

## ABBREVIATIONS

|              |  |            |                                   |            |                     |
|--------------|--|------------|-----------------------------------|------------|---------------------|
| #            | NUMBER   | FT         | FOOT, FEET                        | SHT        | SHEET               |
| Ø            | DIAMETER   | G          | GAS                               | SIM        | SIMILAR             |
| @            | AT   | GIS        | GEOGRAPHIC INFORMATION SYSTEM     | SPECS      | SPECIFICATIONS      |
| AB           | AGGREGATE BASE   | GPS        | GLOBAL POSITIONING SYSTEM         | SQ         | SQUARE              |
| AC           | ASPHALT CONCRETE   | GV         | GATE VALVE                        | SQFT       | SQUARE FEET         |
| ACI          | AMERICAN CONCRETE INSTITUTE                                    | H or HORIZ | HORIZONTAL                        | SSMH       | SANITARY SEWER M    |
| ACP          | ASBESTOS CONCRETE PIPE OR<br>ASPHALTIC CONCRETE PAVEMENT       | HAZMAT     | HAZARDOUS MATERIALS               | STA        | STATION             |
| ADDL         | ADDITIONAL   | HDPE       | HIGH DENSITY POLYETHYLENE         | STD        | STANDARD            |
| ADJ          | ADJACENT   | HMA        | HOT MIX ASPHALT                   | STL        | STEEL               |
| ADMIN        | ADMINISTRATION   | HORZ       | HORIZONTAL                        | SW         | SOUTHWEST           |
| AGGR         | AGGREGATE  | HP         | HIGH POINT                        | SYM        | SYMMETRIC or SYME   |
| ALT          | ALTERNATE  | HSSD       | HIGH STRENGTH STORM DRAIN         | T/R or TOR | TOP OF RAIL         |
| ANSI         | AMERICAN NATIONAL STANDARDS INSTITUTE                          | HT         | HEIGHT                            | TB         | THRUST BLOCK        |
| APP or APPVD | APPROVED   | ID         | INSIDE DIAMETER                   | TBM        | TEMPORARY BENCH     |
| APPROX       | APPROXIMATE  | IE         | INVERT ELEVATION                  | TESC       | TEMPORARY EROSION   |
| APWA         | AMERICAN PUBLIC WORKS ASSOCIATION                              | IN         | INCH                              | TF         | SEDIMENTATION CO    |
| AREA         | AMERICAN RAILWAY ENGINEERING ASSOCIATION                       | INCL       | INCLUDE                           | T&B        | TRACK FEET          |
| AREMA        | AMERICAN RAILWAY ENGINEERING<br>MAINTENANCE OF WAY ASSOCIATION | IR         | INDUSTRIAL REMEDIATION            | TO         | TOP AND BOTTOM      |
| ASTM         | AMERICAN SOCIETY FOR TESTING AND MATERIALS                     | JB         | JUNCTION BOX                      | TOB        | TURNOUT             |
| ATB          | ASHPAULT TREATED BASE  | JS         | JUNCTION STRUCTURE                | TOS        | TOP OF BANK         |
| AVG          | AVERAGE  | JT         | JOINT                             | TOP        | TOE OF SLOPE        |
| AWS          | AMERICAN WELDING SOCIETY                                       | KIP(S)     | KILOPOUND(S)                      | TOR        | TOP OF PIPE         |
| AWWA         | AMERICAN WATER WORKS ASSOCIATION                               | L          | LENGTH                            | TPU        | TOP OF RAIL         |
| BFO          | BURIED FIBER OPTIC   | LAT        | LATERAL                           | TW         | TACOMA PUBLIC UT    |
| BLDG         | BUILDING   | LB         | POUND                             | TYP        | TOP OF WALL         |
| BM           | BENCH MARK or BEAM   | LF         | LINEAL FOOT                       | UNO        | TYPICAL             |
| BMP or BMP'S | BEST MANAGEMENT PRACTICES                                      | LH         | LEFT HAND                         | UV         | UNLESS NOTED OTH    |
| BNDRY        | BOUNDARY   | LIN        | LINEAL or LINEAR                  | V          | ULTRA-VIOLET        |
| BNSF         | BURLINGTON NORTHERN SANTA FE                                   | LOL        | LAYOUT LINE                       | VERT       | VERTICAL            |
| BOP          | BOTTOM OF PIPE   | LT         | LIGHT                             | VAR        | VARIABLE or VARIES  |
| BOT          | BOTTOM   | MAX        | MAXIMUM                           | VC         | VERTICAL CURVE      |
| BRG          | BEARING  | MEP        | MATCH EX PAVEMENT                 | VCP        | VITRIFIED CLAY PIPE |
| BRZ          | BRONZE   | MH         | MANHOLE                           | VERT       | VERTICAL            |
| BTW or BTWN  | BETWEEN  | MHHW       | MEAN HIGHER HIGH WATER            | W          | WATER, WEST, WIDT   |
| BV           | BALL VALVE   | MHW        | MEAN HIGH WATER                   | W/         | WITH                |
| CY           | CONTAINER YARD OR CUBIC YARD                                   | MIN        | MINIMUM                           | W/O        | WITHOUT             |
| C/L          | CENTERLINE   | MISC       | MISCELLANEOUS                     | WHS        | WELDED HEADED S     |
| CAB          | CRUSHED AGGREGATE BASE   | MJ         | MECHANICAL JOINT                  | WM         | WATER METER         |
| CB           | CATCH BASIN  | MLLW       | MEAN LOWER LOW WATER              | WWAY       | WALKWAY             |
| CC           | CENTER TO CENTER   | MLW        | MEAN LOW WATER                    | XO         | CROSSOVER           |
| CFS          | CUBIC FEET PER SECOND  | MSP        | MANUAL OF STANDARD PRACTICE       | XS         | EXTRA STRONG        |
| CIP          | CAST IRON PIPE   | MUTCD      | MANUAL OF UNIFORM TRAFFIC CONTROL |            |                     |
| CL           | CENTER LINE or CLASS   | N          | DEVICES                           |            |                     |
| CLF          | CHAIN LINK FENCE   | NE         | NORTH or NORTHING                 |            |                     |
| CLR          | CLEAR or CLEARANCE   | NIC        | NORTHEAST                         |            |                     |
| CMP          | CORRUGATED METAL PIPE  | NO         | NOT IN CONTRACT                   |            |                     |
| CO           | CLEAN OUT  | NTS        | NUMBER                            |            |                     |
| COT          | CITY OF TACOMA   | NW         | NOT TO SCALE                      |            |                     |
| CONC         | CONCRETE   | OC         | NORTHWEST                         |            |                     |
| CONT         | CONTINUE or CONTINUOUS   | OD         | ON CENTER                         |            |                     |
| CONT'D       | CONTINUED  | OVH        | OUTSIDE DIAMETER                  |            |                     |
| COORD        | COORDINATE   | OHWL       | OVERHEAD                          |            |                     |
| COUP         | COUPLING   | P/L or PL  | ORDINARY HIGH WATER LINE          |            |                     |
| CPP          | CORRUGATED PLASTIC PIPE  | PB         | PROPERTY LINE                     |            |                     |
| CPT          | CONE PENETROMETER TEST   | PC         | PULL BOX                          |            |                     |
| CRSI         | CONCRETE REINFORCING STEEL INSTITUTE                           | PCC        | POINT OF CURVATURE                |            |                     |
| CSBC         | CRUSHED SURFACING BASE COURSE                                  | PERF       | PORTLAND CEMENT CONCRETE          |            |                     |
| CSG          | CASING   | PERP       | PERFORATED                        |            |                     |
| CSTC         | CRUSHED SURFACING TOP COURSE                                   | PG         | PERPENDICULAR                     |            |                     |
| CTB          | CEMENT TREATED BASE  | PI         | PERFORMANCE GRADE                 |            |                     |
| CTR          | CENTER   | PJ         | POINT OF INTERSECTION             |            |                     |
| Dc           | DEGREE OF CURVATURE  | PNT        | PUSH-ON JOINT                     |            |                     |
| DIA          | DIAMETER   | POT        | POINT                             |            |                     |
| DIAG         | DIAGONAL   | PP         | PORT OF TACOMA                    |            |                     |
| DIM          | DIMENSION  | PR         | POWER POLE                        |            |                     |
| DIP          | DUCTILE IRON PIPE  | PRESS RED  | PRESSURE RATING                   |            |                     |
| DWG          | DRAWING  | PROP       | PRESSURE REDUCER                  |            |                     |
| DWY          | DRIVEWAY   | PRV        | PROPOSED                          |            |                     |
| E            | EAST or EASTING  | PRVS       | PRESSURE REDUCING VALVE           |            |                     |
| EA           | EACH   | PSF        | PRESSURE RELIEF VALVE             |            |                     |
| EG           | EXISTING GRADE   | PS         | POUNDS PER SQUARE FOOT            |            |                     |
| EL or ELEV   | ELEVATION  | PT         | POINT OF SWITCH                   |            |                     |
| or ELECT     | ELECTRICAL   | PVC        | POUNDS PER SQUARE INCH            |            |                     |
| ENGR         | ENGINEER   | PVI        | POINT or POINT OF TANGENCY        |            |                     |
| EP           | EDGE OF PAVEMENT   | PVMT       | POLYVINYL CHLORIDE OR             |            |                     |
| EQ           | EQUAL  | R          | POINT OF VERTICAL CURVE           |            |                     |
| ES           | ELECTRICAL SUBSTATION or EACH SIDE                             | R/W OR ROW | POINT OF VERTICAL INTERSECTION    |            |                     |
| ETC          | ET CETERA  | RCP        | PAVEMENT                          |            |                     |
| EX or EXIST  | EXISTING   | RD         | RIDGE or RADIUS                   |            |                     |
| JT           | EXPANSION JOINT  | REF        | RIGHT OF WAY                      |            |                     |
| FF           | FINISH FLOOR   | REINF      | REINFORCED CONCRETE PIPE          |            |                     |
| FG           | FINISH GRADE   | REQ'D      | ROAD                              |            |                     |
| FH           | FIRE HYDRANT   | RH         | REFERENCE                         |            |                     |
| FIN          | FINISH   | RP         | REINFORCE or REINFORCING          |            |                     |
| FL           | FLOW LINE OR FLANGE  | RR         | REQUIRED                          |            |                     |
| FLGD         | FLANGED JOINT  | RT.        | RIGHT                             |            |                     |
| FM           | FORCE MAIN   | S          | SLOPE or SOUTH                    |            |                     |
| FND          | FOUNDATION   | SD         | STORM DRAIN                       |            |                     |
| FS           | FINISHED SURFACE   | SDR        | STANDARD DIMENSION RATIO          |            |                     |
| FSM          | FIRE SERVICE METER   | SDMH       | STORM DRAIN MANHOLE               |            |                     |
|              |  | SE         | SOUTH-EAST                        |            |                     |
|              |  | SECT       | SECTION                           |            |                     |

## GENERAL NOTES:

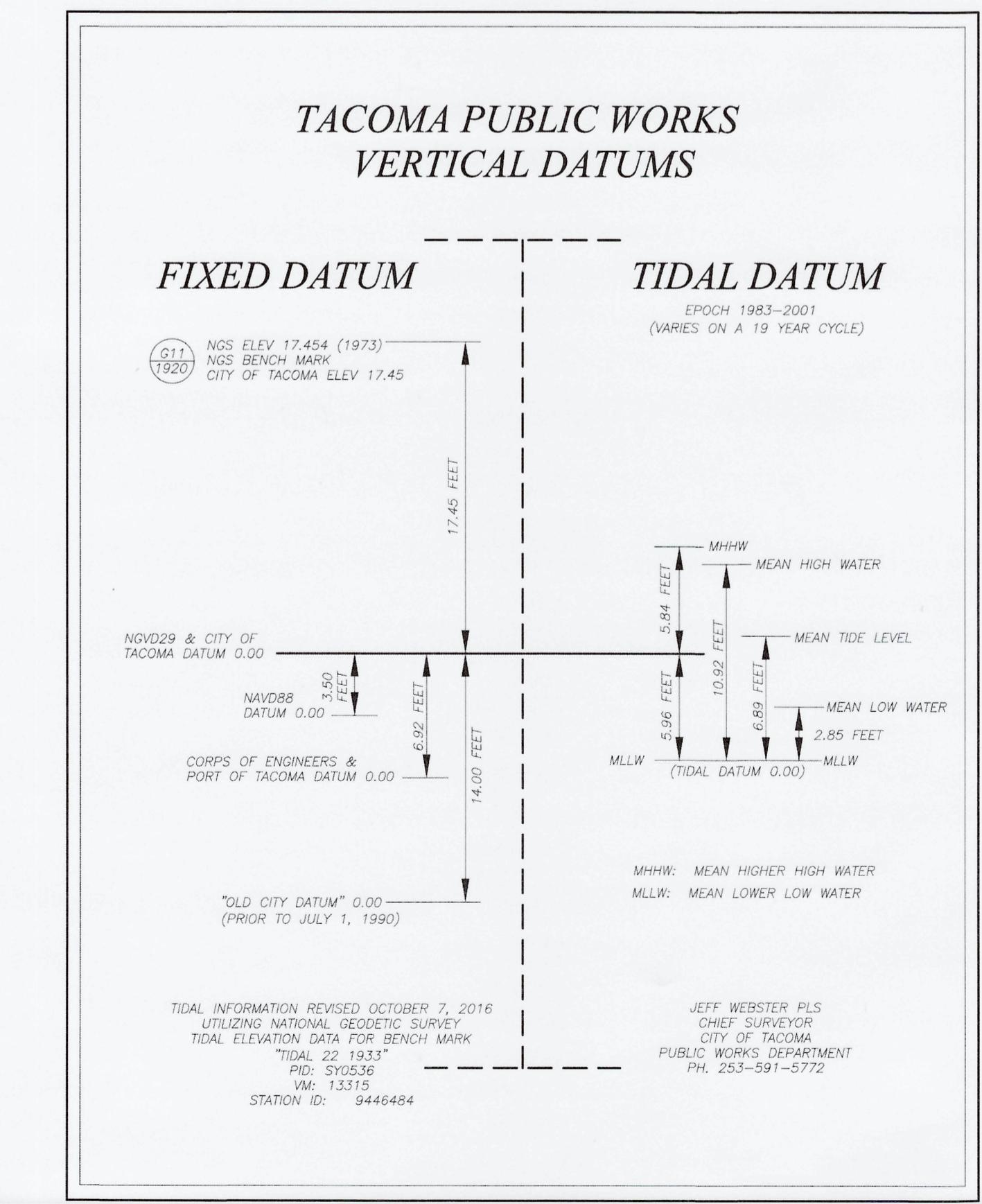
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH PERMIT CONDITIONS, CITY OF TACOMA STANDARDS, AREMA, TACOMA RAIL, AND WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS 2022.
2. BEFORE ANY CONSTRUCTION MAY BEGIN, THE CONTRACTOR SHALL HOLD A PRE-CONSTRUCTION MEETING WITH THE PORT AND CITY OF TACOMA PERMIT DEPARTMENT AND INSPECTION STAFF.
3. A COPY OF THESE APPROVED PLANS AND ALL AMENDMENTS SHALL BE ON THE CONSTRUCTION SITE AT ALL TIMES.
4. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO OBTAIN ALL CONSTRUCTION EASEMENTS IF NECESSARY BEFORE INITIATING OFF-SITE WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, SPOTTERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND OF THE CONTRACTOR. ANY WORK WITHIN THE TRAVELED RIGHT OF WAY THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL REQUIRE AT LEAST ONE FLAGGER FOR EACH LANE OF TRAFFIC AFFECTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING TEMPORARY TRAFFIC CONTROL PLANS, PERMITTING, AND COORDINATION TO PROVIDE ADEQUATE TEMPORARY TRAFFIC CONTROL ACCORDING TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND WSDOT STANDARD PLANS.
6. PRIOR TO THE START OF EXCAVATION, THE CONTRACTOR SHALL CALL 1-800-424-555 FOR UTILITY LOCATES AND COORDINATE UTILITY WORK WITH THE UTILITY SERVICE PROVIDER.
7. THE EXISTENCE, LOCATION AND CHARACTERISTICS OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS HAS BEEN OBTAINED FROM A REVIEW OF AVAILABLE RECORD DATA. NO REPRESENTATION IS MADE AS TO THE ACCURACY OR COMPLETENESS OF SAID UTILITY INFORMATION. THE CONTRACTOR SHALL POTHOLE OR OTHERWISE CONFIRM CONDITIONS. IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND SHALL NOT BEGIN CONSTRUCTION UNTIL THE CHANGED CONDITIONS HAVE BEEN EVALUATED. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
8. TACOMA WATER FACILITIES MUST REMAIN ACCESSIBLE AT ALL TIMES. ANY DAMAGES TO TACOMA WATER FACILITIES WILL BE REPAIRED BY TACOMA WATER CREWS AT THE EXPENSE OF THE CONTRACTOR.
9. CONTRACTOR SHALL OBTAIN SIDE SEWER CONNECTION PERMITS THROUGH CITY OF TACOMA SITE DEVELOPMENT. CONTACT (253) 591-5760 OR TACOMAPERMITS.ORG. SEPARATE PERMITS ARE REQUIRED FOR EACH CONNECTION.
10. CHANGES OR REVISIONS TO THE ORIGINALLY APPROVED PERMIT SUBMITTAL SHALL BE SUBMITTED TO THE CITY PRIOR TO CONSTRUCTION.
11. THE APPLICANT SHALL SUBMIT RECORD DRAWINGS ("AS-BUILTS") TO THE CITY WHEN THE PROJECT IS COMPLETED.
12. THE ENGINEER OF RECORD SHALL PROVIDE AN ENGINEER'S CERTIFICATION TO THE CITY OF TACOMA AFTER FACILITY INSTALLATION AND PRIOR TO PERMIT FINAL INSPECTION AND/OR CLOSEOUT.
13. FROM OCTOBER 1 THROUGH APRIL 30, NO SOILS SHALL REMAIN EXPOSED AND UN-WORKED FOR MORE THAN 2 DAYS. FROM MAY 1 TO SEPTEMBER 30, NO SOILS SHALL REMAIN EXPOSED AND UNWORKED FOR MORE THAN 7 DAYS.

## HORIZONTAL DATUM:

1. WASHINGTON STATE COORDINATE SYSTEM, SOUTH ZONE, NAD83-2011. REFER TO SHEETS G1.3-G1.5 FOR ADDITIONAL INFORMATION.

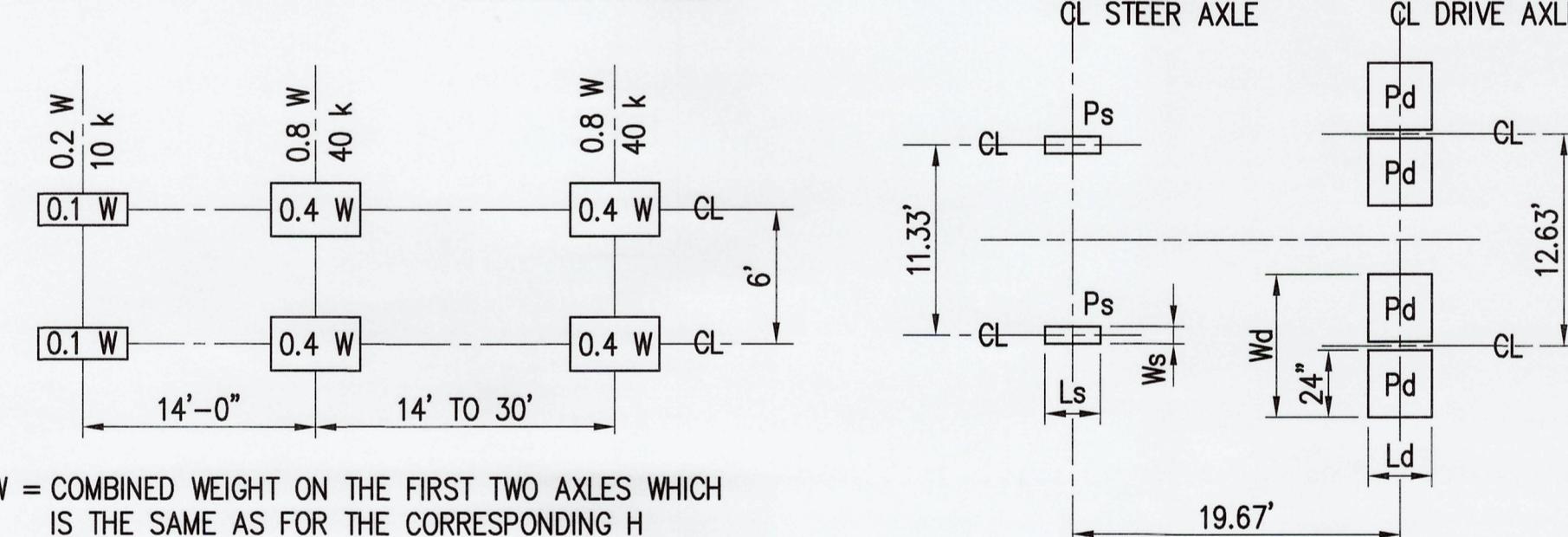
## VERTICAL DATUM:

1. PORT OF TACOMA – MLLW 1983–2001 EPOCH REFER TO SHEETS G1.3–G1.5 FOR MONUMENT LOCATIONS AND ADDITIONAL INFORMATION.



## DESIGN LOADING CRITERIA

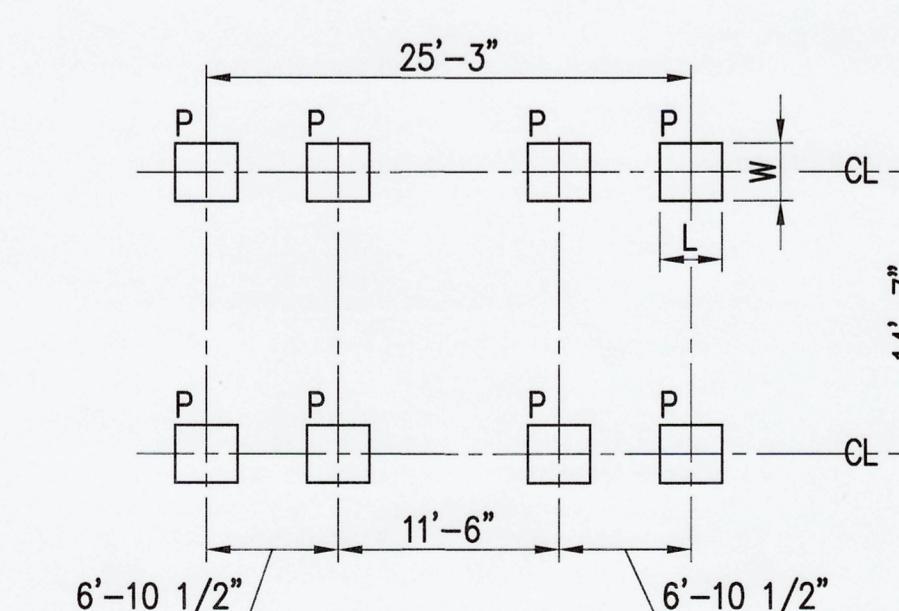
**CONCENTRATED LIVE LOADS:**  
**HS25 TRUCK**  
**STRADDLE CARRIER**  
**CONTAINER HANDLER**



*W* = COMBINED WEIGHT ON THE FIRST TWO AXLES WHICH IS THE SAME AS FOR THE CORRESPONDING H TRUCK

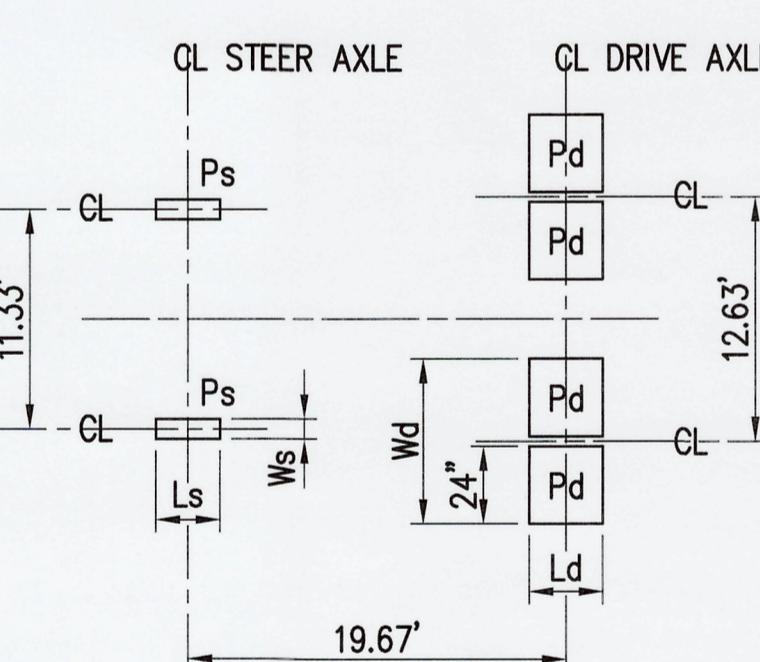
HS25 TRUCK = (1.25 x HS20)

NOTE: ADD 10% IMPACT TO ABOVE LOADS



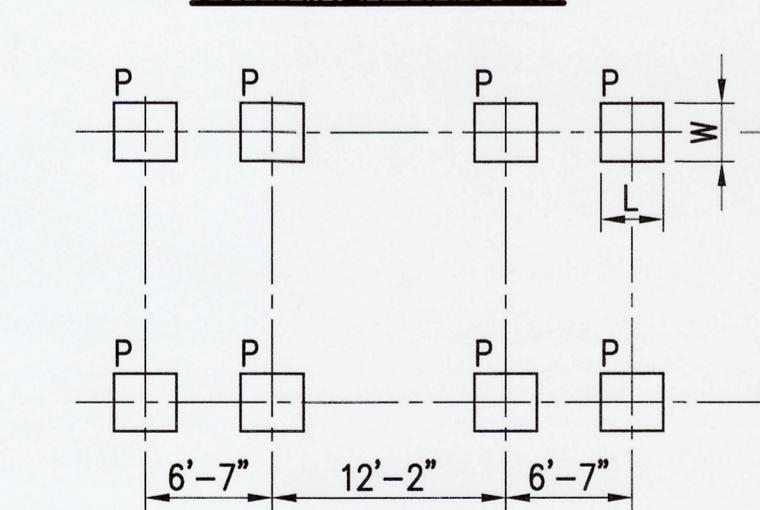
P = 30.4 k (INCLUDES 10% IMPACT)  
W = 10.24"  
L = 20.24"  
G = 145 psi

#### KALMAR CSC 340 STRADDLE CARRIER



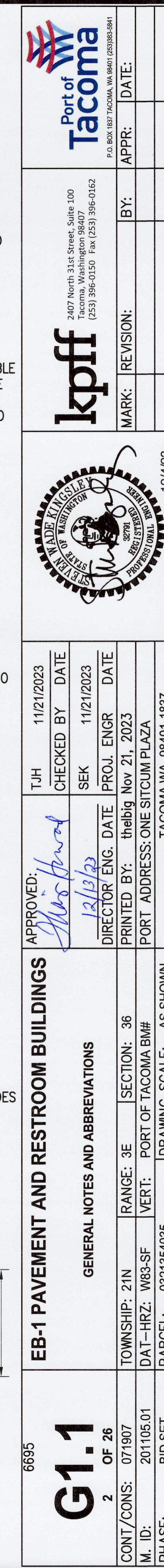
|                                    |                                    |
|------------------------------------|------------------------------------|
| Ps = 16 k (INCLUDES<br>10% IMPACT) | Pd = 62 k (INCLUDES<br>10% IMPACT) |
| Ws = 20"                           | Wd = 51"                           |
| Ls = 6.1"                          | Ld = 23"                           |
| ps = 171 psf                       | pd = 112 psf                       |

TAYLOR "BIG RED" THDC-97  
CONTAINER HANDLER



P = 35 k (INCLUDES 10% IMPAC)  
W = 18"  
L = 19.5"  
a = 100 psi

#### NOELL SC544 STRADDLE CAR



L: 032 1334033 DRAWING SCALE: AS SHOWN IACOMA WA, 98441-183/12/4/23