

UPSIDE

UPSIDE INNOVATIONS, LLC RAMP AND STEP SYSTEM LAYOUT DRAWINGS

GENERAL SPECIFICATIONS

DESIGN BASED ON ADA ACCESSIBILITY GUIDELINES (ADAAG) FOR RAMPS AND STEPS - SECTIONS 4.8 & 4.9
AND THE INTERNATIONAL BUILDING CODE (IBC) FOR RAMPS AND STAIRWAYS - SECTIONS 1009 & 1010

MATERIALS

- ALL RAMP SECTIONS, PLATFORMS, STEPS, LEGS, AND GUARDRAILS ARE CONSTRUCTED OF MILL FINISH ALUMINUM EXTRUSIONS AND MILL FINISH ALUMINUM SHEET. EXTRUSIONS ARE EITHER 6061-T6, 6063-T52, OR 6005-T5 ALUMINUM ALLOY AND ALL ALUMINUM SHEET IS 5052-H32. POWDER COATING IN CUSTOM COLORS IS AVAILABLE UPON REQUEST.
- WELDED ASSEMBLIES ARE FABRICATED IN ACCORDANCE WITH ANSI WELDING STANDARD AWS D1.2/D1.2M:2003 - STRUCTURAL WELDING CODE FOR ALUMINUM.
- ALL MECHANICAL FASTENERS ARE 18-8 STAINLESS STEEL.

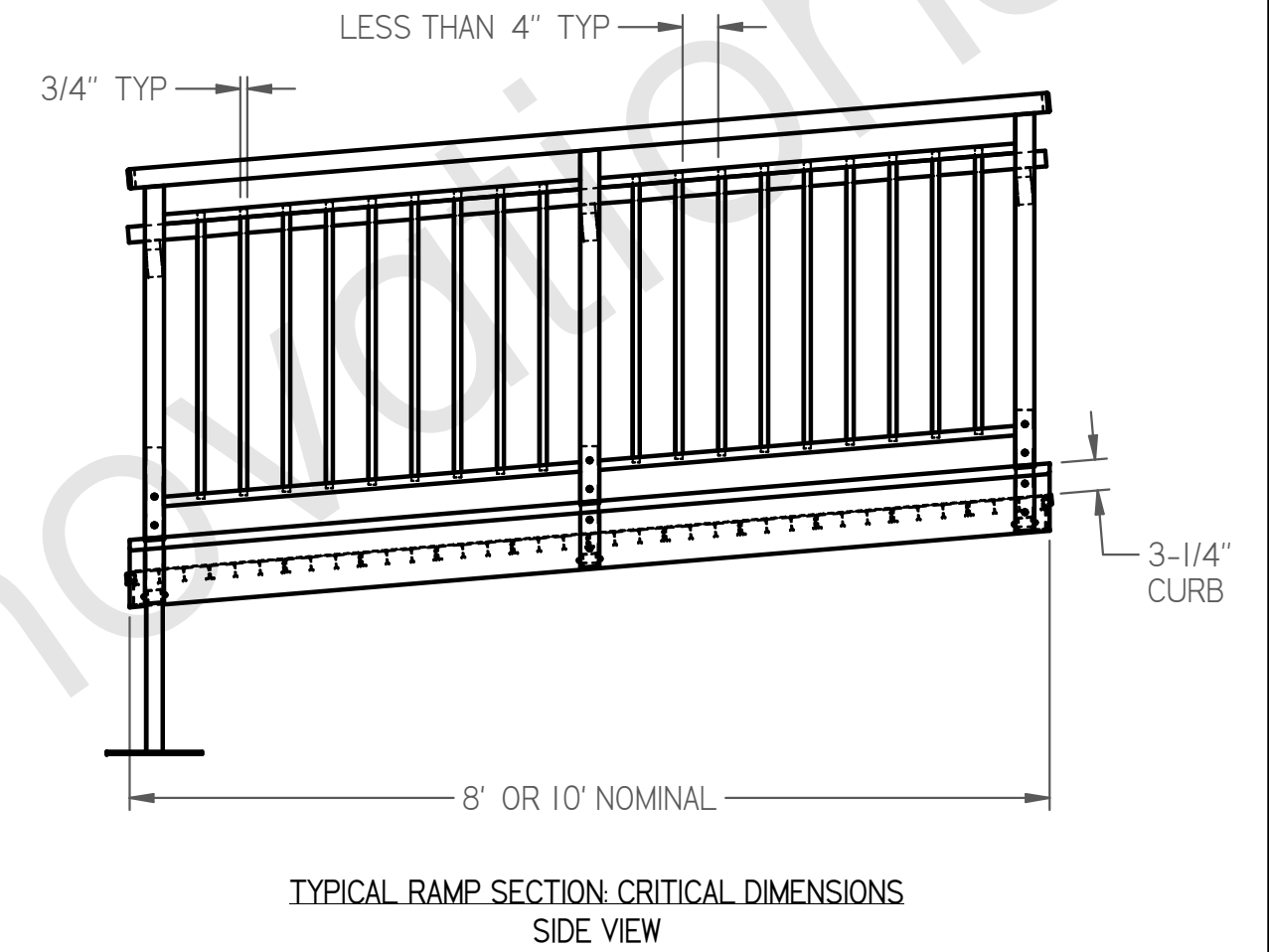
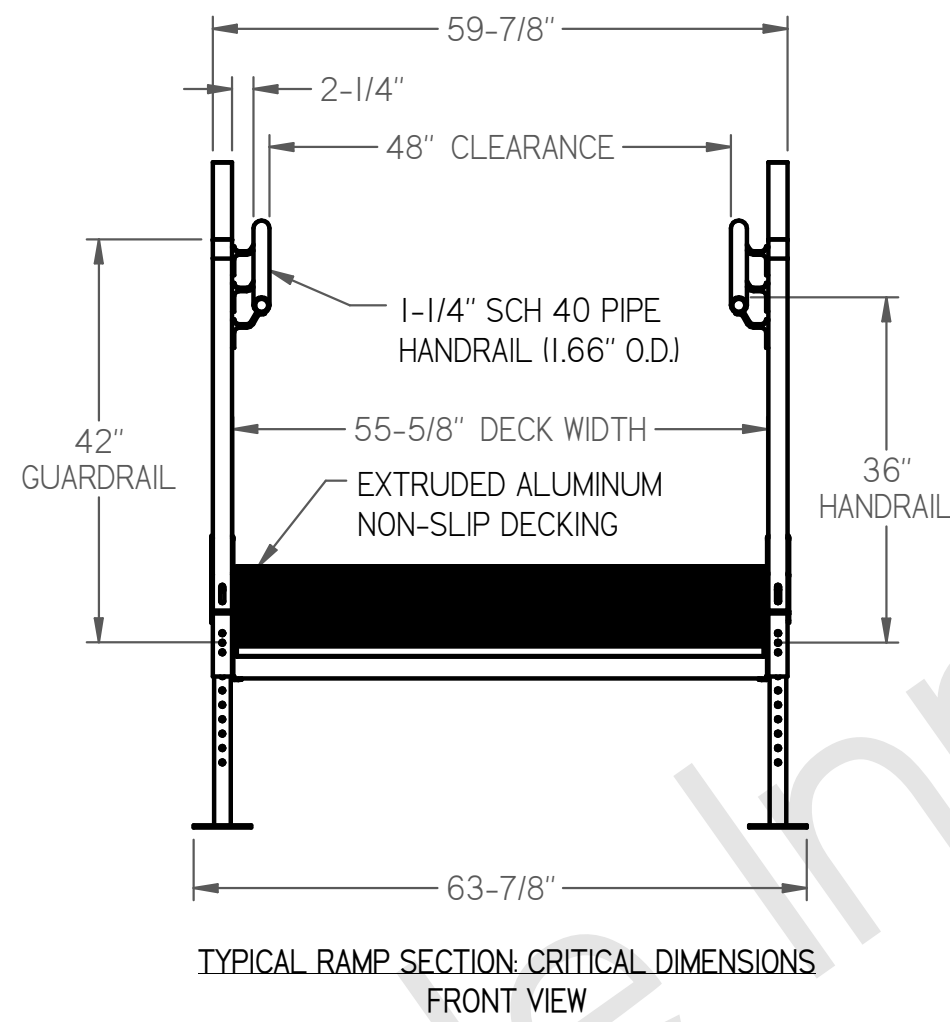
ENGINEERING

- THE RAMP, STEP, AND PLATFORM SYSTEM IS DESIGNED TO BE A RIGID, FREE STANDING STRUCTURE. ALL FOOTPLATES SHOULD BE FASTENED SECURELY TO A CONCRETE SURFACE OR 12" MINIMUM DIAMETER FOOTINGS IN ORDER TO ACHIEVE FULL STRUCTURAL INTEGRITY. FOOTING DEPTH WILL DEPEND ON LOCAL BUILDING CODE. FASTENING ALL PLATFORMS ADJACENT TO THE BUILDING OR MODULAR BUILDING WITH LAG SCREWS IS HIGHLY RECOMMENDED.
- ALL WALKING SURFACES ARE DESIGNED TO CARRY A UNIFORM LIVE LOAD OF 100 POUNDS PER SQUARE FOOT AND A CONCENTRATED VERTICAL LOAD OF 300 POUNDS IN AN AREA OF ONE SQUARE FOOT.
- ALL RAMP AND STEP HANDRAILS, AND RAMP, PLATFORM, AND STEP GUARDRAILS ARE DESIGNED TO WITHSTAND A CONCENTRATED LOAD OF 200 POUNDS APPLIED IN ANY DIRECTION ON THE TOP OF THE RAIL.
- ALL BALUSTERS ARE DESIGNED TO WITHSTAND A LOAD OF 50 POUNDS IN THE HORIZONTAL DIRECTION APPLIED IN AN AREA OF ONE SQUARE FOOT.
- ALL PLATFORM WALKING SURFACES ARE DESIGNED TO HAVE A COEFFICIENT OF FRICTION NO LESS THAN 0.50 IN ALL DIRECTIONS OF TRAVEL. ALL RAMP AND STEP WALKING SURFACES ARE DESIGNED TO HAVE A COEFFICIENT OF FRICTION NO LESS THAN 0.50 IN THE NORMAL DIRECTION OF TRAVEL.

DIMENSIONAL CODE COMPLIANCE

- ALL RAMP SECTIONS ARE DESIGNED TO ALLOW A MAXIMUM SLOPE OF 1:12 OR 1" OF RISE FOR EVERY 12" OF RUN. THE RAMP SYSTEM CAN BE ADJUSTED TO ACCOMMODATE A LESSER SLOPE OF 1:20 IF DESIRED.
- RAMP LAYOUT DRAWINGS PROVIDED DO NOT ALLOW FOR ANY RAMP TO TRAVEL A DISTANCE OF 30 FEET (30" VERTICALLY) WITHOUT INCLUDING A RESTING PLATFORM. ALL RAMPS, STEPS, AND PLATFORMS SHOULD BE INSTALLED ACCORDING TO THE SUPPLIED DRAWINGS.
- ALL RAMP SECTIONS AND STAIRS ARE DESIGNED TO ALLOW A CLEARANCE OF 48" BETWEEN HANDRAILS.
- ALL PLATFORMS ARE DESIGNED TO BE WIDER THAN THE RAMP SECTION OR STEP LEADING UP TO THEM AND AT LEAST 60" LONG IN THE DIRECTION OF TRAVEL.
- ALL PLATFORMS ARE DESIGNED TO ALLOW AT LEAST A 60" DIAMETER AREA OF CLEARANCE FREE OF OBSTRUCTIONS.
- ALL GUARDRAILS WILL NOT ALLOW A 4" DIAMETER SPHERE TO PASS THROUGH IN ANY AREA.
- RAMP AND PLATFORM GUARDRAILS ARE ALL DESIGNED TO BE 42" HIGH MEASURED VERTICALLY FROM THE WALKING SURFACE TO THE TOP OF THE RAIL. STEPS OVER 30" HIGH ARE ALSO DESIGNED TO HAVE A 42" GUARDRAIL MEASURED FROM THE TOP OF THE STEP NOSING TO THE TOP OF THE RAIL.
- GUARDRAILS AND HANDRAILS ARE PROVIDED ON BOTH SIDES OF ALL RAMPS AND STEPS.
- ALL RAMP AND STEP HANDRAILS ARE DESIGNED TO BE CONTINUOUS ALONG RAMP RUNS AND IN BETWEEN THE INSIDE CORNER OF 90° AND 180° TURNS IN RAMP DIRECTIONS. HANDRAILS ARE NOT INTERRUPTED BY POSTS OR OTHER OBSTRUCTIONS.
- ALL HANDRAILS HAVE A CLEARANCE OF 2-1/4" BETWEEN THE HANDRAIL AND POST. HANDRAILS ARE CONSTRUCTED OF 1-1/4" SCH 40 PIPE WITH AN OUTSIDE DIAMETER OF 1.66"
- RAMP HANDRAILS ARE DESIGNED TO BE 36" HIGH MEASURED VERTICALLY FROM THE WALKING SURFACE TO THE TOP OF THE RAIL. RAMP HANDRAILS EXTEND 12" PAST THE END OF THE SLOPE PARALLEL TO THE GROUND SURFACE AND RETURN TO THE CLOSEST RAIL POST OR WALL IF NEEDED DUE TO DOOR SWING INTERFERENCE AT THE TOP OF THE RAMP.
- STEP HANDRAILS ARE DESIGNED TO BE 36" HIGH MEASURED VERTICALLY FROM THE TIP OF THE STEP NOSING TO THE TOP OF THE RAIL. STEP HANDRAILS EXTEND 12" PAST THE TOP STEP NOSING PARALLEL TO THE GROUND SURFACE AND RETURN TO THE CLOSEST RAIL POST OR WALL IF NEEDED DUE TO DOOR SWING INTERFERENCE AT THE TOP OF THE STEP. STEP HANDRAILS ALSO EXTEND ONE TREAD WIDTH PAST THE BOTTOM STEP TREAD (11") AND RETURN TO THE CLOSEST RAIL POST.
- ALL RAMP SECTIONS ARE DESIGNED TO INCORPORATE A 3-1/4" HIGH CURB ADJACENT TO THE WALKING SURFACE ON BOTH SIDES.
- ALL STEP TREADS ARE DESIGNED TO HAVE A UNIFORM DEPTH OF 12" WITH A 1" NOSING FOR AN EFFECTIVE RUN OF 11" PER STEP. ALL STEP TREADS ARE ALSO DESIGNED TO HAVE A UNIFORM HEIGHT OF EITHER 6", 6-1/2", OR 7" DEPENDING ON THE OVERALL HEIGHT OF THE STEP ASSEMBLY. ALL STEP RISERS ARE CLOSED IN BETWEEN TREADS.
- ALL STEP NOSINGS HAVE A UNIFORM RADIUS OF 1/4" AND AN UNDERSIDE ANGLE OF 60° FROM THE HORIZONTAL.

STANDARD 42" BALUSTER GUARDRAILS WITH 36" SINGLE HANDRAILS



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| DWG # | 50_SWB | <p>UPSIDE INNOVATIONS LLC CINCINNATI, OHIO WWW.UPSIDEINNOVATIONS.COM PHONE: (513) 889-2492 FAX: (513) 672-2124</p> | ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED | | XXX ± 0.060" XXXX ± 0.015" ANGLES ± 1° | |
| DATE | 12/4/14 | | DATE | BY | REV | REVISION DESCRIPTION |
| REVISION | -- | | | | | |
| SCALE | N/A | | | | | |
| DRAWN | SRF | | | | | |
| CHECKED | KRS | | | | | |
| TITLE | UPSIDE STANDARD LAYOUT - 50' SWITCHBACK RAMP | | SIZE | C | | |
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