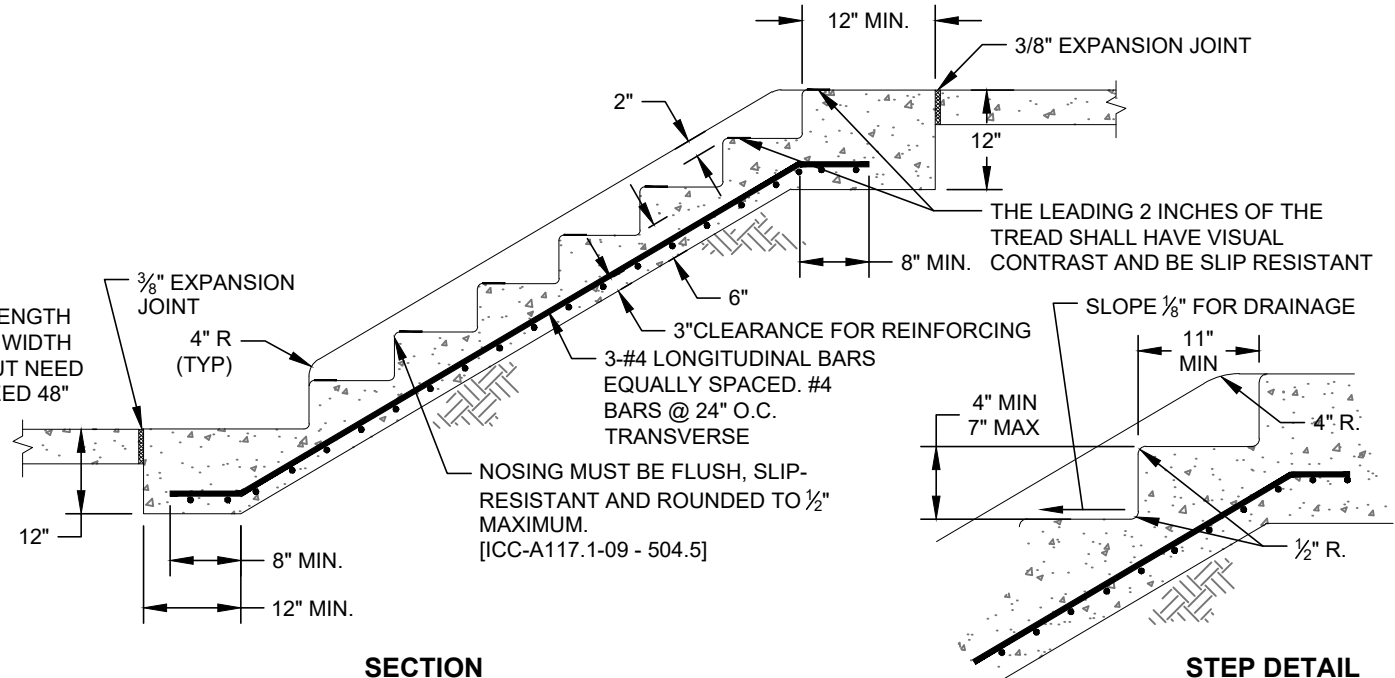
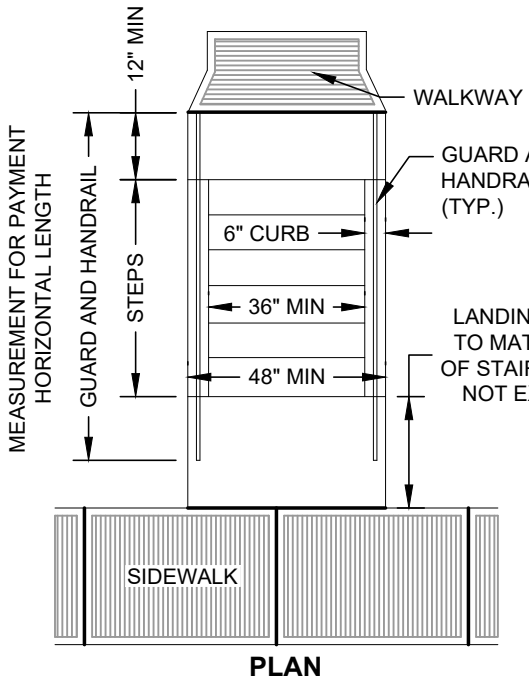


NOTES

1. Stairways, handrails & guards shall comply with the most current version of the International Building Code (IBC) and associated amendments, except as allowed by the Tacoma Municipal Code Title 2 Chapter 2 Section 2.01.060
2. For stairway guard and handrail details, refer to Standard Plan No. SU-11.
3. The minimum thickness of the stairway shall be 6" as measured along the shortest line perpendicular to the slope of the stairs or the total required for coverage of steel reinforcement, whichever is greater. The stairway needs to be provided with the minimum steel, based on temperature & shrinkage as set forth in the ACI code. Clearances to the concrete surfaces from the reinforcement is spelled out in ACI 318-05 Section 7.7 as follows:
 - 3.a. Concrete cast against and permanently exposed to earth: 3" clearance for reinforcing
 - 3.b. Concrete exposed to earth or weather (formed):
 - #6 through #18 Bars: 2" clearance for reinforcing
 - #5 bar, W31 or D31 wire, and smaller: 1.5" clearance for reinforcing
 - 3.c. Concrete not exposed to weather or in contact with the ground:
 - Slabs, walls, joists:
 - #14 & #18 bars: 1.5" clearance for reinforcing
 - #11 bar and smaller: 0.75" clearance for reinforcing
4. Concrete shall be a minimum compressive strength of 3,000 psi.
5. According to ACI 318-05 7.12.2.2 - Shrinkage and temperature reinforcement shall be spaced not farther apart than five times the slab thickness, nor farther apart than 18".
6. Slab reinforcing according to ACI 318-05 Section 7.12.2.1 shall provide the following ratios of reinforcement areas to gross concrete area, but not less than 0.0014:
 - 6.a. Slabs where Grade 40 or 50 deformed bars are used - 0.0020
 - 6.b. Slabs where Grade 60 deformed bars or welded wire reinforcement are used - 0.0018
 - 6.c. Slabs where reinforcement with yield stress exceeding 60,000 psi measured at a yield strain of 0.35 percent is used 0.0018 X 60,000/fy
7. Stair treads and risers shall be of uniform size and shape.
8. Where the stairway has a straight run, the depth of the landing need not exceed 48 inches. (IBC 1011.6). Landings are required at the top and bottom of stairways.
9. Where the bottom or top riser adjoins a sloping public way, walkway or driveway having an established grade and serving as a landing, the bottom or top riser is permitted to be reduced along the slope to less than 4 inches (102 mm) in height, with the variation in height of the bottom or top riser not to exceed one unit vertical in 12 units horizontal (8% slope) of stairway width.



RVDR REVIEWED BY *EW*

PUBLIC WORKS ENVIRONMENTAL SERVICES

[Signature] *TS*

TACOMA POWER TACOMA WATER



APPROVED FOR PUBLICATION

Kurtis Deankingsolver 04/19/2021

CITY ENGINEER DATE

CITY OF TACOMA

CEMENT CONCRETE STAIRWAY

STANDARD PLAN NO. SU-10