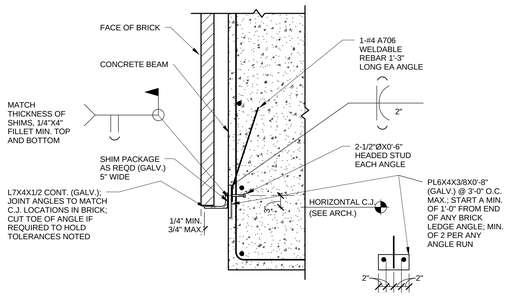
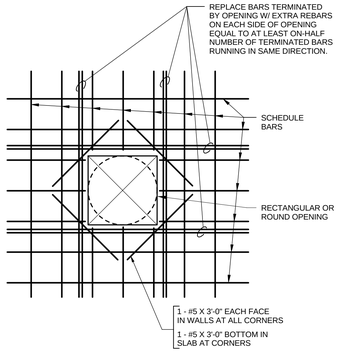
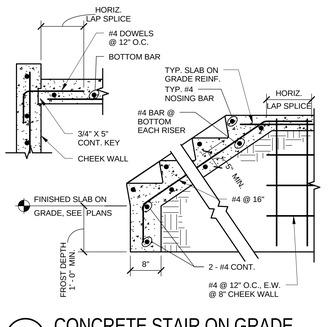


B2 SECTION
3/4" = 1'-0"



NOTES :
1. THE EXTRA REBAR SHALL EXTEND PAST THE OPENING A DISTANCE OF TWICE THE LAP LENGTH OR TO THE END OF THE BAR, WHICHEVER IS LESS.
2. BEFORE POURING CONCRETE THE CONTRACTOR SHALL VERIFY WITH OTHER TRADES THE SIZE AND LOCATION OF THE REQUIRED OPENINGS.
3. AT OPENINGS 18" OR LESS IN DIAMETER OR ON ANY SIDE, NO EXTRA REBARS ARE REQUIRED UNLESS SHOWN OTHERWISE. SCHEDULED REBARS SHALL BE SPREAD (NOT CUT) TO ALLOW OPENING TO BE MADE. SUCH OPENINGS SHALL BE PROVIDED WITH A MIN. OF 1 - #5 E.F. ALL SIDES TOP PLACED ALONG EDGES. SUCH BARS SHALL EXTEND AT LEAST 2'-0" BEYOND THE CORNERS OF THE OPENING.
4. OPENINGS SHALL NOT BE PLACED CLOSER THAN 1 OPENING DIAMETER OR WIDTH TO ANY BEAM NOR SPACED CLOSER THAN 2 OPENING DIAMETERS OR WIDTHS. WHEN TWO ADJACENT OPENINGS ARE OF A DIFFERENT SIZE, SPACING SHALL BE BASED UPON THE LARGER SIZE. WHEN TOTAL WIDTH OF ADJACENT OPENINGS REQUIRED IS LARGER THAN 30" OR WHEN REQUIRED SPACING OF OPENINGS CANNOT BE MET, COMBINED AREA SHALL BE TREATED AS ONE OPENING AND SUBMITTED FOR REVIEW PRIOR TO INSTALLATION.

D4 TYPICAL REINF. @ OPENINGS IN WALLS AND SLABS
3/4" = 1'-0"

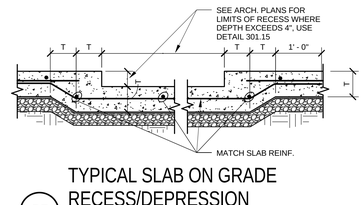


D6 CONCRETE STAIR ON GRADE
3/4" = 1'-0"

BAR SIZE	LAP CLASS	WALLS & SLABS W/ MIN. CONCRETE COVER = 3/4"		BEAMS, COLUMNS, WALLS & SLABS W/ MIN. CONCRETE COVER = 1 1/2"	
		TOP	OTHER	TOP	OTHER
#3 (#10)	A	12 IN.	12	12	12
	B	16	16	16	16
#4 (#13)	A	19	15	15	12
	B	24	19	20	16
#5 (#16)	A	28	21	19	15
	B	36	28	24	19
#6 (#19)	A	37	29	22	17
	B	48	37	29	22
#7 (#22)	A	60	46	37	28
	B	78	60	48	37
#8 (#25)	A	74	57	47	36
	B	96	74	60	47
#9 (#29)	A	90	69	57	44
	B	117	90	74	57
#10 (#32)	A	108	83	70	54
	B	140	108	91	70
#11 (#36)	A	127	98	84	64
	B	165	127	109	84

NOTES :
1. TABULATED VALUES ARE BASED ON 4000 PSI NORMAL WEIGHT CONCRETE. FOR LIGHTWEIGHT CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3. FOR CONCRETE STRENGTHS OTHER THAN F'c = 4000 PSI, MULTIPLY TABULATED VALUES BY $\frac{63.25}{\sqrt{F'c}}$.
2. BAR SIZES INDICATED IN PARENTHESIS ( ) ARE METRIC DESIGNATIONS. ALL BARS INDICATED ON PLANS USE NON-METRIC DESIGNATIONS.
3. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BAR.
4. THIS SCHEDULE IS VALID ONLY FOR BARS WITH SPECIFIED COVER AND SPACED GREATER THAN TWO TIMES (2X) THE INDICATED COVER DIMENSIONS PLUS ONE BAR DIAMETER.
5. FOR EPOXY COATED BARS, MULTIPLY THE TABULATED VALUES BY 1.5.
6. USE CLASS "B" LAP SPLICE U.N.O.
7. DEVELOPMENT LENGTH L_d EQUALS THE "A" CLASS LAP DIMENSION.

C7 REINF. BAR DEVELOPMENT L. (Ld) AND LAP SPLICE SCHEDULE
3/4" = 1'-0"

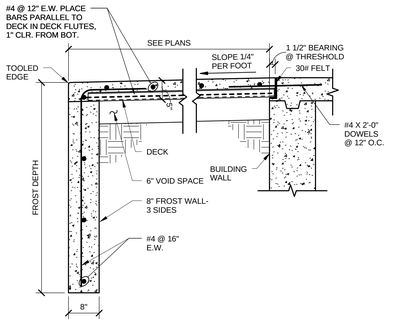


D7 TYPICAL SLAB ON GRADE RECESS/DEPRESSION
3/4" = 1'-0"

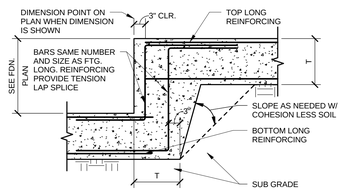
MARK	THICKNESS	REINFORCING		TOPPING
		MAIN	TEMP.	
S1	4 1/2"	#4 @ 12"	#3 @ 13"	4" W/ #3 @ 16" E.W.
S2	4 1/2"	#4 @ 12"	#3 @ 13"	
S3	4 1/2"	#4 @ 12"	#3 @ 13"	
S4	4 1/2"	#3 @ 12"	#3 @ 13"	4" W/ #3 @ 16" E.W.
S5	4 1/2"	#4 @ 12"	#3 @ 13"	

SEE E1/SS-32 FOR SLAB REINF. PLACEMENT DETAILS

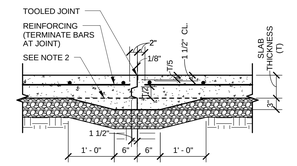
A6 SLAB SCHEDULE
3/4" = 1'-0"



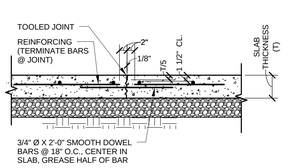
C9 TYPICAL STOOP DETAIL
3/4" = 1'-0"



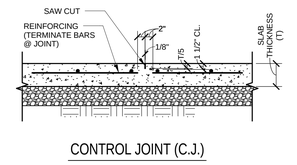
D9 TYPICAL STEP FOOTING
3/4" = 1'-0"



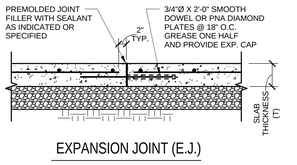
CONSTRUCTION JOINT - KEYED



CONSTRUCTION JOINT - DOWELED



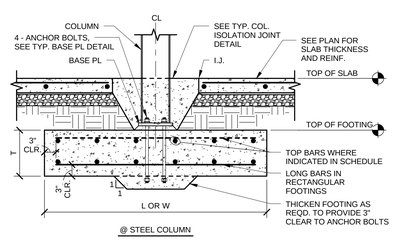
CONTROL JOINT (C.J.)



EXPANSION JOINT (E.J.)

NOTES :
1. CONTRACTOR HAS OPTION OF USING EITHER DOWELED OR KEYED CONSTRUCTION JOINT.
2. OMIT THICKENED PORTION OF SLAB WHERE SLAB THICKNESS IS 8" OR GREATER.
3. JOINTS NOTED ON PLAN BY C.J. MAY BE EITHER CONSTRUCTION JOINTS OR CONTROL JOINTS AT CONTRACTOR'S OPTION. JOINTS TERMINATING A POUR SHALL BE CONSTRUCTION JOINTS, EXCEPT AT WALLS AND COLUMNS. THESE ARE ISOLATION JOINTS. ALL OTHER JOINTS MARKED C.J. ARE CONTROL JOINTS.
4. FILL OR SEAL JOINTS AS INDICATED OR SPECIFIED.
5. SEE PLANS FOR TYPICAL REINFORCING.

F6 TYPICAL SLAB ON GRADE JOINT DETAILS
3/4" = 1'-0"

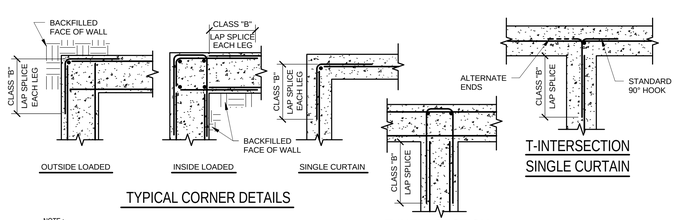


@ STEEL COLUMN

LEGEND :
F3.0 - INDICATES MARK BELOW AND SHOWN ON PLAN.

MARK	SIZE LENGTH X WIDTH X DEPTH	REINFORCING	REMARKS
F4.0	4'-0" X 4'-0" X 1'-2"	7 - #4 E.W.	
F6.0	6'-0" X 6'-0" X 1'-6"	8 - #5 E.W.	
F7.0	7'-0" X 7'-0" X 1'-9"	6 - #7 E.W.	
F8.0	8'-0" X 8'-0" X 2'-0"	6 - #8 E.W.	
F9.0	9'-0" X 9'-0" X 2'-3"	7 - #8 E.W.	
F10.0	10'-0" X 10'-0" X 2'-5"	9 - #8 E.W.	
F12.0	12'-0" X 12'-0" X 2'-10"	10 - #9 E.W.	
F13.0	13'-0" X 13'-0" X 3'-0"	12 - #9 E.W.	
F14.0	14'-0" X 14'-0" X 3'-2"	11 - #10 E.W.	

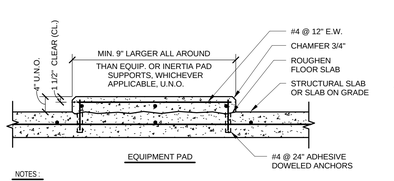
F9 TYPICAL INTERIOR FOOTING DETAIL
3/4" = 1'-0"



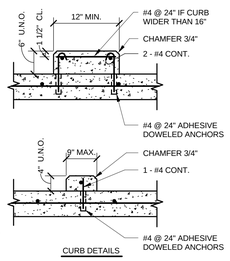
TYPICAL CORNER DETAILS

NOTE :
WHERE WALLS ARE BACKFILLED ON BOTH SIDES, PROVIDE DETAIL SUITABLE FOR SIDE WITH GREATEST HEIGHT OF BACKFILL. WHERE HEIGHT OF BACKFILL IS THE SAME ON BOTH SIDES OR WALL WITHOUT BACKFILL, USE OUTSIDE LOADED DETAIL.

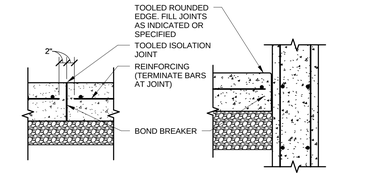
E1 PLAN-TYPICAL WALL CORNER AND T-INTERSECTION REINFORCING
3/4" = 1'-0"



NOTES :
1. THE CONTRACTOR SHALL OBTAIN EXACT SIZES, LOCATIONS, WEIGHTS, AND ANY SPECIAL DETAILS FOR THE PADS OR CURBS FROM THE EQUIPMENT CONTRACTOR BEFORE CONSTRUCTING PADS OR CURBS.
2. THE CONTRACTOR SHALL VERIFY THAT ALL ITEMS REQUIRED BY THE EQUIP. THAT ARE TO BE EMBEDDED INTO PADS OR CURBS ARE PLACED BEFORE CONCRETE IS POURED.
3. STOP #4 HORIZ. BARS AT CONTROL JOINTS.

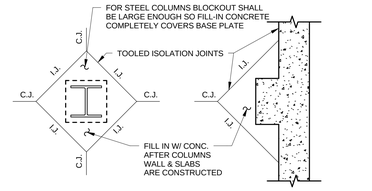


F1 CURB AND PAD DETAILS
3/4" = 1'-0"



ISOLATION JOINT

ISOLATION JOINT AT WALL



PLAN AT INTERIOR COLUMN

PLAN AT EXTERIOR COLUMN OR PILASTER

F4 TYPICAL ISOLATION JOINT
3/4" = 1'-0"

VOLUME I - 100% CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED

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612-524-6000

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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY MY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: MICHAEL KUHSE
SIGNATURE:
DATE: DECEMBER 9, 2011 LICENSE # 26235

ARCHITECTS/ENGINEERS

HDR

REVISIONS	DATE

Drawing Title: TYPICAL CONCRETE SECTIONS AND DETAILS
Approved : Project Director

Project Title: EXPAND PRIMARY AND SPECIALTY CARE/RECONFIGURE SUPPORT SPACE
Location: 4801 Veterans Drive, St. Cloud, MN 56303
Date: 11/04/2011
Checked by: DCS
Drawn: Author

Project Number: 656-321 / 133959
Building Number: NKB
Drawing number: SS-30

Office of Construction and Facilities Management
Department of Veterans Affairs

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