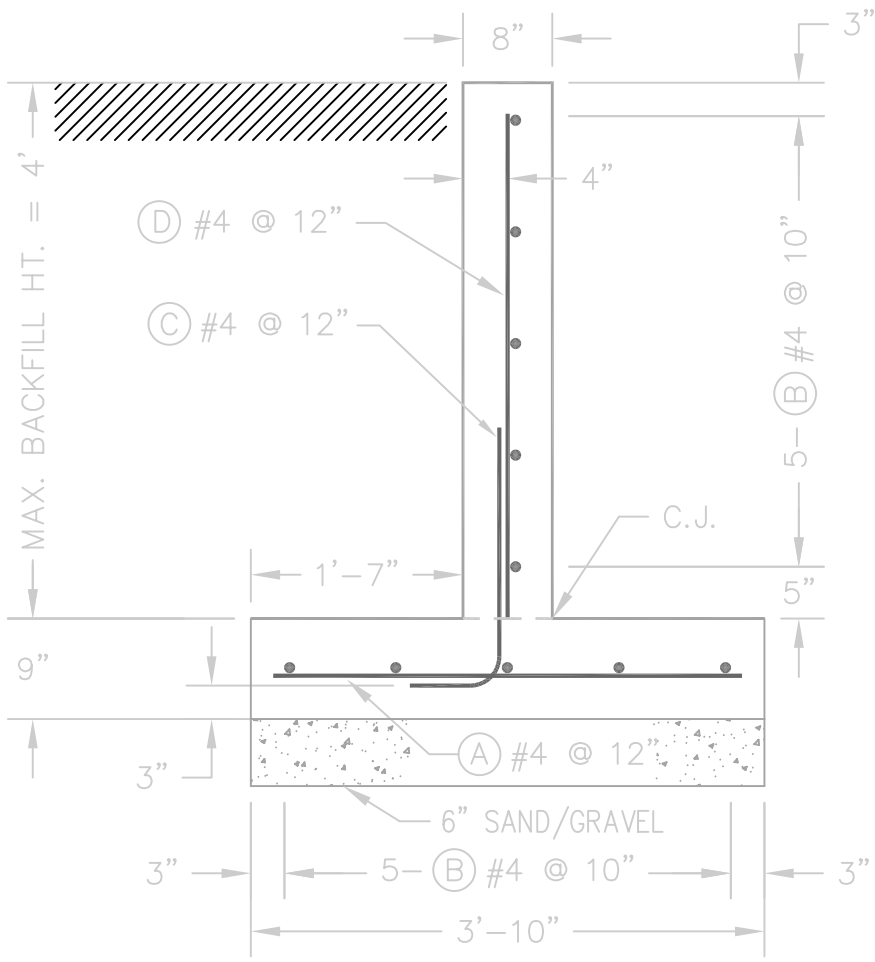


TYPE 2 BAR

STEEL SCHEDULE

MARK	SIZE	QUAN	TYPE	R	S	LENGTH	TOTAL LENGTH
A	4		STR	---	---	3'–6"	
B	4		STR	---	---		
*C	4		2	2'–0"	9"	2'–9"	
*D	4		STR	---	---	3'–9"	
L	4		2	2'–0"	9"	2'–9"	
L1	4		STR	---	---	3'–9"	
#4 BARS, TOTAL LENGTH							

* MARK C & D BARS MAY BE COMBINED TO AVOID SPLICE. THEN MARK C BAR IS 4'–3" x 9".

ESTIMATED QUANTITIES

CONCRETE	(0.21 CU.YDS./LIN.FT.) _____	CU. YDS.
STEEL	(20.67 FT./LIN. FT.) _____	FT.
STEEL	(35.0 FT./CORNER) _____	FT.

- CONCRETE SHALL MEET PA 313 OR 561 SPECIFICATION REQUIREMENTS.
- MINIMUM SPLICE LENGTH FOR ALL #4 BARS IS 16".
- STEEL QUANTITY DOES NOT INCLUDE SPLICE LENGTHS.
- SUBSTITUTION OF GRADE 60 BARS IS PERMITTED.

TOTAL LENGTH OF WALL _____FT.

NOTES:

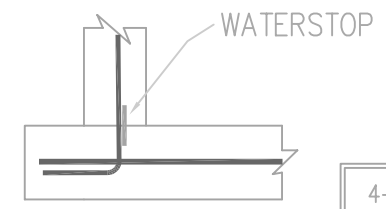
1. FOR FROST PROTECTION, A 2–FOOT BACKFILL IS RECOMMENDED.
2. DIMENSIONS ARE TO THE REINFORCING BAR SURFACE.

C.J. = CONSTRUCTION JOINT

LIQUID–TIGHT JOINT ___ YES ___ NO

LIQUID–TIGHT JOINT OPTIONS

1) NON–METALIC WATERSTOP (PVC)
2) HYDROPHILIC WATERSTOP



CONSTRUCTION JOINT OPTIONS

1. IF SLAB AND WALL ARE POURED SEPARATELY, THE SLAB SURFACE MUST BE THOROUGHLY CLEANED WITH WATER AND A WIRE BRUSH. THE SURFACE OF THE JOINT SHALL BE KEPT MOIST FOR AT LEAST 1 HOUR PRIOR TO PLACEMENT OF NEW CONCRETE.
2. THE SLAB AND WALL MAY BE POURED AT THE SAME TIME ELIMINATING THE NEED FOR A CONSTRUCTION JOINT.

4–FOOT WALL CORNER DETAILS	SEE PA–025
SLAB CORNER DETAILS	SEE PA–023
RESTRAINING SLAB OPTIONS	SEE PA–024

GENERAL DESIGN NOTES:

- DRAINAGE SHALL BE AWAY FROM THE WALL.
- THE MINIMUM TOP WIDTH OF THE BACKFILL AGAINST THE WALL SHALL BE EQUAL TO OR GREATER THAN THE BACKFILL HEIGHT.
- MAXIMUM FOOTING CONTACT PRESSURE IS 900 psf/ft.

DESIGN STRENGTHS: WORKING STRESS DESIGN

CONCRETE f_c = 4,000 psi STEEL f_s = 20,000 psi (GRADE 40)

WALL DESIGN LOADING: 313 STANDARD – LATERAL EARTH PRESSURE VALUES, SEE SECTION IV OF THE FIELD OFFICE TECHNICAL GUIDE.

- MANURE LOAD INSIDE = 65 psf/ft.
- SOIL BACKFILL LOAD OUTSIDE = 60 psf/ft. AND 85 psf/ft.
- NO HORIZONTAL SURCHARGE ADDED.
- SOIL BACKFILL DENSITY = 110 pcf.
- WATER TABLE MUST BE BELOW THE FOOTING ELEVATION

WALL RESTRAINT REQUIREMENTS:

- 5" THICK SLAB, SAFETY FACTOR AGAINST SLIDING 1.5 MIN.

BACKFILL HEIGHT (OUTSIDE LOAD)	SLAB LENGTH NO INSIDE LOAD	SLAB LENGTH FULL INSIDE LOAD
4 FEET	22 FEET	NO SLAB
3 FEET	7 FEET	NO SLAB
2 FEET	NO SLAB	NO SLAB
1 FOOT	NO SLAB	2 FOOT **
0 FEET	NO SLAB	2 FOOT **

**MINIMUM SLAB LENGTH OF 2 FEET REQUIRED AND MUST BE TIED INTO THE WALL FOOTING.
SLAB POURED WITH WALL FOOTING:
#3 BARS @ 18" SPACING (MINIMUM REINFORCEMENT)
SLAB NOT POURED WITH WALL FOOTING:
#3 DOWEL BARS – 3'–0" LENGTH @ 4'–0" SPACING.

THIS STANDARDIZED DESIGN MUST BE ADAPTED TO THE SPECIFIC SITE. IT WAS DEVELOPED IN COOPERATION WITH THE WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION. THE DESIGN FOLDER IS FILED AT THE NRCS STATE OFFICE, 6515 WATTS ROAD, MADISON, WI. 53717–2906

(ADAPTED FROM WI–543, APRIL 2005)

Date 06/23/05
Designed
Drawn TJA
Checked
Approved by

_____ COUNTY, PENNSYLVANIA

4' HIGH, 8" T–WALL (W/O SURCHARGE)

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

File No. PA–020D

Drawing No. 07/06/07 12:48
PA–020D

Sheet _____ of _____