

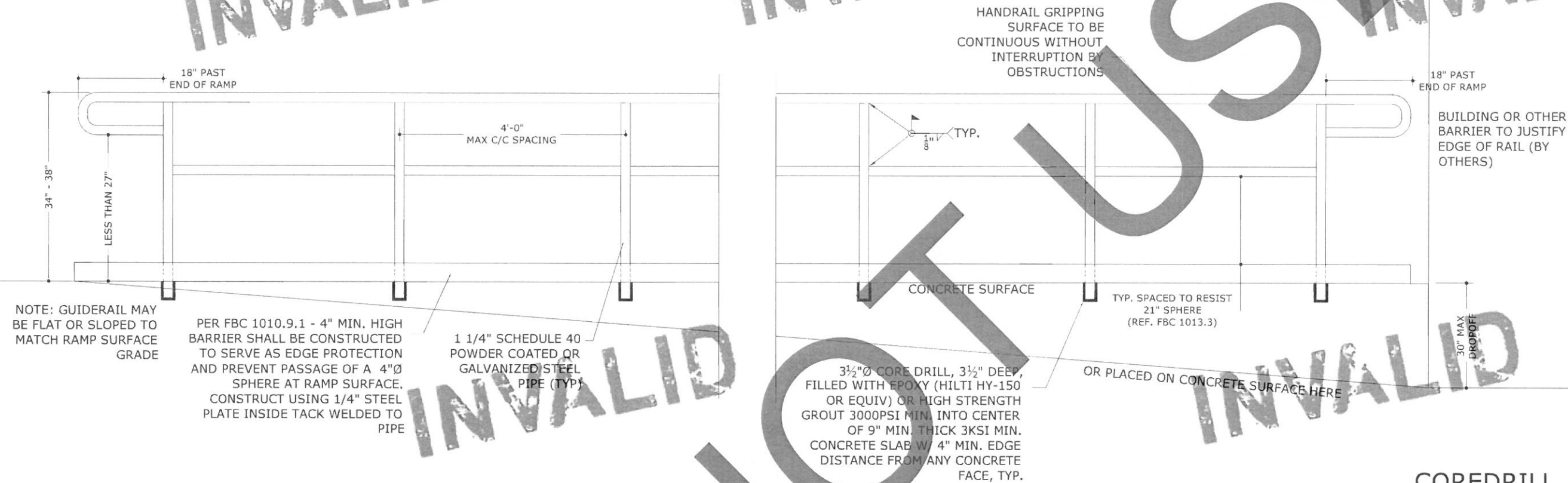
# STEEL RAMP GUIDERAIL DETAIL

NTS

ALL WELDED STEEL CONSTRUCTION

## NOTE:

THESE PLANS CERTIFY THE STRUCTURAL ADEQUACY OF THE PROPOSED SYSTEM IN ACCORDANCE WITH THE STRUCTURAL REQUIREMENTS OF THE BUILDING CODE ONLY. WE OFFER NO CERTIFICATION NOR REVIEW REGARDING RAMP WIDTH, LOCATION, USE, OR EGRESS ISSUES, WHICH SHALL BE ADDRESSED BY THE PERMITTING CONTRACTOR AND THE LOCAL BUILDING OFFICIAL.



NOTE: GUIDERAIL MAY BE FLAT OR SLOPED TO MATCH RAMP SURFACE GRADE

PER FBC 1010.9.1 - 4" MIN. HIGH BARRIER SHALL BE CONSTRUCTED TO SERVE AS EDGE PROTECTION AND PREVENT PASSAGE OF A 4"Ø SPHERE AT RAMP SURFACE. CONSTRUCT USING 1/4" STEEL PLATE INSIDE TACK WELDED TO PIPE

1 1/4" SCHEDULE 40 POWDER COATED OR GALVANIZED STEEL PIPE (TYP)

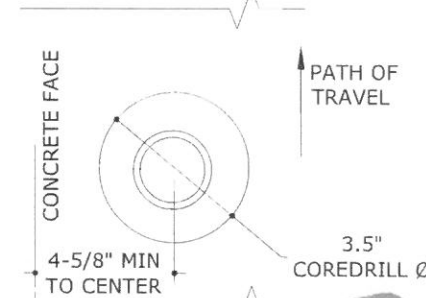
CONCRETE SURFACE

TYP. SPACED TO RESIST 21" SPHERE (REF. FBC 1013.3)

3 1/2"Ø CORE DRILL, 3 1/2" DEEP, FILLED WITH EPOXY (HILTI HY-150 OR EQUIV) OR HIGH STRENGTH GROUT 3000PSI MIN. INTO CENTER OF 9" MIN. THICK 3KSI MIN. CONCRETE SLAB W/ 4" MIN. EDGE DISTANCE FROM ANY CONCRETE FACE, TYP.

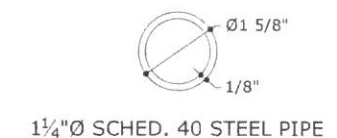
OR PLACED ON CONCRETE SURFACE HERE

## COREDRILL DETAIL



## PIPE DETAIL

A36 GR. 5 STEEL, OR BETTER  
TOLERANCES TO BE PER INDUSTRY STANDARDS



## GENERAL NOTES

- THIS SYSTEM HAS BEEN DESIGNED AND SHALL BE FABRICATED AND USED IN ACCORDANCE WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 6TH EDITION (2017).
- THIS GUARDRAIL IS DESIGNED TO MEET SECTIONS OF THE CODE GOVERNING ELEVATED BALCONIES AND STRUCTURAL RAILINGS (200LB POINT LOAD, 50PLF TOPCAP LOAD, 50LB POINT LOAD UPON 1SF OF INFILL AS APPLICABLE (NONHVHZ CRITERIA FBC 1607.8.1) AND 25 PSF UPON GROSS AREA OF GUARD AS APPLICABLE (HVHZ CRITERIA FBC 1618.4.6). GUARDRAIL IS DESIGNED FOR WIND LOADING PER CHAP 16 HVHZ, NON-HVHZ & THE PROVISIONS OF ASCE 7-10,  $V_{ult} = 170$  MPH,  $V_{asd} = 131.7$  MPH, EXPOSURE 'D', AS AN 80% OPEN SIGN AT GRADE USING "ASD" METHODOLOGY.
- SEISMIC DESIGN DOES NOT GOVERN. SEISMIC PARAMETERS CHECKED: RISK CATEGORY II, IMPORTANCE FACTOR 1.0,  $S_s = 0.05533$ ,  $S_1 = 0.02187$ , SITE CLASS D,  $S_{ds} = 0.059$ ,  $S_{D1} = 0.035$ , SEISMIC DESIGN CATEGORY A, BASIC SEISMIC FORCE-RESISTING SYSTEMS ALL OTHER SELF-SUPPORTING STRUCTURES, DESIGN BASE SHEAR 25 LBS (WEIGHT OF TRIBUTARY MAX=500LB, UP TO 10FT ABOVE GRADE),  $C_s = 0.047$ ,  $R = 1.25$ , NON-BUILDING EQUIVALENT LATERAL FORCE PROCEDURE ANALYSIS.
- ALL FLOOR FINISHES SHALL BE BY OTHERS AND SHALL NOT EXCEED 1/8" MAXIMUM, OTHERWISE THEY SHALL BE SEPARATELY CERTIFIED TO TRANSFER ALL LOADING TO THE PROJECT SUPERSTRUCTURE AND THE FINISHED HEIGHT OF THE GUIDERAIL SHALL BE ADJUSTED TO MAINTAIN CONFORMANCE WITH CODE ACCORDINGLY.
- ALL CONCRETE SHALL BE UNCRACKED ONLY WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI U.N.O. AND SHALL BE MINIMUM 1.5X THICKER THAN ANY MEMBER EMBEDMENT. ALL EPOXY AND GROUT SHALL MEET OR EXCEED COMPRESSIVE STRENGTH OF THE CONCRETE AND SHALL BE IRON-FREE, NONSHRINK AND NONREACTIVE.
- MINIMUM WELD IS 3/8" THROAT FULL PERIMETER FILLET WELD UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
- ELECTRICAL GROUND, WHEN REQUIRED, TO BE DESIGNED & INSTALLED BY OTHERS.
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# STEEL

ENGINEER SEAL  
REQUIRED  
02/28/2019

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ACCESSIBLE RAMP STEEL HANDRAIL  
MASTER PLAN SHEET  
FLORIDA BUILDING CODE SIXTH EDITION (2017)  
ASCE 7-10 - OPEN SIGN METHOD / MIN DESIGN LOAD

DRWN CHKO DATE 02/15/18  
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1 OF 1