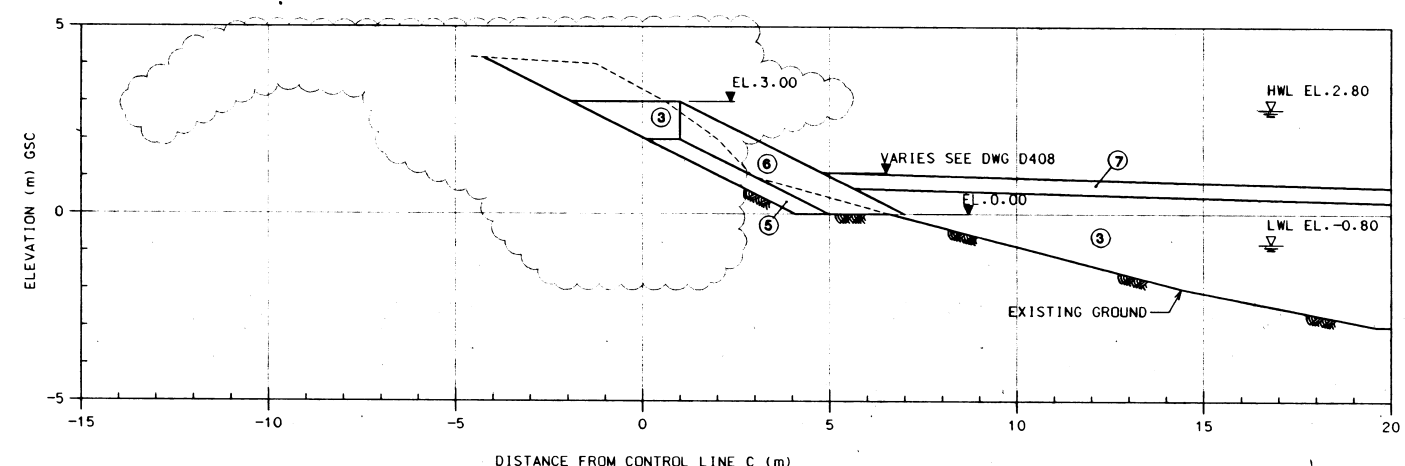
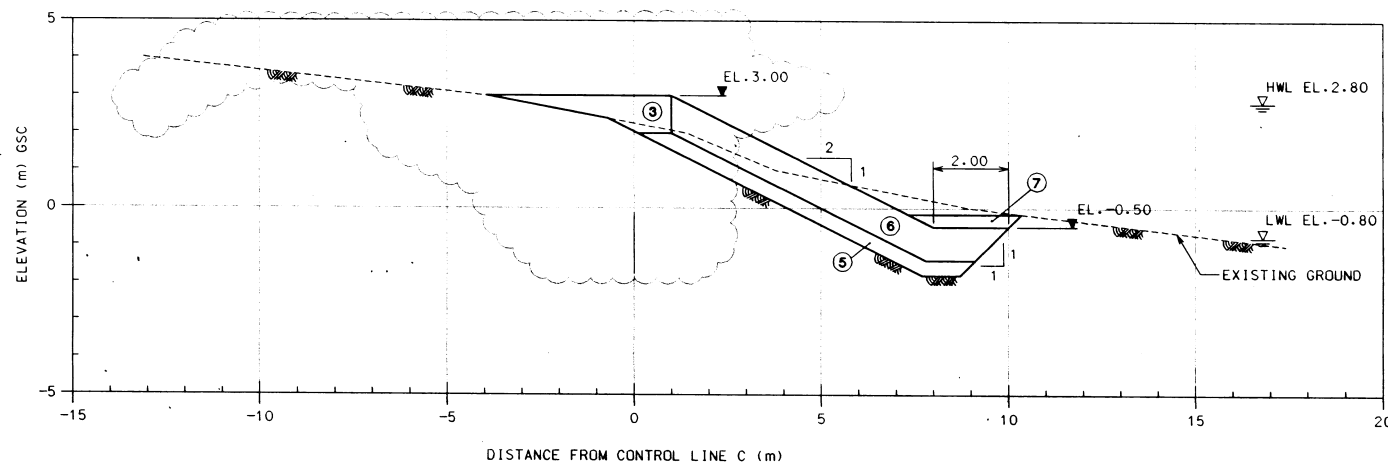


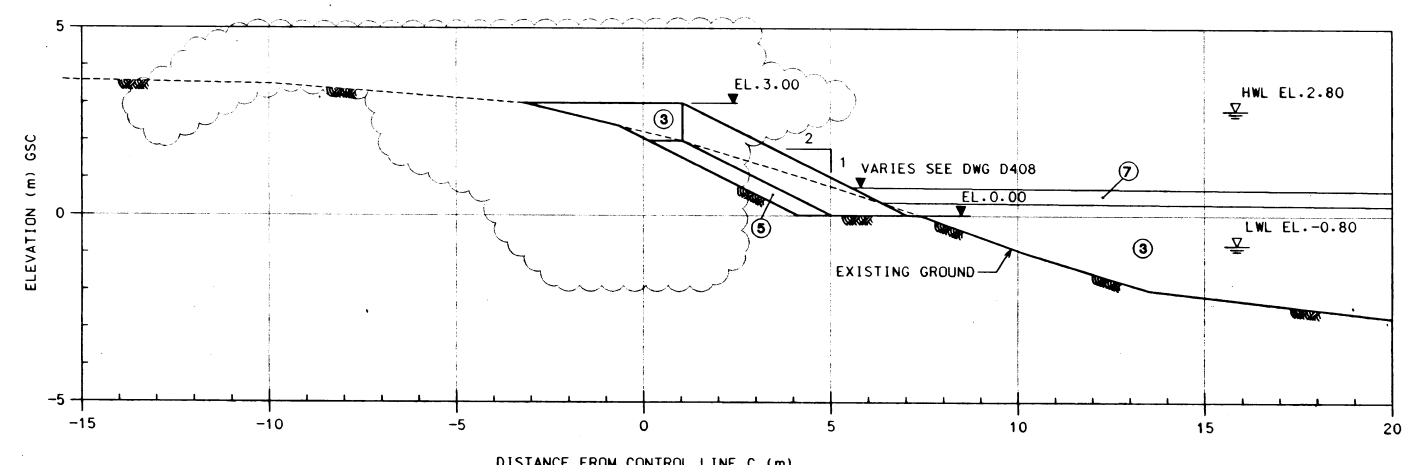
SECTION 10 (STA. 1023.000) SHOWN
 (STA. 1017.000 TO STA. 1025.000) SIMILAR
 (STA. 1110.000 TO STA. 1122.000) SIMILAR



SECTION 12 (STA. 1060.000) SHOWN
 (STA. 1030.000 TO STA. 1103.000) SIMILAR



SECTION 9 (STA. 1010.000) SHOWN
 (STA. 1000.000 TO STA. 1017.000) SIMILAR
 (STA. 1122.000 TO STA. 1125.000) SIMILAR



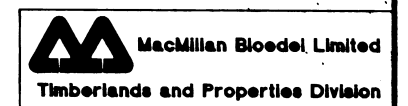
SECTION 11 (STA. 1026.000) SHOWN
 (STA. 1025.000 TO STA. 1030.000) SIMILAR
 (STA. 1103.000 TO STA. 1110.000) SIMILAR

MATERIALS

- ① STRUCTURAL BACKFILL TYPE 1 (75mm minus Pit Run Gravel)
 - Not required beneath Type 1 Walls
 - 0.30m thick beneath Type 2 and Type 3 Walls
 - 0.70m thick beneath Type 4 Walls.
- ② STRUCTURAL BACK FILL TYPE 2 (Granular Base) 0.30m thick
- ③ BACKFILL TYPE 3 (Approved Native Fill or Pit Run Sand)
- ④ DRAIN ROCK
- ⑤ RIPRAP UNDERLAYER - 0.40m thick
- ⑥ RIPRAP - 0.90m thick
- ⑦ TOP SOIL - 0.40m thick

NOTES

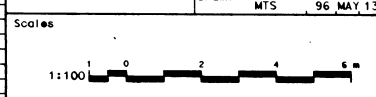
- 1. FOR GENERAL NOTES REFER TO DWG D400
- 2. FOR STEEL SHEET PILE DETAILS REFER TO DWG D405 AND D406
- 2. FOR CONCRETE RETAINING WALL DETAILS REFER TO DWG D414
- 3. FOR DRAINAGE DETAILS REFER TO DWG D414



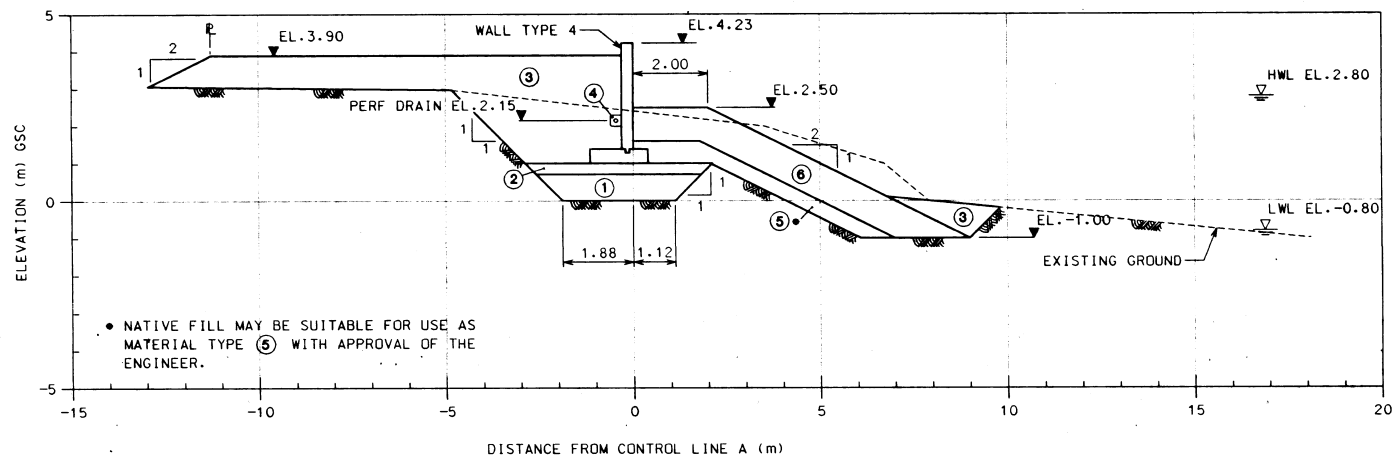
Timberlands and Properties Division
 Drawing PHASE ONE
 SHORELINE WORKS
 SECTIONS
 SHEET 3 OF 3
 Drawing No. MCBL - 001 - D 413

HAY & COMPANY
 CONSULTANTS INC.
 One West 7th Avenue
 Vancouver, B.C. Canada V5Y 1L5
 Client: MACMILLAN BLOEDEL LIMITED
 Project: PORT ROYAL PROJECT

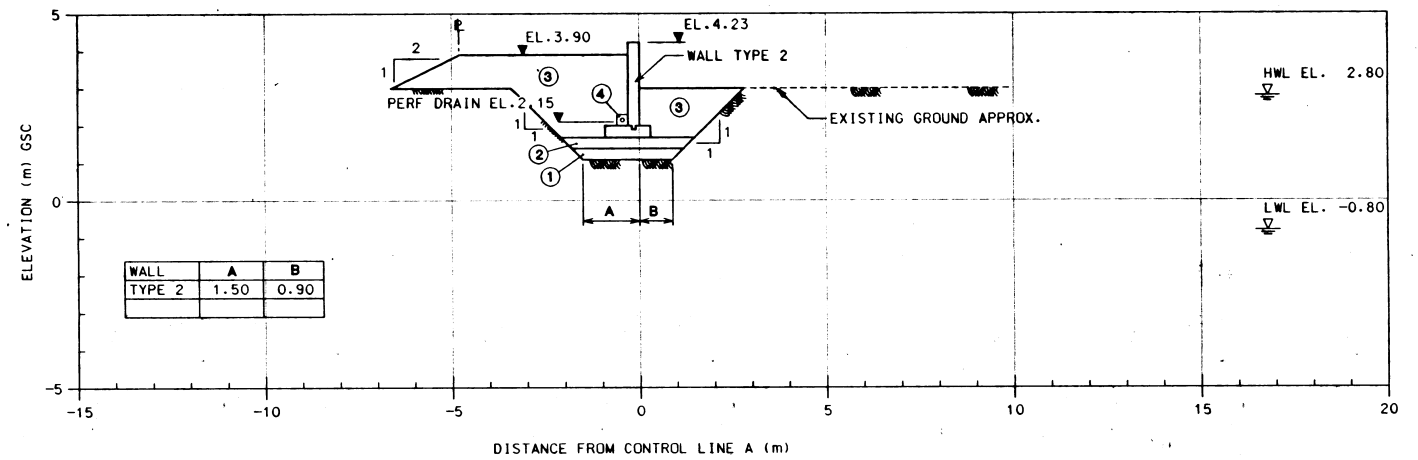
Design	RE	96 MAY 13
Checked	PMM	96 MAY 13
Approved		
Drawn	MTS	96 MAY 13



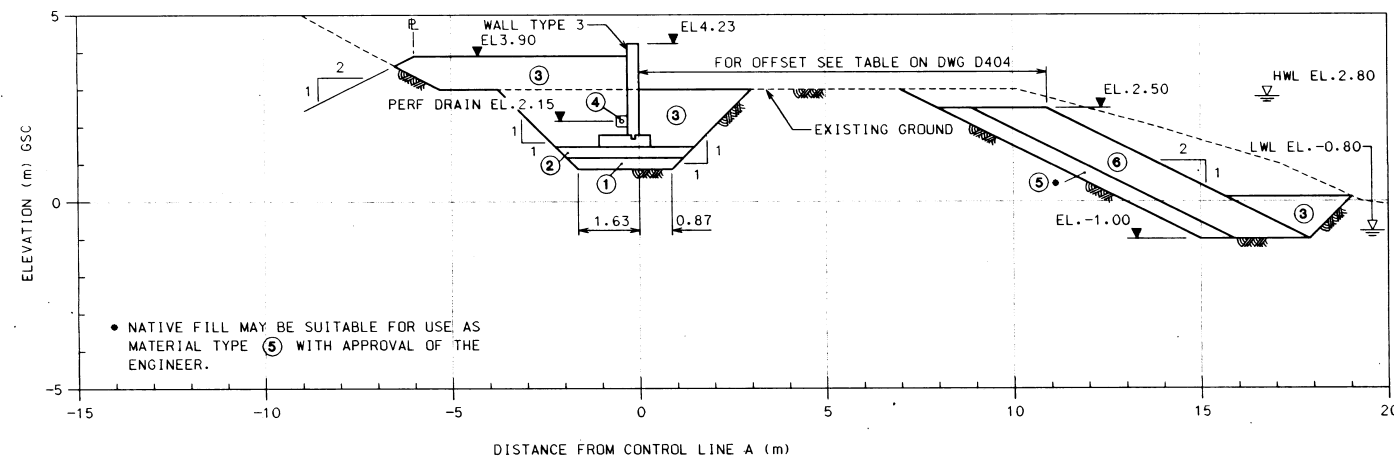
Rev.	Date	By	App.	Description
1	96 DEC 05	HS	PMM	AS BUILT
0	96 MAY 13	RE	PMM	REPLACES DRAWING MCBL-001-0220



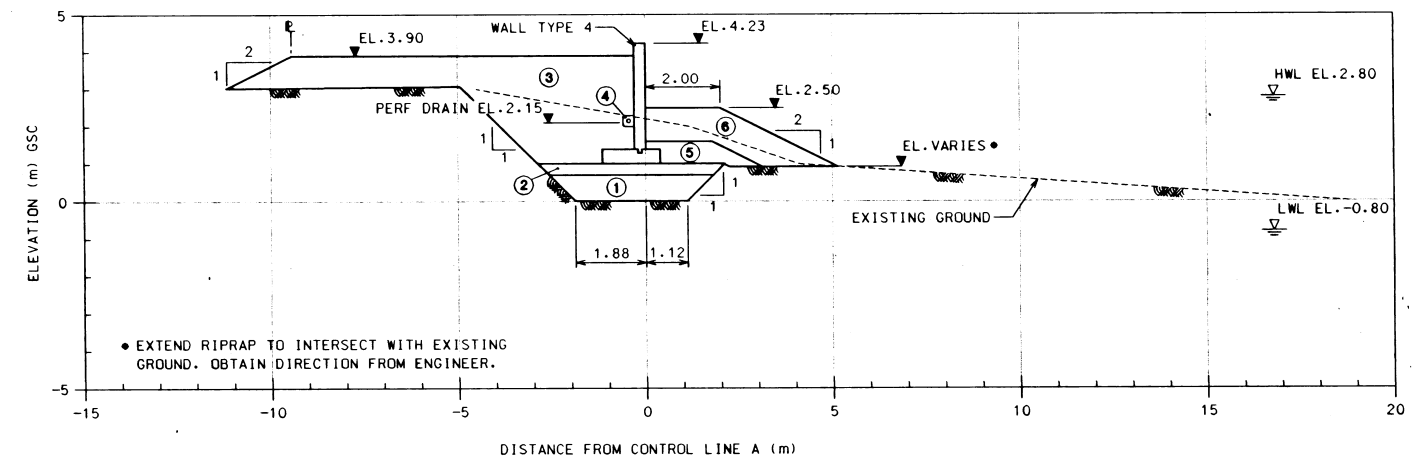
SECTION **6** (STA. 350.000) SHOWN
D404 (STA. 327.000 TO STA. 350.000) SIMILAR



SECTION **8** (STA. 380.000) SHOWN
D404 (STA. 365.000 TO STA. 385.000) SIMILAR



SECTION **5** (STA. 310.000) SHOWN
D404 (STA. 290.000 TO STA. 327.000) SIMILAR



SECTION **7** (STA. 360.000) SHOWN
D404 (STA. 350.000 TO STA. 365.000) SIMILAR

MATERIALS

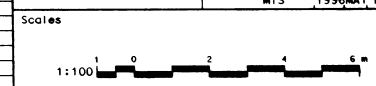
- ① STRUCTURAL BACKFILL TYPE 1 (75mm minus Pit Run Gravel)
 - Not required beneath Type 1 Walls
 - 0.30m thick beneath Type 2 and Type 3 Walls
 - 0.70m thick beneath Type 4 Walls.
- ② STRUCTURAL BACK FILL TYPE 2 (Granular Base) 0.30m thick
- ③ BACKFILL TYPE 3 (Approved Native Fill or Pit Run Sand)
- ④ DRAIN ROCK
- ⑤ RIPRAP UNDERLAYER - 0.40m thick
- ⑥ RIPRAP - 0.90m thick
- ⑦ TOP SOIL - 0.40m thick

NOTES

1. FOR GENERAL NOTES REFER TO DWG D400
2. FOR STEEL SHEET PILE DETAILS REFER TO DWG D405 AND D406
3. FOR CONCRETE RETAINING WALL DETAILS REFER TO DWG D414
4. FOR DRAINAGE DETAILS REFER TO DWG D414

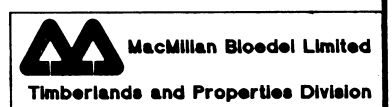
Rev.	Date	By	App.	Description
2	96 DEC 05	HS	PJM	AS BUILT
1	96 JUN 28	RE	PJM	REVISED SECTION 8
0	96 MAY 13	RE	PJM	REPLACES DRAWING MCBL-001-0219

Design	RE	1996MAY.12
Checked	PJM	1996MAY.13
Approved		
Drawn	MTS	1996MAY.12



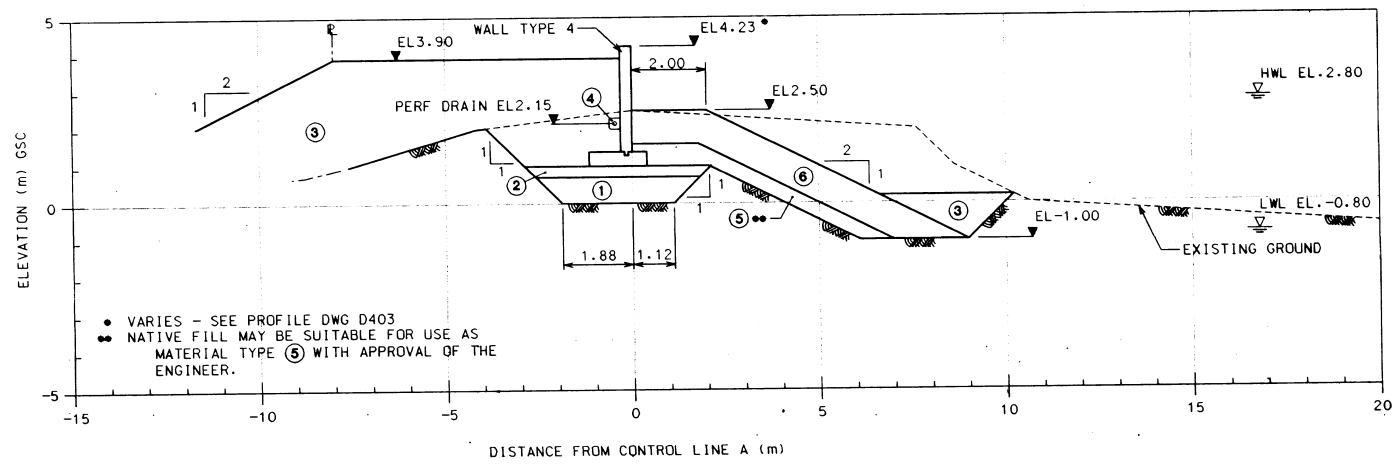
HAY & COMPANY
 CONSULTANTS INC.
 One West 7th Avenue
 Vancouver, B.C. Canada V5Y 1L5

Client
MACMILLAN BLOEDEL LIMITED
 Project
PORT ROYAL PROJECT

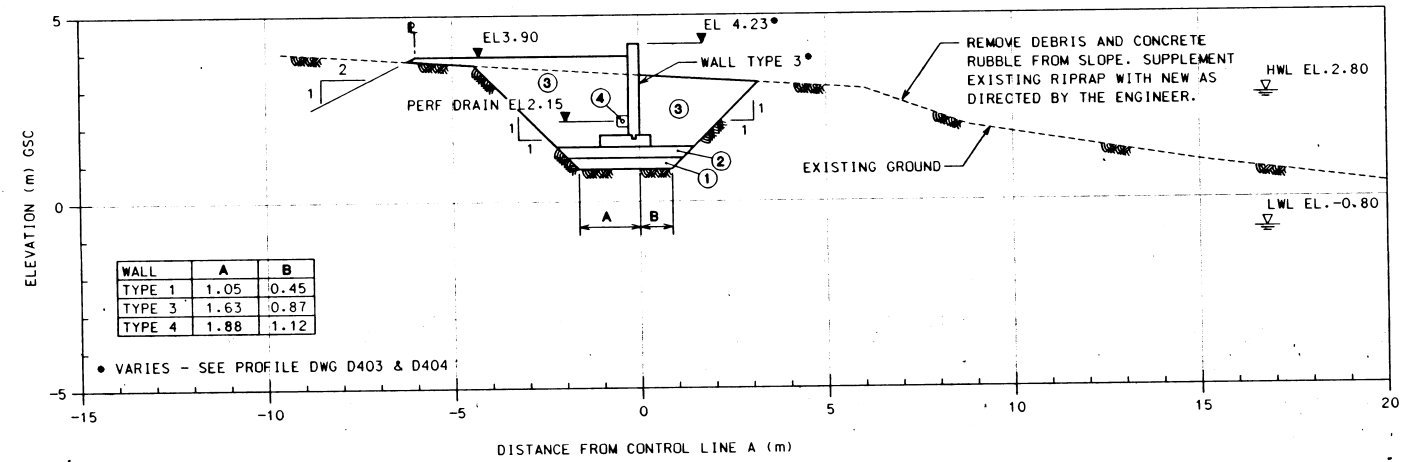


Drawing
PHASE ONE SHORELINE WORKS SECTIONS SHEET 2 OF 3

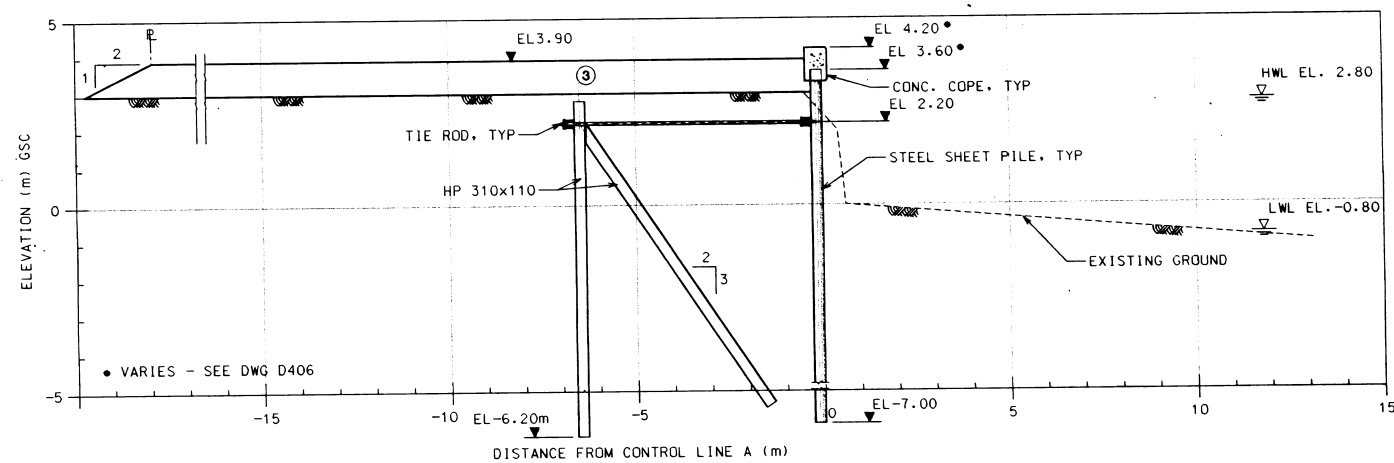
Drawing No.
MCBL - 001 - D412 Revision
2



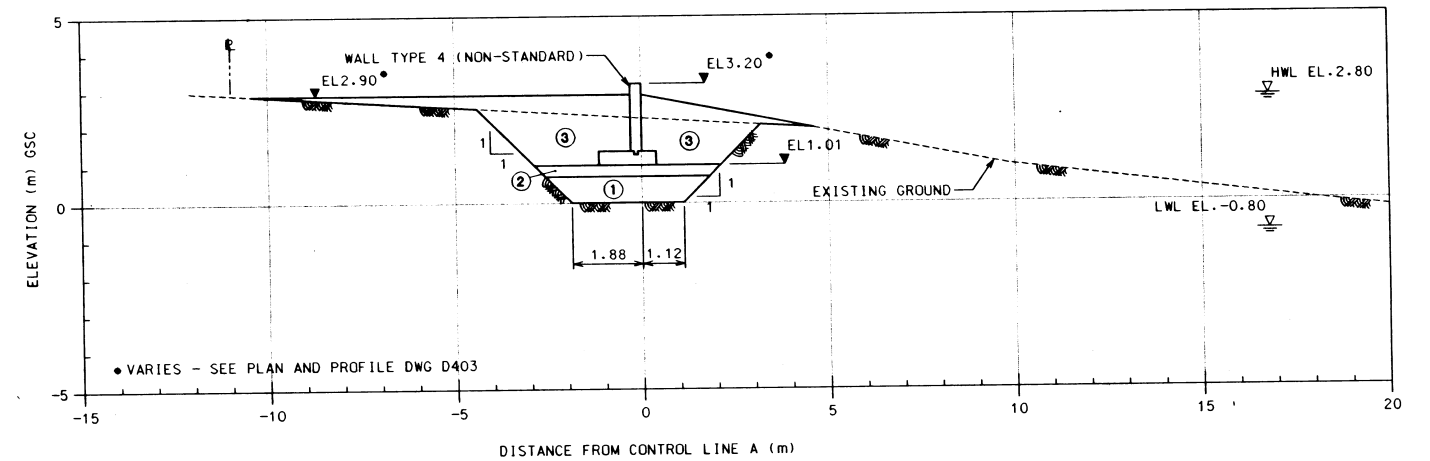
SECTION 2 (STA. 150.000) SHOWN
 D403 (STA. 118.733 TO STA. 190.000) AND
 (STA. 200.000 TO STA. 207.000) SIMILAR



SECTION 4 (STA. 230.000) SHOWN
 D403 (STA. 207.000 TO STA. 290.000) SIMILAR



SECTION 1 (STA. 90.000) SHOWN
 D403 (STA. 75.540 TO STA. 88.600) SIMILAR



SECTION 3 (STA. 196.340) SHOWN
 D403 (STA. 190.000 TO STA. 200.000) SIMILAR

MATERIALS

- ① STRUCTURAL BACKFILL TYPE 1 (75mm minus Pit Run Gravel)
 - Not required beneath Type 1 Walls
 - 0.30m thick beneath Type 2 and Type 3 Walls
 - 0.70m thick beneath Type 4 Walls.
- ② STRUCTURAL BACK FILL TYPE 2 (Granular Base) 0.30m thick
- ③ BACKFILL TYPE 3 (Approved Native Fill or Pit Run Sand)
- ④ DRAIN ROCK
- ⑤ RIPRAP UNDERLAYER - 0.40m thick
- ⑥ RIPRAP - 0.90m thick
- ⑦ TOP SOIL - 0.40m thick

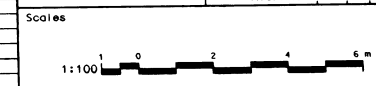
NOTES

1. FOR GENERAL NOTES REFER TO DWG D400
2. FOR STEEL SHEET PILE DETAILS REFER TO DWG D405 AND D406
3. FOR CONCRETE RETAINING WALL DETAILS REFER TO DWG D414
4. FOR DRAINAGE DETAILS REFER TO DWG D414

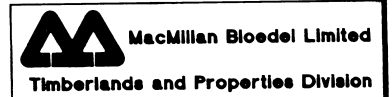
Rev.	Date	By	App.	Description
3	96 DEC 05	HS	PM	AS BUILT
2	96 SEP 05	BT	PM	SECTION 1 REVISED
1	96 AUG 10	BT	PM	SECTION 1 REVISED
0	96 MAY 12	RE	PM	REPLACES DRAWING MCBL-001-D218

Design	RE	96 MAY 12
Checked	RE	96 MAY 13
Approved		
Drawn	MTS/HNC	96 MAY 12

HAY & COMPANY
 CONSULTANTS INC.
 One West 7th Avenue
 Vancouver, B.C. Canada V5Y 1L5

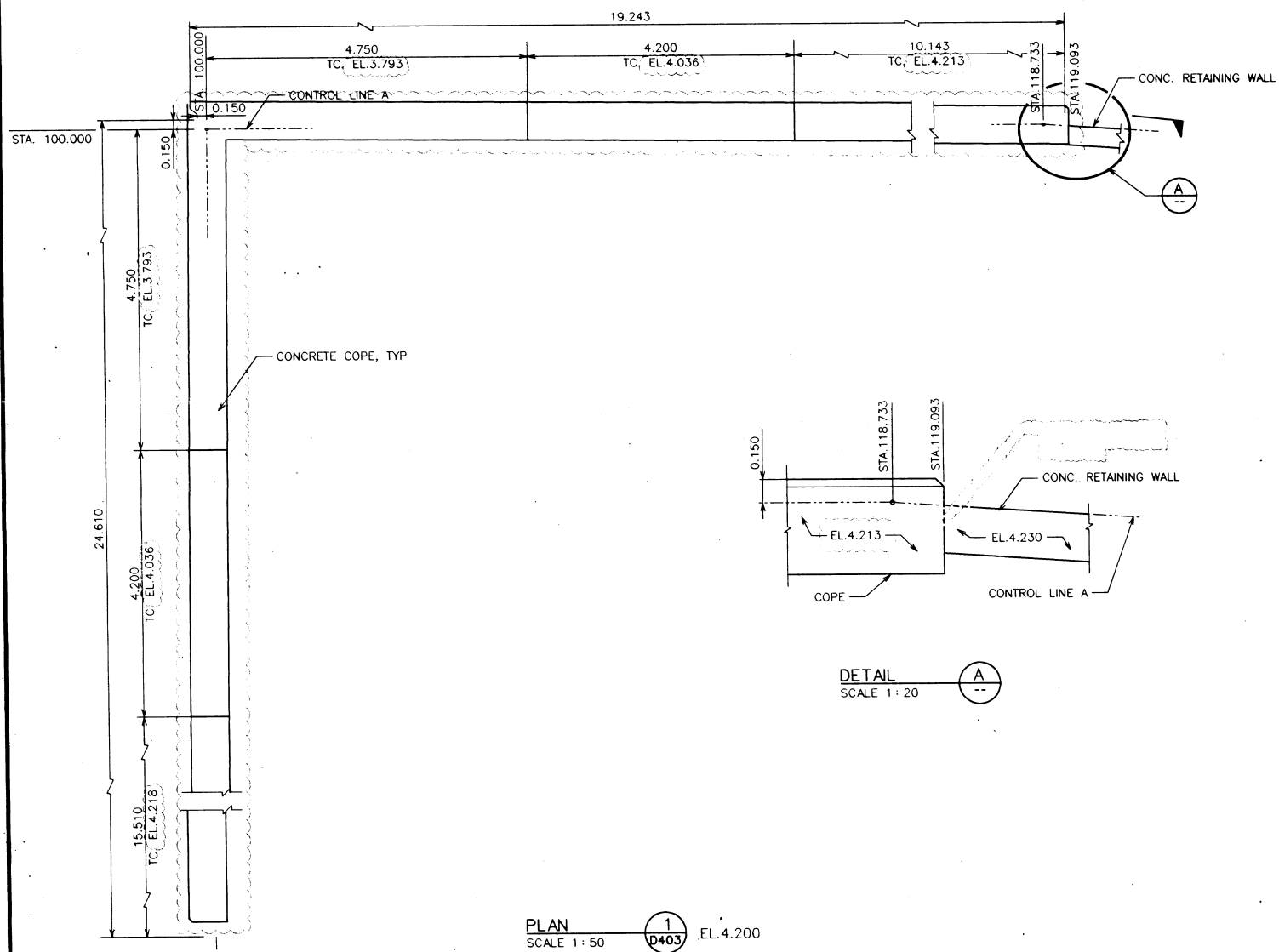


Client: **MACMILLAN BLOEDEL LIMITED**
 Project: **PORT ROYAL PROJECT**

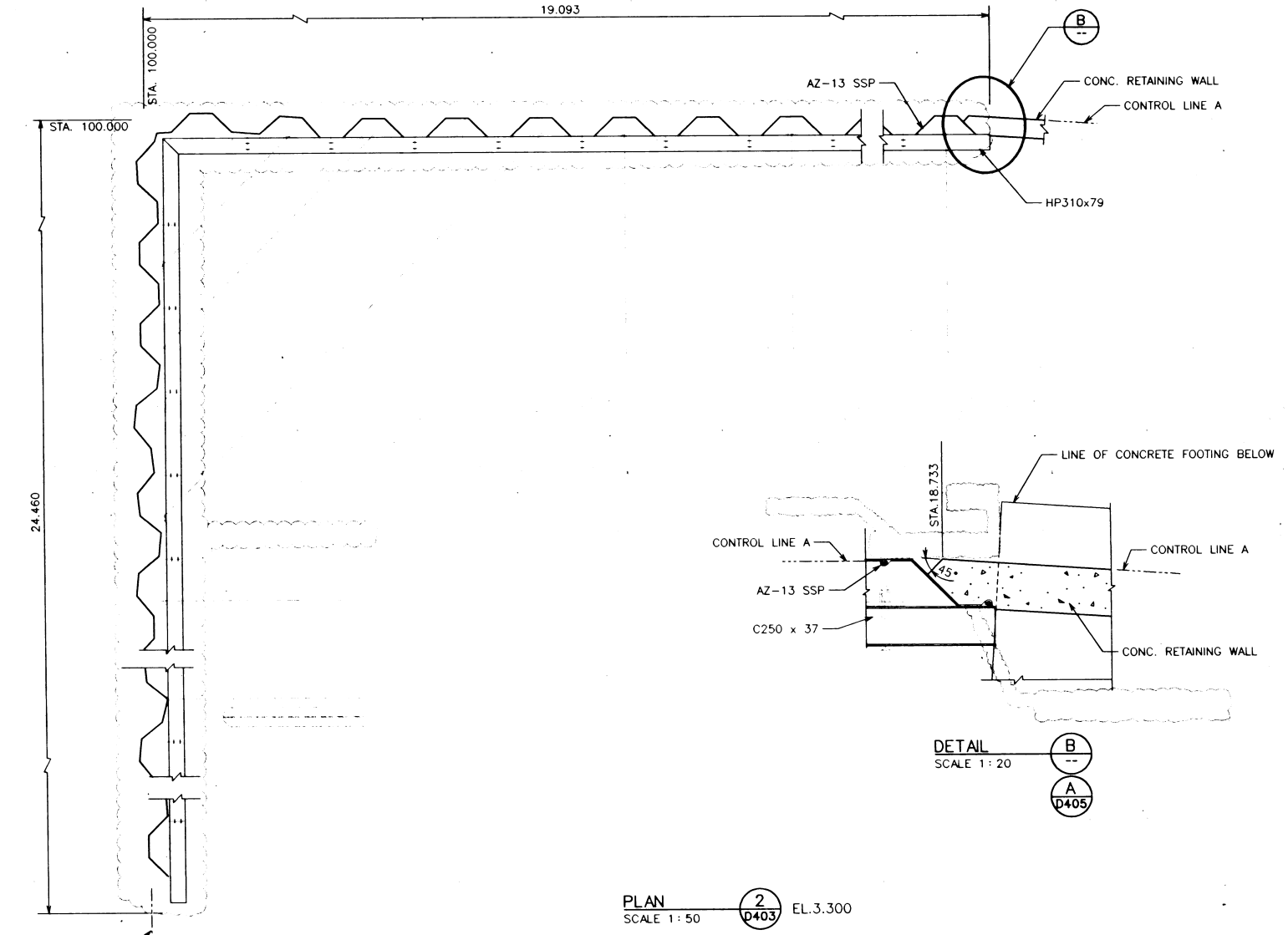


Drawing: **PHASE ONE SHORELINE WORKS SECTIONS SHEET 1 OF 3**

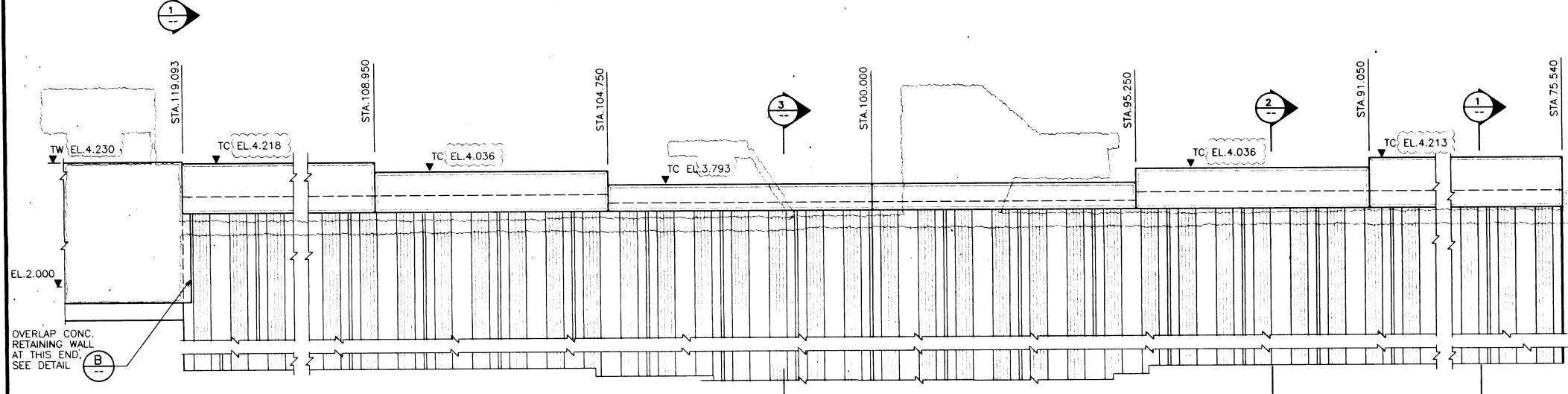
Drawing No. **MCBL - 001 - D411** Revision **3**



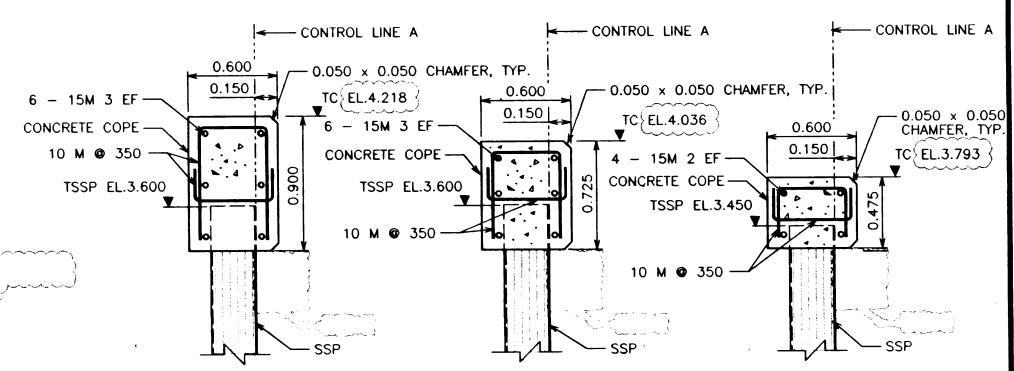
PLAN 1
SCALE 1:50
D403 EL. 4.200



PLAN 2
SCALE 1:50
D403 EL. 3.300



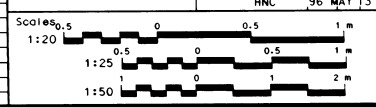
ELEVATION 1
SCALE 1:50



SECTION 1 SCALE 1:25
SECTION 2 SCALE 1:25
SECTION 3 SCALE 1:25

- NOTES:
1. REINFORCING STEEL TO BE 400 MPa DEFORMED BARS
 2. CLEAR CONCRETE COVER TO REINFORCING TO BE 75mm
 3. CONCRETE TO BE 30 MPa TYPE 20
 4. ATTACH TIMBER FASCIA TO STEEL SHEET PILING WITH GALVANIZED ASTM A 307 BOLT, NUT AND PLATE WASHERS - FOUR PER CONTACT BOARD FORM FACE PATTERN FROM EL. 4.230 TO EL. 2.000 ON OUTSIDE WALL FACE OF CONCRETE RETAINING WALL, TYPES 1, 2, 3 AND 4

Rev.	Date	By	App.	Description
3	96 DEC 05	HS	PWM	AS BUILT
2	96 SEP 05	BT	PWM	PLAN 2 REVISED
1	96 AUG 10	BT	PWM	PLAN 2 REVISED
0	96 MAY 13	RE	PWM	REPLACES DRAWING MBL-001-0216



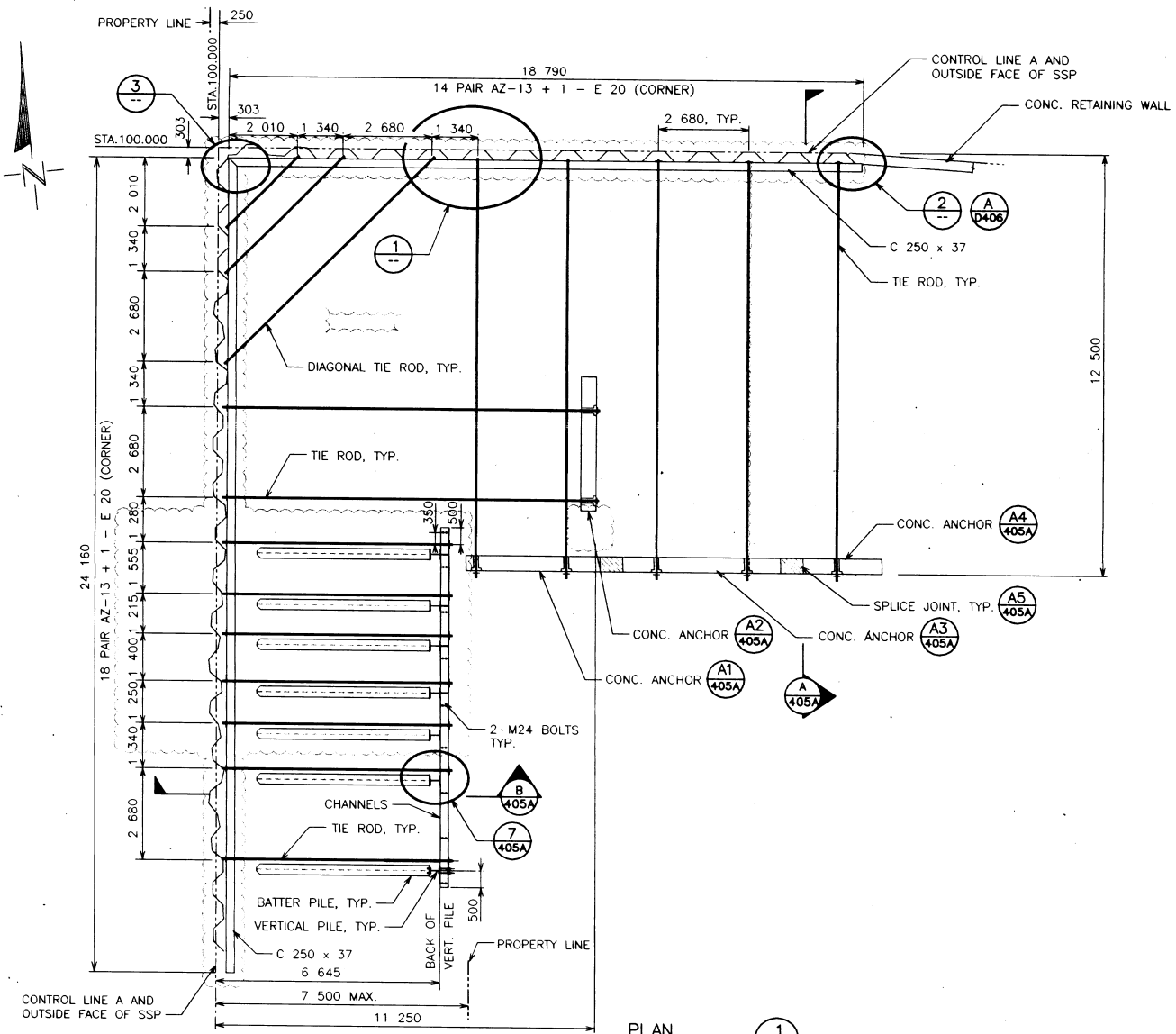
Design	BT	96 MAY 13
Checked	RE	96 MAY 13
Approved		
Drawn	HNC	96 MAY 13

HAY & COMPANY
CONSULTANTS INC.
One West 7th Avenue
Vancouver, B.C. Canada V5Y 1L5

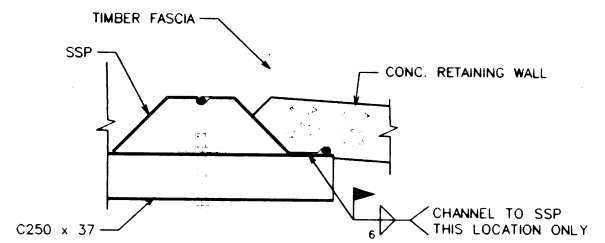
Client
MACMILLAN BLOEDEL LIMITED
Project
PORT ROYAL PROJECT

MacMillan Bloedel Limited
Timberlands and Properties Division

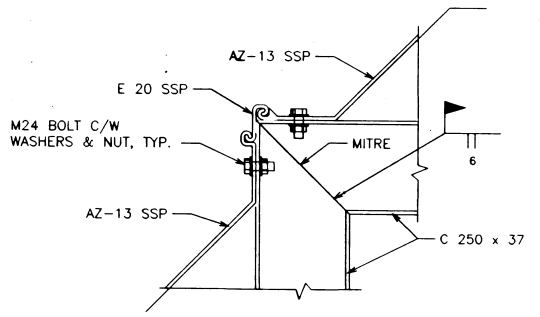
Drawing
PHASE ONE
STEEL SHEET PILE
COPING AND FASCIA DETAILS
Drawing No.
MCBL - 001 - D406
Revision
3



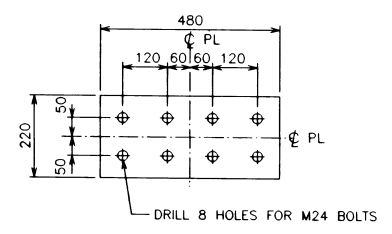
PLAN SCALE 1:100 (1) STEEL SHEET PILING & ANCHOR LAYOUT
CONC. COPING NOT SHOWN FOR CLARITY



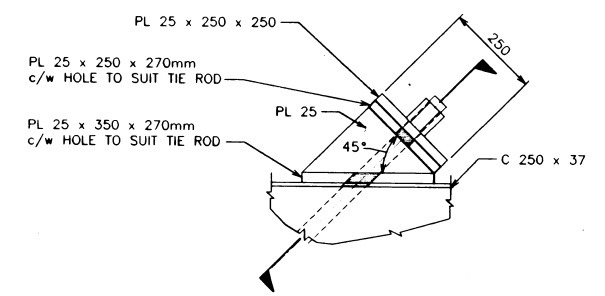
DETAIL (2) SCALE 1:20



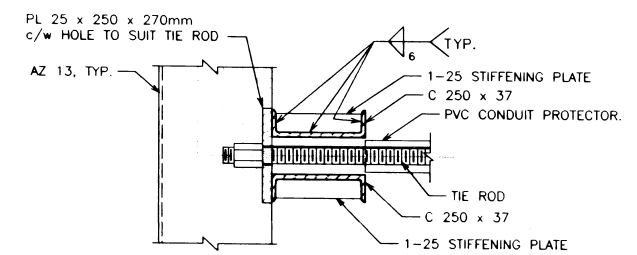
DETAIL (3) SCALE 1:10



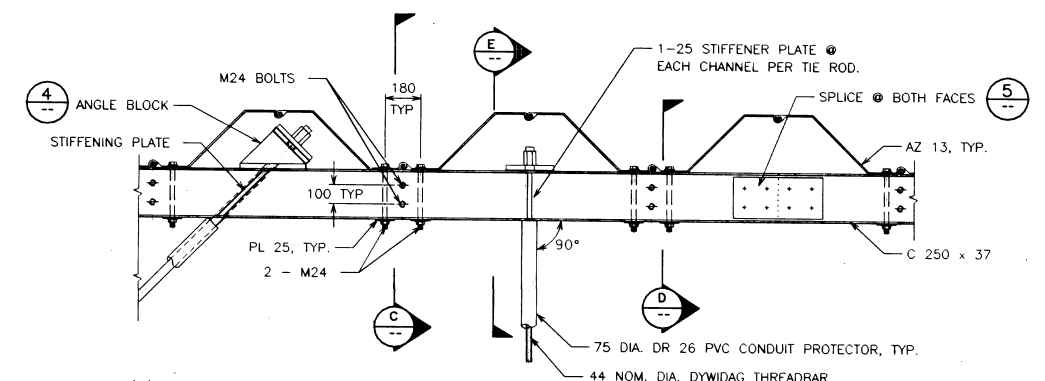
DETAIL (5) SCALE 1:10 SPLICE



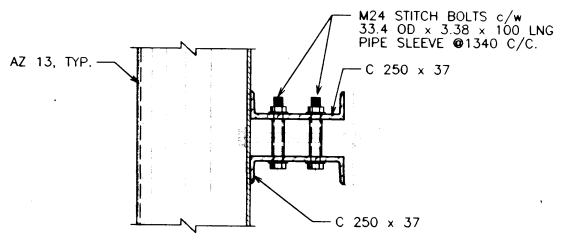
DETAIL (4) SCALE 1:10 ANGLE BLOCK



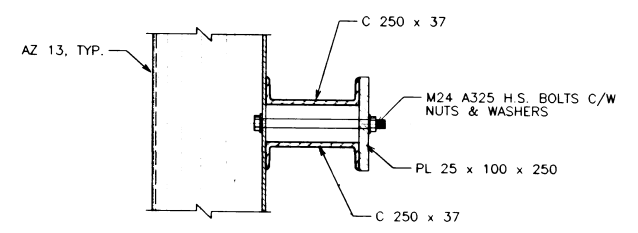
SECTION (E) SCALE 1:10



DETAIL (1) SCALE 1:20 STEEL SHEET PILING ATTACHMENT



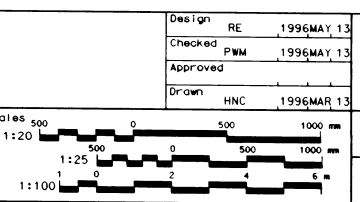
SECTION (C) SCALE 1:25



SECTION (D) SCALE 1:25

- NOTES:
- FOR GENERAL NOTES REFER TO DWG D400
 - STEEL SHEET PILE SHALL BE SECTION DESIGNATION AZ-13 AS MANUFACTURED BY TRADE ARBED CANADA INC. AND CONFORMING WITH CAN3-G40.21-M GRADE 300W
 - STRUCTURAL STEEL SHALL CONFORM WITH CAN3-G40.21-M GRADE 300W. TIE RODS AND TIE ROD NUTS SHALL BE GALVANIZED DYWIDAG THREADBAR CONFORMING WITH CSA G30.12-M GRADE 413 MPa
 - ALL MACHINE BOLTS SHALL CONFORM WITH ASTM A325. REINFORCING STEEL SHALL BE 400 MPa DEFORMED BARS.
 - CLEAR CONCRETE COVER TO REINFORCING SHALL BE 75mm.
 - CONCRETE SHALL BE 30 MPa TYPE 20.
 - FOR FILL MATERIALS SEE DWG D411.
 - FOR TOP OF STEEL SHEET PILE ELEVATIONS, SEE DWG D406

Rev.	Date	By	Add.	Description
3	96 DEC 05	HS	PJM	AS BUILT
2	96 SEP 05	BT	PJM	TIE RODS & CONC. ANCHORS ADDED
1	96 AUG 10	BT	PJM	REPLACE TIE RODS WITH PILE ANCHOR & DETAILS REVISED
0	96 MAY 13	RE	PJM	REPLACES DRAWING MCBL-001-D206



Design	RE	1996MAY 13
Checked	PJM	1996MAY 13
Approved		
Drawn	HNC	1996MAR 13

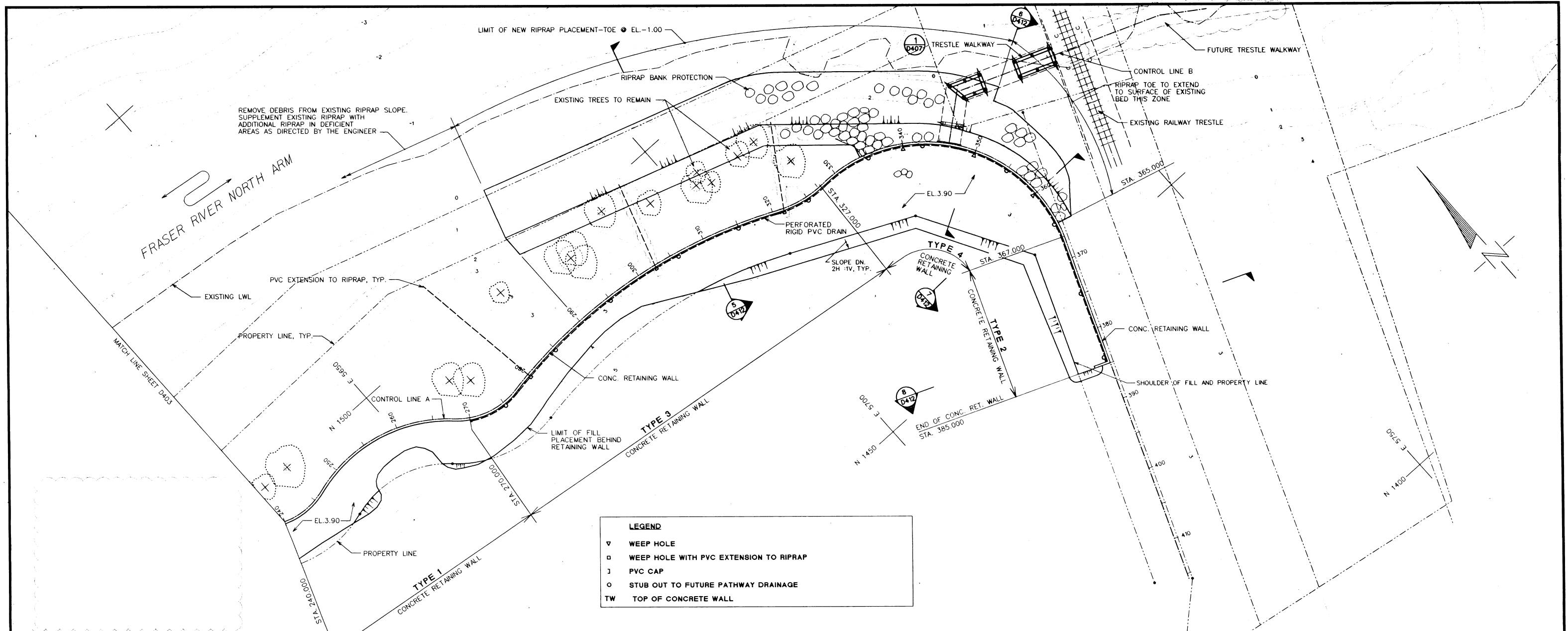
HAY & COMPANY
CONSULTANTS INC.
One West 7th Avenue
Vancouver, B.C. Canada V5Y 1L5

Project
MACMILLAN BLOEDEL LIMITED
PORT ROYAL PROJECT

MacMillan Bloedel Limited
Timberlands and Properties Division

Drawing
PHASE ONE
STEEL SHEET PILING
LAYOUT & DETAILS

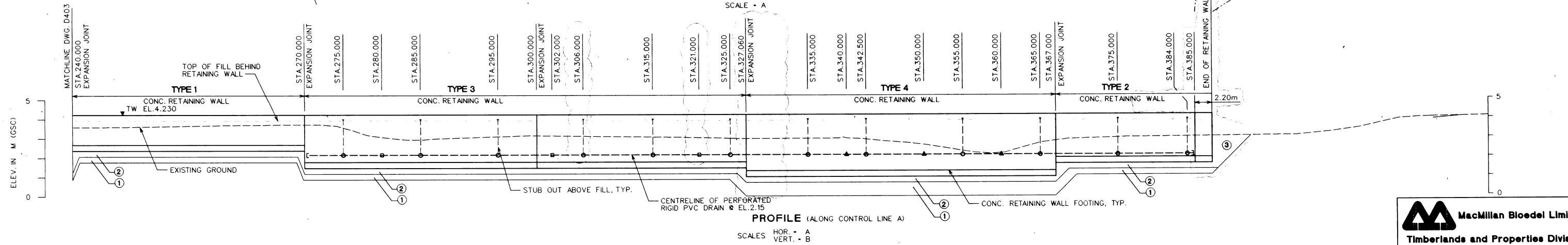
Drawing No.
MCBL - 001 - D 405



LEGEND

- ▽ WEEP HOLE
- WEEP HOLE WITH PVC EXTENSION TO RIPRAP
- ⌋ PVC CAP
- STUB OUT TO FUTURE PATHWAY DRAINAGE
- TW TOP OF CONCRETE WALL

PLAN
SCALE - A



PROFILE (ALONG CONTROL LINE A)
SCALES HOR. - A
VERT. - B

- NOTES :**
- FOR GENERAL NOTES SEE DWG D400
 - FOR CONC. RETAINING WALL DETAILS, SEE DWG D414
 - FOR FILL MATERIALS SEE DWG D411, D412 AND D413
 - EXISTING TREES TO BE MAINTAINED AND PROTECTED THROUGHOUT CONSTRUCTION
 - FOR DETAIL OF CONSTRUCTION JOINTS, SEE DWG D414
 - FOR DRAINAGE DETAILS, SEE DWG D414

Rev.	Date	By	App.	Description
13	96 NOV 30	HS	PMM	AS BUILT
2	96 AUG 10	PMM	PMM	FILL FROM STA. 340 TO 385 REVISED
1	96 JUN 26	RE	PMM	TERMINATED WALL AT STA 385 & REVISED STUB OUT LOCATIONS
0	96 MAY 13	RE	PMM	REPLACES DRAWING MCBL-001-0125

Design	PMM	96 MAY 13
Checked	RE	96 MAY 13
Approved		
Drawn	HNC	96 MAY 13

Scales
B 1:1000
A 1:250

HAY & COMPANY
CONSULTANTS INC.
One West 7th Avenue
Vancouver, B.C. Canada V5Y 1L5

Client
MACMILLAN BLOEDEL LIMITED

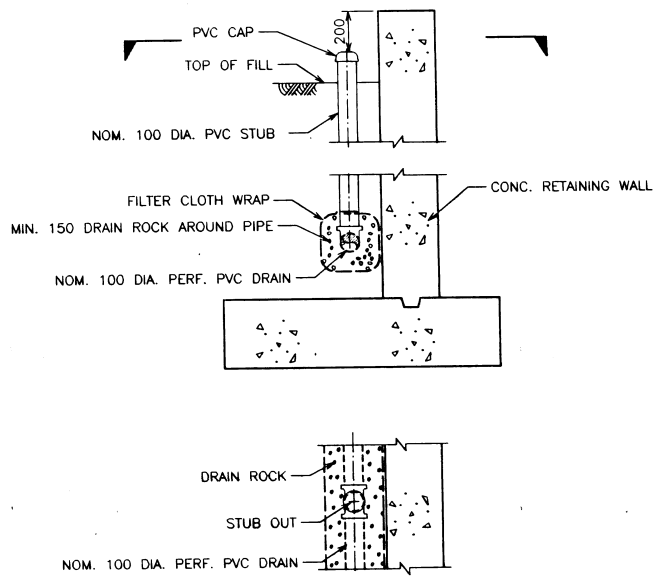
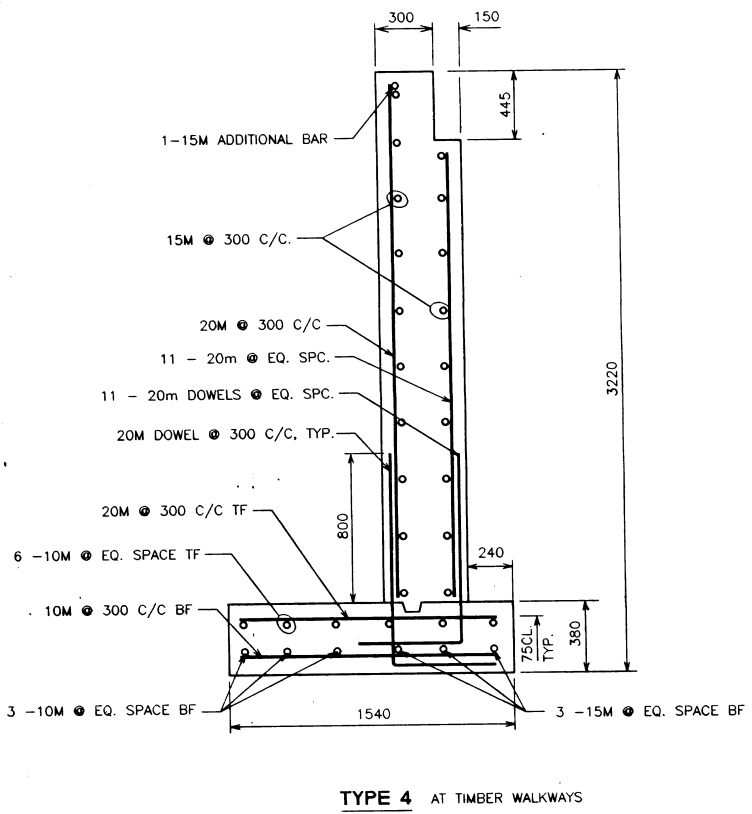
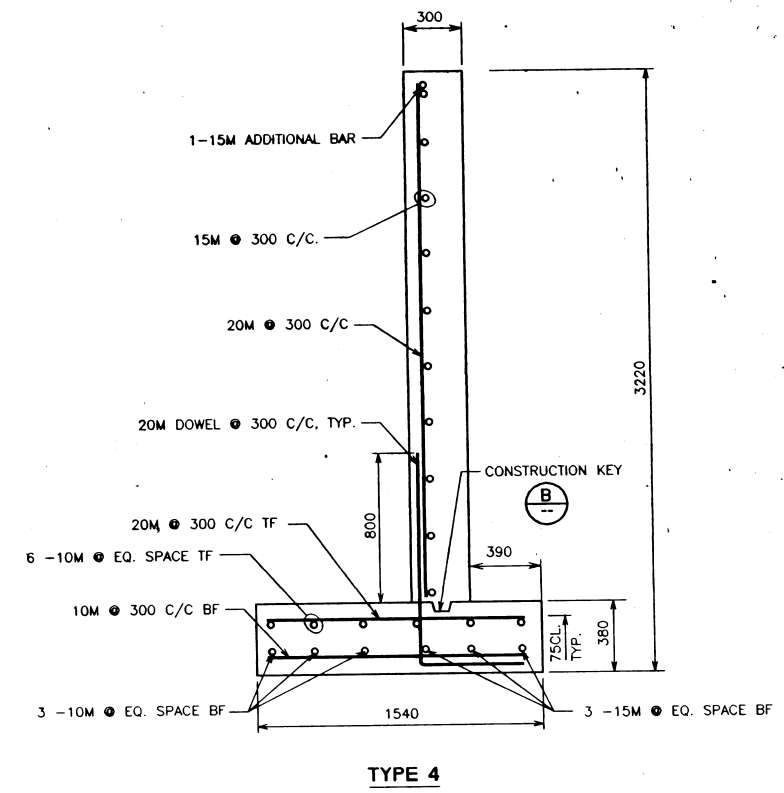
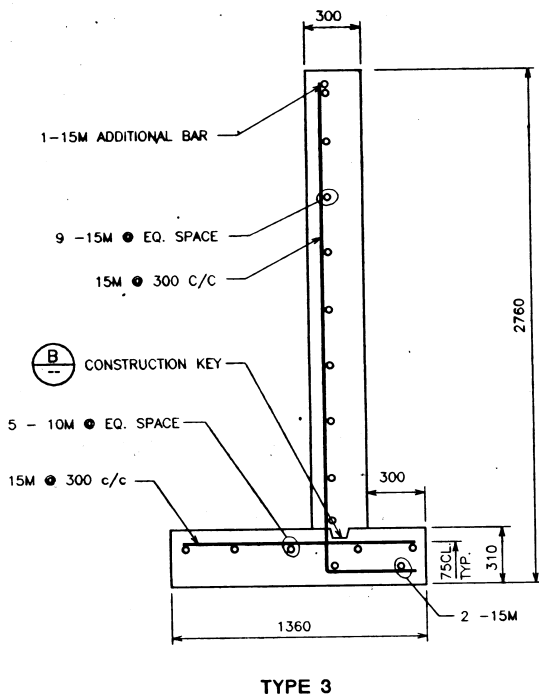
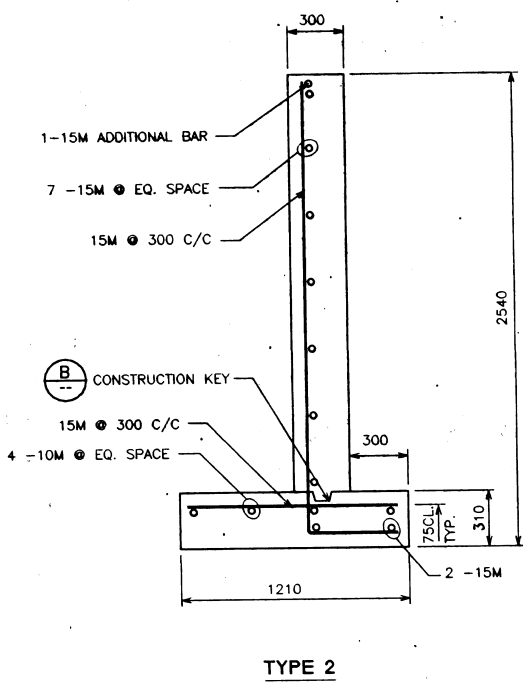
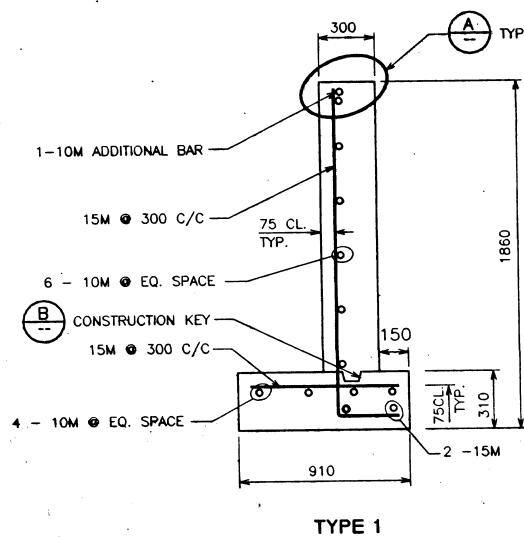
Project
PORT ROYAL PROJECT

MacMillan Bloedel Limited
Timberlands and Properties Division

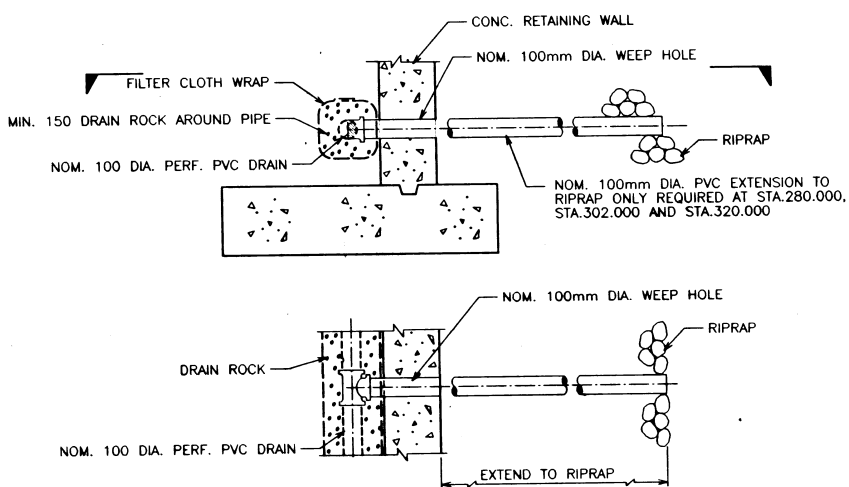
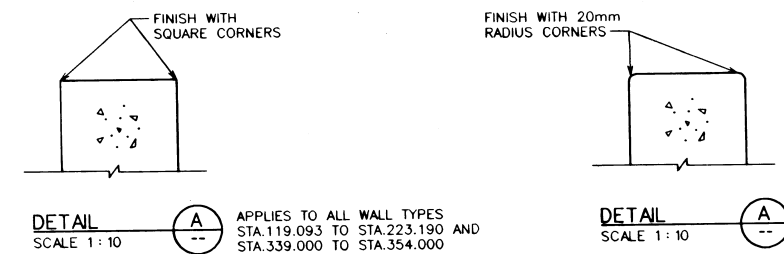
Drawing
PHASE ONE GENERAL LAYOUT SHEET 2 OF 2

Drawing No.
MCBL - 001 - D404

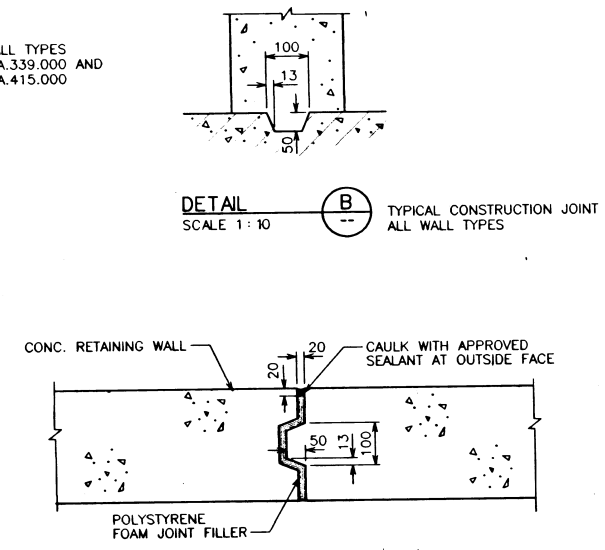
Revision
3



STUB OUT DETAIL TO FUTURE PATHWAY DRAIN
FOR LOCATIONS AND ELEVATIONS, SEE DWGS D403, D404 & D408
N.T.S.



WEEP HOLE DETAIL
FOR LOCATIONS AND ELEVATIONS, SEE DWGS D403, D404 & D408
N.T.S.

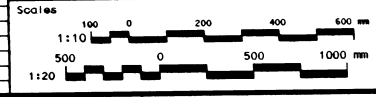


EXPANSION JOINT DETAIL
(CONTINUOUS THROUGHOUT WEB AND FOOTING FOR EACH WALL TYPE)
FOR LOCATIONS, SEE DWGS D403, D404 & D408
SCALE 1:10

- NOTES:**
- FOR GENERAL NOTES SEE DWG D400
 - DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED
 - REINFORCING STEEL TO BE 400 MPa DEFORMED BARS
 - MINIMUM CLEAR CONCRETE COVER TO REINFORCING TO BE 75MM
 - CONCRETE TO BE 30 MPa TYPE 20
 - OUTER VERTICAL FACE OF ALL WALL TYPES TO HAVE BOARD FORM PATTERN FINISH ABOVE EL.2.000m. FINAL SELECTION OF PATTERN BY LANDSCAPE ARCHITECT

Rev.	Date	By	App.	Description
1	96 DEC 05	HS	PJM	AS BUILT
0	96 MAY 13	RE	PJM	REPLACES DRAWING MCBL-001-D207

Design	BT	96 MAY 13
Checked	RE	96 MAY 13
Approved		
Drawn	HNC	96 MAY 13



HAY & COMPANY
CONSULTANTS INC.
One West 7th Avenue
Vancouver, B.C. Canada V5Y 1L5

Client: **MACMILLAN BLOEDEL LIMITED**
Project: **PORT ROYAL PROJECT**

MacMillan Bloedel Limited
Timberlands and Properties Division

Drawing: **PHASE ONE RETAINING WALLS CONC. & REINFORCING**
Drawing No.: **MCBL - 001 - D414**
Revision: **1**