



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
700 FORT STREET
HONOLULU, HAWAII 96813-4808

August 8, 2012

HARBOR MASTER NOTICE
HMN-O-1-13

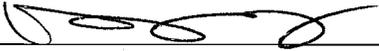
SUBJECT: LOAD RESTRICTIONS ON PIER 21

Recent structural inspections of Pier 21, Honolulu Harbor have identified usage limitations that require the clarification of Hawaii Administrative Rules (HAR) §19-42-120 Load limits on wharves. Pier 21 was not constructed to support heavy vehicles and equipment and is marked/striped to inform tenants and users of the types of vehicles/equipment that may safely traverse the pier apron.

1. For the Diamond Head end of Pier 21, from bent -10 to -4, Class 1, 2, and 3 vehicles are allowed to traverse the pier apron. The heaviest vehicle, Class 3, includes pickups and vans that consist of two-axle, four-tire, single unit vehicles. Attachment 1, FHWA Vehicle Classification and Attachment 2, Pier 21 Analysis sheet S-1 provide more specific information regarding the vehicle classes and pier load limitations.
2. For the Ewa side and remainder of Pier 21, from bent -4 to 23, Class 1-5 vehicles are allowed to traverse the pier apron. Class 5 vehicles include single frame trucks having two axles and dual rear tires. The maximum axles load for these vehicles shall be 15,000 pounds. Two and a half (2.5) ton fully loaded forklifts will be allowed as well. Attachment 1, FHWA Vehicle Classification and Attachment 2, Pier 21 Analysis sheet S-1 provide more specific information regarding the vehicle classes and pier load limitations.
3. The HTB crane (Terex CN-128 Crane) may only travel, setup and operate at the Ewa end of the Pier 21 apron. Maximum allowable payload shall be 4,000 pounds. Attachment 2, sheet S-2 identifies outrigger pad placement with 4' X 4' rigid steel dunnage.

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Should you have any questions, please contact the office of the Honolulu Harbor Master at 587-2070.



DAVIS K. YOGI
Acting Oahu District Manager/Harbor Master

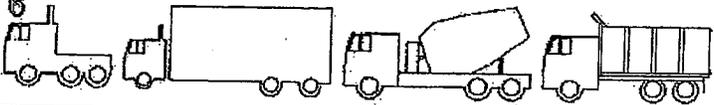
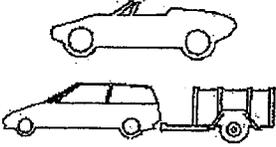
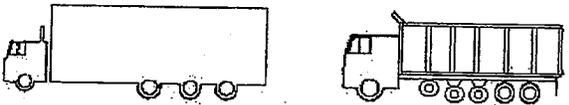
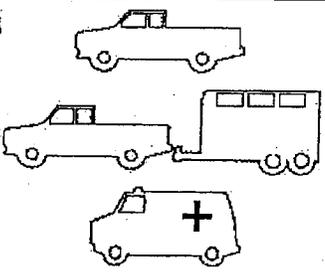
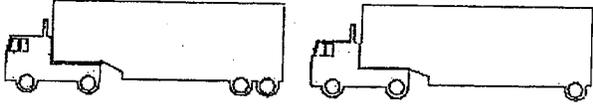
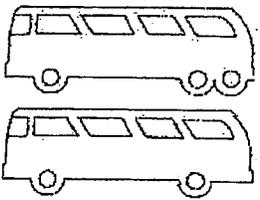
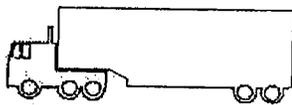
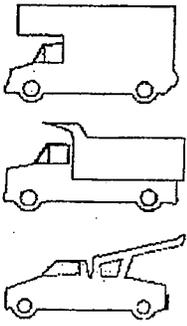
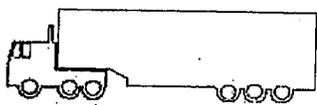
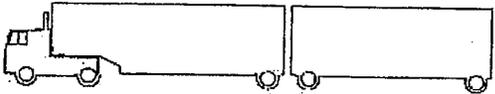
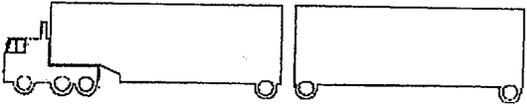
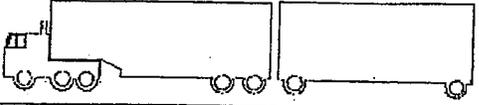
8-20-2012
Date

Atts.

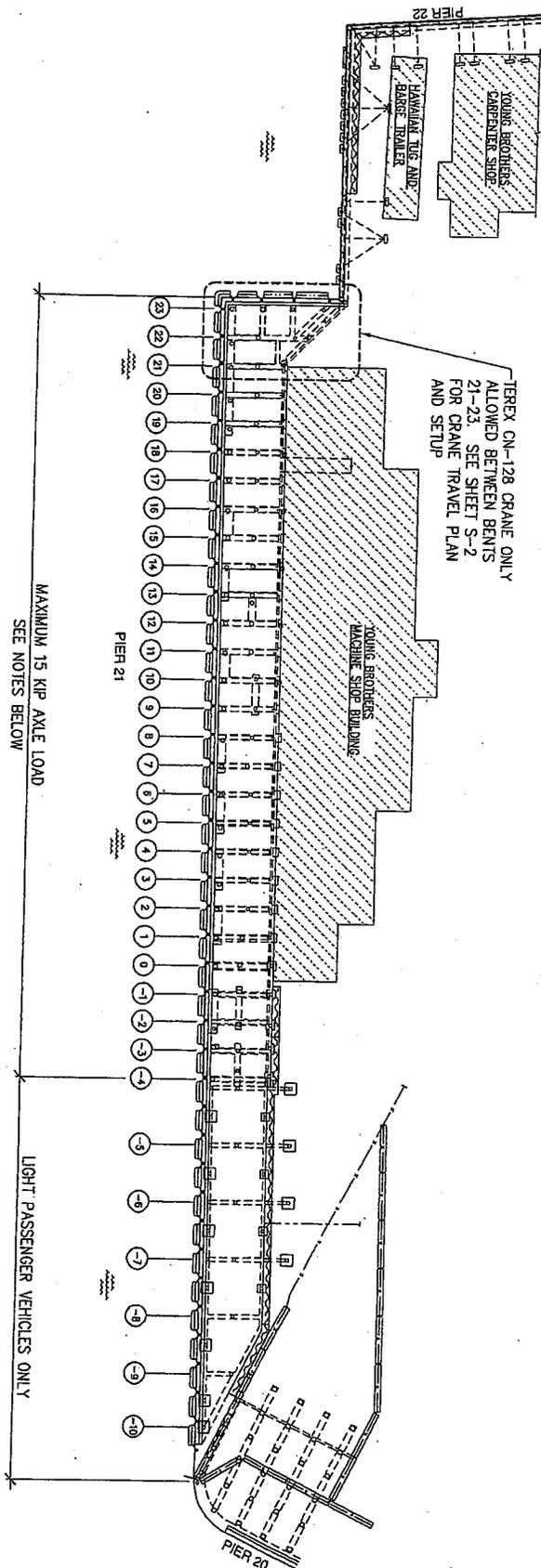
Distribution: All Harbor Users and Ship Agents

c: USCG – COTP

FHWA Vehicle Classification

<p>1</p>  <p>MOTORCYCLES</p>	<p>6</p>  <p>THREE AXLE, SINGLE UNIT</p>
<p>2</p>  <p>PASSENGER CARS</p>	<p>7</p>  <p>FOUR OR MORE AXLE, SINGLE UNIT</p>
<p>3</p>  <p>FOUR TIRE, SINGLE UNIT</p>	<p>8</p>  <p>FOUR OR LESS AXLE, SINGLE TRAILER</p>
<p>4</p>  <p>BUSES</p>	<p>9</p>  <p>FIVE AXLE, SINGLE TRAILER</p>
<p>5</p>  <p>TWO AXLE, SIX TIRE SINGLE UNIT</p>	<p>10</p>  <p>SIX OR MORE AXLE, SINGLE TRAILER</p>
	<p>11</p>  <p>FIVE OR LESS AXLE, MULTI-TRAILER</p>
	<p>12</p>  <p>SIX AXLE, MULTI-TRAILER</p>
	<p>13</p>  <p>SEVEN OR MORE AXLE, MULTI-TRAILER</p>

- Class 1- **Motorcycles:** All two- or three-wheeled motorized vehicles. Typical vehicles in this category have saddle type seats and are steered by handle bars rather than wheels. This category includes motorcycles, motor scooters, mopeds, motor-powered bicycles, and three-wheeled motorcycles.
- Class 2- **Passenger Cars:** All sedans, coupes, and station wagons manufactured primarily for the purpose of carrying passengers and including those passenger cars pulling recreational or other light trailers.
- Class 3- **Other Two-Axle, Four-Tire, Single Unit Vehicles:** All two-axle, four-tire, vehicles other than passenger cars. Included in this classification are pickups, panels, vans, and other vehicles such as campers, motor homes, ambulances, hearses, carryalls, and minibuses. Other two-axle, four-tire single unit vehicles pulling recreational or other light trailers are included in this classification.
- Class 4- **Buses:** All vehicles manufactured as traditional passenger-carrying buses with two axles and six tires or three or more axles. This category includes only traditional buses (including school buses) functioning as passenger-carrying vehicles. Modified buses should be considered to be trucks and be appropriately classified.
- Note:** In reporting information on trucks the following criteria should be used:
- a. Truck tractor units traveling without a trailer will be considered single unit trucks.
 - b. A truck tractor unit pulling other such units in a "saddle mount" configuration will be considered as one single unit truck and will be defined only by axles on the pulling unit.
 - c. Vehicles shall be defined by the number of axles in contact with the roadway. Therefore, "floating" axles are counted only when in the down position.
 - d. The term "trailer" includes both semi- and full trailers.
- Class 5- **Two-Axle, Six-Tire, Single Unit Trucks:** All vehicles on a single frame including trucks, camping and recreational vehicles, motor homes, etc., having two axles and dual rear wheels.
- Class 6- **Three-axle Single unit Trucks:** All vehicles on a single frame including trucks, camping and recreational vehicles, motor homes, etc., having three axles.
- Class 7- **Four or More Axle Single Unit Trucks:** All trucks on a single frame with four or more axles.
- Class 8- **Four or Less Axle Single Trailer Trucks:** All vehicles with four or less axles consisting of two units, one of which is a tractor or straight truck power unit.
- Class 9- **Five-Axle Single Trailer Trucks:** All five-axle vehicles consisting of two units, one of which is a tractor or straight truck power unit.
- Class 10- **Six or More Axle Single Trailer Trucks:** All vehicles with six or more axles consisting of two units, one of which is a tractor or straight truck power unit.
- Class 11- **Five or Less Axle Multi-Trailer Trucks:** All vehicles with five or less axles consisting of three or more units, one of which is a tractor or straight truck power unit.
- Class 12- **Six-Axle Multi-Trailer Trucks:** All six-axle vehicles consisting of three or more units, one of which is a tractor or straight truck power unit.
- Class 13- **Seven or More Axle Multi-Trailer Trucks:** All vehicles with seven or more axles consisting of three or more units, one of which is a tractor or straight truck power unit.



- NOTES:**
1. CAUTION MUST BE TAKEN AS VEHICLES VARY IN AXLE AND WHEEL SPACING DIMENSIONS AND WEIGHTS. WHEN A VEHICLE'S AXLE SPACINGS ARE 10 FEET OR GREATER, IT IS USUALLY ACCEPTABLE TO COMPARE THE HEAVIEST AXLE (IGNORING OTHER AXLES).
 2. FOR VEHICLES WITH AXLE SPACINGS LESS THAN 10 FEET, A CONSERVATIVE APPROACH MAY BE TO SUM THE WHEEL LOADS OF BOTH CLOSELY SPACED AXLES AND USE THAT TOTAL LOAD FOR COMPARISON.
 3. FURTHER ANALYSIS MAY ALLOW INDIVIDUAL VEHICLES NOT MEETING THE CRITERIA OF NOTES 1 AND 2 ABOVE TO TRAVEL ON THE PIER.

PIER 21 CRANE OPERATIONS

SCALE: 1" = 60'-0"



Revised: Sep 27, 2011 - 2:05pm

 MKE ASSOCIATES LLC Structural Engineers	Alea Commercial Center Suite 205 99-205 Moanalua Road Aiea, HI 96701 Phone: (808) 488-7579 Fax: (808) 488-7818 E-Mail: mke@mkeallc.com	PIER 21 ANALYSIS HONLULU HARBOR, OAHU, HAWAII	Sheet No. <h1 style="text-align: center;">S-1</h1> Sheet 1 of 2
	Date 09/27/11	Project No. -	

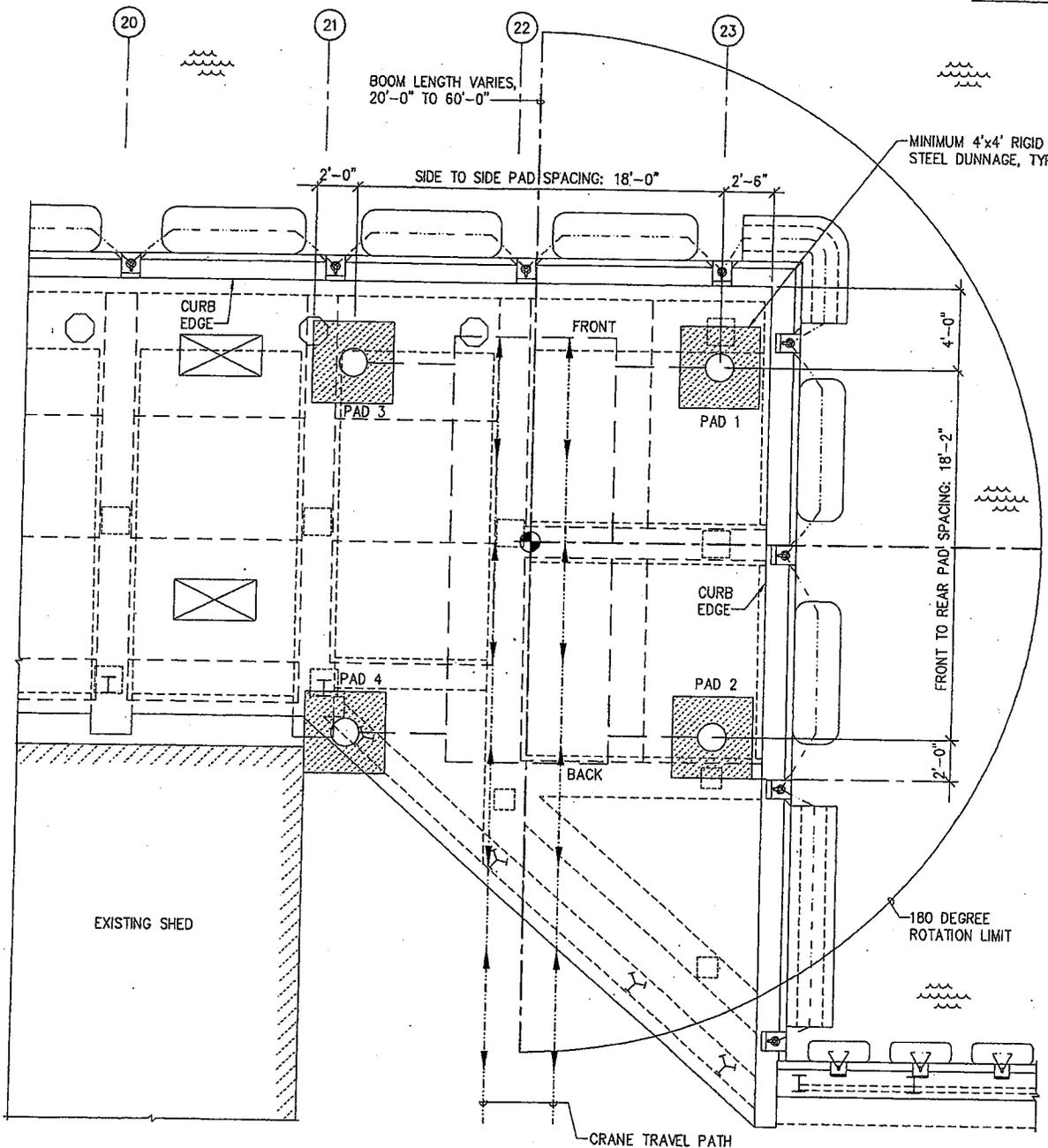
NO ROTATION
THIS SIDE

MAXIMUM ALLOWABLE PAYLOAD = 4,000 LBS

LIFT/UNLOAD
THIS SIDE

TO PIER 20

TO PIER 22



OUTRIGGER PAD PLACEMENT:
OUTRIGGERS SHALL BE LOCATED AT DIMENSIONS SHOWN FROM
EDGE OF CURB AND PLACED ON RIGID STEEL DUNNAGE.

TEREX CN-128 ROUGH TERRAIN
CRANE TRAVEL AND OUTRIGGER LAYOUT
PIER 21, HONOLULU HARBOR, OAHU

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



Revised Sep 27, 2011 - 2:50pm



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PIER 21 ANALYSIS
HONOLULU HARBOR, OAHU, HAWAII

Date 09/27/11

Project No. -

Sheet No.

S-2

Sheet 2 of 2