

DESIGN DATA NOTES

- GENERAL:
 - DESIGN PROVISIONS: 2017 NEW YORK STATE UNIFORM CODE (NYSUC)
 - RISK CATEGORY: IV
 - TERRAIN EXPOSURE CATEGORY: B
 - BASIC SEISMIC MAIN WIND FORCE RESISTING SYSTEM: FLAT BOTTOM REINFORCED CONCRETE TANK. TANK DOES NOT RETAIN A HEAD OF FLUID.
- LIVE LOADS:
 - GEODESIC ROOF STRUCTURE DESIGNED BY EQUIPMENT MANUFACTURER. DELEGATE ENGINEER SHALL DESIGN ROOF STRUCTURE IN ACCORDANCE WITH NYSUC LIVE AND DEAD LOADS INDICATED BELOW.
 - UNIFORMLY DISTRIBUTED LIVE LOADS:
 - ROOF: UNIFORM GROUND SNOW LOAD (P_g) 30 psf
 - UNIFORM FLAT ROOF SNOW LOAD (P_h) 28 psf
 - SNOW EXPOSURE FACTOR (C_e) 1.0
 - THERMAL FACTOR (C_t) 1.1
 - IMPORTANCE FACTOR (I_s) 1.2
 - RAIN LOAD NA
- DEAD LOADS:
 - ROOF: 5 psf
 - ON TOP OF MAT FOOTINGS: 75 psf

(CONCENTRATED LOADS SHALL BE LIMITED TO THOSE WHICH INDUCE MOMENTS AND SHEARS IN MEMBERS NOT GREATER THAN THOSE INDUCED BY THE NOTED UNIFORMLY DISTRIBUTED LOADS.)
- SEISMIC LOADS:
 - SITE CLASS: C
 - SHORT-PERIOD DESIGN ACCELERATION (S_{ds}): 0.240
 - ONE-SECOND DESIGN ACCELERATION (S_{d1}): 0.090
 - SHORT PERIOD MAPPED SPECTRAL RESPONSE (S_s): 0.225
 - ONE-SECOND MAPPED SPECTRAL RESPONSE (S₁): 0.056
 - SEISMIC DESIGN CATEGORY: C
 - IMPORTANCE FACTOR (I_s): 1.2
 - SYSTEM COEFFICIENT (C_s): 2
 - ANALYSIS PROCEDURE: ELFP PER ACI 350.3-08
 - SEISMIC RESPONSE COEFFICIENT (C_s): 0.24
 - SEISMIC DESIGN BASE SHEAR (V): 275 KIPS
- MAIN WIND FORCE RESISTING SYSTEM HAS BEEN DESIGNED ACCORDING TO ASCE 7-10, AS REFERENCED IN THE 2015 INTERNATIONAL BUILDING CODE (IBC) SECTION 1609.1 USING THE FOLLOWING PROCEDURE:
 - DESIGN WIND SPEED (ASCE 7-10, SECTION 29.5)
 - OTHER STRUCTURES (ASCE 7-10, SECTION 29.5)
 - ULTIMATE WIND SPEED (3 SECOND GUST) (V_{ult}): 120 mph
 - NOMINAL WIND SPEED (3 SECOND GUST) (V_{sud}): 93 mph
 - DIRECTIONALITY FACTOR (K_d): 0.95
 - TOPOGRAPHIC FACTOR (K_t): 1
 - GUST EFFECT FACTOR (G): 0.85
 - FORCE COEFFICIENT (C_f): 0.5
 - HEIGHT OF MAIN ROOF: 15 feet
- SOIL PRESSURE:
 - PRESUMPTIVE SOIL BEARING PRESSURE: 1500 PSF (ON UNDISTURBED MATERIAL OR COMPACTED STRUCTURAL FILL). ALLOWABLE BEARING PRESSURE SHALL BE VERIFIED BY A LICENSED GEOTECHNICAL ENGINEER DURING CONSTRUCTION.
- STRUCTURAL MATERIAL STRENGTHS:
 - STRUCTURAL AND MISCELLANEOUS STEEL:
 - ROLLED STEEL C AND MC SHAPES: ASTM A 36 OR ASTM A 572, GRADE 50
 - ROLLED STEEL PLATES, BARS, AND ANGLES: ASTM A 36 OR ASTM A 572, GRADE 50
 - CONCRETE:
 - MAT FOOTING: F_c = 4,500 psi
 - TANK WALLS: F_c = 5,000 psi
 - REINFORCING STEEL FOR CONCRETE: ASTM A 615, GRADE 60

GENERAL NOTES

- DO NOT SCALE DRAWINGS. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES IN DIMENSIONS BETWEEN EXISTING CONDITIONS AND/OR PROCESS DRAWINGS AND THE STRUCTURAL DRAWINGS.
- DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
- DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED.
- THE NOTES ON THIS DRAWING ARE TYPICAL UNLESS OTHERWISE INDICATED.
- CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF PROPOSED DEVIATIONS OR SUBSTITUTIONS FROM DIMENSIONS, MATERIALS, OR EQUIPMENT SHOWN ON THE DRAWINGS AND MAKE ONLY THOSE DEVIATIONS OR SUBSTITUTIONS ACCEPTED BY ENGINEER.
- CONTRACTOR SHALL DETERMINE EXACT LOCATIONS OF EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR DAMAGES WHICH MIGHT OCCUR AS A RESULT OF FAILURE TO EXACTLY LOCATE AND PRESERVE EXISTING UTILITIES.
- THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION SAFETY.

FOUNDATION NOTES

- BEAR FOOTINGS ON FIRM UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL.
- FOOTINGS HAVE BEEN DESIGNED FOR A SOIL BEARING PRESSURE OF 1500 psf. BEARING STRATUM FOR THIS CAPACITY SHALL BE VERIFIED IN FIELD BY A LICENSED GEOTECHNICAL ENGINEER BEFORE CASTING CONCRETE FOOTINGS.
- UNLESS OTHERWISE NOTED, BOTTOM OF EXTERIOR FOOTINGS IS 4 FEET MINIMUM BELOW FINISH GRADE.
- SOIL BEARING SURFACES PREVIOUSLY ACCEPTED BY GEOTECHNICAL ENGINEER WHICH ARE ALLOWED TO BECOME SATURATED, FROZEN, OR DISTURBED SHALL BE REWORKED TO SATISFACTION OF GEOTECHNICAL ENGINEER.
- FOUNDATION PREPARATION: REFER TO SPECIFICATIONS FOR "EARTHWORK."
- DO NOT PLACE FOOTINGS IN WATER OR ON FROZEN GROUND.
- DO NOT ALLOW GROUND BENEATH FOOTINGS TO FREEZE.
- CONCRETE WALLS SHALL ATTAIN A MINIMUM STRENGTH OF 70% F_c BEFORE PLACING BACKFILL AGAINST THEM.

CONCRETE COVER SCHEDULE	
LOCATION	COVER
FOOTINGS/MAT SLAB POURED AGAINST EARTH:	3"
SURFACE EXPOSED TO WEATHER OR EARTH: BARS LARGER THAN #5 #5 BARS OR SMALLER	2" 1 1/2"

CONCRETE REINFORCEMENT LAP SPLICE SCHEDULE F_c ≥ 4,000 psi

BAR LAP LENGTHS						
BAR SIZE	MINIMUM CLEAR COVER (INCH)	MINIMUM SPACING CENTER-TO-CENTER (INCH)	CLASS B LAP TOP BAR (INCH)	CLASS B LAP TOP BAR (INCH)	CLASS A LAP NOT A TOP BAR (INCH)	CLASS A LAP TOP BAR (INCH)
#4	1 1/2	3 1/2	16 (18)	18 (24)	12 (14)	14 (18)
#5	1 1/2	3 5/8	18 (23)	23 (30)	14 (18)	18 (23)
#6	2	4 3/4	21 (27)	28 (36)	16 (21)	21 (28)
#7	2	5	31 (40)	40 (52)	24 (31)	31 (40)
#8	2	5	35 (45)	46 (59)	27 (35)	35 (46)
#9	2	5 1/4	44 (56)	57 (73)	34 (44)	44 (57)
#10	2	5 1/4	54 (70)	70 (90)	42 (54)	54 (70)
#11	2	5 1/2	64 (84)	84 (108)	50 (65)	64 (84)

- NOTES:**
- TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW THE DEVELOPMENT LENGTH OR SPLICE.
 - USE CLASS B LAP SPLICES, UNLESS NOTED OTHERWISE.
 - FOR COVER AND SPACING DIMENSIONS WHICH ARE IN BETWEEN THE TABULATED VALUES, DO NOT INTERPOLATE, INSTEAD USE THE LONGER LAP LENGTH. SEE CONCRETE COVER SCHEDULE.
 - CALCULATE CENTER TO CENTER SPACING DIMENSIONS OF BARS AT SPLICE LOCATIONS.
 - FOR EPOXY COATED BARS, USE VALUES SHOWN IN PARENTHESIS IN TABLE ABOVE.

CAST-IN-PLACE CONCRETE NOTES

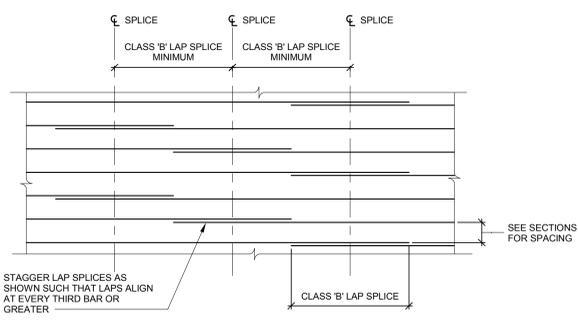
- REINFORCE CONCRETE ELEMENTS INCLUDING MAT FOOTINGS, WALLS, AND PIER. REINFORCEMENT SHOWN PERTAINS TO TYPICAL CONDITIONS.
- NO HOLES OR OPENINGS ARE PERMITTED THROUGH CONCRETE MAT FOOTING, PIER, OR WALLS EXCEPT AS FOLLOWS: WHERE SHOWN AND AS DETAILED IN DRAWINGS. MISCELLANEOUS HOLES THROUGH SLABS OR WALLS THAT DO NOT DISPLACE MORE THAN ONE BAR. THESE DO NOT REQUIRE ADDITIONAL REINFORCEMENT.
- LAP SPLICE CONCRETE REINFORCEMENT AS INDICATED IN THE CONCRETE REINFORCEMENT LAP SPLICE SCHEDULE, UNLESS NOTED OTHERWISE.
- LAP CONTINUOUS FOOTING AND HORIZONTAL WALL REINFORCEMENT WITH A CLASS B LAP SPLICE UNLESS NOTED OTHERWISE.
- TOP BARS INDICATED WITH HOOKS SHALL HAVE ACI STANDARD 90 DEGREE HOOK UNLESS NOTED OTHERWISE.
- KEYS SHALL BE 2 INCHES BY 4 INCHES UNLESS OTHERWISE SHOWN IN DRAWINGS.
- CAST CONCRETE ON SLOPED SURFACES BEGINNING AT LOWEST ELEVATION AND CONTINUING MONOLITHICALLY TOWARD HIGHER ELEVATIONS UNTIL INTENDED POUR IS COMPLETED.
- PROVIDE 100 FEET OF #4, 100 FEET OF #5, AND 100 FEET OF #6 BARS IN 20-FOOT LENGTHS TO BE FIELD CUT AND PLACED IN FIELD AS LOCATED BY ENGINEER.
- DOWEL CONCRETE WALLS AND PIER INTO FOOTINGS WITH DOWELS THE SAME SIZE AND SPACING AS VERTICAL REINFORCEMENT. EXTEND DOWELS TO WITHIN 3 INCHES OF BOTTOM OF FOOTING, TERMINATED WITH A C.I. STANDARD 90 DEGREE HOOK. PROVIDE CLASS B LAP SPLICE WITH VERTICAL REINFORCEMENT.
- PROVIDE KEYS IN CONCRETE WALLS AND FOOTINGS AT VERTICAL CONSTRUCTION JOINTS UNLESS NOTED OTHERWISE. KEYS SHALL BE 1 1/2 INCHES DEEP AND THE WIDTH OF THE KEY SHALL BE ONE-THIRD THE WALL THICKNESS AND CENTERED WITHIN THE WALL.
- VERIFY SIZE AND LOCATION OF MECHANICAL OPENINGS.
- MINIMUM BAR DEVELOPMENT LENGTH EQUALS CLASS A LAP LENGTH.
- CHAMFER EXPOSED CONCRETE CORNERS AND EDGES 3/4 INCH UNLESS NOTED OTHERWISE.
- CONCRETE COVER FOR REINFORCEMENT SHALL BE AS INDICATED IN THE CONCRETE COVER SCHEDULE.
- PROVIDE WATERSTOPS IN BELOW-GRADE WALL TO FOOTING JOINTS.

SPECIAL INSPECTION NOTES

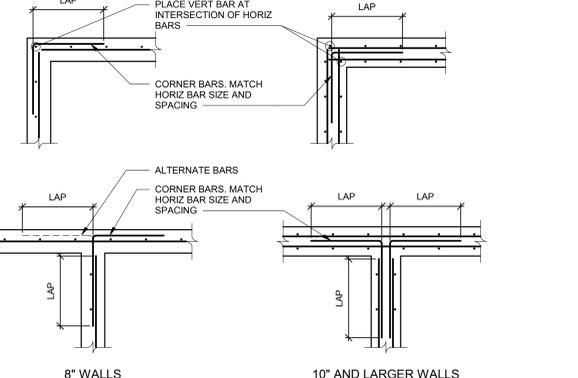
- THE OWNER WILL ENGAGE THE SERVICES OF A QUALIFIED SPECIAL INSPECTOR FOR THIS PROJECT, WHO WILL PROVIDE AND/OR COORDINATE INSPECTION AND TESTING REQUIREMENTS AS NECESSARY IN ACCORDANCE WITH THE PROVISIONS OF CHAPTER 17 OF THE NYSUC.
- THE REGISTERED DESIGN PROFESSIONAL HAS PREPARED A STATEMENT OF SPECIAL INSPECTIONS. THESE DOCUMENTS WILL BE SUBMITTED WITH THE CONTRACT DOCUMENTS AND THE APPLICATION FOR BUILDING PERMIT TO THE CODE ENFORCEMENT OFFICIAL.
- SPECIAL INSPECTIONS AND TESTING SHALL BE CONTINUOUS OR PERIODIC DURING THE PERFORMANCE OF THE WORK, AS NOTED.
- THE CONTRACTOR SHALL HOLD A PRE-CONSTRUCTION MEETING WITH THE REGISTERED DESIGN PROFESSIONAL, SPECIAL INSPECTOR, TESTING AGENCY, AND AFFECTED SUB-CONTRACTORS TO REVIEW THE REQUIRED SPECIAL INSPECTION AND TESTING REQUIREMENTS FOR THE PROJECT. THE CONTRACTOR SHALL DISTRIBUTE CONSTRUCTION SCHEDULES TO EACH ATTENDEE.
- THE SPECIAL INSPECTOR SHALL SUBMIT INTERIM REPORTS AND, AT THE COMPLETION OF SPECIAL INSPECTIONS, A FINAL STATEMENT OF SPECIAL INSPECTIONS. REPORTS SHALL BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER.
- THE SPECIAL INSPECTOR SHALL NOTIFY THE CONTRACTOR IMMEDIATELY OF DISCREPANCIES. SUBSEQUENT REPORTS SHALL NOTE WHEN AND HOW DEFICIENCIES WERE CORRECTED. THE SPECIAL INSPECTOR SHALL NOTIFY THE REGISTERED DESIGN PROFESSIONAL AND THE CODE ENFORCEMENT OFFICIAL OF DISCREPANCIES WHICH HAVE NOT BEEN CORRECTED.
- THE CONTRACTOR SHALL COOPERATE WITH THE SPECIAL INSPECTOR INCLUDING ADVANCE NOTIFICATION OF REQUIRED INSPECTION OR TEST, INCIDENTAL LABOR, AND SAFE ACCESS TO THE WORK AREAS, AND ACCESS TO CONTRACT DOCUMENTS SO THAT INSPECTIONS AND TESTING MAY BE PERFORMED WITHOUT HINDRANCE.
- THE SPECIAL INSPECTION PROGRAM SHALL IN NO WAY RELIEVE THE CONTRACTOR OF THE OBLIGATION TO PERFORM THE WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS OR FROM IMPLEMENTING AN EFFECTIVE QUALITY CONTROL PROGRAM.
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

ABBREVIATIONS LEGEND

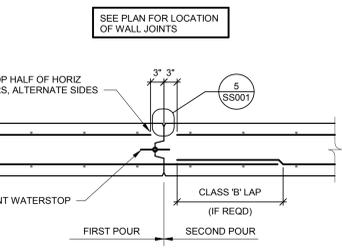
ADJ	ADJACENT	EXT	EXTERIOR	PE	PROFESSIONAL ENGINEER
L	ANGLE	EOD	EDGE OF DECK	PERP	PERPENDICULAR
APPROX	APPROXIMATE	EOS	EDGE OF SLAB	PLF	POUNDS PER LINEAL
ARCH	ARCHITECT	FD	FLOOR DRAIN	PSF	FOOT POUNDS PER SQUARE
B/	ARCHITECTURAL	FDN	FOUNDATION	FTG	FOOTING
BLDG	BUILDING	GA	GALVA	PSI	POUNDS PER SQUARE
BRG	BEARING	GALV	GALVANIZED	INCH	INCH
BP	BASE PLATE	HSS	HOLLOW STEEL SECTION	PCF	FOUNDS PER CUBIC
CANT	CANTILEVER	HORIZ	HORIZONTAL	FOOT	FOOT
CJ	CONTROL	HI	HIGH	PC	PRECAST
CONTR	CONTRACTION	HP	HIGH POINT	PSL	PARALLEL STRAND
CONC	CONCRETE	HVAC	HEATING/VENTILATING/	LUMBER	LUMBER
CONC	CONCRETE	INFO	INFORMATION	R	RADIUS
CONT	CONTINUOUS	INT	INTERIOR	RD	ROOF DRAIN
COL	COLUMN	INV	INVERT	REG	REGISTERED DESIGN
CFMF	COLD-FORMED	K	KIPS	PROF	PROFESSIONAL
COORD	COORDINATE	LLH	LONG LEG HORIZONTAL	REQD	REQUIRED
DIA	DIAMETER	LLV	LONG LEG VERTICAL	REIN	REINFORCING OR
DN	DOWN	LOC	LOCATION	REV	REVISION OR REVISED
DO	DITTO	LV	LIGHT WEIGHT	RO	ROUGH OPENING
DWG	DRAWING	LVL	LAMINATED VENEER	SEM	SIMILAR
EA	EACH	LN	LUMBER <td>SPA</td> <td>SPACE</td>	SPA	SPACE
EF	EACH FACE	LO	LOW	STD	STANDARD
EJ	EXPANSION JOINT	MANUF	MANUFACTURER	SF	SQUARE FEET
ELEC	ELECTRICAL	MAX	MAXIMUM	SS	STAINLESS STEEL
EL	ELEVATION	MECH	MECHANICAL	STL	STEEL
ELEV	ELEVATOR	MIN	MINIMUM	SQ	SQUARE
ENGR	ENGINEER	MISC	MISCELLANEOUS	T/	TOP OF
EMBD	EMBEDDED	MNO	MASONRY OPENING	TYP	TYPICAL
EQ	EQUAL	NA	NOT APPLICABLE	UNO	UNLESS NOTED
EQUIP	EQUIPMENT	NIC	NOT IN CONTRACT	OTHERWISE	OTHERWISE
ES	EACH SIDE	NOM	NOMINAL	VERT	VERTICAL
EW	EACH WAY	NW	NORMAL WEIGHT	VIF	VERIFY IN FIELD
EXIST	EXISTING	OC	ON CENTER	W/	WITH
		OD	OUTSIDE DIAMETER	WP	WORK POINT
		OPNG	OPENING	WWR	WELDED WIRE
		OPP	OPPOSITE	REIN	REINFORCEMENT
		PAF	POWDER ACTUATED FASTENER	WCJ	WALL CONTROL OR CONSTRUCTION JOINT



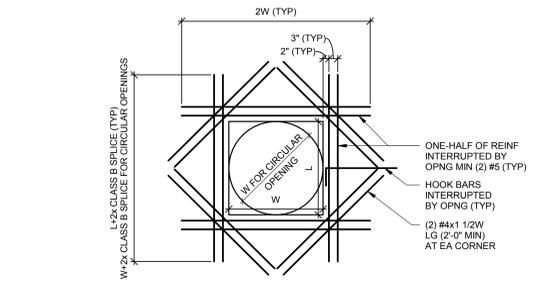
3 TYPICAL HORIZONTAL WALL REINFORCING SPLICE DETAIL
SS001 1/4" = 1'-0"



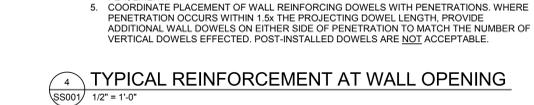
6 TYPICAL WALL INTERSECTION REINFORCEMENT
SS001 1/2" = 1'-0"



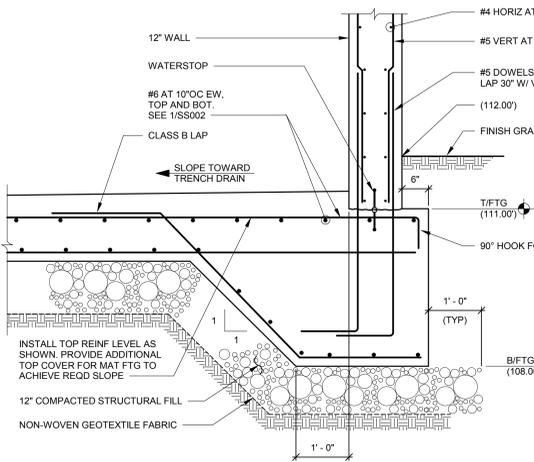
1 TYPICAL WALL CONSTRUCTION JOINT DETAIL
SS001 3/4" = 1'-0"



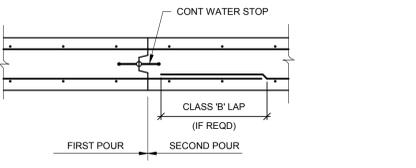
2 MAT FOOTING CONSTRUCTION JOINT DETAIL
SS001 3/4" = 1'-0"



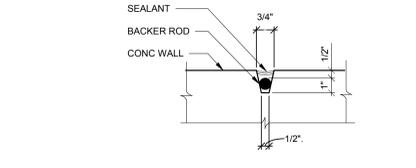
4 TYPICAL REINFORCEMENT AT WALL OPENING
SS001 1/2" = 1'-0"



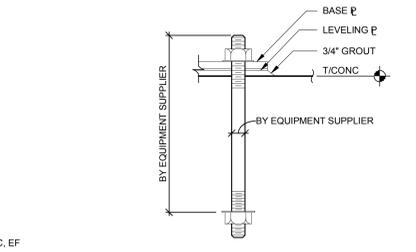
7 SECTION AT FOOTING AND WALL
SS001 3/4" = 1'-0"



5 TYPICAL WALL JOINT DETAIL
SS001 NOT TO SCALE



8 ANCHOR ROD
SS001 NOT TO SCALE



9 TYPICAL EDGE ANGLE FOR PLATE OR GRATING COVER
SS001 NOT TO SCALE

FINAL DESIGN (100%)

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				Approved: Project Director	Location 41 Castle Point Road Wappinger Falls, NY 12590	Drawing Number SS001	
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