



MARINE TERMINAL INFORMATION

U. S. OIL & REFINING CO.

Tacoma, Washington

Rev 3/26/19

U.S. Oil & Refining Co. Terminal Information

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U.S. Oil & Refining Co.
 3001 Marshall Avenue, Tacoma, WA 98421
 Post Office Box 2255, Tacoma, WA 98401
 (253) 383-1651 * TWX: 9104412682

PORT	STATE	LATITUDE	LONGITUDE
TACOMA	WA	47°16'N	122°24'W

CHANNEL/ANCHORAGE INFORMATION

CHANNEL WIDTH: 355 FT.	CHANNEL DEPTH: 51 FT.	NATURE OF BOTTOM: MUD
ANCHORAGE WIDTH: 1800 FT.	ANCHORAGE DEPTH: 90-255 FT.	NATURE OF BOTTOM: MUD

TERMINAL NAME: U.S. OIL & REFINING CO. 1735 PORT OF TACOMA RD, TACOMA WA 98421

HYDROGRAPHIC INFORMATION

MAXIMUM TIDAL RANGE: +14.0 MLLW - 3.5 MLLW	MAXIMUM CURRENT VELOCITY: 1 KNOT	NATURE OF BOTTOM: MUD	DEPTH OF APPROACH TO BERTHS AT ZERO CHART DATUM: 41 FT.
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SERVICES

BUNKER FUEL AVAILABLE AT BERTHS: YES – 3000 B/H	DIESEL FUEL AVAILABLE AT BERTHS: YES – 500 B/H (MDO, ISO-F-DMB) – 2000 B/H (ULSD) – 200 - 850 B/H (ULSD, RED DYED)	BUNKER FUEL/DIESEL AVAILABLE AT ANCHOR: YES
DIRTY BALLAST FACILITIES (YES/NO): NO CAPACITY: -----	SLOP RECEPTION FACILITIES (YES/NO): NO CAPACITY: -----	FRESH WATER AVAILABLE (YES/NO): YES VESSEL MUST PROVIDE HOSE

(Revision 3/26/19)

TERMINAL COMMUNICATIONS

TELEPHONE NUMBER: 253-383-1651 x 481	FAX NUMBER: 253-383-9970	TELEX:
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BRIDGES OR HIGH POWER LINES

NAME OF BRIDGE(S) AND VERTICAL CLEARANCE AT HIGH WATER:
--

ETA INSTRUCTIONS

Send ETA via ship's agent.

COMMENTS

See attached Section 11.0 of Marine Terminal Operations Manual.

The information requested below can be found in the terminal's U.S. Coast Guard Operating Manual. We recognize that not all the information listed below is applicable to every terminal and berth. The terminal should only complete those areas that are applicable.

BERTH INFORMATION

BERTH DATA

BERTH NAME	U.S. OIL DOCK #1	U.S. OIL DOCK #2
TYPE OF BERTH (JETTY, SPM)	WHARF	WHARF
MINIMUM DEPTH OF WATER AT 0 CHART DATUM	41'	30'
MAXIMUM DRAFT	1 ½' UKC 36'*	1 ½' UKC 25'*
DENSITY OF WATER		
DATE OF SOUNDINGS	3/14/2005	3/14/2005
OIL PRODUCTS HANDLED	CRUDE OIL GASOLINE JET FUEL ULSD ULSD, RED DYED VACUUM GAS OIL MARINE FUELS	JET FUEL MARINE FUELS ULSD ULSD, RED DYED

* Max draft assumes a low tide of -3.5 ft MLLW

MAXIMUM VESSEL LIMITS

BERTH NAME	U.S. OIL DOCK #1	U.S. OIL DOCK #2
LENGTH OVERALL	900'	390'
BEAM	_____	_____
BOW TO CENTER MANIFOLD	444'	212'
DEADWEIGHT (OUTER CONCRETE DOLPHINS)	125K DWT	16.7K DWT
DEADWEIGHT (INNER CONCRETE DOLPHINS)	60K DWT	N/A
DISPLACEMENT	_____	_____

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BERTH REQUIREMENTS

BERTH NAME	U.S. OIL DOCK #1	U.S. OIL DOCK #2
BOW CHAIN STOPPER REQUIRED (SPM) (YES/NO)	N/A	N/A
BOW CHAIN STOPPER SWL AND SIZE (SPM)	N/A	N/A
BOW CHOCK OPENING SIZE (SPM)	N/A	N/A
CLOSED CARGO OPERATION REQUIRED (YES/NO)	NO	NO
NIGHT BERTHING ALLOWED (YES/NO)	YES. See Pilot's restrictions	YES. See Pilot's restrictions
NIGHT UNBERTHING ALLOWED (YES/NO)	YES	YES
IGS REQUIRED (YES/NO)	per 46 CFR 32.53	per 46 CFR 32.53
MAINTAIN 30% DWT REQUIRED (SPM/CBM)	NO	NO
MANIFOLD HEIGHT ABOVE MLLW (USING LOADING ARMS)	71.25' MLLW	N/A
MINIMUM LOADING ARM CENTERLINE ELEVATION	11.00' MLLW	N/A
MINIMUM PARALLEL MIDBODY (FLATSIDE)	165'	120'
SBT REQUIRED (YES/NO)	YES	YES
SWL ON CARGO BOOM (SPM/CBM)	2000 LBS	2200 LBS
VAPOR RECOVERY REQUIRED	YES on loading crude oil and light products (gasoline / gasoline blend stocks), or if barge flush is required of previous light product	NO

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DOCK # 1 MOORING REQUIREMENTS

Synthetic Mooring Lines Acceptable (Yes/No): Blended synthetic ok.

Wire Mooring Lines Acceptable (Yes/No): Yes

If so, Synthetic Pendants Required? (Yes/No): Yes

Mooring Layout

(Plan View Attached)

Number of Headlines:	2
Number of Forward Breast Lines:	2
Number of Forward Spring Lines:	2
Number of Aft Spring Lines:	2
Number of Stern Lines:	2

ADDITIONAL BERTH INFORMATION

1. See Pilots General Guidelines attached.
2. Mooring and fendering capacity for 125k DWT. Draft, tankage and off-loading rates combine at present to limit vessels larger than 70k DWT to less than full cargo.
3. 4 breasting mooring points with powered capstans and 2 each pelican hooks. Inner 4 and outer 4 hooks rated at 50 & 60 tons each, respectively.
4. (A) 2 each 16" diameter marine loading arms are used for crude, RVGO, cutter stock, and fuel oil.
(B) 1 each 2" diameter hose and reel is rated for 150 psig and is used for loading ULSD, red dyed.
(C) 1 each 4" and 6" diameter hoses are rated for 150 psig and is used for loading ULSD, red dyed.
5. Maximum crude off-loading rate is 35k B/H using both 16" arms.
6. Maximum manifold pressure is 125 psig on all lines except:
(A) Crude line when using the hydraulic loading arms (rated 250 psig).
(B) ULSD, red dyed line when using the 2" or 4" loading hoses (rated 150 psig).
7. US Oil supplied "Yokohama" style floating fenders are available for use with vessels whose parallel body dimensions are outside of US Oil limits.

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8. If the Vapor Combustion System (VCS) is to be used, the following information is required from the vessel in order to load:
- (A) Vapor tightness test certificate (the fugitive emissions report that the vessel passed with, all survey readings were < 1000 ppm)
 - (B) Certificate of Inspection
 - (C) Vessel pressure relief valve setpoint
 - (D) Vessel vapor header pressure drop
 - (E) Vessel vacuum relief valve setpoint
 - (F) Size of the vapor recovery hose (the hose must be tended, it cannot touch the deck/rail or dock)

DOCK # 2 MOORING REQUIREMENTS

Synthetic Mooring Lines Acceptable (Yes/No): Blended synthetic ok.

Wire Mooring Lines Acceptable (Yes/No): Yes

 If so, Synthetic Pendants Required? (Yes/No): Yes

Mooring Layout

(Plan View Attached)

Number of Headlines:	1
Number of Forward Breast Lines:	1
Number of Forward Spring Lines:	1
Number of Aft Spring Lines:	1
Number of Stern Lines:	1

ADDITIONAL BERTH INFORMATION

1. See Pilots General Guidelines attached.
2. Mooring and fendering capacity for 16.7k DWT.
3. (A) 1 each 2” diameter hose and reel is rated for 150 psig and is used for loading ULSD, red dyed.
 (B) 1 each 4” diameter hose is rated for 150 psig and is used for loading ULSD, red dyed.
4. Maximum manifold pressure is 125 psig on all lines except:
 - (A) ULSD, red dyed line when using the 2” or 4” loading hoses (rated 150 psig).

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11.0 RECEPTION FACILITIES FOR GARBAGE AND VARIOUS WASTES

11.1 Certificate of Adequacy

The United States as a party to the 1973 International Convention for the Prevention of Pollution from Ships, as modified by the Protocol of 1978 (MARPOL 73/78), is required by Annex I and the Act to Prevent Pollution from Ships (33 USC 1901) to issue certificates to reception facilities verifying their adequacy to receive oily waste from ships. Further, ports and terminals that receive ships are required to demonstrate the adequacy of reception facilities for garbage in compliance with Regulation 7 of Annex V to MARPOL 73/78. USOR has a Certificate of Adequacy issued by the U.S. Coast Guard to certify that the marine terminal facility is adequate for the receipt of oil and garbage from oceangoing ships. USOR's current Certificate of Adequacy for the reception of both oil and garbage is located in Appendix G of this document.

11.2 Reception of Normal Garbage

Since USOR is permitted to accept this waste stream, a garbage dumpster for use by vessels only has been conveniently located North of the Dock #1 office building. This dumpster, which is emptied on a weekly basis, is provided by the City of Tacoma municipal garbage service. This dumpster is of sufficient size (6 yards) to handle anticipated refuse amounts. Also, this dumpster is typically locked except when usage is requested by vessel personnel. Keys for the dumpster lock are located in the Dock #1 office and are under the custody of the Dockwatch. Prior to use a representative from the vessel will sign a statement certifying that no regulated wastes including oily rags and hazardous materials are being deposited in the garbage dumpster.

11.3 Reception of APHIS Regulated Wastes

The U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) regulates the disposal of food and plant matter and plastics contaminated with food or plant matter that is generated on ships originating from foreign ports (excluding Canada). Upon request of the ship or ship's agent, APHIS regulated waste disposal will be provided by Republic Services since USOR is not permitted to accept this waste stream. This service requires a minimum 24 hour advanced notice by the ship or ship's agent. Upon receipt of an APHIS disposal request, Republic Services will be notified. See Appendix J of this manual for contact information.

11.4 Reception of Medical Wastes

When notified that a vessel has a need for the disposal of medical wastes, the ship or ship's agent will be directed to coordinate their medical waste disposal needs with the medical waste disposal company listed in Appendix J. USOR has also established a blanket purchase order with this company to provide medical waste disposal services on an on-call basis.

11.5 Reception of Hazardous Wastes

USOR WILL NOT ACCEPT HAZARDOUS WASTES, HAZARDOUS MATERIALS, OILY RAGS, OILY WASTE, BALLAST/BILGE WATER OR DRUMS/BUCKETS CONTAINING CHEMICALS. When notified that a vessel has a need for the disposal of this waste/material, the ship or ship's agent will be directed to contact one of the hazardous waste disposal companies listed in Appendix J since USOR is not permitted to accept this type of waste/material. The Dockwatch will ensure that this waste/material is not left at our docks.

GENERAL GUIDELINES FOR VESSELS
TRANSITING RESTRICTED WATERWAYS OR PORTS

TACOMA - BLAIR WATERWAY ABOVE 11th STREET

1. All vessels will be dispatched with 2 tugs.
2. Vessels exceeding 90 feet in beam where forward visibility is restricted will be dispatched with 2 pilots.
3. Automobile and woodchip carriers exceeding 65 feet in beam should utilize two (2) tractor tugs as primary assist tugs. If such a vessel elects to use a tractor tug paired with a conventional tug as the primary assist tugs, it will be dispatched with a third conventional tug. If such a vessel elects to use two conventional tugs as the primary assist tugs, it will be dispatched with two additional conventional tugs. All conventional tugs referred to in this section must be twin screw.
4. Automobile carriers exceeding 85 feet in beam will be dispatched with 2 pilots if they are a "box-like" configuration.
5. Laden tankers exceeding 106 feet in beam will be dispatched with 3 tugs, 2 of which must be suitable tractor tugs, provided that vessels with a bow thruster and twin screws may be dispatched with 2 suitable tractor tugs.
6. Vessels of unusual configuration and all tank vessels in excess of 750 feet in length may require daylight transit, as well as additional tugs or pilots. The transit of these vessels must be discussed with the President, Puget Sound Pilots well in advance of the intended transit date.



◆ Introduction

The U.S. Oil & Refining Company's Marine Dock Facility is located in the Blair Waterway which is adjacent to Puget Sound in Tacoma, WA.. The dock facility is heavily used for vessel loading/offloading of petroleum products. The available dock reference drawings indicate that the majority of the dock and breasting dolphins were constructed in 1956 to accommodate barges and the ship "S.S. Waneta." This ship was approximately 30,000 dwt if fully loaded. Larger vessels began to use the facility over the years and this prompted the Owner to install (2) new mooring dolphin structures in 1991. U.S. Oil is currently considering contracting the services of the "Overseas Ohio," a 90,000 dwt tanker, to berth and off-load at the dock as early as October 31, 1997. The purpose of this report is to evaluate the structural capacity of the existing dock structures and identify any modifications required to safely accommodate the 90,000 dwt vessel.

◆ Design Criteria

The following design criteria was established to evaluate the dock structure capacity:

- 1) Dock/Water Level Data (All elevations referenced to M.L.L.W.)
 - Top of dock deck elevation 16.9 ft. (Top of dolphin slightly higher)
 - High water elevation 13.0 ft.
 - Low water elevation 0.0 ft.
 - Existing dock berthing area mudline elevation -42.0 ft.
(Note: Existing berthing area may be dredged to elevation -48.0 ft.)
 - Existing navigable channel mudline elevation -48.0 ft.
(Note: Channel is currently maintained by the Port of Tacoma and a preliminary study is underway to consider dredging down to elevation -51.0 ft.)

- 2) Berthing Impact Loads
 - Vessel displacement = 106,667 lt (90,000 dwt)
 - Vessel Length = 894 l.o.a.
 - Vessel depth = 64 ft.
 - Vessel beam = 105 ft.
 - Vessel draft = 49 ft. (fully loaded)
 - Vessel draft = 7 ft. (ship empty)
 - Maximum approach velocity = 4 in./sec
 - Maximum approach angle = 10°

- 3) Mooring / Wind Loads
 - Maximum design wind speed = 60 mph

• Case 1: Analysis Results with Higher Level of Risk – Lower Safety Factors

Maximum Vessel Displacement	Allowable Berthing Velocity	Allowable Wind Speed with Maximum Freeboard	Allowable Wind Speed with Minimum Freeboard
26,000 MT	8.0 in/s	85 mph with 17 feet freeboard	85 mph with 17 feet freeboard
60,000 MT	5.0 in/s	50 mph with 40 feet freeboard	70 mph with 22 feet freeboard

• Case 2: Analysis Results with Lower Level of Risk – Higher Safety Factors

Maximum Vessel Displacement	Allowable Berthing Velocity	Allowable Wind Speed with Maximum Freeboard	Allowable Wind Speed with Minimum Freeboard
26,000 MT	2.4 in/s	65 mph with 17 feet freeboard	85 mph with 10 feet freeboard
60,000 MT	1.5 in/s	35 mph with 40 feet freeboard	50 mph with 22 feet freeboard

Conclusions and Recommendations

The results of the Case 1 analysis with higher level of risk (lower safety factors) provide the upper limit of operations with these two vessel classes docking at the springline dolphins. We suggest that these limits not be exceeded.

The results of the Case 2 analysis with lower level of risk (higher safety factors) represent what is suggested that U.S. Oil & Refining publish as the "ratings" of the springline dolphins. The safety factors allow for unknowns and for mistakes in judgment during berthing and mooring operations.

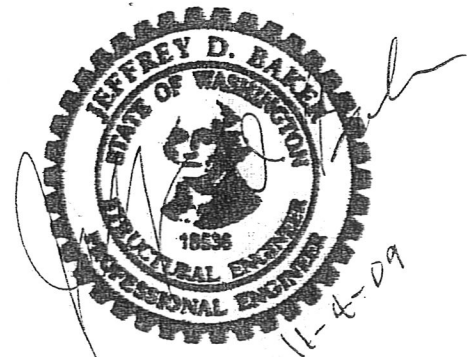
Appendix F includes an excerpt from the book "Design of Marine Facilities for the Berthing, Mooring, and Repair of Vessels" by John W. Gaythwaite. Figure 5-5 shows values of berthing velocity versus ship displacement that is "somewhat representative of North American design practice". Note that in the figure the values for berthing velocities in sheltered conditions for the 26,000 MT and 60,000 MT size vessels are very similar to the allowable values we calculated for the lower level of risk. It is our opinion that this provides independent corroboration that the values we calculated are reasonable when compared to standard industry practice.

Should you have any questions or require any further information, please feel free to contact us. We are available to meet with U.S. Oil & Refining staff to discuss this report and how the information contained herein can be used for dock operations.

Sincerely,

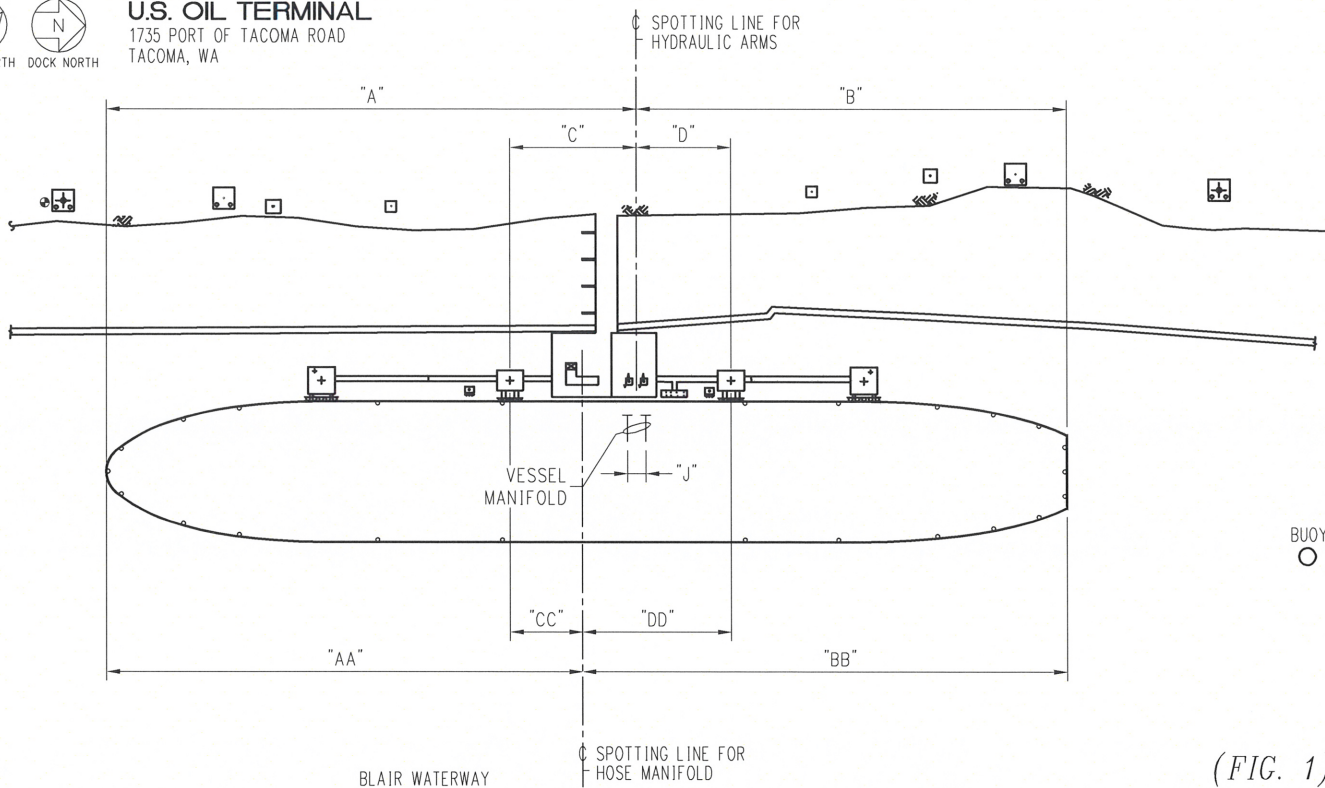
SITTS & HILL ENGINEERS, INC.


 Jeff Baker, P.E.

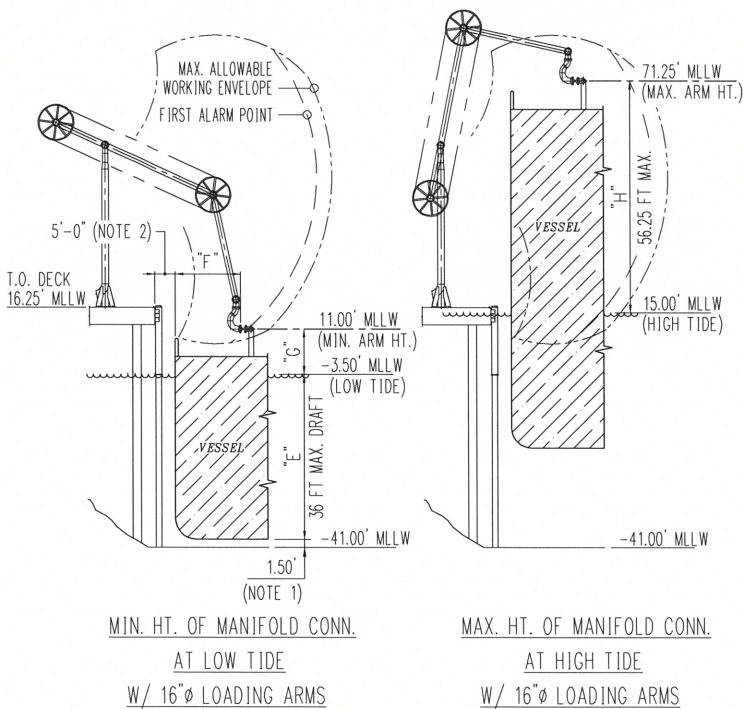




U.S. OIL TERMINAL
1735 PORT OF TACOMA ROAD
TACOMA, WA



(FIG. 1)



(FIG. 2)

- NOTE:
1. MINIMUM SPECIFIED DISTANCE.
2. STANDOFF CREATED BY BREASTING DOLPHINS.

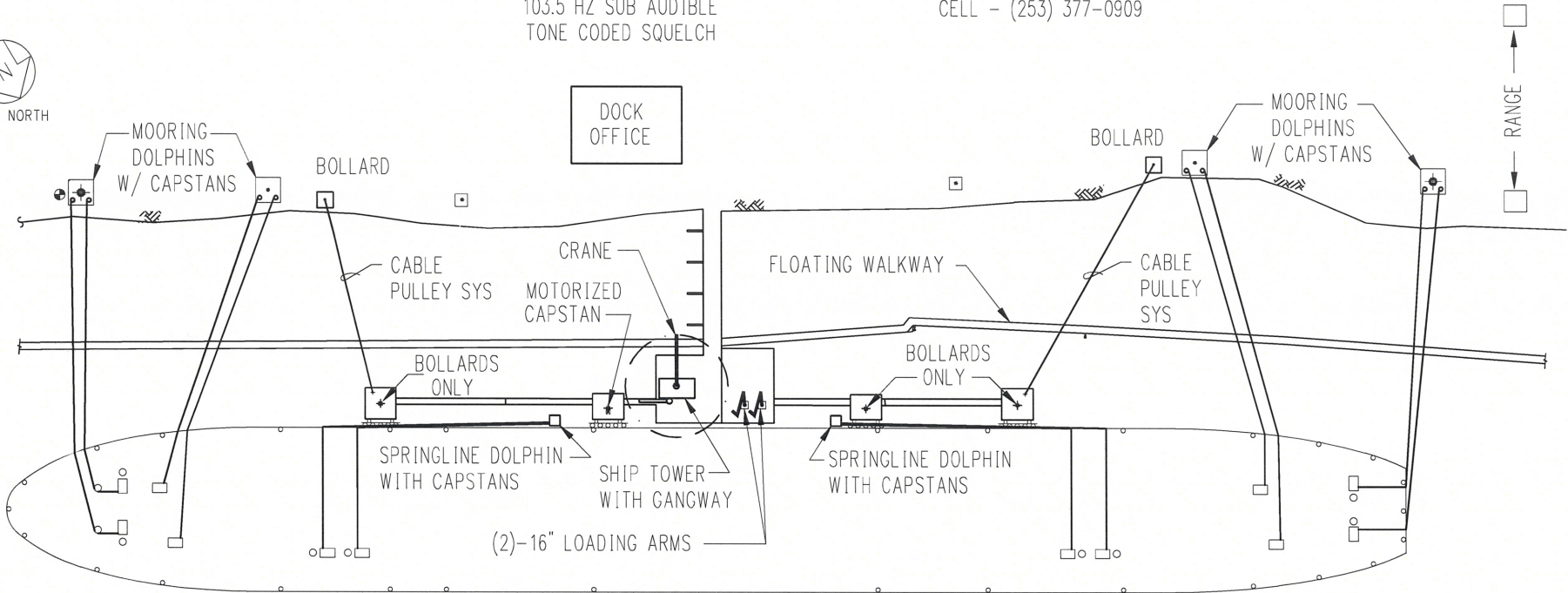
4	REVISED FOR NEW DOCK & DOLPHINS	2/13	EAV	TITLE:	U.S. OIL & REFINING CO. 3001 MARSHALL AVE., TACOMA, WA SCALE: NONE DATE: 11/24/08 FILE NAME: KM08011 PROJECT: SKETCH DWG. NUM: KA08011-1 (LAYOUT) REV: 4	DRWN	EAV
3	REMOVED 12" LOADING HOSE	1/12	EAV	DOCK 1		CHKD	
2	UPDATED WITH NEW SOUNDINGS/TIDES	12/11	EAV	DIAGRAM		APPRD	
NO.	REVISION	DATE	APRV	BY		DIMENSIONAL LIMITATIONS	APPRO

U.S. OIL TERMINAL
1735 PORT OF TACOMA ROAD
TACOMA, WA

DOCK HOUSE: (253) 383-1651 EXT. 481
DOCK RADIO FREQ. - 451.675 HZ
103.5 HZ SUB AUDIBLE
TONE CODED SQUELCH

SHIFT SUPV. CELL - (253) 377-0910
RANDY MORI (DOCK SUPERINTENDENT)
CELL - (253) 377-0909

YELLOW CAB : (253) 472-3303



NOTES:

- * CHANNEL DEPTH - 51 FT. (NOMINAL DEPTH)
- * DOCK DEPTH - 41 FT. (NOMINAL DEPTH)
- * CHECK WITH PILOTS AND/OR U.S. OIL ENGINEERING FOR ACTUAL DEPTHS
- * STERN MUST CLEAR RANGE ON SHORE
- * DOCK HEAD IS 133°
- * WINDS CAN BLOW FROM WEST OFF THE DOCK
- * MESSENGER LINES
 - USE FOR BREST, HEAD, STERN & SPRING LINES
 - CABLE TROLLEY SYSTEM AVAILABLE
- * (2) - 16"Ø HYDRAULIC LOADING ARMS
- * DISCHARGE USING TWO ARMS, MAX RATE 35K BPH
- * DISCHARGE USING ONE ARM, MAX RATE 22.5K BPH
- * 16" LOADING ARMS HAVE A LOWER OPERATING LIMIT OF 11 FEET ABOVE MLLW.
- * MAXIMUM LINE PRESSURE IS 250 PSIG WHEN USING 16" LOADING ARMS OR HOSES RATED FOR 250 PSIG OTHERWISE MAXIMUM PRESSURE IS LIMITED TO HOSE RATING OR VESSEL LIMITATIONS.
- * LOAD FUEL OIL AT 2500-3000 BBL/HR
- * TYPICALLY A 2300 BBL LINE DISP. PRIOR TO DISCH.
- * NOTIFY DOCK OF PRESSURE FLUCTUATIONS
- * USE DOCK'S GANGWAY, RIG IT ON HOSE SADDLE
- * RECEIVE STORES BY LAUNCH OR LAND
- * U.S. OIL CREW WILL RIG SEA BOOM AROUND SHIP
- * BE CAREFUL WHEN HANDLING MOORING LINES OVER FLOATING WALKWAY
- * SHIP TOWER IS EQUIPPED WITH A HYDRAULIC GANGWAY AND A HOSE HANDLING CRANE THAT IS CAPABLE OF LOADING SHIP'S STORES
- * CRANE RADIUS IS 65 FT.
- * CRANE SWL IS 2,000 LB
- * AFT SPRINGS HAVE SHORT LEADS
- * VESSEL'S CREW CONNECTS MANIFOLD FOR HOSES
- * ARMS OR HOSE MUST BE SECURED WHEN UNHOOKED FROM MANIFOLD & LAYING ON DECK
- * ALL HYDROCARBON TRANSFERS MUST BE INSIDE SEABOOM WITH THE EXCEPTION OF GASOLINE.
- * ALLOW 2 HRS. FROM FINISH CARGO TO SAIL
- * LIMIT PROP WASH TO PREVENT DAMAGE TO FLOATING WALKWAY AND SPILL CONTAINMENT BOOM.
- * PERMIT REQUIRED TO DRIVE ON DOCK, LOAD LIMIT IS 50,000 LB
- * SEE TERMINAL INFORMATION PACKAGE FOR MORE DETAILS

NOTES:

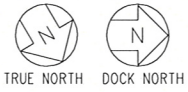
THIS DOCUMENT IS FOR GENERAL INFORMATION ONLY

13	CRANE RADIUS ADDED	09/14/15	NDP	RJC
12	GENERAL UPDATE	06/09/14	NDP	RJC
11	"DISCH. USING ONE ARM" NOTE ADDED	03/28/13	NDP	RJC
NO.	REVISION	DATE	APRV	BY

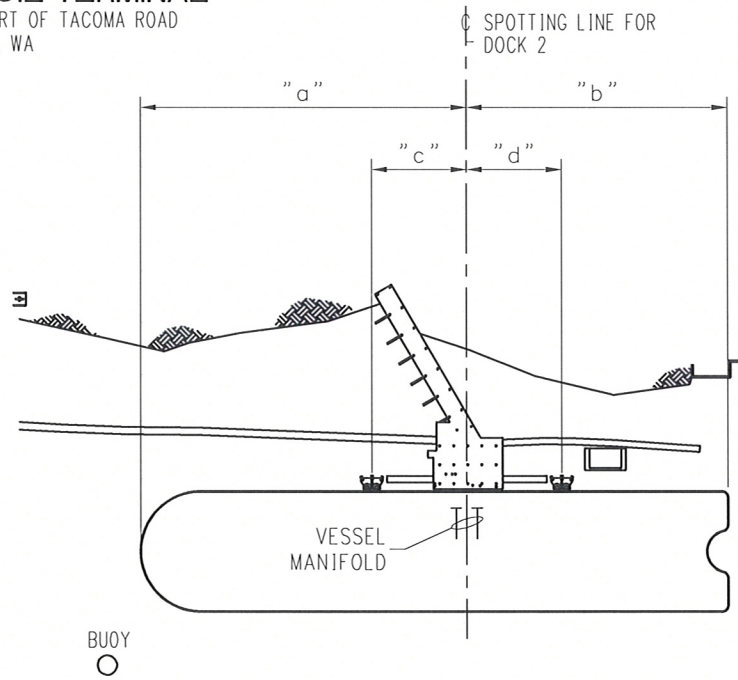
TITLE:

DOCK # 1
PLOT PLAN
TYPICAL MOORING LAYOUT

DRN	RJC	U.S. OIL & REFINING CO.		REV.
CHK	AKT	3001 MARSHALL AVE. TACOMA, WA		13
APR	RJM	SCALE:	DATE:	PROJECT #
APR	NONE	NONE	04/03/01	PLOTS
				DWG #
				AA08077

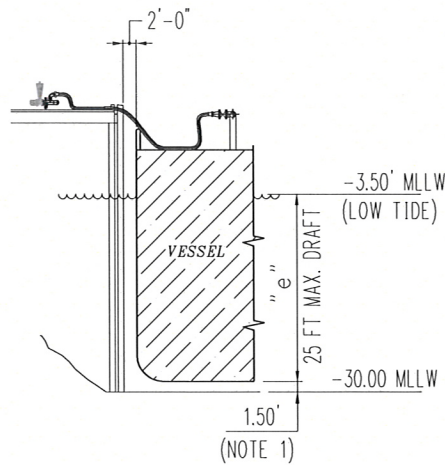


U.S. OIL TERMINAL
 1735 PORT OF TACOMA ROAD
 TACOMA, WA



BLAIR WATERWAY

(FIG. 3)



LOW TIDE DRAFT
 LIMITATIONS

(FIG. 4)

NOTE:
 1. MINIMUM SPECIFIED DISTANCE.

3	REVISED FIGURE NUMBERS	1/12	EAU	TITLE:	U.S. OIL & REFINING CO. 3001 MARSHALL AVE, TACOMA, WA	DRWN	EAU
2	REVISED FOR NEW SOUNDINGS/TIDES	12/11	EAU	DOCK 2		CHKD	EAU
1	REVISED	4/09	EAU	DIAGRAM		APPRD	
NO.	REVISION	DATE	APRV	BY		SCALE: NONE DATE: 11/24/08 FILE NAME: KM08011 PROJECT: SKETCH DWG. NUM: (LAYOUT) REV: KA08011-2 3 APPRD:	

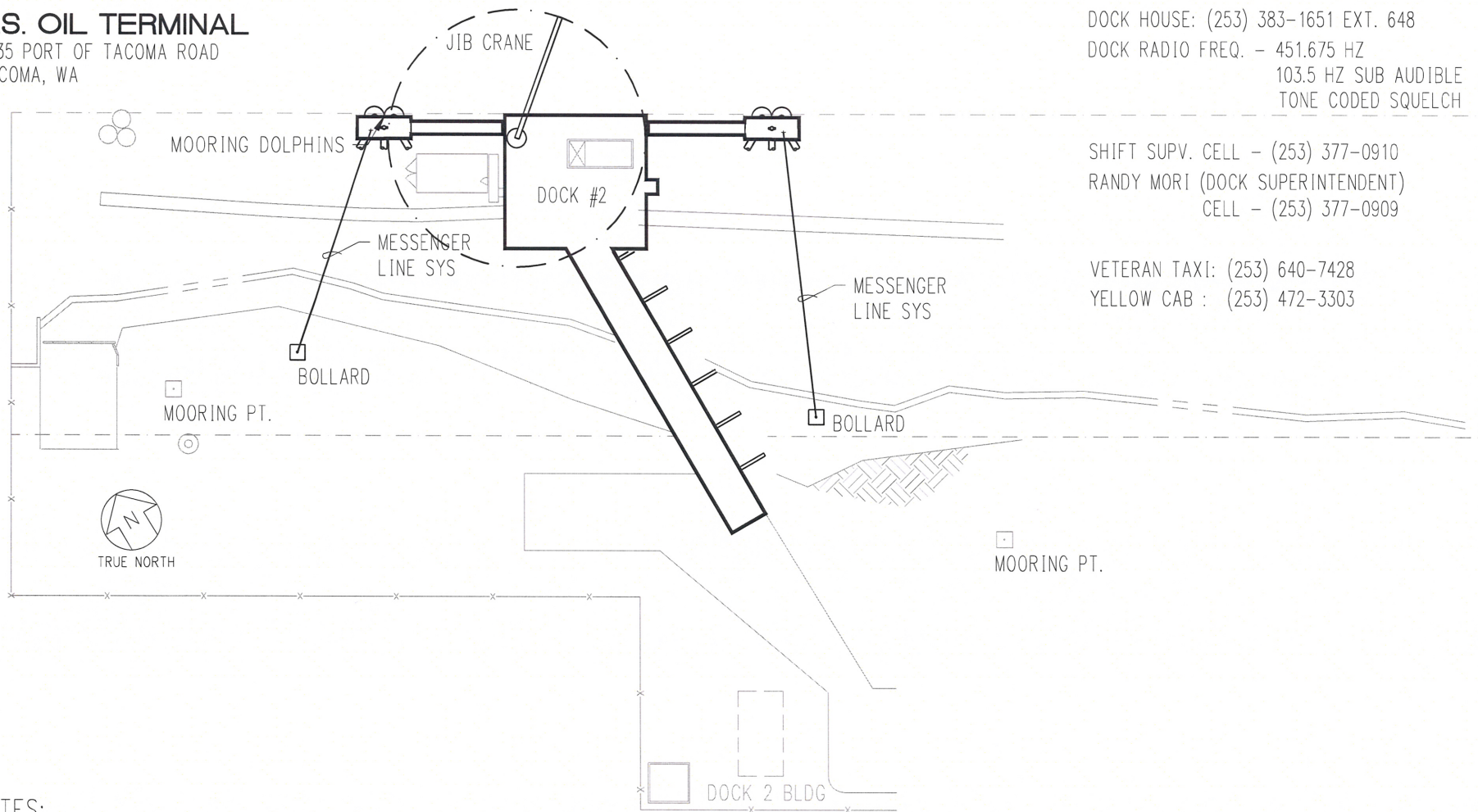
U.S. OIL TERMINAL

1735 PORT OF TACOMA ROAD
TACOMA, WA

DOCK HOUSE: (253) 383-1651 EXT. 648
DOCK RADIO FREQ. - 451.675 HZ
103.5 HZ SUB AUDIBLE
TONE CODED SQUELCH

SHIFT SUPV. CELL - (253) 377-0910
RANDY MORI (DOCK SUPERINTENDENT)
CELL - (253) 377-0909

VETERAN TAXI: (253) 640-7428
YELLOW CAB : (253) 472-3303



NOTES:

- * CHANNEL DEPTH - 51 FT. (NOMINAL DEPTH)
- * DOCK DEPTH - 30 FT. (NOMINAL DEPTH)
- * CHECK WITH PILOTS AND/OR U.S. OIL ENGINEERING FOR ACTUAL DEPTHS
- * WINDS CAN BLOW FROM WEST OFF THE DOCK
- * MESSENGER LINES
 - USE FOR HEAD, & STERN LINES
- * MAXIMUM LINE PRESSURE IS 250 PSIG FOR JET, 125 PSIG FOR ALL OTHER PRODUCTS
- * LOAD FUEL OIL AT 2500-3000 BBLs/HR
- * TYPICALLY A 2300 BBL LINE DISP. PRIOR TO DISCH.
- * NOTIFY DOCK OF PRESSURE FLUCTUATIONS
- * RECEIVE STORES BY LAUNCH OR LAND
- * BUOY OFF BOW IS MOVED FREQUENTLY, HAS A LONG LEAD LINE. BE CAUTIOUS OF BUOY POSITION
- * U.S. OIL CREW WILL RIG BOOM AROUND BARGE
- * BE CAREFUL WHEN HANDLING MOORING LINES OVER FLOATING WALKWAY
- * VESSEL'S CREW CONNECTS MANIFOLD FOR HOSES
- * HOSE MUST BE SECURED WHEN UNHOOKED FROM MANIFOLD & LAYING ON DECK
- * ANY HYDROCARBON TRANSFER MUST BE INSIDE SEABOOM
- * ALLOW 2 HRS. FROM FINISH CARGO TO SAIL
- * DO NOT PIVOT OFF OF DOCK TO ROTATE VESSEL
- * PERMIT REQUIRED TO DRIVE ON DOCK, LOAD LIMIT IS 50,000 LB
- * THERE IS A HOSE HANDLING CRANE CAPABLE OF LOADING STORES
- * CRANE SWL IS 2,200 LB, CRANE RADIUS IS 40 FT.
- * SEE TERMINAL INFORMATION PACKAGE FOR MORE DETAILS

NOTES:

2	CRANE RADIUS ADDED	09/14/15	NDP	QC
1	GENERAL REVISION - APPROVED	06/09/14	NDP	QC
0	GENERAL REVISION - APPROVED	01/05/10	NDP	QC
NO.	REVISION	DATE	APRV	BY

TITLE:

DOCK # 2
PLOT PLAN
TYPICAL MOORING LAYOUT

DRN	ALL	U.S. OIL & REFINING CO.	3001 MARSHALL AVE. TACOMA, WA	PROJECT #	DWG #	REV.
CHK	NDP					
APR	NDP	SCALE:	DATE:	PLOTS	AA08117	2
APR		NONE	11/18/09			



Figure 5: Looking Plant South from Dock 2 to Dock 1



NOTES:

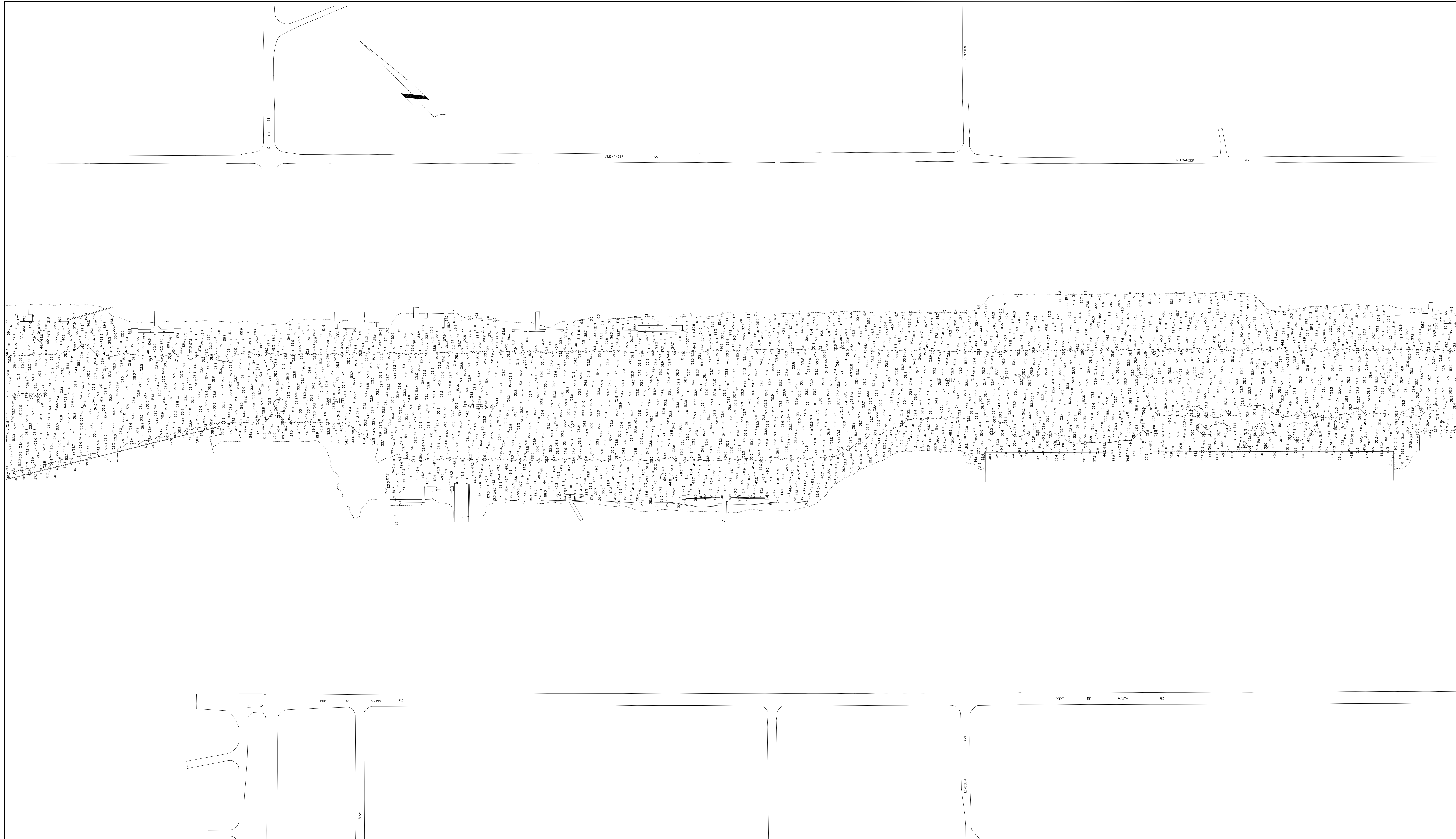
1. HORIZONTAL COORDINATES ARE IN WASHINGTON STATE PLANE GRID, SOUTH ZONE, NAD-83 DATUM IN U.S. SURVEY FEET.
2. DEPTH DATUM IS POT(PORT OF TACOMA) MLLW IN U.S. SURVEY FEET, BASED ON BM 'TIDE 22' WITH ELEVATION OF +19.39 FEET.
3. BASE MAP REFERENCE: OBTAINED FROM POT ENGINEERING DEPT.
4. STANDARD FIELD CALIBRATION PROCEDURES WERE PERFORMED. THE SURVEY AND RESULTS ARE WITHIN MANUFACTURERS SPECIFICATIONS.
5. THE INFORMATION DEPICTED ON THE CHART REPRESENTS THE RESULTS OF SURVEY EXECUTED DURING THE PERIOD OF MARCH 2005. THIS DATA CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

CRA-NW
 HYDROGRAPHIC SURVEYS AND MARINE INVESTIGATIONS
 CRA NORTHWEST
 20126 BALLINGER WAY NE #117
 SEATTLE, WA 98155
 TEL: (425) 673-2316
 cra-nw@nwlink.com

X NO.	DATE	DESCRIPTION	HAH	KCK
	24-FEB-2005	BLAIR WATERWAY 1 OF 3	DRWN	CHK'D
		ISSUE & REVISIONS		APP'D

CLIENT:	PORT OF TACOMA
APPROVED:	DATE 02/24/2005
PROJECT:	HYDROGRAPHIC SURVEY PORT OF TACOMA, TACOMA, WA.
SURVEYED BY:	KCK/HAH
PROCESSSED BY:	HAH
SURVEY DATE:	03-14-2005
PROCESSING DATE:	03-21-2005

DRAWING TITLE: SOUNDINGS OF BLAIR WATERWAY PORT OF TACOMA, WA. SHEET 1 OF 3			
DRAWING SCALE:	JOB NO.:	DRAWING NO.:	REV.:
1"=100'	05025	05025_04152005A	A



- NOTES:
1. HORIZONTAL COORDINATES ARE IN WASHINGTON STATE PLANE GRID, SOUTH ZONE, NAD-83 DATUM IN U.S. SURVEY FEET.
 2. DEPTH DATUM IS POT(PORT OF TACOMA) MLLW IN U.S. SURVEY FEET. BASED ON BM "TIDE 22" WITH ELEVATION OF 19.39 FEET.
 3. BASE MAP REFERENCE: OBTAINED FROM POT ENGINEERING DEPT.
 4. STANDARD FIELD CALIBRATION PROCEDURES WERE PERFORMED. THE SURVEY AND RESULTS ARE WITHIN MANUFACTURERS SPECIFICATIONS.
 5. THE INFORMATION DEPICTED ON THE CHART REPRESENTS THE RESULTS OF SURVEY EXECUTED DURING THE PERIOD OF MARCH 2005. THIS DATA CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

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X NO.	04-15-2005 DATE	DESCRIPTION	HAH	KCK
		BLAIR WATERWAY 2 OF 3	DRWN	CHK'D
		ISSUE & REVISIONS		

CLIENT:	PORT OF TACOMA
APPROVED:	DATE 04/15/2005
PROJECT:	HYDROGRAPHIC SURVEY PORT OF TACOMA, TACOMA, WA.
SURVEYED BY:	KCK/HAH
PROCESSED BY:	HAH
SURVEY DATE:	03-14-2005
PROCESSING DATE:	03-21-2005

DRAWING TITLE: SOUNDINGS OF BLAIR WATERWAY PORT OF TACOMA, WA. SHEET 2 OF 3			
DRAWING SCALE:	JOB NO.:	DRAWING NO.:	REV.:
1"=100'	025	05025_04152005B	A



- NOTES:
1. HORIZONTAL COORDINATES ARE IN WASHINGTON STATE PLANE GRID, SOUTH ZONE, NAD-83 DATUM IN U.S. SURVEY FEET.
 2. DEPTH DATUM IS POT(PORT OF TACOMA) MLLW IN U.S. SURVEY FEET, BASED ON BM 'TIDE 22' WITH ELEVATION OF 19.39 FEET.
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X NO.	DATE	DESCRIPTION	HAH	KCK
	15-APR-2005	BLAIR WATERWAY 3 OF 3		
		ISSUE & REVISIONS	DRWN	CHK'D

CLIENT:	PORT OF TACOMA
APPROVED:	DATE 04/15/2005
PROJECT:	HYDROGRAPHIC SURVEY PORT OF TACOMA, TACOMA, WA.
SURVEYED BY:	KCK/HAH
PROCESSSED BY:	HAH
SURVEY DATE:	03-14-2005
PROCESSING DATE:	03-21-2005

DRAWING TITLE: SOUNDINGS OF BLAIR WATERWAY PORT OF TACOMA, WA. SHEET 3 OF 3			
DRAWING SCALE:	JOB NO.:	DRAWING NO.:	REV.:
1"=100'	025	05025_04152005C	A