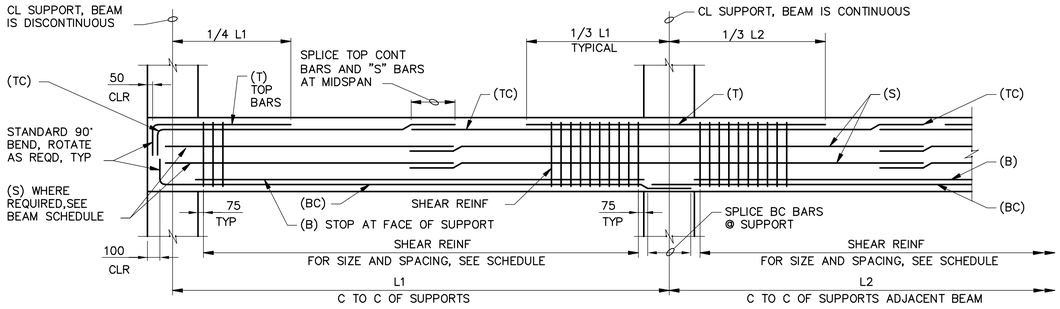
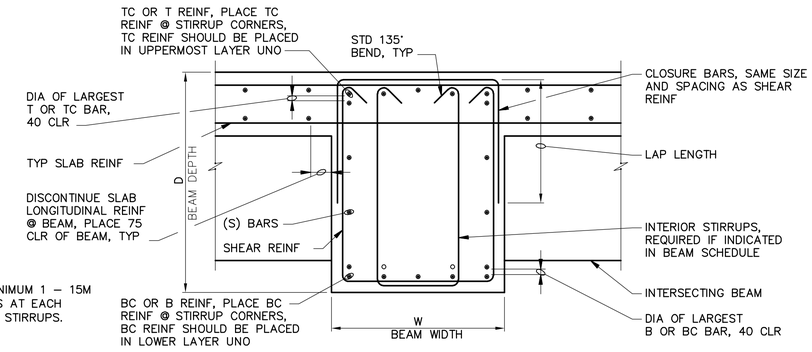
SHEET: COW-A1 (05/2005)



NOTES:

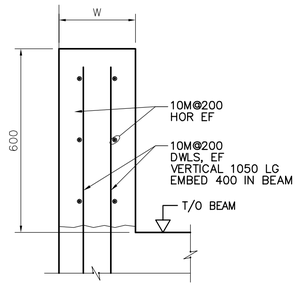
1. PLACE TOP (T & TC) AND BOTTOM (B & BC) BARS IN MULTIPLE ROWS ONLY WHERE INDICATED IN SCHEDULE.
2. WHEN INDICATED IN BEAM SCHEDULE, SUBSTITUTE CLOSED TIES ( ) FOR STIRRUPS AND CLOSURE BARS SHOWN ( ).

BEAM REINFORCING
N.T.S.



NOTE:
PROVIDE MINIMUM 1 – 15M CONTINUOUS AT EACH CORNER OF STIRRUPS.

TYPICAL SECTION



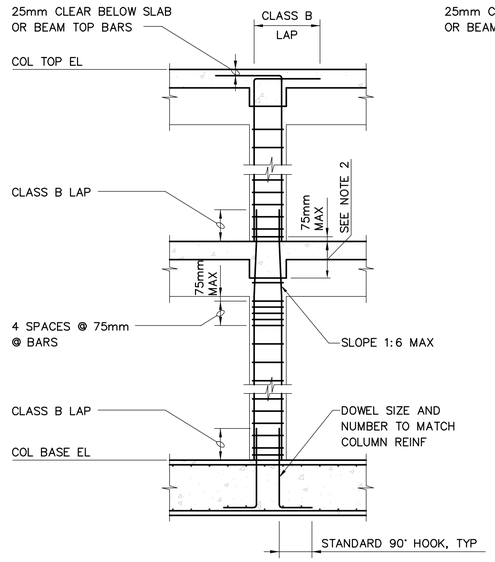
TYPICAL UPSTAND REINFORCING

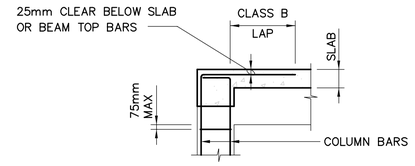
BEAM NO. (SEE PLANS)	SIZE		TOP REINF AT LEFT SUPPORT		BOTTOM REINF		* TOP REINF AT RIGHT SUPPORT		S BARS	SHEAR REINF (MM)		REMARKS
	W	D	T	TC	B	BC	T	TC		NO. SIZE	SPACING	
BM1												NOT USED
BM2	300	600	–	3–30M	–	3–30M	–	3–30M	–	1–10M	300	–
BM3	400	600	–	5–30M	–	4–30M	–	5–30M	–	1–10M	300	–
BM4	400	800	–	6–30M	–	5–30M	–	6–30M	2–15M	1–10M	300	TC & BC BARS IN 2 LAYERS W/ UPSTAND
BM4A	400	800	–	6–30M	–	5–30M	–	6–30M	2–15M	1–10M	300	TIE SPACING @ 150mm FOR DISTANCE OF 1500mm FROM EACH SIDE OF COL, TC&BC BARS IN 2 LAYERS
BM4B	400	800	–	5–35M	–	6–30M	–	5–35M	2–15M	1–10M	300	TIE SPACING @ 150mm FOR DISTANCE OF 1500mm FROM EACH SIDE OF COL, W/ UPSTAND, TC&BC BARS IN 2 LAYERS
BM5	400	1000	–	6–30M	–	6–30M	–	6–30M	3–15M	1–10M	300	TC & BC BARS IN 2 LAYERS W/ UPSTAND
BM6	400	600	–	6–30M	–	5–30M	–	6–30M	–	1–10M	300	TIE SPACING @ 150mm FOR DISTANCE OF 1500mm FROM EACH SIDE OF COL, W/ UPSTAND, TC&BC BARS IN 2 LAYERS
BM6A	400	800	–	3–20M	–	3–20M	–	3–20M	2–15M	1–10M	300	–
BM7	400	600	–	3–30M	–	3–30M	–	3–30M	2–15M	1–10M	300	W/ UPSTAND
BM7A	400	600	–	3–30M	–	3–30M	–	3–30M	2–15M	1–10M	300	–
BM8	300	800	–	5–30M	–	4–30M	–	5–30M	2–15M	1–10M	300	–
BM9	400	500	–	4–30M	–	4–30M	–	4–30M	–	1–10M	150	–
BM10	400	1200	–	4–30M	–	6–30M	2–30M	4–30M	4–15M	1–10M	300	BC BARS IN 2 LAYERS W/ UPSTAND
BM11	400	1200	–	4–30M	–	6–30M	2–30M	4–30M	4–15M	1–10M	300	BC BARS IN 2 LAYERS
BM12	400	1200	–	4–30M	–	6–30M	2–30M	4–30M	4–15M	1–10M	300	BC BARS IN 2 LAYERS W/ UPSTAND

BEAM SCHEDULE
N.T.S.

NOTES:

1. * TOP REINFORCING MAY BE CALLED–OUT TWICE IN SCHEDULE. (I.E. "TOP REINFORCING AT RIGHT SUPPORT" OF BEAM THAT IS CONTINUOUS OVER THE RIGHT SUPPORT IS CALLED–OUT AS "TOP REINFORCING AT LEFT SUPPORT" OF ADJACENT BEAM.)
2. LEFT SUPPORT IS DESIGNATED AS THE SUPPORT CLOSEST TO THE LEFT SIDE OR BOTTOM OF SHEET ON WHICH FRAMING PLAN IS DRAWN, UNLESS NOTED OTHERWISE ON PLAN.
3. FOR CONCRETE BEAM END DETAIL , SEE 3 / WB–S0451

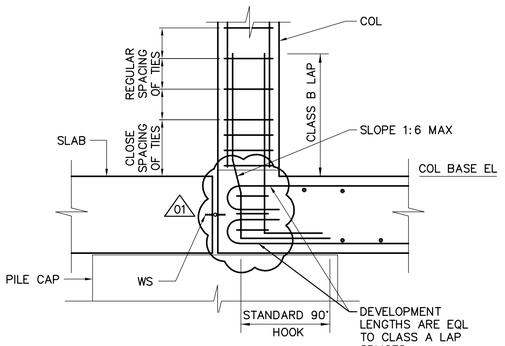




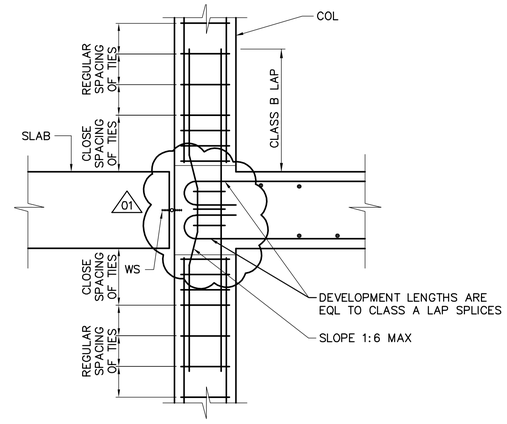
NON–CONTINUOUS END

NOTE:

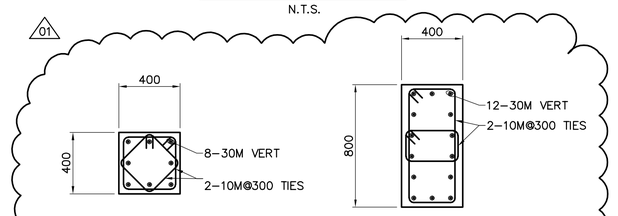
1. FOR DIMENSIONS AND REINFORCEMENT SEE COLUMN SCHEDULE.
2. CONTINUE TIES AT SPACING NOTED THROUGH BEAM CONNECTION ZONE WHERE CONCRETE BEAMS DO NOT FRAME INTO COLUMN ON ALL FOUR SIDES



TYPICAL COLUMN BASE REINF W/ WATERSTOP ALONG EXPANSION JOINT
N.T.S.



TYPICAL COLUMN REINF @ FLOOR SLAB W/ WATERSTOP ALONG EXPANSION JOINT
N.T.S.



COLUMN C1 COLUMN C8

NOTES:

1. MAINTAIN MAIN COVER OVER TIES PER DETAIL 5/WB–S0451, OFFSET VERTICAL WALL REINFORCING TO INSIDE OF EAST AND WEST LAYERS OF PIER REINFORCING
2. C2 BELOW EL 240.350 ONLY.
   C1 CONTINUES ABOVE

COLUMN REINFORCING
N.T.S.

APEGM
Certificate of Authorization
CH2M HILL Canada Ltd.
No. 1441 Expiry: April 30, 2006

NO.	REVISIONS	DATE	BY
01	583–2005 ADDENDUM 3	06/03/10	RZ
00	ISSUED FOR TENDER	2006/02/03	RZ

B.M. ELEV.

CH2MHILL / Fredericksen Cooper ARCHITECTS / EarthTech A Tyco International Ltd. Company

DESIGNED BY	RZ	CHECKED BY	AP
DRAWN BY	RL	APPROVED BY	DJT
SCALE:	NTS	RELEASED FOR CONSTRUCTION BY:	R. SOROKOWSKI
DATE	2005/10/06	DATE	2006/02/08

ENGINEER'S SEAL
ORIGINAL SIGNED BY
D. KRUGER
2006/02/06

CONSULTANT DRAWING NO.
WP–S0515

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

WATER TREATMENT PLANT
FLOCCULATION AND DAF
FOUNDATIONS AND CONCRETE STRUCTURES

STRUCTURAL
FLOC/DAF AREAS
COLUMN AND BEAM SCHEDULES

CITY FILE NUMBER
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CITY DRAWING NUMBER
1-0601P-D-S0515-001-01D

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