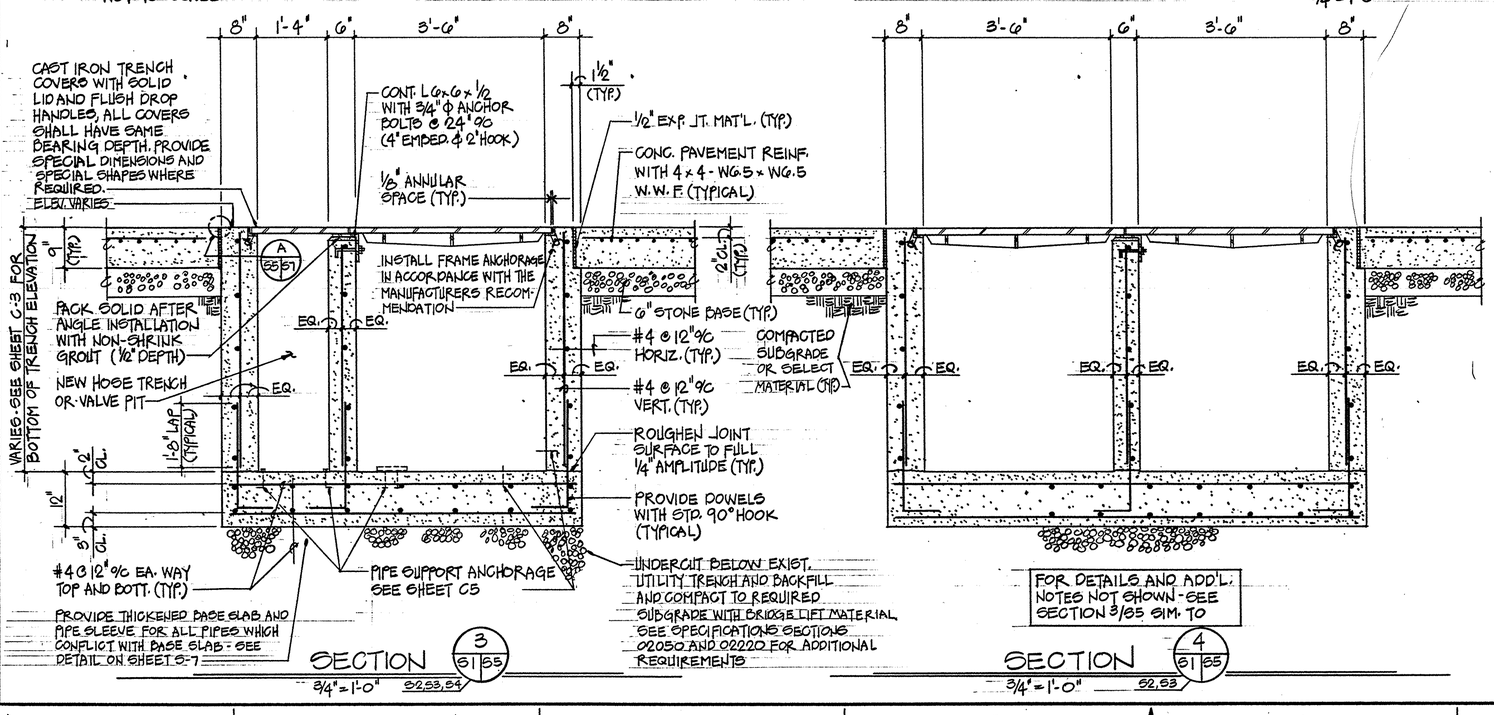
SECTION





TYPICAL CURB REPAIR DETAILS

NOT-TO-SCALE

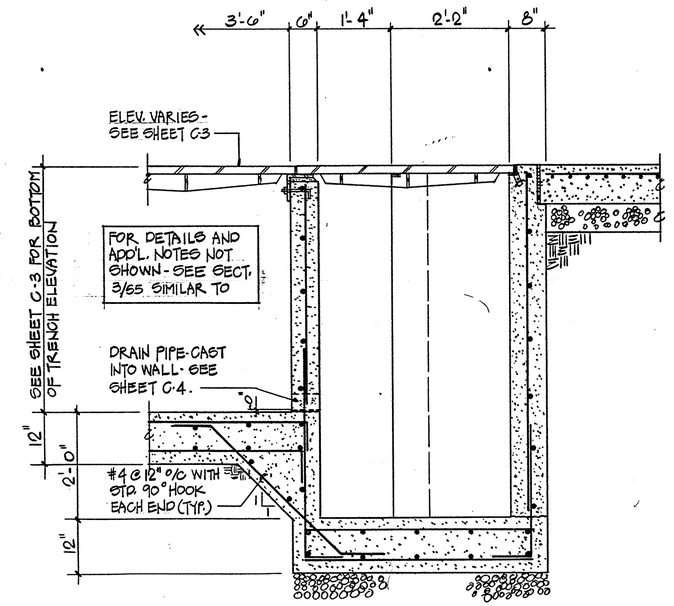


SECTION 3 (S1/S5), 3/4"=1'-0", S2,S3,S4

SECTION 4 (S1/S5), 3/4"=1'-0", S2,S3

SECTION 1 (S1/S5) 1A (S3/S5), 3/4"=1'-0"

SECTION 2 (S1/S5), 3/4"=1'-0", S2,S3



SECTION 5 (S1/S5), 3/4"=1'-0", S2,S3

REVISIONS			
DESCRIPTION	DATE	APPROVED

DESIGN DIRECTOR	DWM	
BRANCH MANAGER	RAHL	
QUALITY CONTROL	BMP	
FIRE PROTECTION	BMP	
PROJECT MANAGER		
CHIEF ARCH / ENG.		
REVIEW		
DESIGN		

STROUD, PENCE & ASSOCIATES, LTD. CONSULTING ENGINEERS VIRGINIA BEACH, VIRGINIA

A/E CONTRACT NO. N62470-90-D-7601

APPROVED DATE

ACTIVITY - BATTLESHOTORY TO

APPROVED DATE 7/18/95

COMMONWEALTH OF VIRGINIA DAVID M. PENCE No. 0332 7/18/95 PROFESSIONAL ENGINEER

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
NAVAL STATION
U.S. NAVAL STATION
GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)

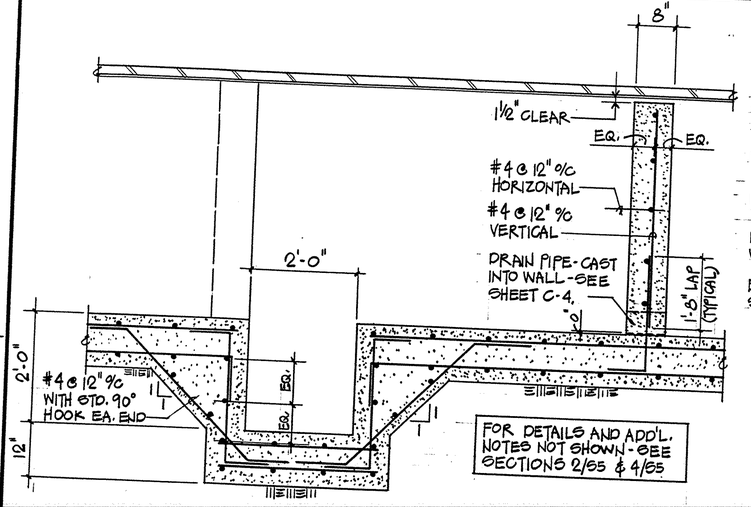
TYPICAL DETAILS AND SECTIONS

CODE I.D. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO. 2495516	
STA. PROJ. NO. R27-92	
SPEC. NO. 05911269	
CONSTRN. CONTR. NO. N62470-91-B-1269	
NAVFAC DRAWING NO. 2495516	
SHEET 19 OF 22	

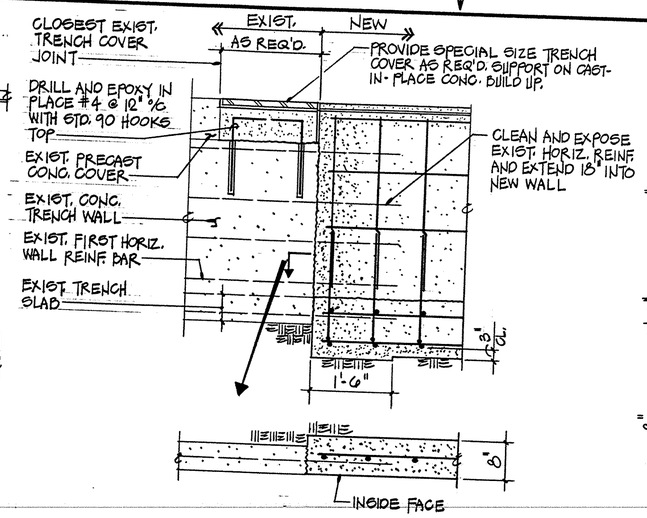
S-5

8 7 6 5 4 3 2 1

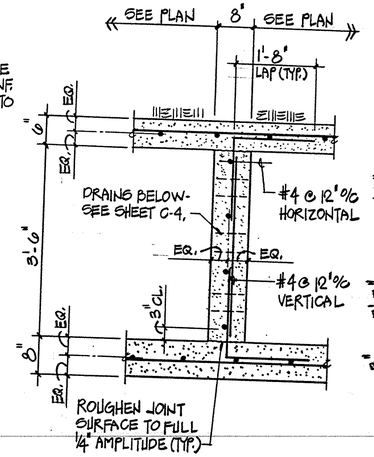
D C B A



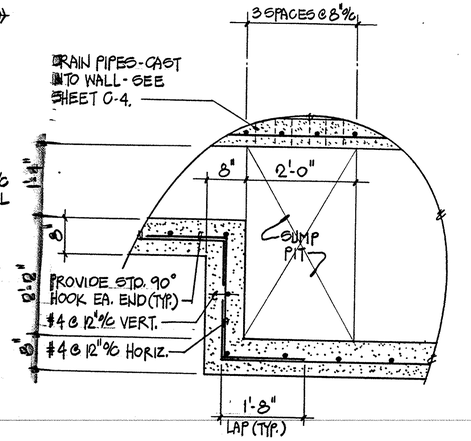
SECTION 1 — 61|56 — 3/4"=1'-0" — 52,53



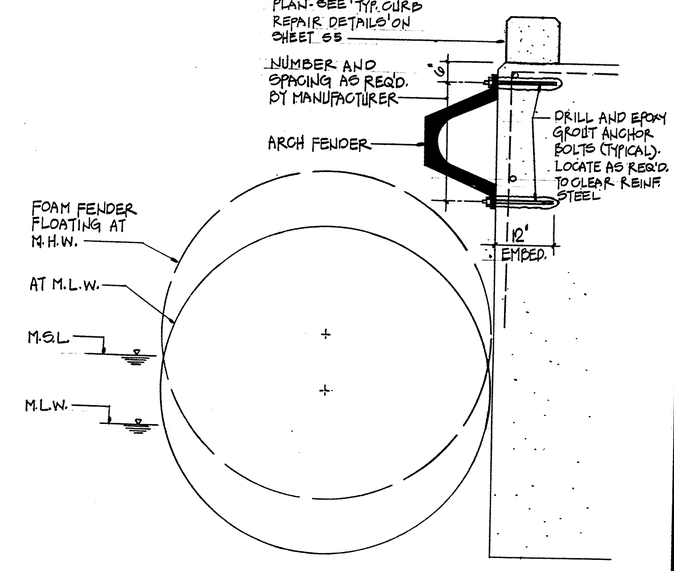
SECTION 2 — 61|56 — 3/4"=1'-0"



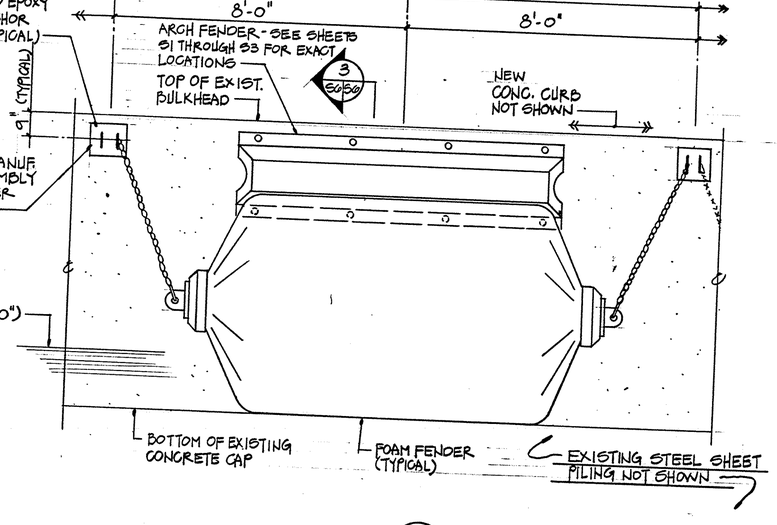
DETAIL A — 61|56 — 3/4"=1'-0" — 52,53



DETAIL B — 61|56 — 3/4"=1'-0" : 52,53



SECTION 3 — 56|56 — 3/4"=1'-0"



ELEVATION C — 51|56 — 1/2"=1'-0" — 52,53

FENDER NOTES:

1. FOAM FILLED FENDERS SHALL BE CYLINDRICAL IN SHAPE AND BE A MINIMUM OF 6 FT. MID-BODY DIAMETER AND 12 FT. IN LENGTH. MINIMUM ENERGY ABSORPTION WHEN COMPRESSED 60% SHALL BE 300 FT.-KIPS. RESULTING REACTION FORCE SHALL NOT EXCEED 186 KIPS. THE TOTAL QUANTITY OF FOAM FILLED FENDERS SHALL BE SIX (6) - INSTALL AT LOCATIONS AS DIRECTED BY THE CONTRACTING OFFICER.
2. PROVIDE FOAM FILLED FENDER MANUFACTURER'S STANDARD SUPPORT ASSEMBLY, ANCHOR BOLTS, SHACKLES, AND CHAIN. SINGLE SUPPORT PLATE SHALL HAVE 2 PADEYES. ALL HARDWARE SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.
3. HORIZONTAL ARCH FENDERS SHALL PROJECT OFF THE FACE OF THE CONCRETE CAP BEAM A MINIMUM OF 400 mm (15-3/4 INCHES). ALL HORIZONTAL ARCH FENDERS SHALL BE A MINIMUM 2.5 M (8 FT. 2-3/8 INCHES) LONG UNLESS OTHERWISE NOTED. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. FOR HORIZONTAL ARCH FENDERS PROVIDE ANCHOR BOLTS OF THE SIZE AND SPACING RECOMMENDED BY THE MANUFACTURER, BUT IN NO CASE LESS THAN 8 - 1-1/4" DIAMETER ANCHOR BOLTS WITH 12" EMBEDMENT FOR EACH 2.5 M ARCH FENDER. ALL ANCHOR BOLTS SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.

GRAPHIC SCALES

1/2" = 1'-0" 12" 6" 0 1' 2' 3' 4' 5'

3/4" = 1'-0" 12" 6" 0 1' 2' 3'

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED

DSN	DWM, RSWM
DRAWN	RAUL
CHK'D	ENP
REVIEW	ENP
CHIEF	
ADM'L SUBM.	
PROJECT MANAGER	
FIRE PROTECTION	
QUALITY CONTROL	
BRANCH MANAGER	
CESDIV DIRECTOR	

STROUD, PENCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462
A/E CONTRACT NO. N62470-90-D-1068
APPROVED
DATE

ACTIVITY - BAT/BF ACTORY TO
APPROVED
DATE
FOR BY FOR COMMANDER NAVFAC

COMMONWEALTH OF VIRGINIA
No. 021332
DAVID M. STROUD
PROFESSIONAL ENGINEER
7/18/95

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
NAVAL STATION
U. S. NAVAL STATION
GUANTANAMO BAY, CUBA

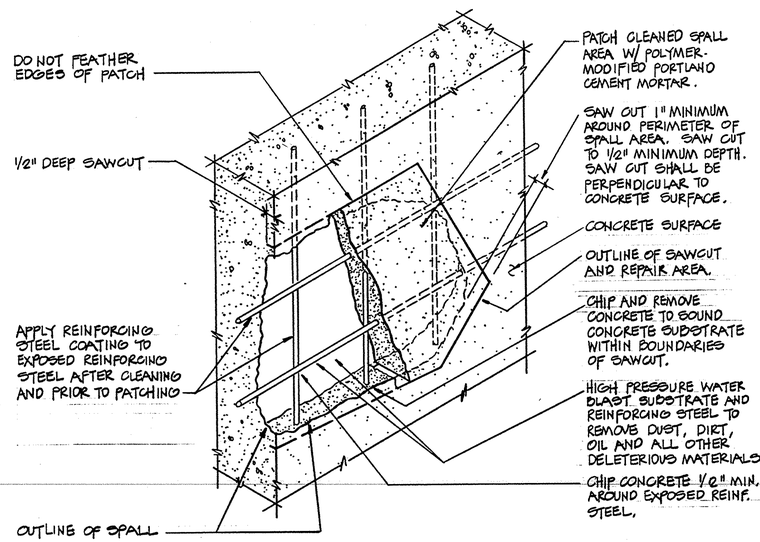
REPAIRS TO WHARF BRAVO (PHASE II)

SECTIONS, DETAILS AND ELEVATION

CODE I.D. NO. 80009	SIZE D
SCALE: AS NOTED	
EFD NO. 349517	
STA. PROJ. NO. R27-92	
SPEC. NO. 05911269	
CONSTR'N. CONTR. NO.	N62470-91-B-1269
NAVFAC DRAWING NO.	4249517
SHEET 20 OF 22	
	S-6

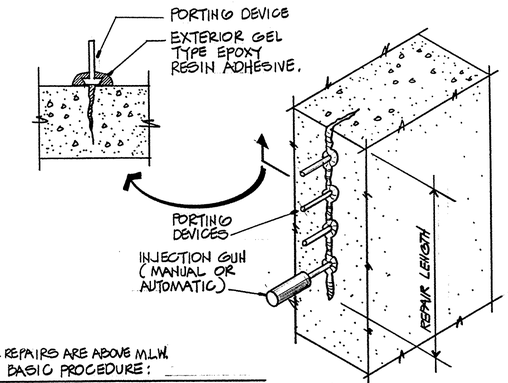
8 7 6 5 4 3 2 1

D C B A



TYPICAL CONCRETE SPALL REPAIR DETAIL

NOT TO SCALE



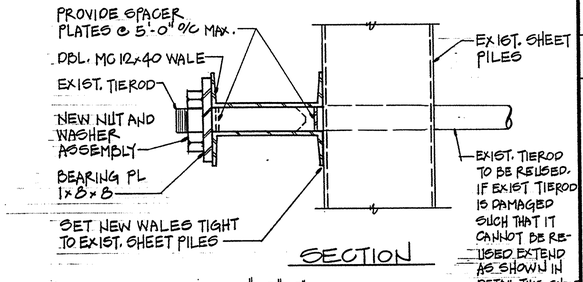
ALL REPAIRS ARE ABOVE M.L.W.

BASIC PROCEDURE:

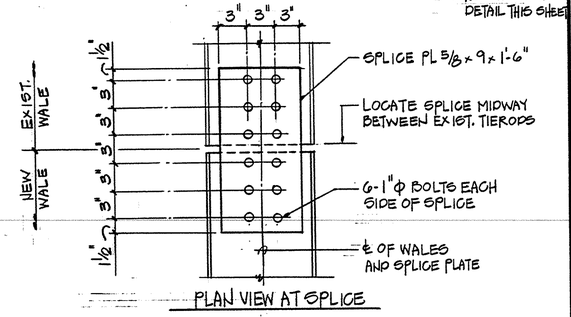
1. SET PORTING DEVICES OR ONE-WAY PLASTIC VALVES AT REGULAR INTERVALS OVER CRACKS.
2. SEAL CRACK ON THE OUTSIDE WITH A GEL TYPE EPOXY RESIN ADHESIVE OVER CRACKS AND AROUND EACH INJECTION PORT A MINIMUM OF 1" WIDE BY 1/4" THICK.
3. WHEN THE SEAL HAS CURED PRESSURE INJECT LOW VISCOSITY EPOXY COMPOUND, BEGIN AT LOWEST PORT AND PROCEED TO THE NEXT HIGHER UNTIL MATERIAL APPEARS AT AN ADJACENT PORT, THEN MOVE TO NEXT HIGHER PORT.

TYPICAL CRACK REPAIR DETAIL

NOT TO SCALE



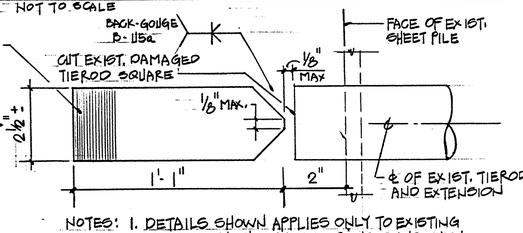
SECTION



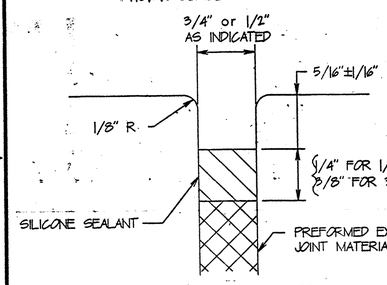
PLAN VIEW AT SPLICE

TYPICAL WALE REPAIR DETAILS

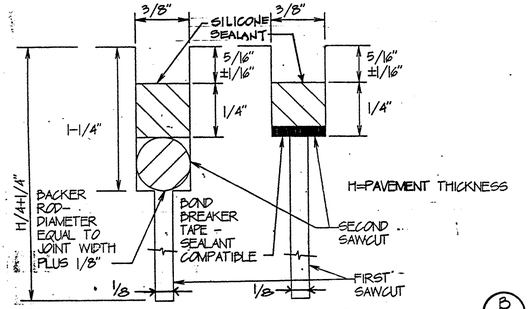
NOT TO SCALE



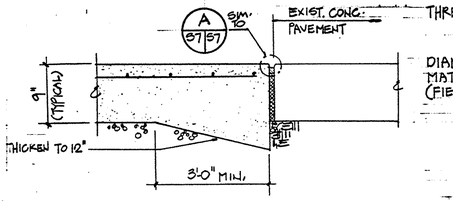
NOTES:
1. DETAILS SHOWN APPLIES ONLY TO EXISTING TIERODS WHICH CANNOT BE RE-USED AND WHICH HAVE SUFFICIENT EXTENSIONS BEYOND THE FACE OF THE EXISTING SHEET PILE.
2. ASSUME FOR BID PURPOSES 8 REPAIRS REQUIRED.
3. PERFORM ALL WELDING IN ACCORDANCE WITH AWS D3.6-89 "SPECIFICATION" FOR UNDERWATER WELDING.



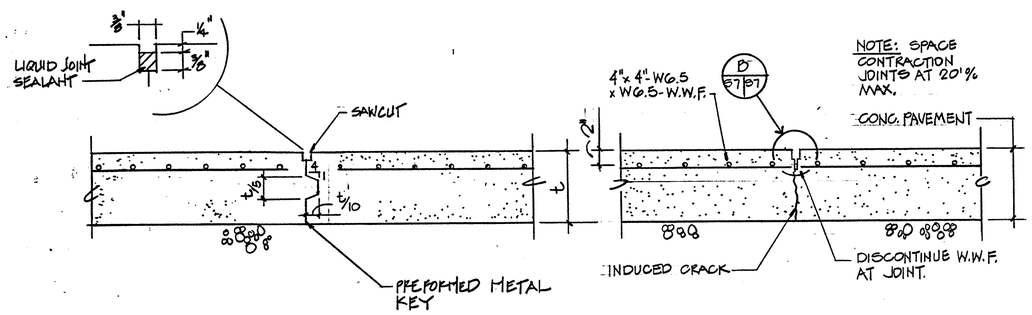
DETAIL A 55|57 — NOT TO SCALE — 57



SAWED TRANSVERSE OR LONGITUDINAL CONTRACTION JOINTS B 57|57 — NOT TO SCALE



TYPICAL NEW TO EXISTING JOINT DETAIL — NOT TO SCALE

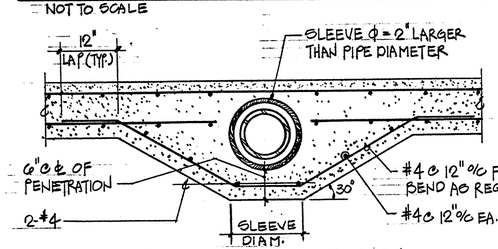


TYPICAL CONSTRUTION JOINT DETAIL — NOT TO SCALE

TYPICAL TRANSVERSE AND LONGITUDINAL CONTRACTION JOINT DETAIL — NOT TO SCALE

TYPICAL TIEROD EXPANSION DETAIL

NOT TO SCALE



TYPICAL PIPE SLEEVE THRU TRENCH SLAB DETAIL

NOT TO SCALE

NO.	DESCRIPTION	DATE	APPROVED
	REVISIONS		

CE	DWM	DESIGN	
	PAUL	DRAWN	
	EWP	REVIEW	
	EWP	CHIEF ARCH / ENGR.	
		PROJECT MANAGER	
		FIRE PROTECTION	
		QUALITY CONTROL	
		BRANCH MANAGER	
		DESIGN DIRECTOR	

STROUD, PERCE & ASSOCIATES, LTD. CONSULTING ENGINEERS VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT — ACTIVITY - SATISFACTORY TO — APPROVED — DATE 7/18/95

NAVFAC CONTRACT NO. N62470-90-D-1081 — FOR DIV FOR COMMAND MGMT

COMMONWEALTH OF VIRGINIA — DAVID M. PERCE — No. 021332 — REGISTERED PROFESSIONAL ENGINEER — 7/11/95

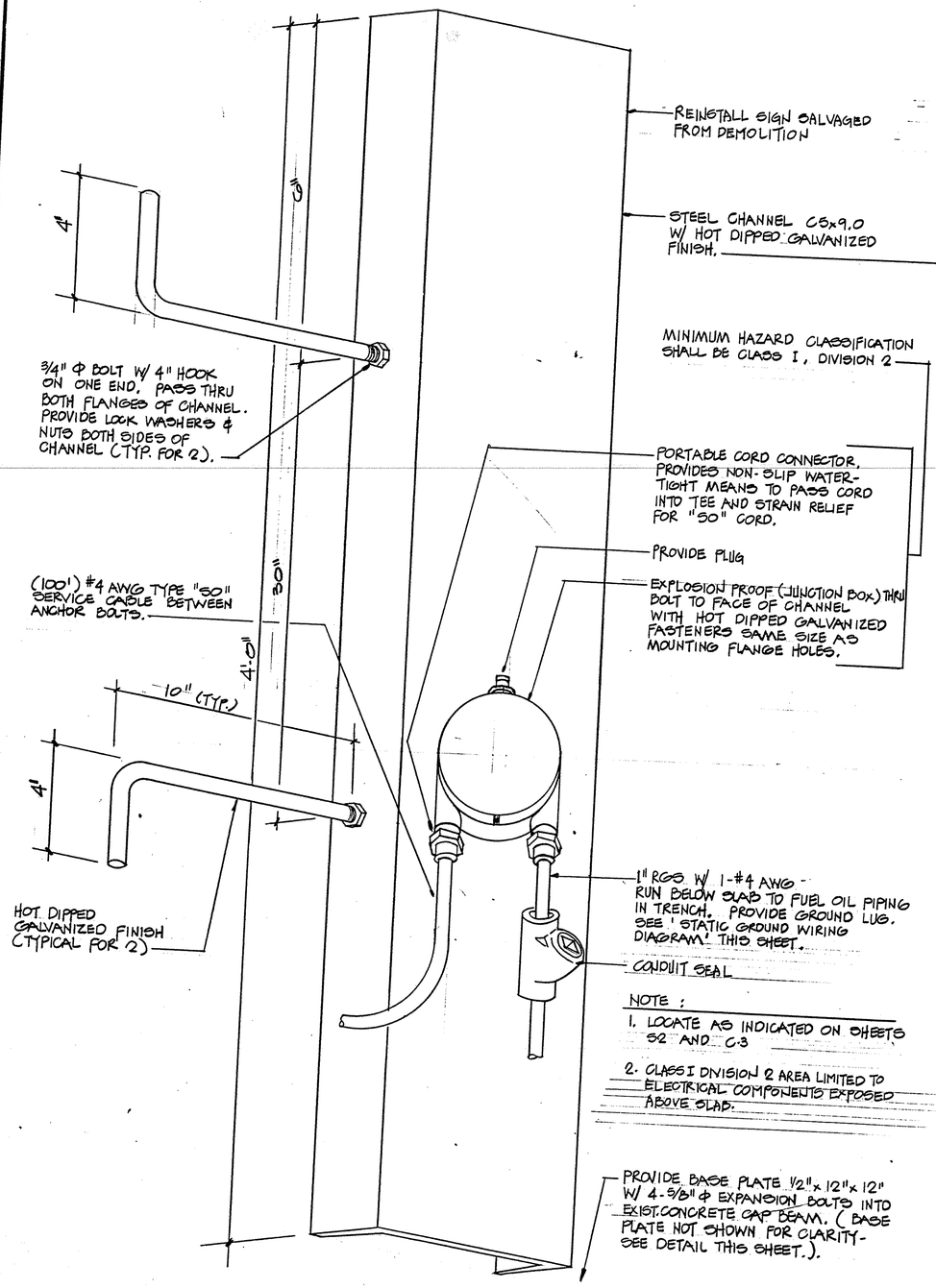
DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND — ATLANTIC DIVISION — NORFOLK, VIRGINIA — NAVAL STATION — GUANTANAMO BAY, CUBA — U.S. NAVAL STATION

REPAIRS TO WHARF BRAVO (PHASE II)

DETAILS

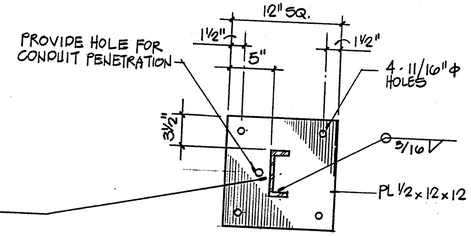
CODE I.D. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO. 349518	
STA. PROJ. NO. R27-92	
SPEC. NO. 05911Z029	
CONSTRN. CONTR. NO. N62470-91-B-1269	
NAVFAC DRAWING NO. 4249518	
SHEET 21 OF 22	
5-7	

8 7 6 5 4 3 2 1 — D C B A



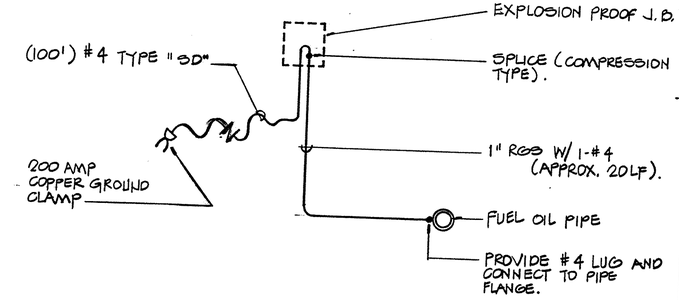
STATIC GROUND ASSEMBLY DETAIL

NOT TO SCALE



BASE PLATE DETAIL

NOT TO SCALE



STATIC GROUND WIRING DIAGRAM

NO TO SCALE

NO.	DESCRIPTION	DATE	APPROVED
	REVISIONS		

DESIGN DIRECTOR: DWA
BRANCH MANAGER: RAUL
QUALITY CONTROL: EWF
FIRE PROTECTION: CHIEF
PROJECT MANAGER: APPROVED
DES: RWB
DR: AS
CHK: RWB
DATE: 7/18/96

STROUD, PRINCE & ASSOCIATES, LTD.
CONSULTING STRUCTURAL ENGINEERS
VIRGINIA BEACH, VIRGINIA 23462

A/E CONTRACT NO. N62470-90-D-7261
DATE

ACTIVITY - SATISFACTORY TO
APPROVED
FOR OFFICER IN CHARGE OF CONSTRUCTION
DATE 7/18/96

COMMONWEALTH OF VIRGINIA
R. D. Foster
No. 20336
PROFESSIONAL ENGINEER

NAVAL FACILITIES ENGINEERING COMMAND
DEPARTMENT OF THE NAVY
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA
U.S. NAVAL STATION GUANTANAMO BAY, CUBA

REPAIRS TO WHARF BRAVO (PHASE II)

ELECTRICAL DETAILS

CODE I.D. NO. 80091	SIZE D
SCALE:	AS NOTED
EFD NO.	349519
STA. PROJ. NO.	R27-92
SPEC. NO.	05911269
CONSTR. CONTR. NO.	N6240-91-B-1269
NAVFAC DRAWING NO.	4249519
SHEET	22 OF 22
	E-1

A (C3|E1)