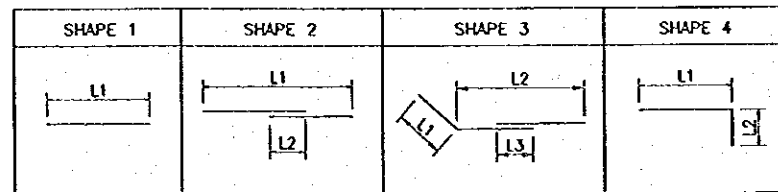


BAR WEIGHT OF L-16

| TYPE | DIA (mm) | NUMBER | LENGTH (mm) | | | WEIGHT PER 'm' (kg/m) | WEIGHT PER 'BAR' (kg) | WEIGHT (kg) | SHAPE | |
|------|----------|--------|-------------|--------|--------|-----------------------|-----------------------|-------------|-------|----|
| | | | TOTAL | L1 | L2 | | | | | L3 |
| W1 | 13 | 14 | 15,260 | 14,800 | 460 | 1.04 | 15.87 | 222 | 2 | |
| W2 | 13 | 4 | 13,960 | 13,500 | 460 | 1.04 | 14.52 | 58 | 2 | |
| W3 | 16 | 38 | 4,500 | 4,500 | | 1.58 | 7.11 | 270 | 1 | |
| W4 | 16 | 37 | 6,000 | 6,000 | | 1.58 | 9.48 | 351 | 1 | |
| W5 | 19 | 34 | 3,670 | 3,670 | | 2.23 | 8.18 | 278 | 1 | |
| W6 | 19 | 35 | 5,170 | 5,170 | | 2.23 | 11.53 | 404 | 1 | |
| W7 | 19 | 6 | 4,120 | 4,120 | | 2.23 | 9.19 | 55 | 1 | |
| W8 | 13 | 17 | 15,260 | 14,800 | 460 | 1.04 | 15.87 | 270 | 2 | |
| W9 | 16 | 5 | 15,360 | 14,800 | 560 | 1.58 | 24.27 | 121 | 2 | |
| W10 | 16 | 4 | 14,060 | 13,500 | 560 | 1.58 | 22.21 | 89 | 2 | |
| W11A | 16 | 38 | 3,140 | 3,132 | | 1.58 | 4.96 | 189 | 1 | |
| W11B | 16 | 37 | 4,700 | 4,698 | | 1.58 | 7.43 | 275 | 1 | |
| W12 | 19 | 75 | 5,370 | 5,368 | | 2.23 | 11.98 | 898 | 1 | |
| W13A | 22 | 29 | 5,470 | 5,468 | | 2.98 | 16.30 | 473 | 1 | |
| W13B | 22 | 28 | 3,910 | 3,902 | | 2.98 | 11.65 | 326 | 1 | |
| W14 | 22 | 6 | 4,380 | 4,372 | | 2.98 | 13.05 | 78 | 1 | |
| W15 | 19 | 75 | 4,000 | 4,000 | | 2.23 | 8.92 | 669 | 1 | |
| F1 | 25 | 75 | 7,380 | 7,000 | 380 | 3.85 | 28.41 | 2,131 | 4 | |
| F2 | 19 | 18 | 15,820 | 3,242 | 11,900 | 2.23 | 35.28 | 635 | 3 | |
| F3 | 36 | 75 | 7,540 | 7,000 | 540 | 7.99 | 60.24 | 4,518 | 4 | |
| F4 | 25 | 18 | 16,030 | 3,242 | 11,900 | 3.85 | 61.72 | 1,111 | 3 | |
| | | | | | | | TOTAL = | 13,421 | | |

BAR BENDING SCHEDULE FOR L-16



NOTE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

REFERENCE DRAWINGS

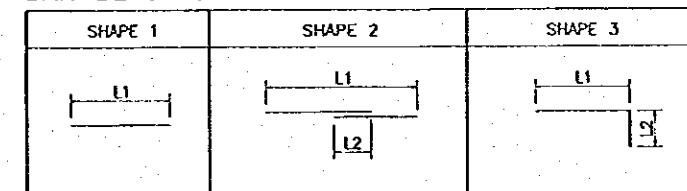
- JD-P1-SP-Re-38 REINFORCEMENT DETAILS-BLOCK L-16
- JD-P1-SP-Re-39 REINFORCEMENT DETAILS-BLOCK L-17 AND L-18, R-18

BAR WEIGHT OF L-17 AND L-18,R-18

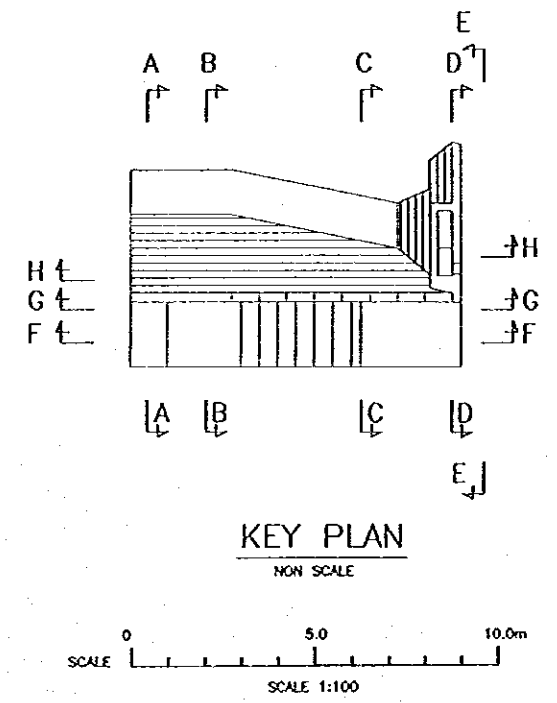
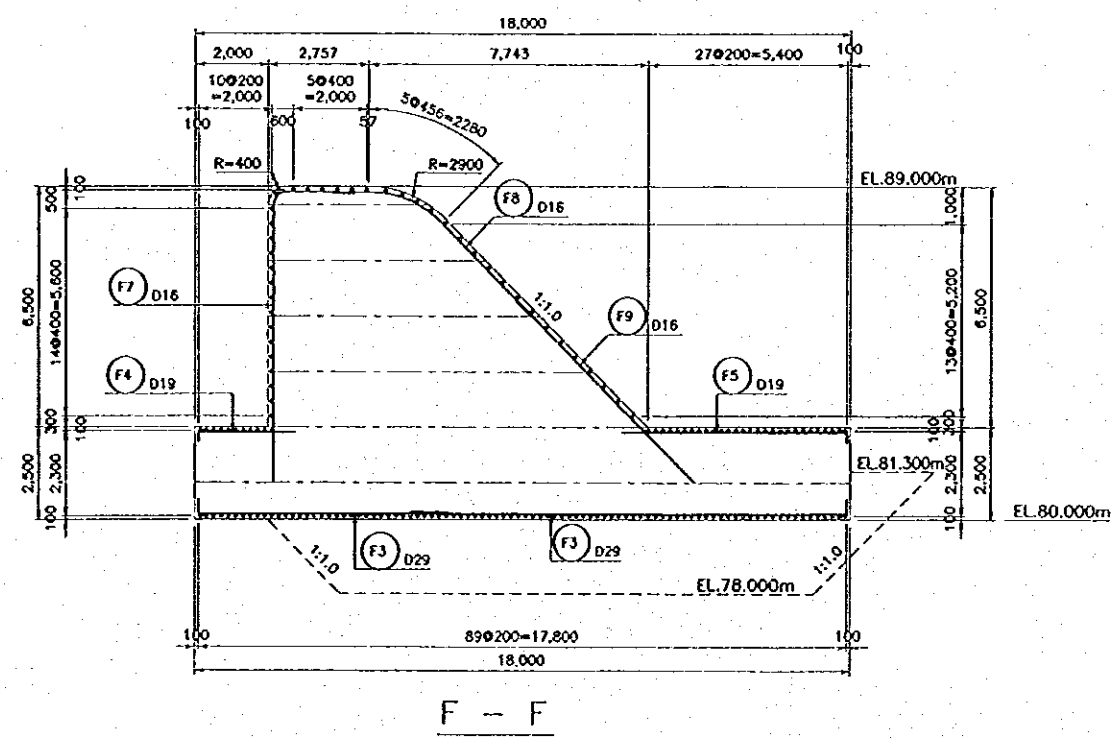
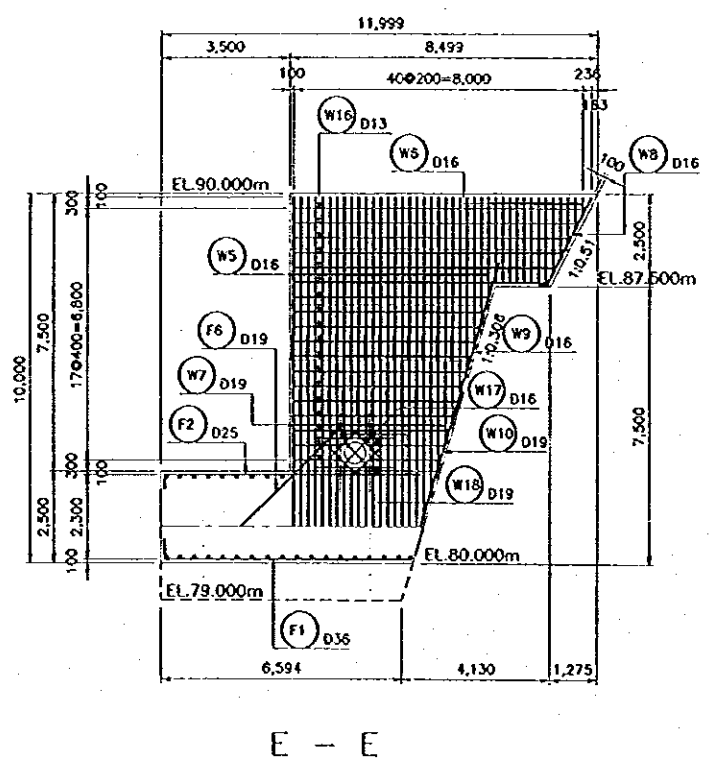
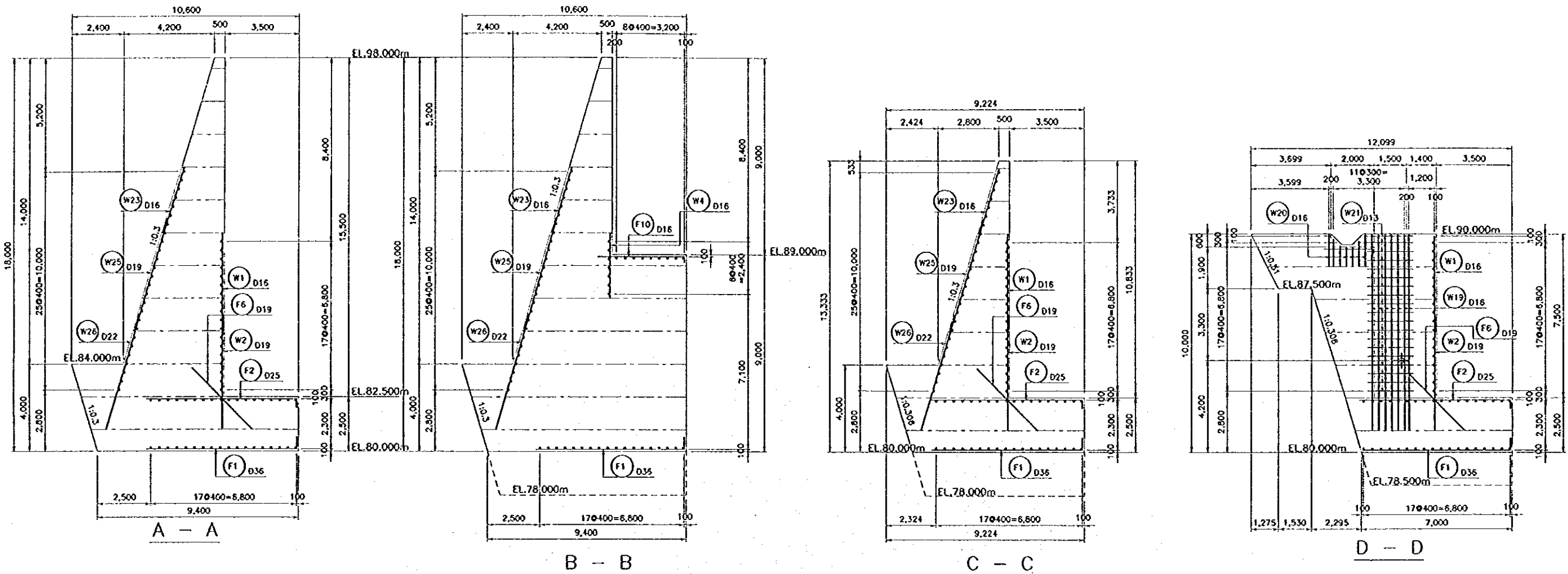
| TYPE | DIA (mm) | NUMBER | LENGTH (mm) | | | WEIGHT PER 'm' (kg/m) | WEIGHT PER 'BAR' (kg) | WEIGHT (kg) | SHAPE | |
|------|----------|--------|-------------|--------|-----|-----------------------|-----------------------|-------------|-------|--|
| | | | TOTAL | L1 | L2 | | | | | |
| W1 | 13 | 18 | 15,260 | 14,800 | 460 | 1.04 | 15.87 | 286 | 2 | |
| W2A | 16 | 38 | 4,500 | 4,500 | | 1.58 | 7.11 | 270 | 1 | |
| W2B | 16 | 37 | 6,000 | 6,000 | | 1.58 | 9.48 | 351 | 1 | |
| W3A | 19 | 38 | 5,170 | 5,170 | | 2.23 | 11.53 | 438 | 1 | |
| W3B | 19 | 37 | 3,670 | 3,670 | | 2.23 | 8.18 | 303 | 1 | |
| W4 | 13 | 17 | 15,260 | 14,800 | 460 | 1.04 | 15.87 | 270 | 2 | |
| W5 | 16 | 9 | 15,360 | 14,800 | 560 | 1.58 | 24.27 | 218 | 2 | |
| W6A | 16 | 38 | 3,140 | 3,132 | | 1.58 | 4.96 | 189 | 1 | |
| W6B | 16 | 37 | 4,700 | 4,698 | | 1.58 | 7.43 | 275 | 1 | |
| W7 | 19 | 75 | 5,370 | 5,368 | | 2.23 | 11.98 | 898 | 1 | |
| W8A | 22 | 38 | 5,470 | 5,468 | | 2.98 | 16.30 | 619 | 1 | |
| W8B | 22 | 37 | 3,910 | 3,902 | | 2.98 | 11.65 | 431 | 1 | |
| W9 | 19 | 75 | 4,000 | 4,000 | | 2.23 | 8.92 | 669 | 1 | |
| F1 | 25 | 75 | 7,380 | 7,000 | 380 | 3.85 | 28.41 | 2,131 | 3 | |
| F2 | 19 | 18 | 15,470 | 14,800 | 670 | 2.23 | 34.50 | 621 | 2 | |
| F3 | 36 | 75 | 7,540 | 7,000 | 540 | 6.31 | 47.58 | 3,568 | 3 | |
| F4 | 25 | 18 | 15,680 | 14,800 | 880 | 3.85 | 60.37 | 1,087 | 2 | |
| | | | | | | | TOTAL = | 12,624 | | |

FOR L-17 AND L-18,R-18: TOTAL x3 = 37,872 (kg)

BAR BENDING SCHEDULE FOR L-17 AND L-18,R-18



| | | | | | | | | | |
|-----|------|---------|------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| | | | | | THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT JATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : JATURARANG DAM CONSTRUCTION SPILLWAY REINFORCEMENT DETAILS BAR WEIGHT FOR L-16, L-17, L-18, AND R-18 | | | PROVINCE CENTRAL JAVA PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY DRAWING NO. JD-P1-SP-Re-40 SHEET NO. 146 | |
| | | | | | DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER | DATE CONTRACT NO. | | | |
| NO. | DATE | REVISOR | ORIGINATED | DESIGNED | APPROVED | | | | |



NOTE
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

- REFERENCE DRAWINGS**
- JD-P1-SP-Re-42 REINFORCEMENT DETAILS-BLOCK L-19 (2/3)
 - JD-P1-SP-Re-43 REINFORCEMENT DETAILS-BLOCK L-19 (3/3)

| NO. | DATE | REVISION | ORIGINATOR | DESIGNED | APPROVED |
|-----|------|----------|------------|----------|----------|
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------|--|
| THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT | | PROJECT NAME JATUNSEJUNA FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION SPILLWAY REINFORCEMENT DETAILS BLOCK L-19 (1/3) | | PROJECT NO. SEMARANG CITY DRAWING NO. JD-P1-SP-Re-41 SHEET NO. 147 | |
| JAPAN INTERNATIONAL COOPERATION AGENCY CITY ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL PROJECT INTERNATIONAL INC. | | DESIGNED CHECKED DATE | | CONTRACT NO. | |
| APPROVED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER | | [Signature] | | DATE | |

L-19 (3/3)

BAR WEIGHT

| BAR NO. | DIA | NUMBER | LENGTH (mm) | | | | | WEIGHT PER "m" (kg) | WEIGHT PER BAR (kg) | WEIGHT (kg) | SHAPE |
|---------|-----|--------|-------------|----------|---------|-------|-------|---------------------|---------------------|-------------|-------|
| | | | TOTAL | L1 | L2 | L3 | R | | | | |
| W1 | 16 | 56 | 5,260 | 5,260 * | | | | 1.580 | 8.311 | 465 | 1 |
| W2 | 19 | 48 | 2,920 | 2,920 * | | | | 2.230 | 6.512 | 313 | 1 |
| W3 | 16 | 7 | 4,500 | 4,500 | | | | 1.580 | 7.110 | 50 | 1 |
| W4 | 16 | 27 | 2,250 | 2,250 * | | | | 1.580 | 3.555 | 96 | 1 |
| W5 | 16 | 28 | 5,150 | 5,150 * | | | | 1.580 | 8.137 | 228 | 1 |
| W6 | 16 | 13 | 1,390 | 1,390 * | | | | 1.580 | 2.196 | 29 | 1 |
| W7 | 19 | 22 | 4,420 | 4,420 * | | | | 2.230 | 9.857 | 217 | 1 |
| W8 | 16 | 1 | 2,840 | 250 | 2,590 | | | 1.580 | 4.487 | 4 | 2 |
| W9 | 16 | 1 | 4,300 | 4,300 | | | | 1.580 | 6.794 | 7 | 1 |
| W10 | 19 | 1 | 3,840 | 3,840 | | | | 2.230 | 8.563 | 9 | 1 |
| W11 | 13 | 15 | 2,400 | 2,400 | | | | 1.040 | 2.496 | 37 | 1 |
| W12 | 13 | 3 | 6,800 | 6,800 * | | | | 1.040 | 7.072 | 21 | 1 |
| W13 | 13 | 4 | 2,200 | 2,200 * | | | | 1.040 | 2.288 | 9 | 1 |
| W14 | 13 | 7 | 11,500 | 11,500 * | | | | 1.040 | 11.960 | 84 | 1 |
| W15 | 13 | 11 | 9,100 | 9,100 * | | | | 1.040 | 9.464 | 104 | 1 |
| W16 | 13 | 18 | 6,070 | 6,070 * | | | | 1.040 | 6.313 | 114 | 1 |
| W17 | 16 | 8 | 1,120 | 1,120 | | | | 1.580 | 1.770 | 14 | 1 |
| W18 | 19 | 8 | 1,920 | 1,920 | | | | 2.230 | 4.282 | 34 | 1 |
| W19 | 16 | 20 | 9,000 | 9,000 | | | | 1.580 | 14.220 | 284 | 1 |
| W20 | 16 | 17 | 1,500 | 1,500 | | | | 1.580 | 2.370 | 40 | 1 |
| W21 | 13 | 38 | 2,100 | 2,100 | | | | 1.040 | 2.184 | 83 | 1 |
| W22 | 13 | 38 | 1,400 | 1,400 | | | | 1.040 | 1.456 | 55 | 1 |
| W23 | 16 | 64 | 3,920 | 3,920 * | | | | 1.580 | 6.194 | 396 | 1 |
| W24 | 16 | 19 | 3,380 | 3,380 * | | | | 1.580 | 5.340 | 101 | 1 |
| W25 | 19 | 83 | 5,170 | 5,170 | | | | 2.230 | 11.529 | 957 | 1 |
| W26 | 22 | 83 | 4,520 | 4,520 * | | | | 2.980 | 13.470 | 1,118 | 1 |
| W27 | 16 | 18 | 8,730 | 8,730 * | | | | 1.580 | 13.793 | 248 | 1 |
| W28 | 13 | 17 | 11,400 | 11,400 * | | | | 1.040 | 11.856 | 202 | 1 |
| W29 | 13 | 10 | 6,080 | 6,080 * | | | | 1.040 | 6.323 | 63 | 1 |
| W30 | 13 | 7 | 4,570 | 4,570 * | | | | 1.040 | 4.753 | 33 | 1 |
| W31 | 13 | 3 | 2,400 | 200 | 2,200 | | | 1.040 | 2.496 | 7 | 3 |
| F1 | 36 | 80 | 7,550 | 550 | 7,000 | | | 7.990 | 60.325 | 4,826 | 3 |
| F2 | 25 | 39 | 7,390 | 390 | 7,000 | | | 3.850 | 28.452 | 1,110 | 3 |
| F3 | 29 | 36 | 9,860 | 450 | 9,410 * | | | 5.190 | 51.173 | 1,842 | 3 |
| F4 | 19 | 18 | 2,970 | 300 | 2,670 | | | 2.230 | 6.623 | 119 | 3 |
| F5 | 19 | 18 | 6,420 | 300 | 6,120 | | | 2.230 | 14.317 | 258 | 3 |
| F6 | 19 | 40 | 4,000 | 4,000 | | | | 2.230 | 8.920 | 357 | 1 |
| F7 | 16 | 9 | 10,010 | 7,500 | 630 | 1,880 | 400 | 1.580 | 15.816 | 142 | 4 |
| F8 | 16 | 9 | 6,750 | 950 | 2,280 | 3,520 | 2,900 | 1.580 | 10.665 | 96 | 5 |
| F9 | 16 | 9 | 6,970 | 6,970 | | | | 1.580 | 11.013 | 99 | 1 |
| F10 | 16 | 40 | 4,310 | 250 | 4,060 | | | 1.580 | 6.810 | 272 | 3 |
| | | | | | | | | TOTAL | | 14,543 | |

NOTE: NUMBER HAVING SIGN "*" IS AVERAGE.

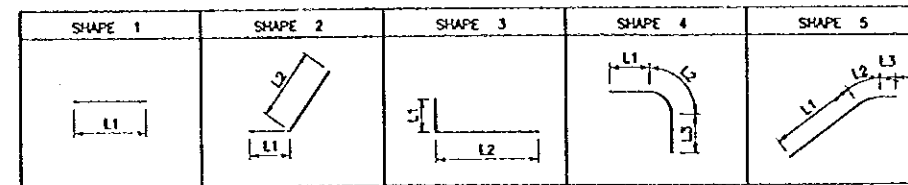
NOTE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

REFERENCE DRAWINGS

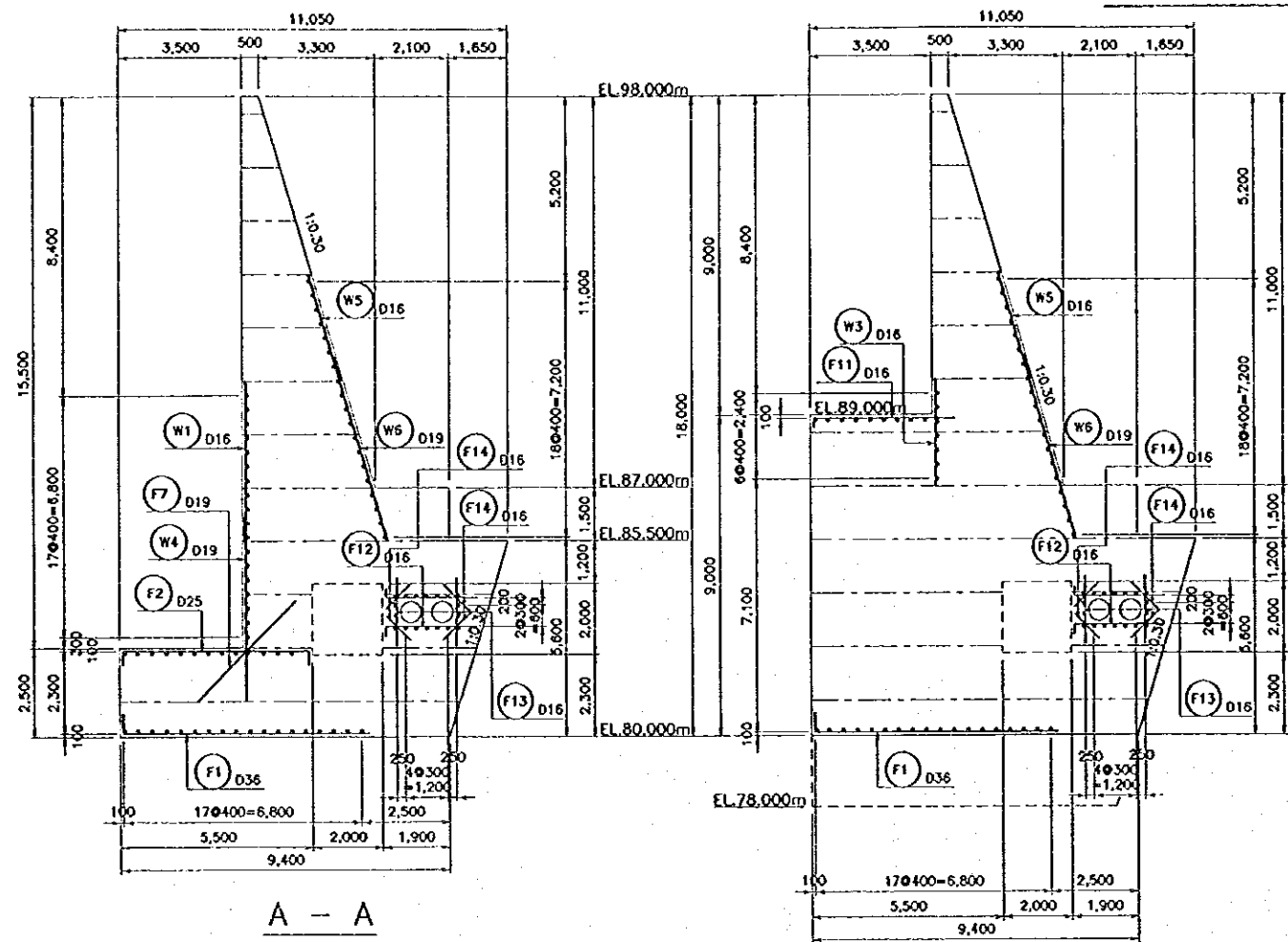
1. JD-P1-SP-Re-41 REINFORCEMENT DETAILS-BLOCK L-19 (1/3)
2. JD-P1-SP-Re-42 REINFORCEMENT DETAILS-BLOCK L-19 (2/3)

BAR BENDING SCHEDULE



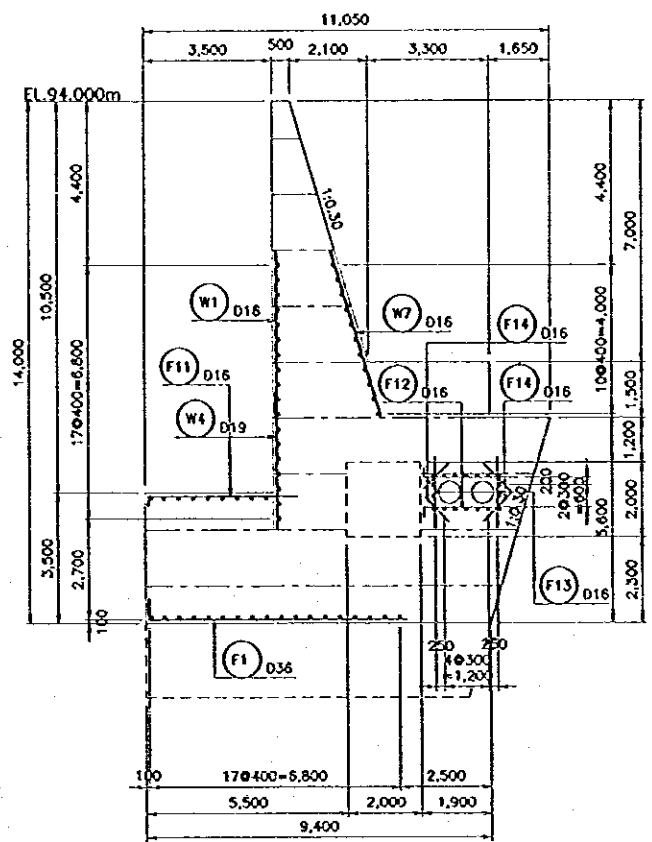
| | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------|--------------|
| THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT | | PROJEC CENTRAL JAWA | |
| JATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : SATIBARANG DAM CONSTRUCTION | | PROJECT SEMARANG CITY | |
| SPILLWAY REINFORCEMENT DETAILS BLOCK L-19 (3/3) | | DRAWING NO. JD-P1-SP-Re-43 SHEET NO. 149 | |
| LAPAN INTEGRAL DESIGN COOPERATION AGENCY CIS ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL PACIFIC INTEGRAL DESIGN | | DESIGNED <i>[Signature]</i> | DATE |
| CHIEF OF PLANNING AND DESIGN | | CHECKED <i>[Signature]</i> | CONTRACT NO. |
| NO. | DATE | REVISIONS | ORIGINATED |
| | | | DESIGNED |
| | | | APPROVED |
| | | | APPROVED |

R-19 (1/2)

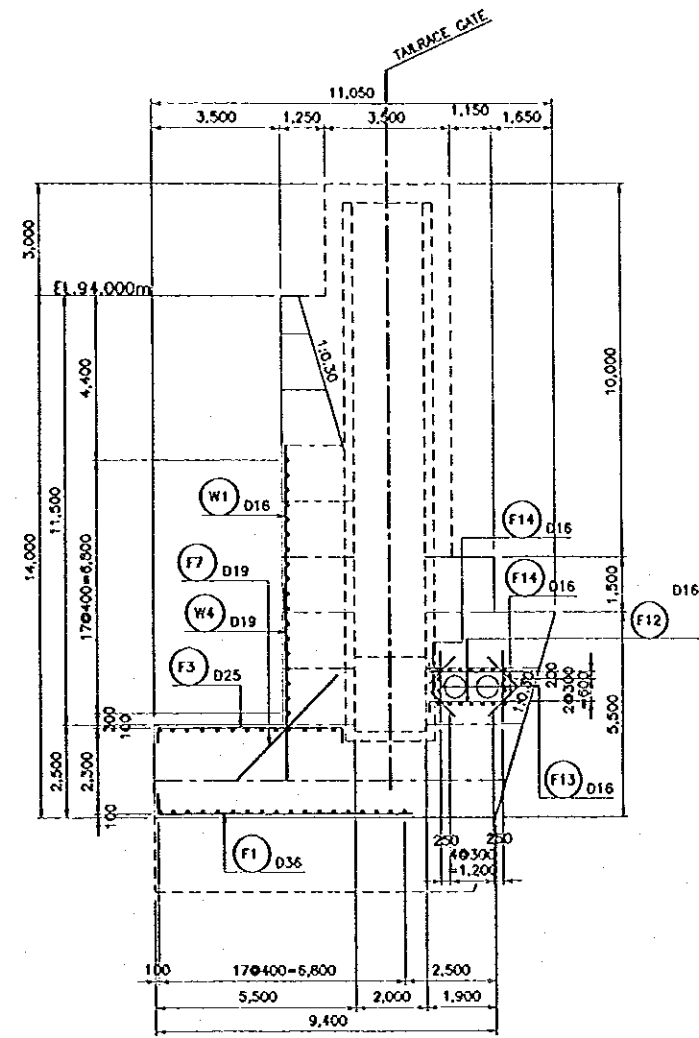


A - A

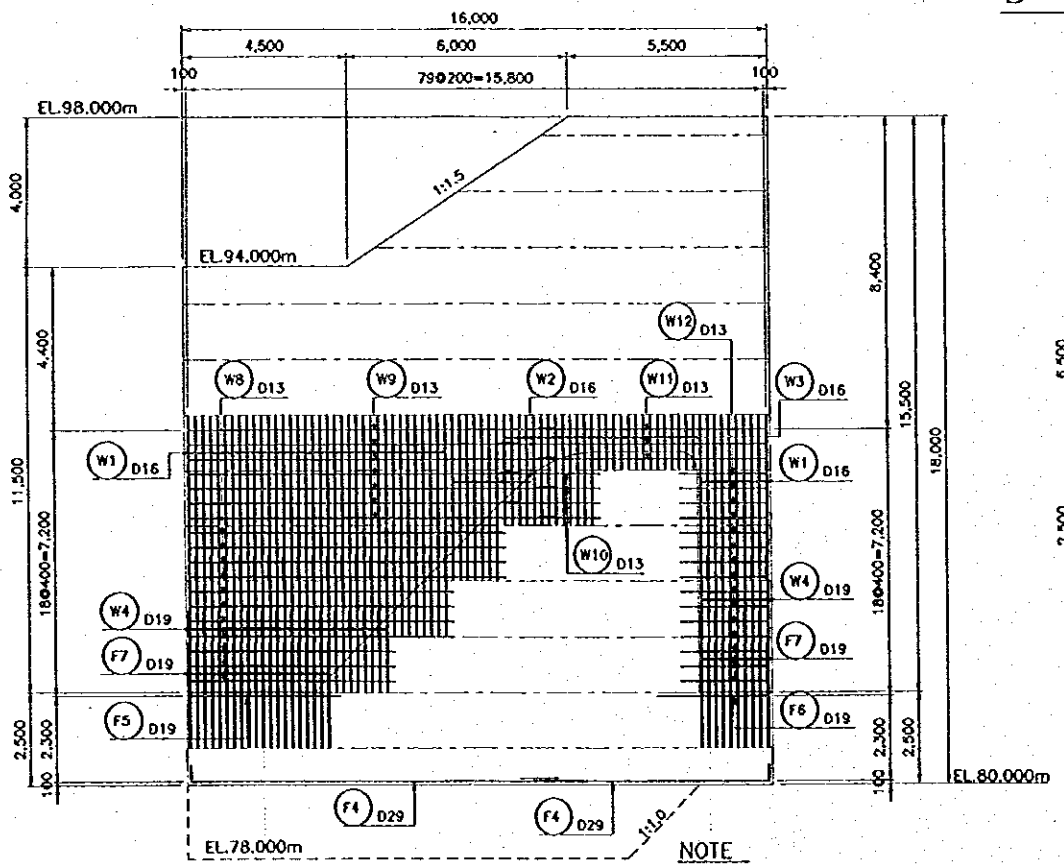
B - B



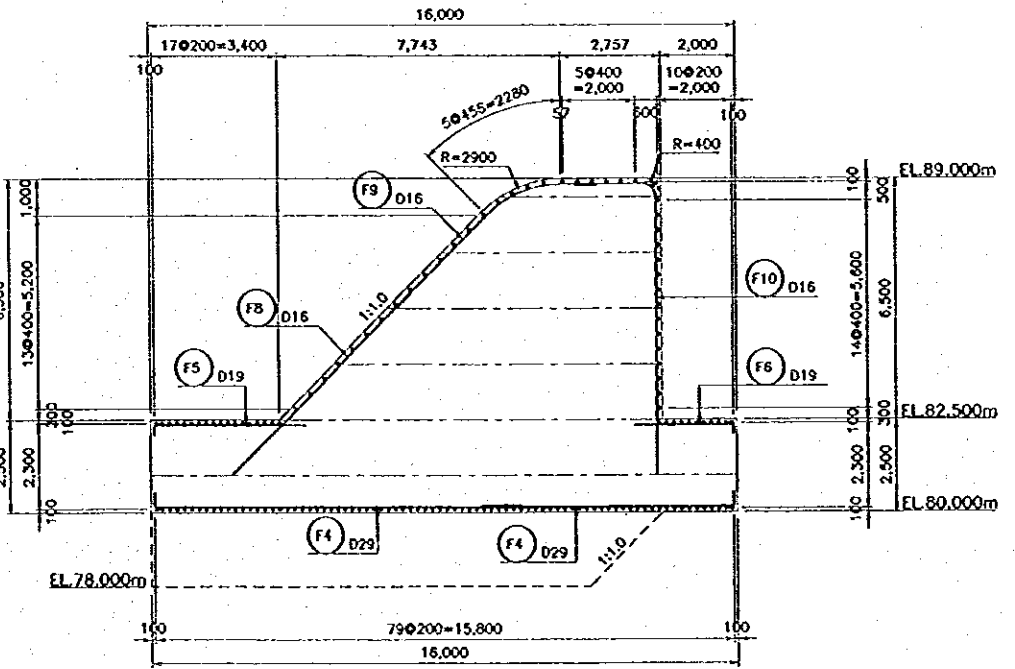
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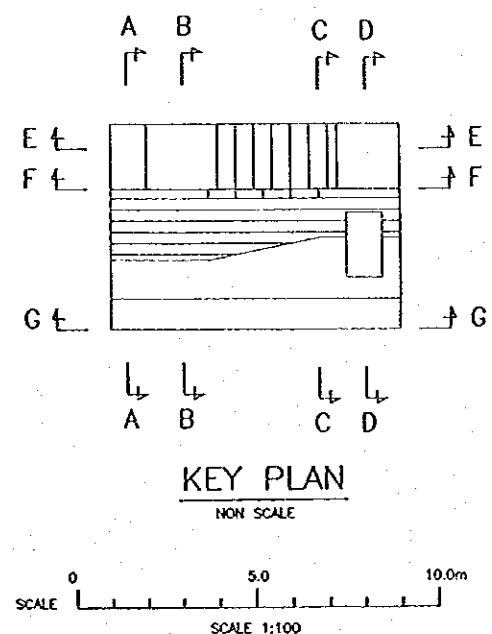
D - D



E - E



F - F



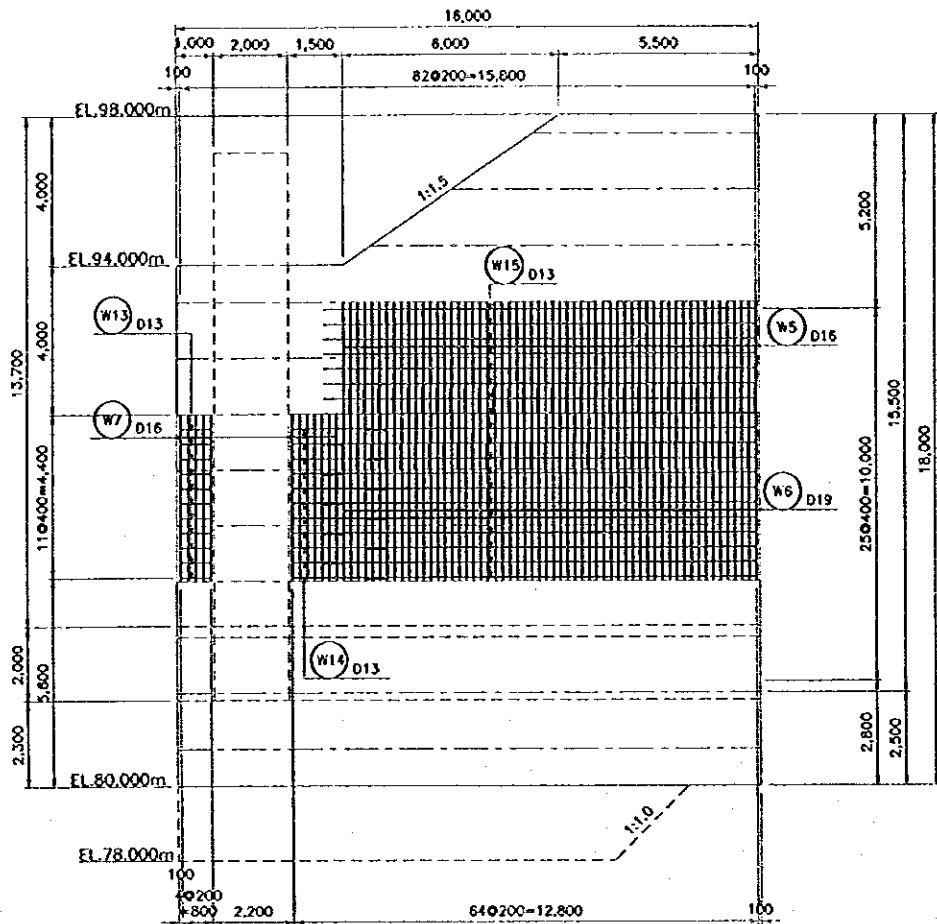
NOTE
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

REFERENCE DRAWINGS

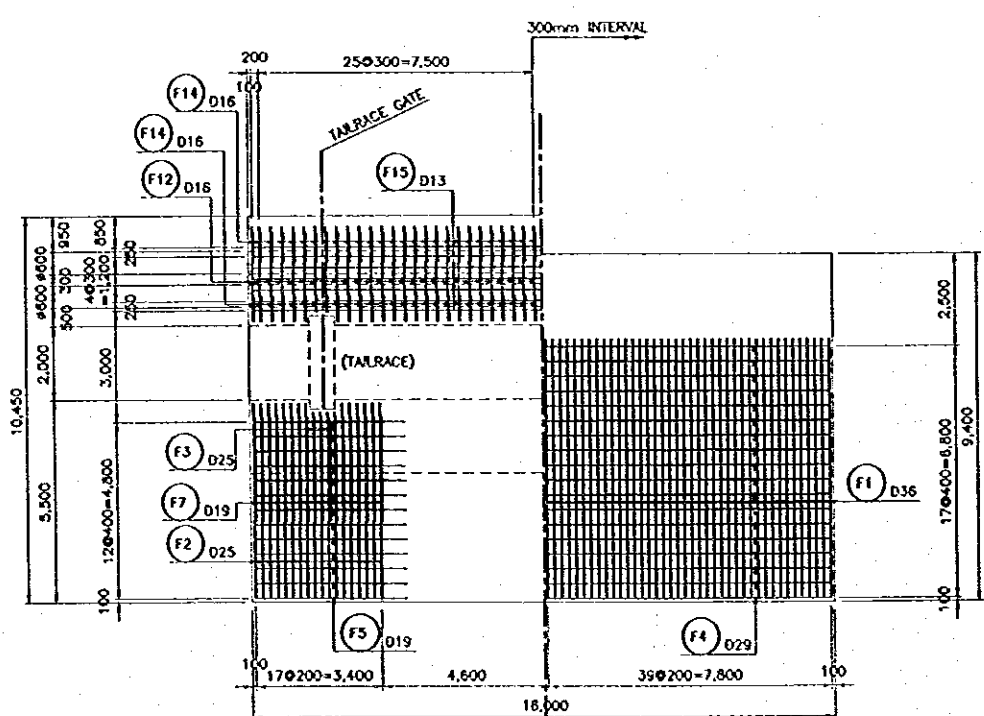
JD-P1-SP-Re-45

| NO. | DATE | REVISIONS | ORIGINATED | DESIGNED | APPROVED |
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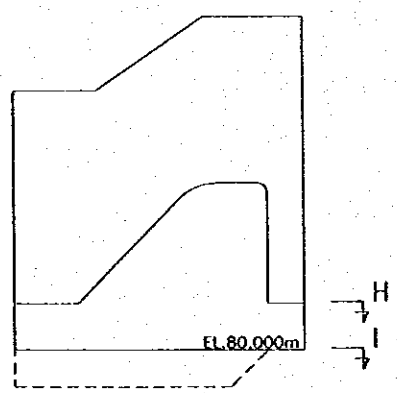
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|--|------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------|--|
| | THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT | | PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA | |
| | IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION SPILLWAY REINFORCEMENT DETAILS BLOCK R-19 (1/2) | | DISTRICT SEMARANG CITY | |
| | DRAWING NO. JD-P1-SP-Re-44 SHORT NO. 150 | | DATE CONTRACT NO. | |
| | DESIGNED CHECKED CRISP OF PLANNING AND DESIGN PROJECT MANAGER | | APPROVED | |



G - G



H - H



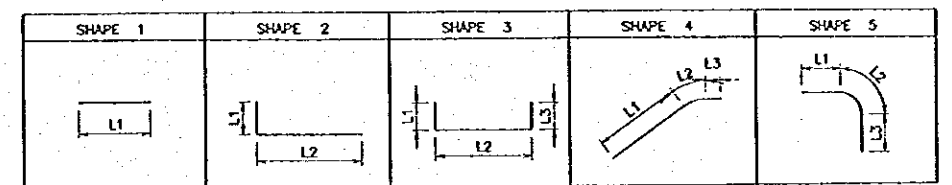
KEY PLAN

NON SCALE

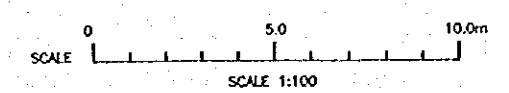
| BAR NO. | DIA | NUMBER | LENGTH (mm) | | | | | WEIGHT PER "m" (kg) | WEIGHT PER BAR (kg) | WEIGHT (kg) | SHAPE | |
|---------|-----|--------|-------------|----------|---------|-------|-------|---------------------|---------------------|-------------|-------|--|
| | | | TOTAL | L1 | L2 | L3 | R | | | | | |
| W1 | 16 | 46 | 5,250 | 5,250 * | | | | 1.580 | 8.295 | 382 | 1 | |
| W2 | 16 | 7 | 4,500 | 4,500 | | | | 1.580 | 7.110 | 50 | 1 | |
| W3 | 16 | 27 | 2,250 | 2,250 * | | | | 1.580 | 3.555 | 96 | 1 | |
| W4 | 19 | 38 | 4,420 | 4,420 * | | | | 2.230 | 9.857 | 375 | 1 | |
| W5 | 16 | 58 | 3,920 | 3,920 * | | | | 1.580 | 6.194 | 359 | 1 | |
| W6 | 19 | 58 | 4,620 | 4,620 * | | | | 2.230 | 10.303 | 598 | 1 | |
| W7 | 16 | 12 | 4,700 | 4,700 | | | | 1.580 | 7.426 | 89 | 1 | |
| W8 | 13 | 11 | 7,100 | 7,100 * | | | | 1.040 | 7.384 | 81 | 1 | |
| W9 | 13 | 7 | 9,500 | 9,500 | | | | 1.040 | 9.880 | 69 | 1 | |
| W10 | 13 | 4 | 2,200 | 2,200 * | | | | 1.040 | 2.288 | 9 | 1 | |
| W11 | 13 | 3 | 6,800 | 6,800 * | | | | 1.040 | 7.072 | 21 | 1 | |
| W12 | 13 | 15 | 2,400 | 2,400 | | | | 1.040 | 2.496 | 37 | 1 | |
| W13 | 13 | 11 | 800 | 800 | | | | 1.040 | 0.832 | 9 | 1 | |
| W14 | 13 | 11 | 1,960 | 1,960 * | | | | 1.040 | 2.038 | 22 | 1 | |
| W15 | 13 | 19 | 11,980 | 11,980 * | | | | 1.040 | 12.459 | 237 | 1 | |
| F1 | 36 | 80 | 7,550 | 550 | 7,000 | | | 7.990 | 60.325 | 4,826 | 2 | |
| F2 | 25 | 25 | 6,080 | 390 | 5,300 | 390 | | 3.850 | 23.408 | 585 | 3 | |
| F3 | 25 | 4 | 5,830 | 390 | 5,050 | 390 | | 3.850 | 22.446 | 90 | 3 | |
| F4 | 29 | 36 | 8,880 | 450 | 8,430 * | | | 5.190 | 46.087 | 1,659 | 2 | |
| F5 | 19 | 13 | 4,420 | 300 | 4,120 | | | 2.230 | 9.857 | 128 | 1 | |
| F6 | 19 | 13 | 2,970 | 300 | 2,670 | | | 2.230 | 6.623 | 86 | 1 | |
| F7 | 19 | 30 | 4,000 | 4,000 | | | | 2.230 | 8.920 | 268 | 1 | |
| F8 | 16 | 9 | 6,970 | 6,970 | | | | 1.580 | 11.013 | 99 | 1 | |
| F9 | 16 | 9 | 6,750 | 3,520 | 2,280 | 950 | 2,900 | 1.580 | 10.665 | 96 | 4 | |
| F10 | 16 | 9 | 10,010 | 1,880 | 630 | 7,500 | 400 | 1.580 | 15.816 | 142 | 5 | |
| F11 | 16 | 40 | 4,310 | 250 | 4,060 | | | 1.580 | 6.810 | 272 | 2 | |
| F12 | 16 | 108 | 2,830 | 270 | 2,560 | | | 1.580 | 4.471 | 483 | 2 | |
| F13 | 16 | 108 | 1,920 | 1,920 | | | | 1.580 | 3.034 | 328 | 1 | |
| F14 | 16 | 216 | 1,120 | 1,120 | | | | 1.580 | 1.770 | 382 | 1 | |
| F15 | 13 | 36 | 8,360 | 8,360 * | | | | 1.040 | 8.694 | 313 | 1 | |
| | | | | | | | | TOTAL | | 12,191 | | |

NOTE: NUMBER HAVING SIGN "*" IS AVERAGE.

BAR BENDING SCHEDULE



NOTE
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
REFERENCE DRAWINGS
JD-P1-SP-Re-44



| NO. | DATE | REVISIONS | ORIGINATED | DESIGNED | APPROVED |
|-----|------|-----------|------------|----------|----------|
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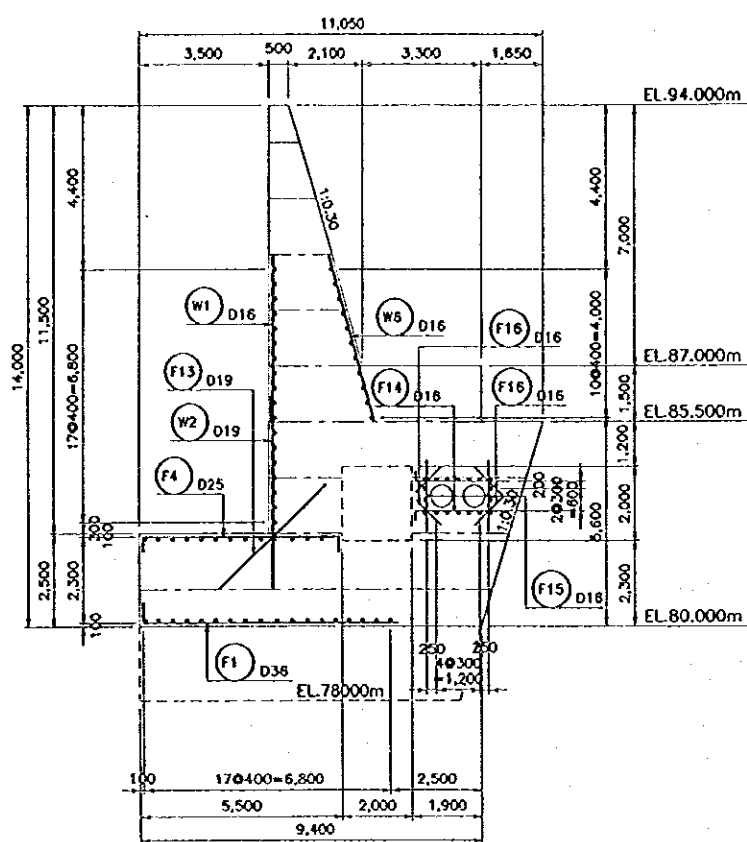
THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT
IRATUNSELUNA FLOOD CONTROL PROJECT
COMPONENT: IATBARANG DAM CONSTRUCTION
SPILLWAY
REINFORCEMENT DETAILS
BLOCK R-19 (2/2)

JAPAN INTERNATIONAL COOPERATION AGENCY
CI ENGINEERING CO., LTD. IN ASSOCIATION WITH
PACIFIC CONSULTANTS INTERNATIONAL
PACIFIC INTERNATIONAL INC.

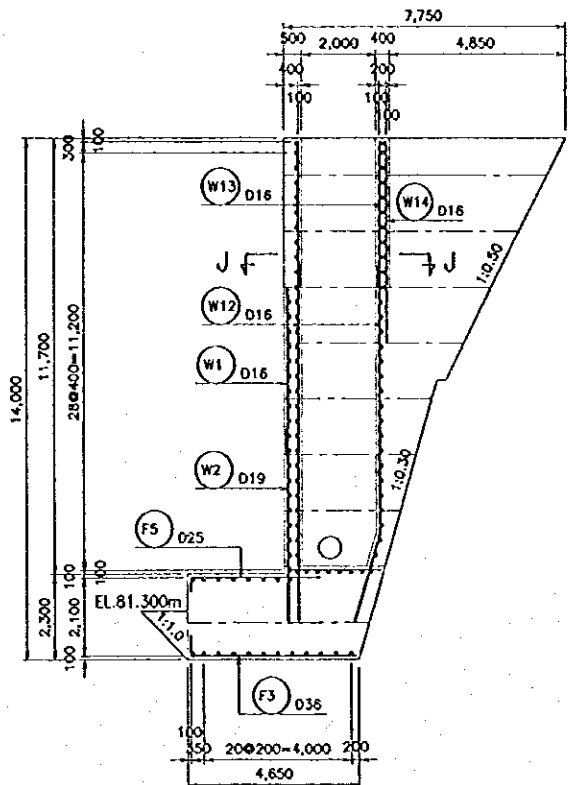
DESIGNED: [Signature]
CHECKED: [Signature]
APPROVED: [Signature]
CHIEF OF PLANNING AND DESIGN
PROJECT MANAGER

PROVINCE: CENTRAL JAWA
PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
DISTRICT: SEMARANG CITY
DRAWING NO. JD-P1-SP-Re-45
SHEET NO. 151
DATE: [Blank]
CONTRACT NO. [Blank]

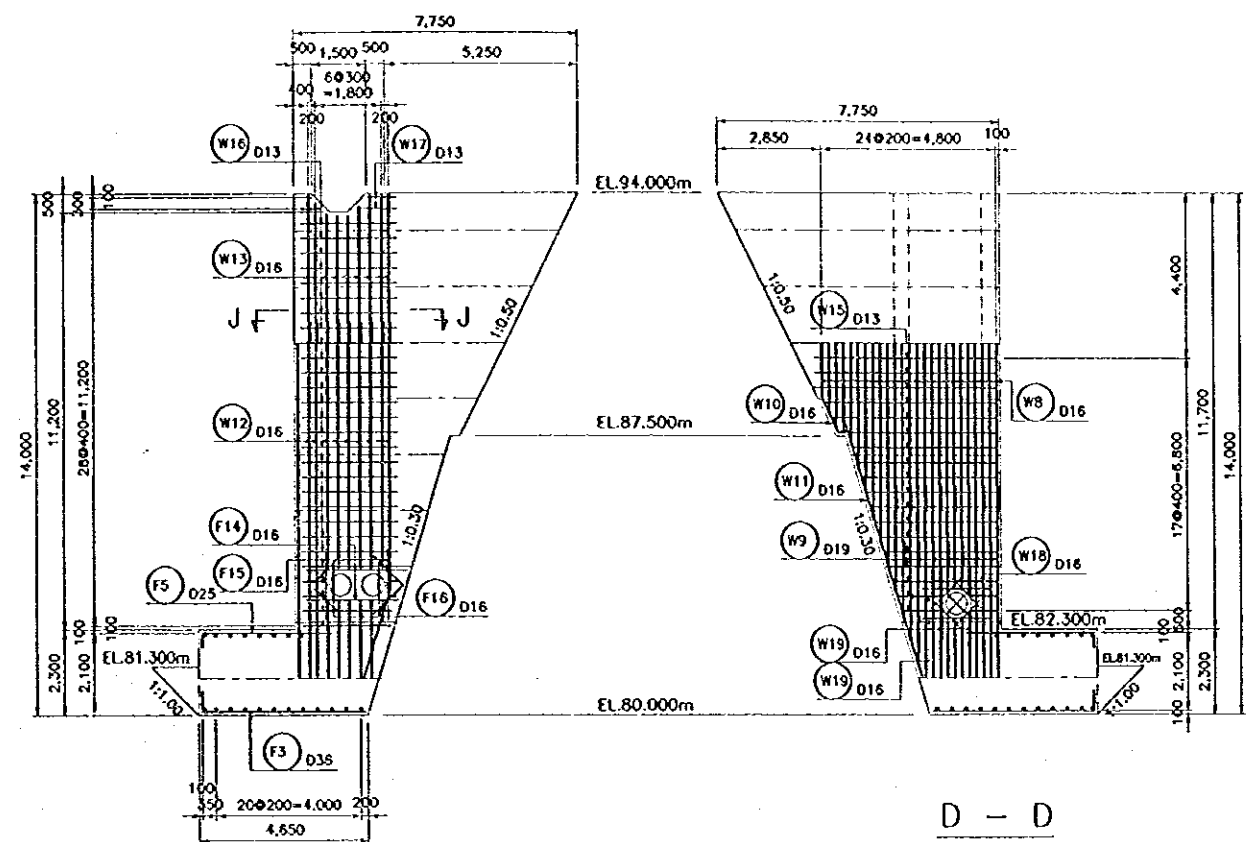
R-20 (1/2)



A - A

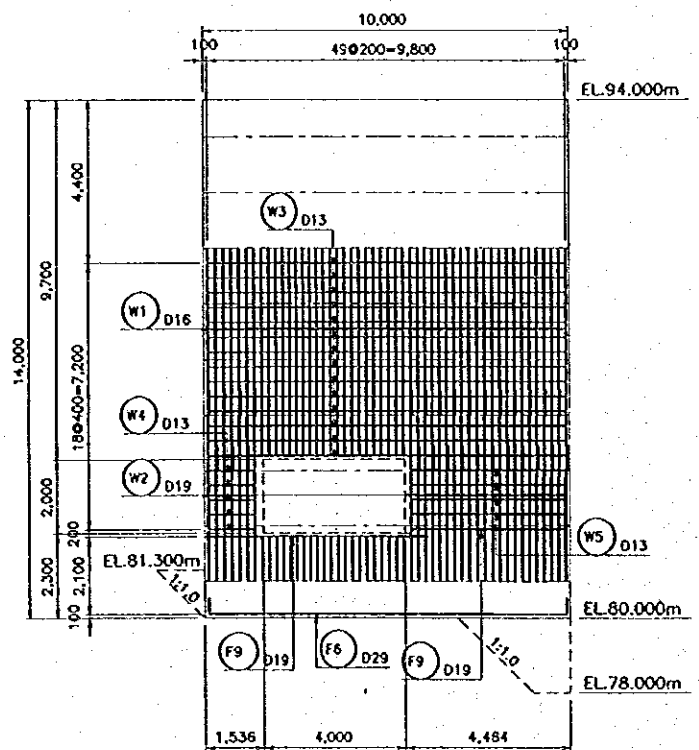


B - B

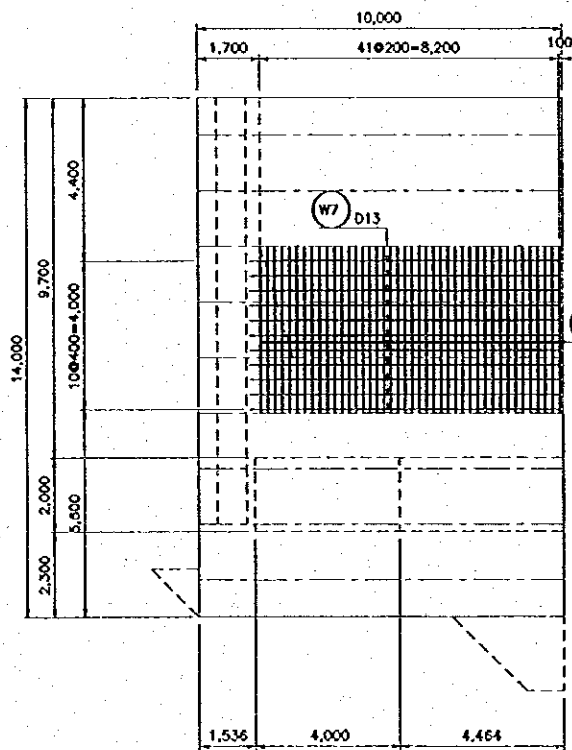


C - C

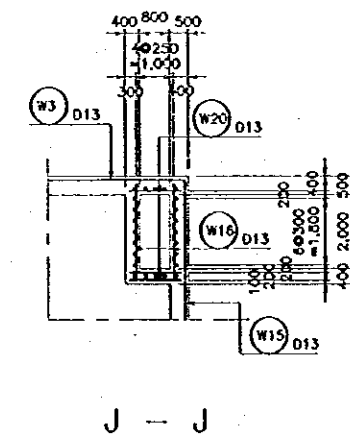
D - D



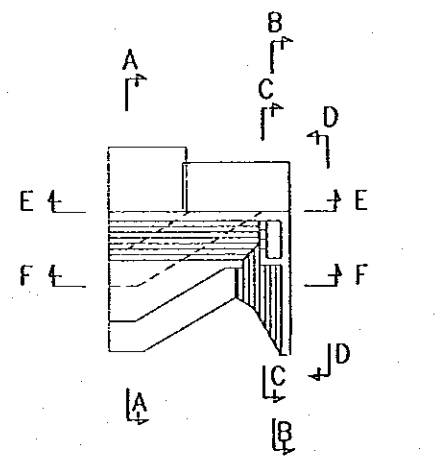
E - E



F - F



J - J



KEY PLAN

NON SCALE

SCALE 1:100

NOTE

ALL DIMENSIONS ARE IN MILUMETERS UNLESS OTHERWISE NOTED.

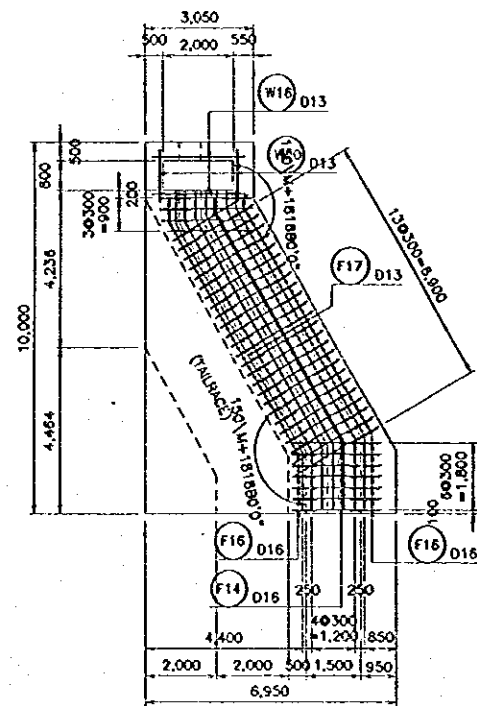
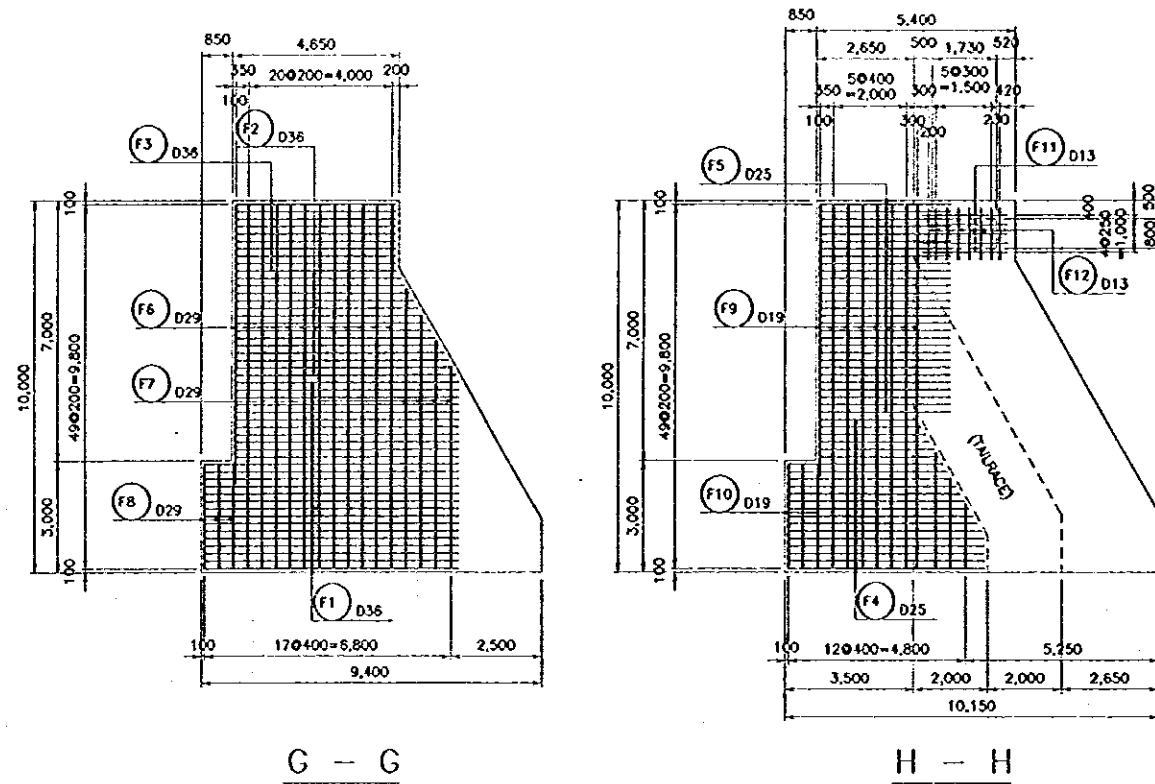
REFERENCE DRAWINGS

JD-P1-SP-Re-47 REINFORCEMENT DETAILS - BLOCK R-20 (2/2)

| NO. | DATE | REVISIONS | ORIGINATED | DRAWN | APPROVED |
|-----|------|-----------|------------|-------|----------|
| | | | | | |
| | | | | | |

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------|
| THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENTS | | PROVINCE CENTRAL JAWA |
| JATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: JATIBARANG DAM CONSTRUCTION SPILLWAY REINFORCEMENT DETAILS BLOCK R-20 (1/2) | | PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA |
| JICA INTERNATIONAL COOPERATION AGENCY JICA ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL JAPAN INTERNATIONAL CO-OPERATION BANK | | CITY SEMARANG CITY |
| DESIGNED CHECKED DATE | | DRAWING NO. JD-P1-SP-Re-46 SHEET NO. 152 |
| CHIEF OF PLANNING AND DESIGN PROJECT MANAGER | | CONTRACT NO. |

R-20 (2/2)



NOTE
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

REFERENCE DRAWINGS

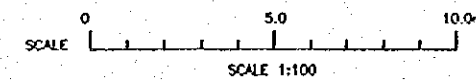
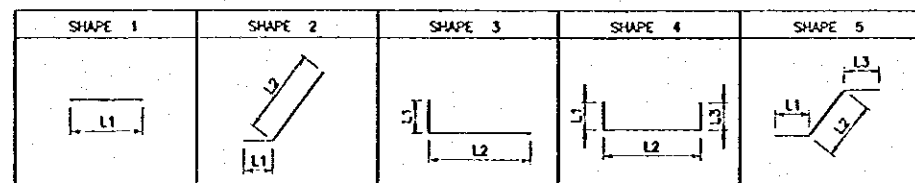
JD-P1-SP-Re-46 REINFORCEMENT DETAILS - BLOCK R-20 (1/2)

BAR WEIGHT

| BAR NO. | DIA | NUMBER | LENGTH (mm) | | | | | WEIGHT PER "m" (kg) | WEIGHT PER BAR (kg) | WEIGHT (kg) | SHAPE |
|---------|-----|--------|-------------|---------|---------|---------|---|---------------------|---------------------|--------------|-------|
| | | | TOTAL | L1 | L2 | L3 | R | | | | |
| W1 | 16 | 50 | 5,250 | 5,250 * | | | | 1.580 | 8.295 | 415 | 1 |
| W2 | 19 | 29 | 4,420 | 4,420 * | | | | 2.230 | 9.857 | 286 | 1 |
| W3 | 13 | 14 | 9,800 | 9,800 | | | | 1.040 | 10.192 | 143 | 1 |
| W4 | 13 | 5 | 1,200 | 1,200 | | | | 1.040 | 1.248 | 6 | 1 |
| W5 | 13 | 5 | 4,200 | 4,200 | | | | 1.040 | 4.368 | 22 | 1 |
| W6 | 16 | 42 | 4,700 | 4,700 | | | | 1.580 | 7.426 | 312 | 1 |
| W7 | 13 | 11 | 8,500 | 8,500 | | | | 1.040 | 8.840 | 97 | 1 |
| W8 | 16 | 25 | 5,250 | 5,250 * | | | | 1.580 | 8.295 | 207 | 1 |
| W9 | 19 | 15 | 4,000 | 4,000 * | | | | 2.230 | 8.920 | 134 | 1 |
| W10 | 16 | 1 | 1,260 | 250 | 1,010 | | | 1.580 | 1.991 | 2 | 1 |
| W11 | 16 | 1 | 7,140 | 7,140 | | | | 1.580 | 11.281 | 11 | 2 |
| W12 | 16 | 24 | 9,560 | 9,560 | | | | 1.580 | 15.105 | 363 | 1 |
| W13 | 16 | 24 | 3,900 | 3,900 | | | | 1.580 | 6.162 | 148 | 1 |
| W14 | 16 | 5 | 5,400 | 5,400 | | | | 1.580 | 8.532 | 43 | 1 |
| W15 | 13 | 18 | 3,820 | 3,820 * | | | | 1.040 | 3.973 | 72 | 1 |
| W16 | 13 | 58 | 2,600 | 2,600 | | | | 1.040 | 2.704 | 157 | 1 |
| W17 | 13 | 4 | 660 | 660 * | | | | 1.040 | 0.686 | 3 | 1 |
| W18 | 16 | 8 | 1,120 | 1,120 | | | | 1.580 | 1.770 | 14 | 1 |
| W19 | 16 | 8 | 1,920 | 1,920 | | | | 1.580 | 3.034 | 24 | 1 |
| W20 | 13 | 71 | 1,400 | 1,400 | | | | 1.040 | 1.456 | 103 | 1 |
| F1 | 36 | 26 | 7,130 | 550 | 6,580 * | | | 7.990 | 56.969 | 1,481 | 3 |
| F2 | 36 | 14 | 5,890 | 550 | 5,340 * | | | 7.990 | 47.061 | 659 | 3 |
| F3 | 36 | 10 | 5,000 | 550 | 4,450 | | | 7.990 | 39.950 | 400 | 3 |
| F4 | 25 | 21 | 4,760 | 390 | 3,980 | 390 | | 3.850 | 18.326 | 385 | 4 |
| F5 | 25 | 29 | 3,920 | 390 | 3,530 | | | 3.850 | 15.092 | 438 | 3 |
| F6 | 29 | 12 | 10,900 | 450 | 10,000 | 450 | | 5.190 | 56.571 | 679 | 4 |
| F7 | 29 | 4 | 7,390 | 450 | 6,490 * | 450 | | 5.190 | 38.354 | 153 | 4 |
| F8 | 29 | 3 | 3,700 | 450 | 2,800 | 450 | | 5.190 | 19.203 | 58 | 4 |
| F9 | 19 | 8 | 10,600 | 300 | 10,000 | 300 | | 2.230 | 23.638 | 189 | 4 |
| F10 | 19 | 3 | 3,400 | 300 | 2,800 | 300 | | 2.230 | 7.582 | 23 | 4 |
| F11 | 13 | 5 | 2,330 | 2,330 | | | | 1.040 | 2.423 | 12 | 1 |
| F12 | 13 | 8 | 1,400 | 1,400 | | | | 1.040 | 1.456 | 12 | 1 |
| F13 | 19 | 5 | 4,000 | 4,000 | | | | 2.230 | 8.920 | 45 | 1 |
| F14 | 16 | 70 | 2,560 | 2,560 | | | | 1.580 | 4.045 | 283 | 1 |
| F15 | 16 | 70 | 1,920 | 1,920 | | | | 1.580 | 3.034 | 212 | 1 |
| F16 | 16 | 140 | 1,120 | 1,120 | | | | 1.580 | 1.770 | 248 | 1 |
| F17 | 13 | 18 | 9,570 | 690 * | 7,100 | 1,780 * | | 1.040 | 9.953 | 179 | 5 |
| | | | | | | | | TOTAL | | 8,018 | |

NOTE: NUMBER HAVING SIGN "*" IS AVERAGE.

BAR BENDING SCHEDULE



| NO. | DATE | REVISIONS | COORDINATED | DESIGNED | APPROVED | APPROVED |
|-----|------|-----------|-------------|----------|----------|----------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

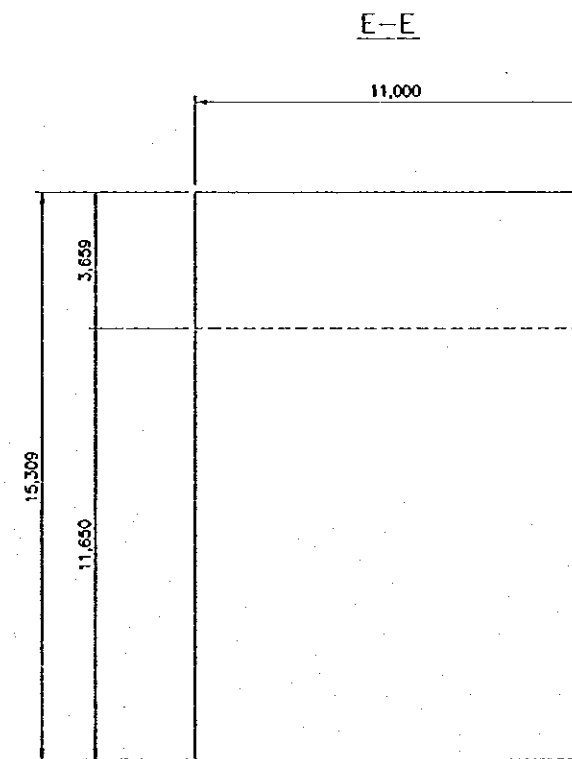
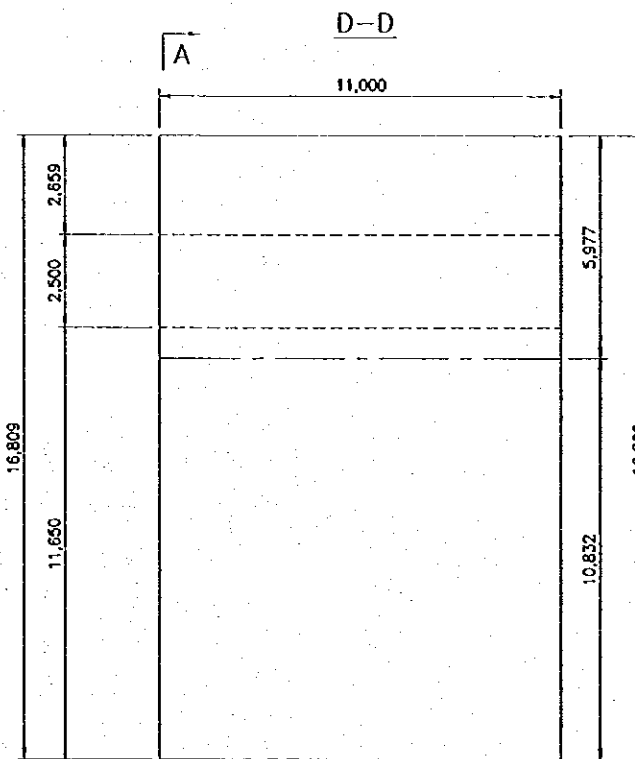
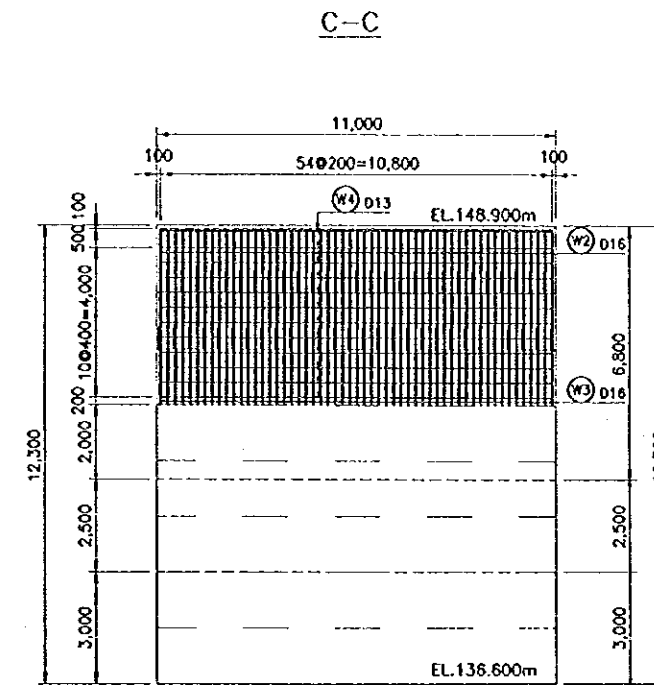
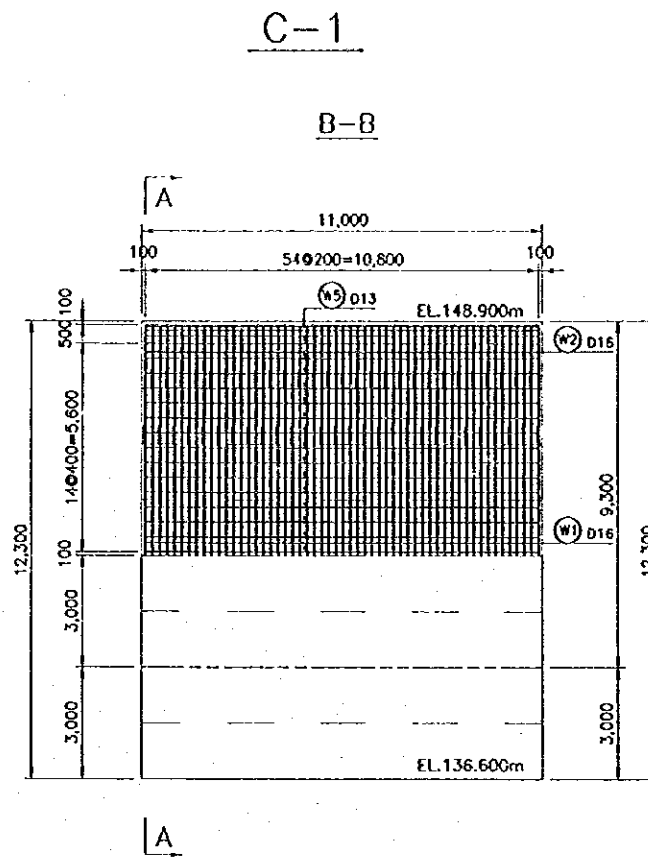
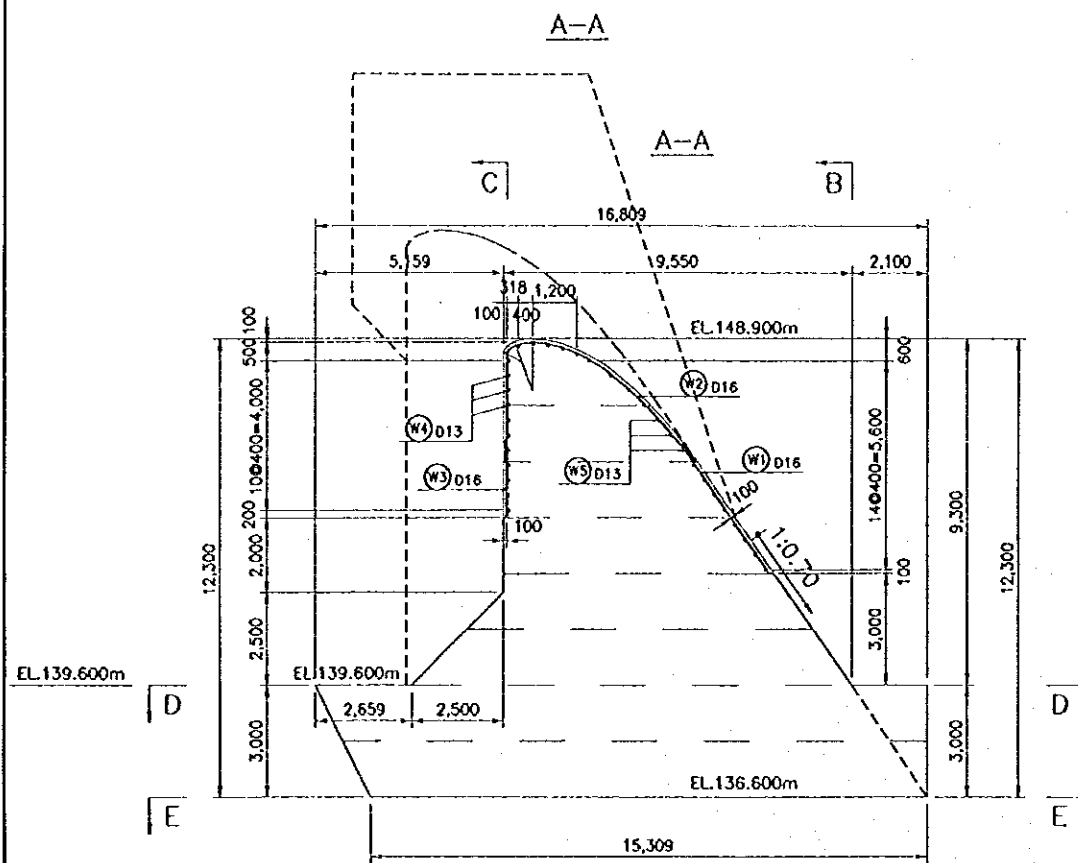
FRATUNSELUNA FLOOD CONTROL PROJECT
COMPONENT: JATIRARANG DAM CONSTRUCTION
SPILLWAY
REINFORCEMENT DETAILS
BLOCK R-20 (2/2)

SCALE 1:100

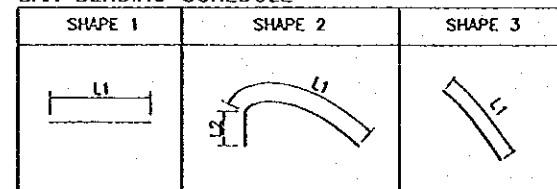
DESIGNED: [Signature]
CHECKED: [Signature]
APPROVED: [Signature]

PROJECT MANAGER

PROVIDER: CENTRAL JAYA
PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
CITY: SEMARANG CITY
DRAWING NO. JD-P1-SP-Re-47
SHEET NO. 153
DATE: []/ []/ []
CONTRACT NO. []

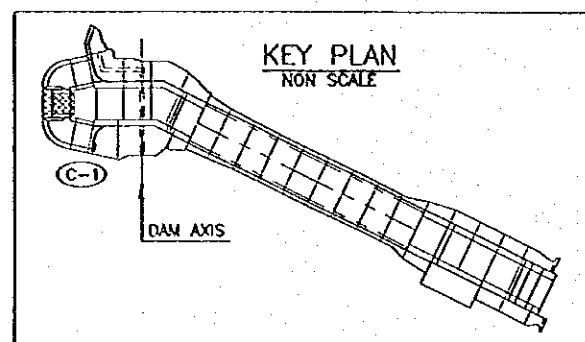


BAR BENDING SCHEDULE



BAR WEIGHT

| TYPE | DIA (mm) | NUMBER | LENGTH (mm) | | WEIGHT PER 'm' (kg) | WEIGHT PER 'BAR' (kg) | WEIGHT (kg) | SHAPE |
|---------|----------|--------|-------------|--------|---------------------|-----------------------|-------------|-------|
| | | | TOTAL | L1 | | | | |
| W1 | D16 | 28 | 4,230 | 4,229 | 1.58 | 6.68 | 187 | 3 |
| | | 27 | 6,110 | 6,103 | 1.58 | 9.65 | 261 | 3 |
| W2 | D16 | 27 | 5,860 | 4,443 | 1.58 | 9.26 | 250 | 2 |
| | | 28 | 9,330 | 6,415 | 2,909 | 1.58 | 14.74 | 413 |
| W3 | D16 | 28 | 2,060 | 2,060 | 1.58 | 3.25 | 91 | 1 |
| | | 27 | 3,560 | 3,560 | 1.58 | 5.62 | 152 | 1 |
| W4 | D13 | 13 | 10,800 | 10,800 | 1.04 | 11.23 | 146 | 1 |
| W5 | D13 | 18 | 10,800 | 10,800 | 1.04 | 11.23 | 202 | 1 |
| TOTAL = | | | | | | | 1,702 | |



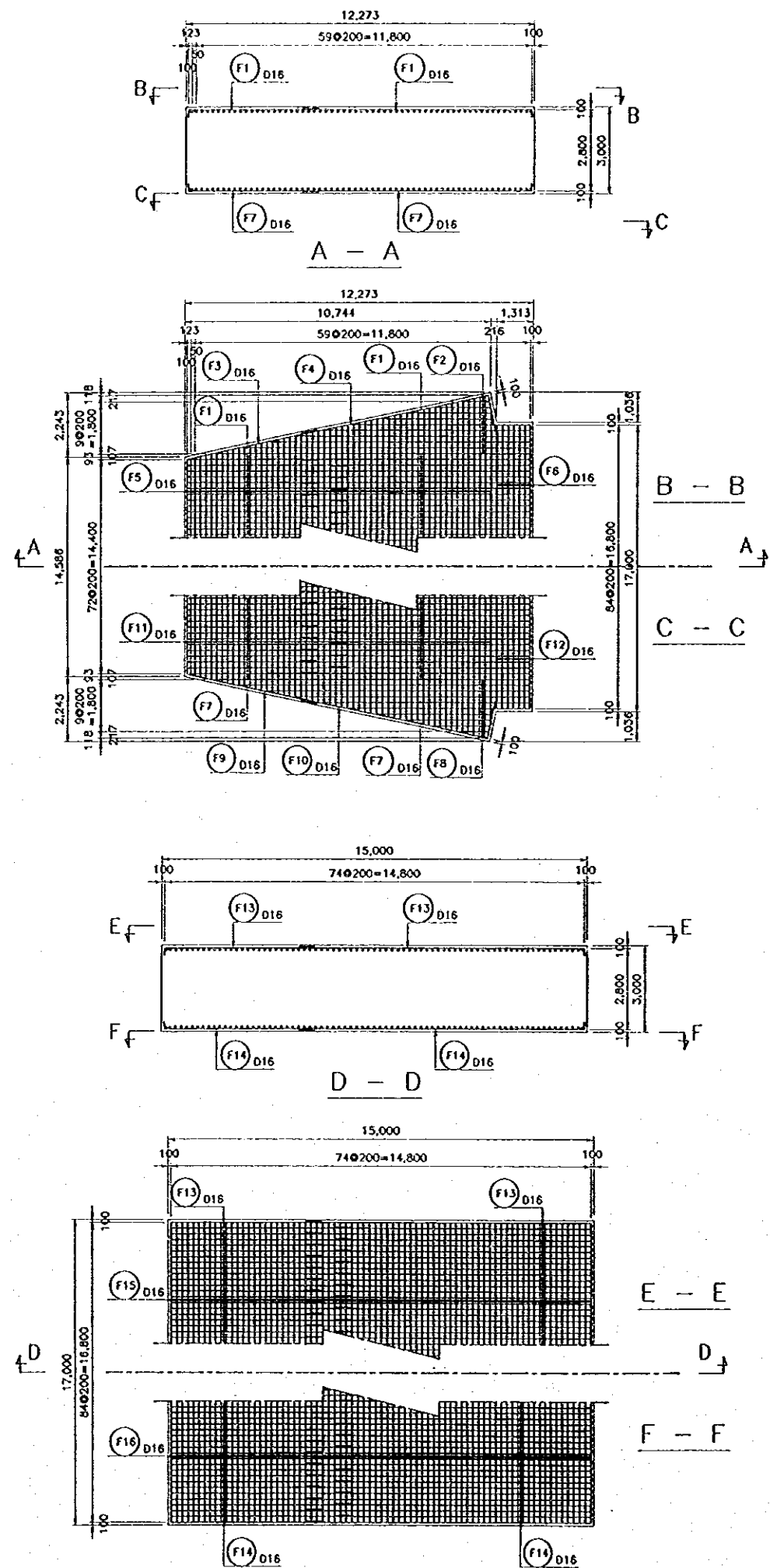
NOTE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

SCALE 0 5 10m

| NO. | DATE | REVISIONS | ORIGINATED | DESIGNED | APPROVED |
|-----|------|-----------|------------|----------|----------|
| | | | | | |

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------|
| THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT | | PROVINCE CENTRAL JAWA |
| BRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION SPILLWAY REINFORCEMENT DETAILS BLOCK C-1 | | PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCE DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA |
| JAPAN INTERNATIONAL COOPERATION AGENCY CE ENGINEERING CO. LTD. IN-ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL PARTNERSHIP INTERNATIONAL INC. | | CONTRACT SEMARANG CITY DRAWING NO. JD-P1-SP-Re-48 SHEET NO. 154 |
| DESIGNED CHECKED APPROVED | DATE | CONTRACT NO. |

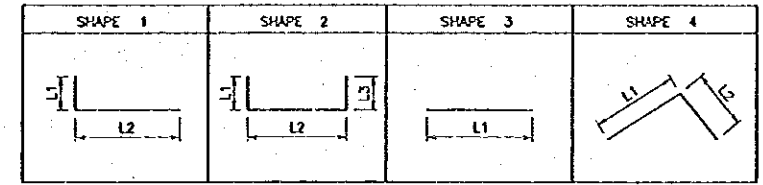


BAR WEIGHT

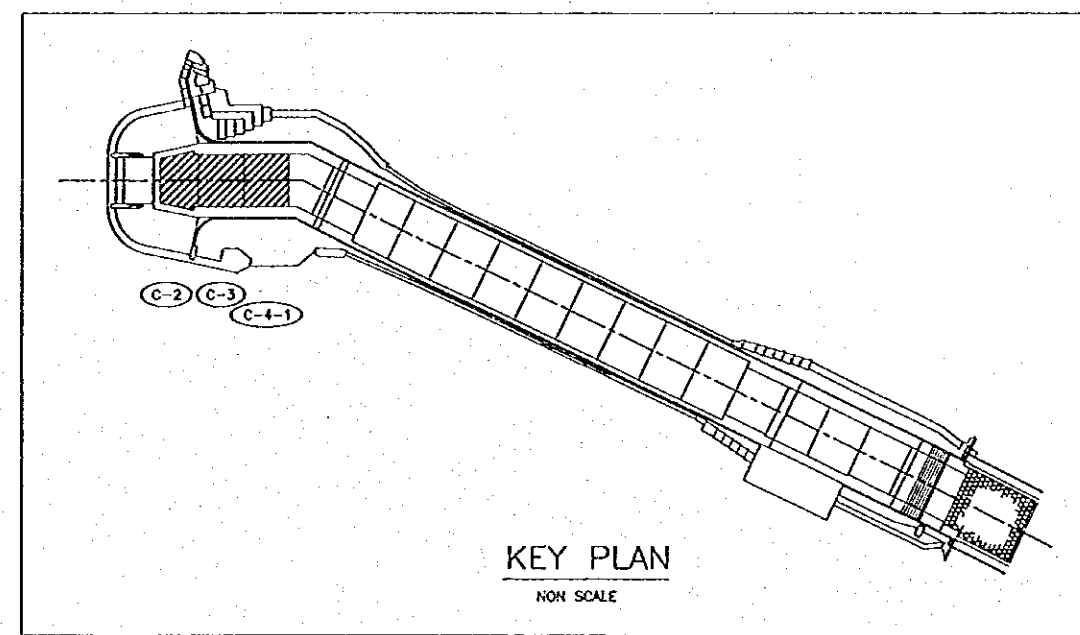
(UNIT: PER CONCRETE SLAB)

| BAR NO. | DIA | NUMBER | LENGTH (mm) | | | | WEIGHT PER "m" (kg) | WEIGHT PER BAR (kg) | WEIGHT (kg) | SHAPE |
|------------------------------------------|-----|--------|-------------|-------|---------|-----|---------------------|---------------------|-------------|-------|
| | | | TOTAL | L1 | L2 | L3 | | | | |
| (CONCRETE SLAB FOR C-2) | | | | | | | | | | |
| F1 | 16 | 146 | 6,950 | 250 | 6,700 * | | 1.580 | 10,981 | 1,603 | 1 |
| F2 | 16 | 20 | 6,630 | 250 | 6,130 * | 250 | 1.580 | 10,475 | 210 | 2 |
| F3 | 16 | 2 | 4,740 | 4,740 | | | 1.580 | 7,489 | 15 | 3 |
| F4 | 16 | 2 | 7,920 | 6,640 | 1,280 | | 1.580 | 12,514 | 25 | 4 |
| F5 | 16 | 110 | 8,560 | 250 | 8,310 * | | 1.580 | 13,525 | 1,488 | 1 |
| F6 | 16 | 14 | 9,210 | 250 | 8,960 * | | 1.580 | 14,552 | 204 | 1 |
| F7 | 16 | 146 | 6,950 | 250 | 6,700 * | | 1.580 | 10,981 | 1,603 | 1 |
| F8 | 16 | 20 | 6,630 | 250 | 6,130 * | 250 | 1.580 | 10,475 | 210 | 2 |
| F9 | 16 | 2 | 4,740 | 4,740 | | | 1.580 | 7,489 | 15 | 3 |
| F10 | 16 | 2 | 7,920 | 6,640 | 1,280 | | 1.580 | 12,514 | 25 | 4 |
| F11 | 16 | 110 | 8,560 | 250 | 8,310 * | | 1.580 | 13,525 | 1,488 | 1 |
| F12 | 16 | 14 | 9,210 | 250 | 8,960 * | | 1.580 | 14,552 | 204 | 1 |
| NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | | | | | | | TOTAL | | 7,090 | |
| (CONCRETE SLAB FOR C-3 AND C-4-1) | | | | | | | | | | |
| F13 | 16 | 170 | 8,210 | 250 | 7,960 * | | 1.580 | 12,972 | 2,205 | 1 |
| F14 | 16 | 170 | 8,210 | 250 | 7,960 * | | 1.580 | 12,972 | 2,205 | 1 |
| F15 | 16 | 150 | 9,210 | 250 | 8,960 * | | 1.580 | 14,552 | 2,183 | 1 |
| F16 | 16 | 150 | 9,210 | 250 | 8,960 * | | 1.580 | 14,552 | 2,183 | 1 |
| NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | | | | | | | TOTAL | | 8,776 | |

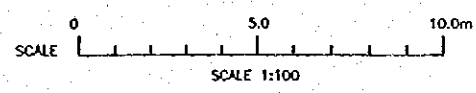
BAR BENDING SCHEDULE



| MEMBER | REMARKS |
|--------|---------------------------------|
| C-2 | REFER TO SECTION A-A, B-B & C-C |
| C-3 | REFER TO SECTION D-D, E-E & F-F |
| C-4-1 | REFER TO SECTION D-D, E-E & F-F |



NOTES
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.



| NO. | DATE | REVISIONS | ORIGINATED | DESIGNED | APPROVED |
|-----|------|-----------|------------|----------|----------|
| | | | | | |
| | | | | | |

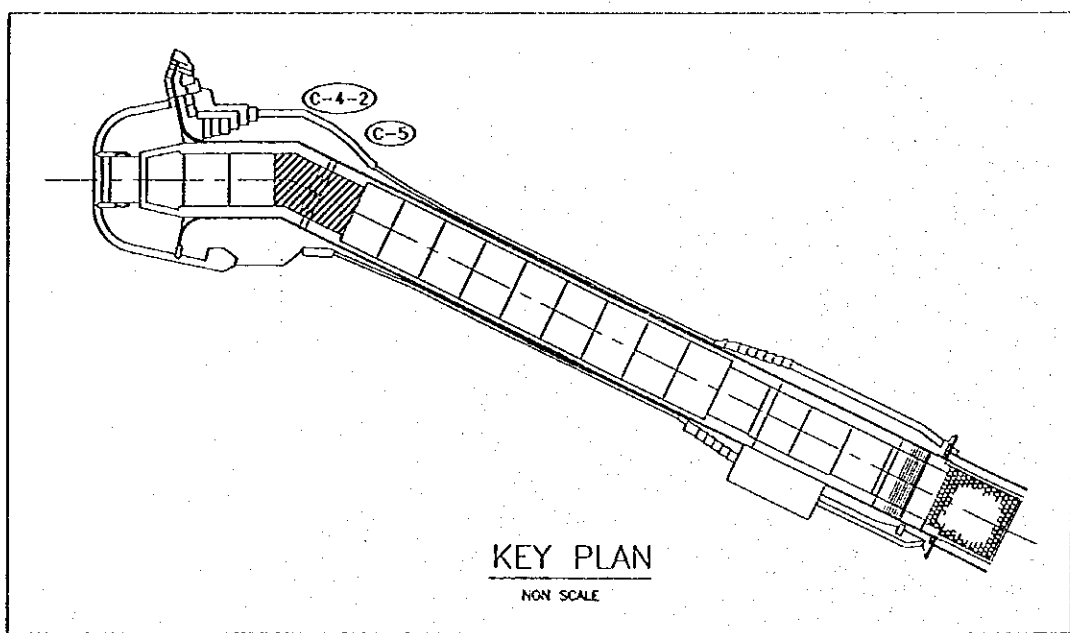
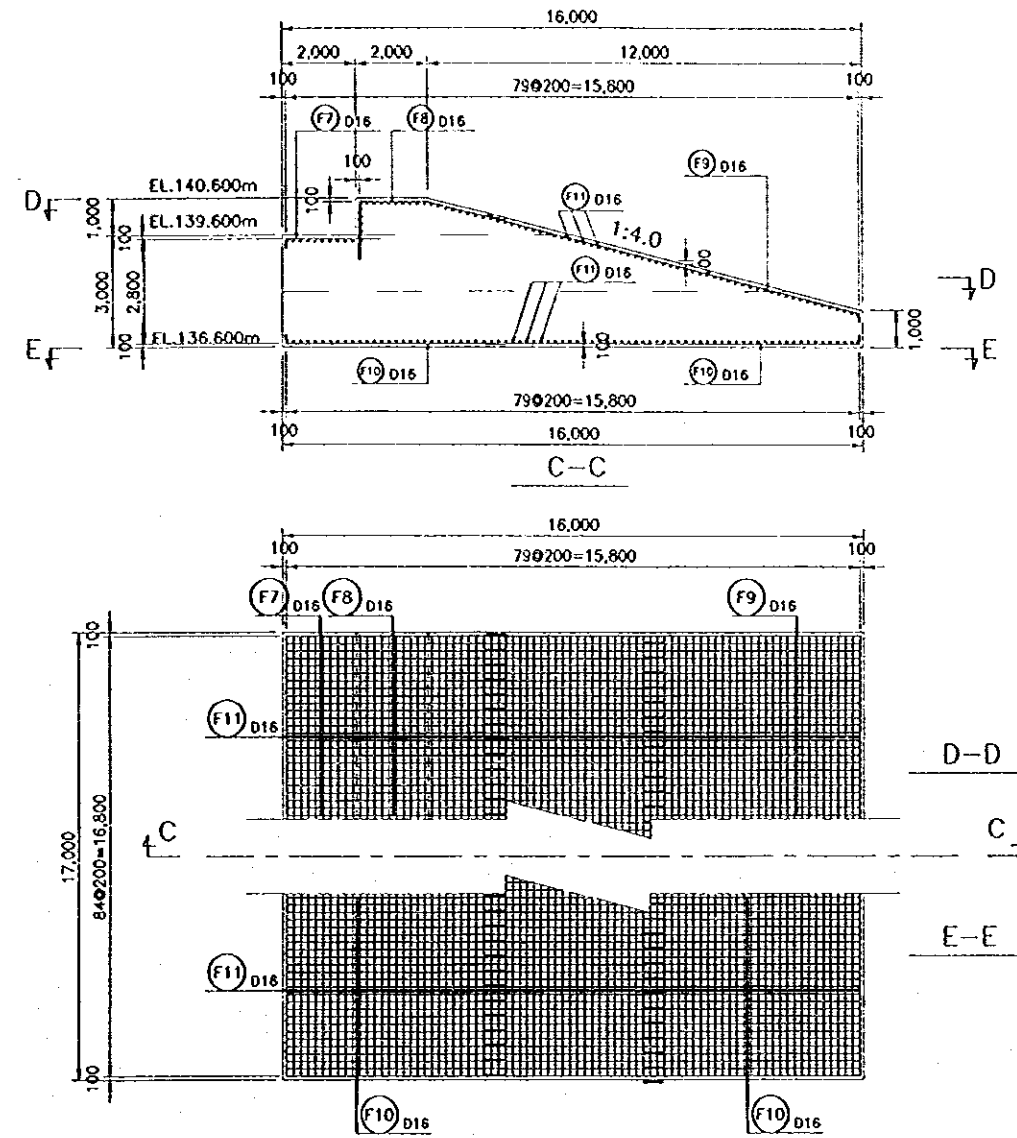
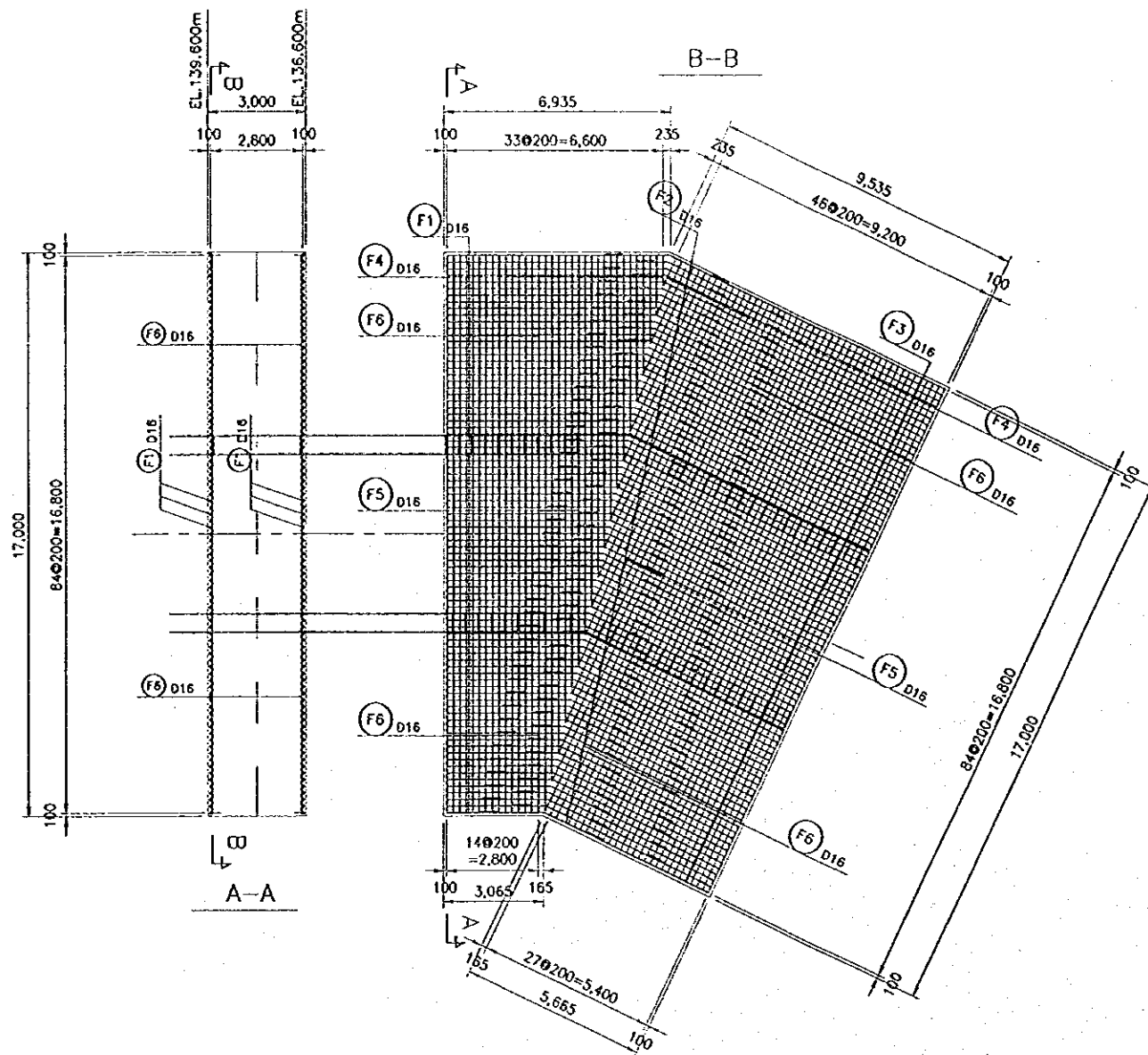
THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

JRATUNSELUNA FLOOD CONTROL PROJECT
COMPONENT: JATIBARANG DAM CONSTRUCTION
SPILLWAY
REINFORCEMENT DETAILS
BLOCK C-2, C-3, C-4-1

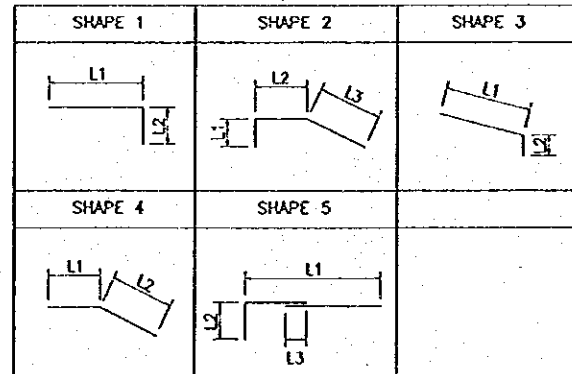
PROVINCE: CENTRAL JAWA
PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
DISTRICT: SEMARANG CITY
DRAWING NO. JO-P1-SP-Re-49
SHEET NO. 155
DATE: CONTRACT NO.

DESIGNED: CHECKED: PROJECT MANAGER:

CELESTIAL INTERNATIONAL COOPERATION AGENCY
CELESTIAL INTERNATIONAL COOPERATION AGENCY
FACILITY CONSULTANTS INTERNATIONAL
KAWAOKO INTERNATIONAL INC.



BAR BENDING SCHEDULE



BAR WEIGHT

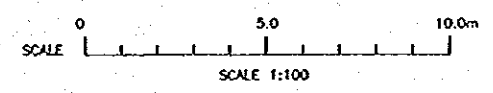
C-4-2

| BAR NO. | DIA | NUMBER | LENGTH (mm) | | | | | WEIGHT PER "m" (kg) | WEIGHT PER BAR (kg) | WEIGHT (kg) | SHAPE |
|----------------------------------|-----|--------|-------------|----------|---------|-----|------------------------------------------|---------------------|---------------------|-------------|-------|
| | | | TOTAL | L1 | L2 | L3 | R | | | | |
| (CONCRETE SLAB FOR C-4-2) | | | | | | | | | | | |
| F1 | 16 | 168 | 4,200 | 3,960 * | 240 | | | 1,580 | 6,636 | 1,115 | 1 |
| F2 | 16 | 168 | 4,500 | 1,500 * | 3,000 * | | | 1,580 | 7,110 | 1,194 | 4 |
| F3 | 16 | 168 | 5,300 | 5,060 * | 240 | | | 1,580 | 8,374 | 1,407 | 1 |
| F4 | 16 | 52 | 6,450 | 6,204 * | 240 | | | 1,580 | 10,191 | 530 | 1 |
| F5 | 16 | 24 | 15,350 | 14,550 * | 240 | 560 | | 1,580 | 24,253 | 582 | 5 |
| F6 | 16 | 172 | 8,920 | 8,680 * | 240 | | | 1,580 | 14,094 | 2,424 | 1 |
| | | | | | | | NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | | | | |
| | | | | | | | TOTAL | | | 7,252 | |

C-5

| BAR NO. | DIA | NUMBER | LENGTH (mm) | | | | | WEIGHT PER "m" (kg) | WEIGHT PER BAR (kg) | WEIGHT (kg) | SHAPE |
|--------------------------------|-----|--------|-------------|---------|-------|---------|------------------------------------------|---------------------|---------------------|-------------|-------|
| | | | TOTAL | L1 | L2 | L3 | R | | | | |
| (CONCRETE SLAB FOR C-5) | | | | | | | | | | | |
| F7 | 16 | 85 | 2,800 | 2,560 | 240 | | | 1,580 | 4,424 | 376 | 1 |
| F8 | 16 | 85 | 7,880 | 1,560 | 1,900 | 4,412 * | | 1,580 | 12,450 | 1,058 | 2 |
| F9 | 16 | 85 | 8,630 | 8,438 * | 240 | | | 1,580 | 13,714 | 1,166 | 3 |
| F10 | 16 | 170 | 8,420 | 8,180 * | 240 | | | 1,580 | 13,304 | 2,262 | 1 |
| F11 | 16 | 330 | 8,920 | 8,680 * | 240 | | | 1,580 | 14,094 | 4,651 | 1 |
| | | | | | | | NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | | | | |
| | | | | | | | TOTAL | | | 9,513 | |

NOTE
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.



| NO. | DATE | REVISIONS | ORIGINATED | DESIGNED | APPROVED |
|-----|------|-----------|------------|----------|----------|
| | | | | | |
| | | | | | |

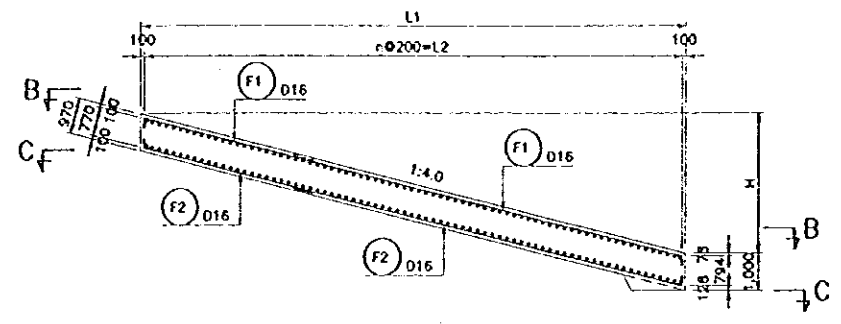
THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

IRATUNSELUNA FLOOD CONTROL PROJECT
 COMPONENT: JATIBARANG DAM CONSTRUCTION
 SPILLWAY
 REINFORCEMENT DETAILS
 BLOCK C-4-2, C-5

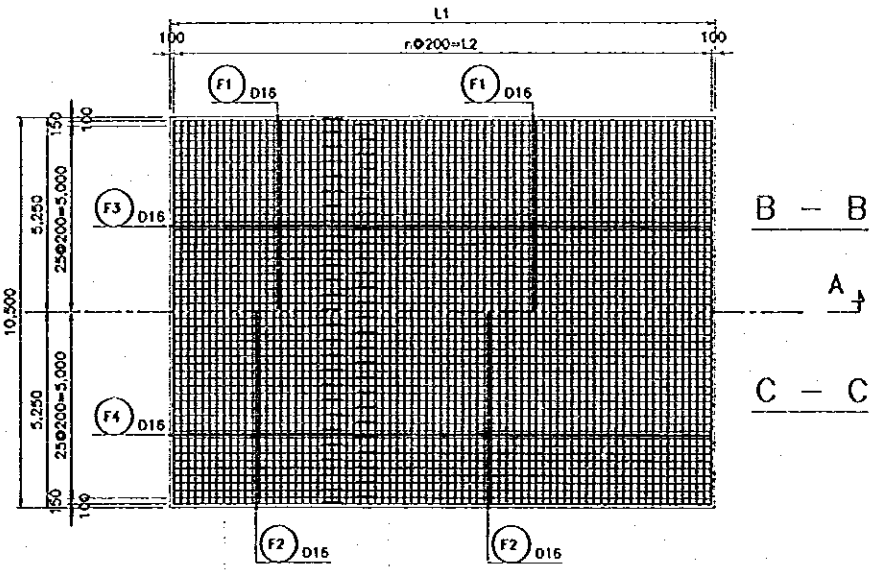
JAPAN INTERNATIONAL COOPERATIVE AGENCY
 CITY ENGINEERING CO., LTD. IN ASSOCIATION WITH
 PACIFIC CONSTRUCTION INTERNATIONAL
 PACIFIC INTERNATIONAL INC.

DESIGNED: [Signature]
 CHECKED: [Signature]
 CRITERION OF PLANNING AND DESIGN
 PROJECT MANAGER: [Signature]

PROVINCE: CENTRAL JAVA
 PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
 DISTRICT: SEMARANG CITY
 DRAWING NO. JO-P1-SP-Re-50
 SHEET NO. 156
 DATE: [Blank]
 CONTRACT NO. [Blank]



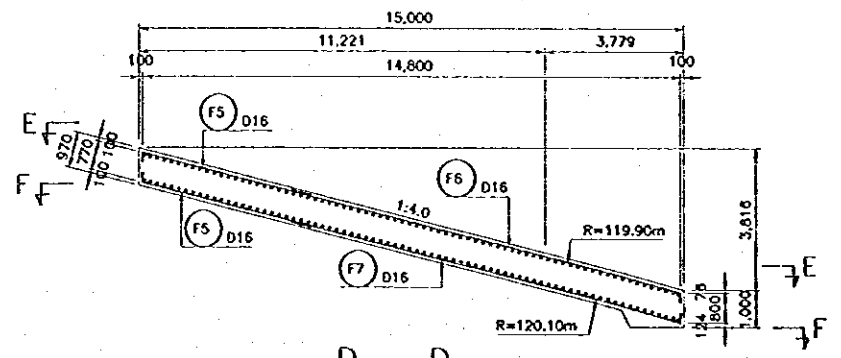
A - A



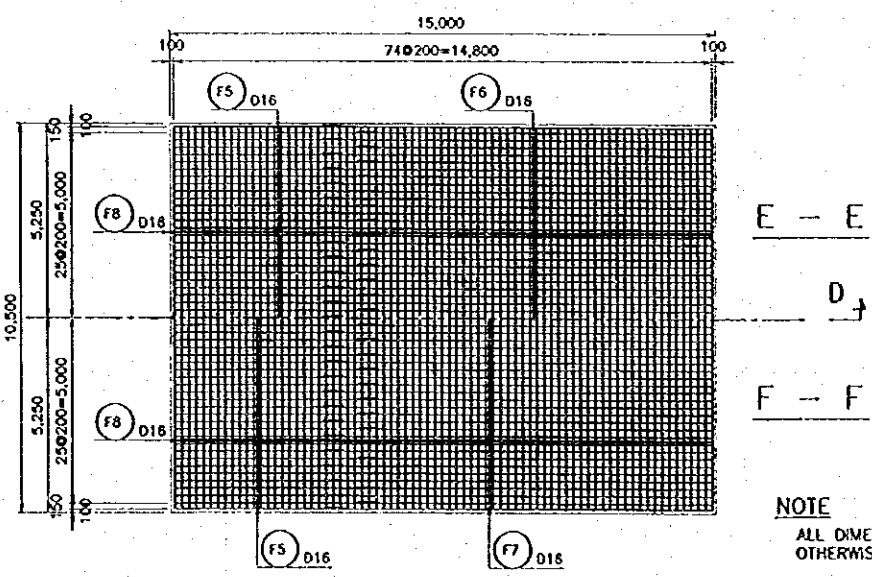
B - B

A - A

C - C



D - D



E - E

D - D

F - F

NOTE
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

BAR WEIGHT

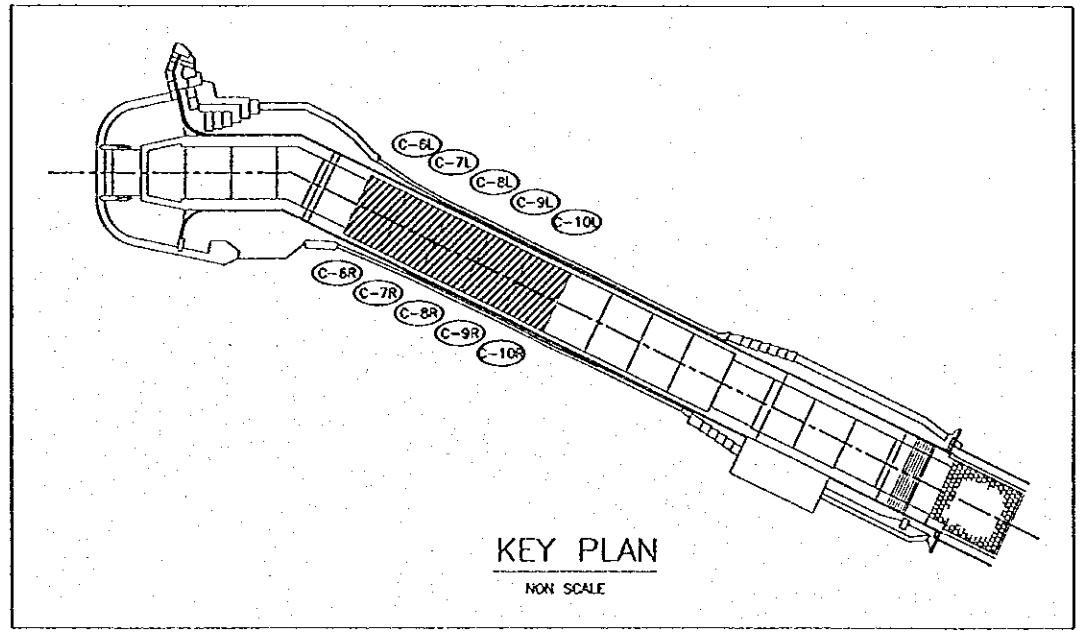
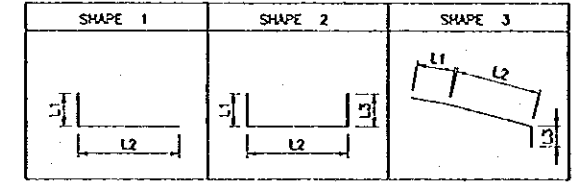
(UNIT: PER CONCRETE SLAB)

| BAR NO. | DIA | NUMBER | LENGTH (mm) | | | | WEIGHT PER "m" (kg) | WEIGHT PER BAR (kg) | WEIGHT (kg) | SHAPE |
|------------------------------------------|-----|--------|-------------|---------|---------|-----|---------------------|---------------------|-------------|-------|
| | | | TOTAL | L1 | L2 | L3 | | | | |
| (CONCRETE SLAB FOR C-6) | | | | | | | | | | |
| F1 | 16 | 106 | 7,340 | 250 | 7,090 * | | 1.580 | 11.597 | 1,229 | 1 |
| F2 | 16 | 106 | 7,340 | 250 | 7,090 * | | 1.580 | 11.597 | 1,229 | 1 |
| F3 | 16 | 67 | 10,800 | 250 | 10,300 | 250 | 1.580 | 17.064 | 1,143 | 2 |
| F4 | 16 | 67 | 10,800 | 250 | 10,300 | 250 | 1.580 | 17.064 | 1,143 | 2 |
| NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | | | | | | | TOTAL | | 4,744 | |
| (CONCRETE SLAB FOR C-7, 8 AND 9) | | | | | | | | | | |
| F1 | 16 | 106 | 8,160 | 250 | 7,910 * | | 1.580 | 12.893 | 1,367 | 1 |
| F2 | 16 | 106 | 8,160 | 250 | 7,910 * | | 1.580 | 12.893 | 1,367 | 1 |
| F3 | 16 | 75 | 10,800 | 250 | 10,300 | 250 | 1.580 | 17.064 | 1,280 | 2 |
| F4 | 16 | 75 | 10,800 | 250 | 10,300 | 250 | 1.580 | 17.064 | 1,280 | 2 |
| NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | | | | | | | TOTAL | | 5,294 | |
| (CONCRETE SLAB FOR C-10) | | | | | | | | | | |
| F5 | 16 | 106 | 5,480 | 250 | 5,230 * | | 1.580 | 8.658 | 918 | 1 |
| F6 | 16 | 53 | 10,780 | 6,690 * | 3,840 | 250 | 1.580 | 17.032 | 903 | 3 |
| F7 | 16 | 53 | 10,970 | 6,690 * | 4,030 | 250 | 1.580 | 17.333 | 919 | 3 |
| F8 | 16 | 150 | 10,800 | 250 | 10,300 | 250 | 1.580 | 17.064 | 2,560 | 2 |
| NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | | | | | | | TOTAL | | 5,300 | |

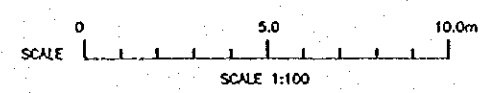
DIMENSION LIST

| MEMBER | L1 (m) | L2 (m) | H (m) | n | REMARKS |
|-------------------|--------|--------|-------|----|---------------------------------|
| C-6 (L&R) | 13.400 | 13.200 | 3.350 | 66 | REFER TO SECTION A-A, B-B & C-C |
| C-7, 8, & 9 (L&R) | 15.000 | 14.800 | 3.750 | 74 | REFER TO SECTION A-A, B-B & C-C |
| C-10 (L&R) | | | | | REFER TO SECTION D-D, E-E & F-F |

BAR BENDING SCHEDULE



KEY PLAN
NON SCALE



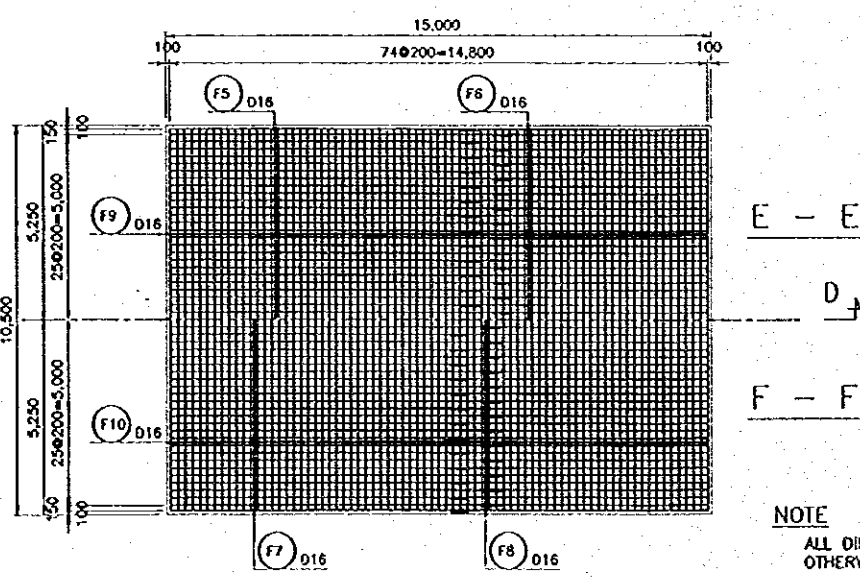
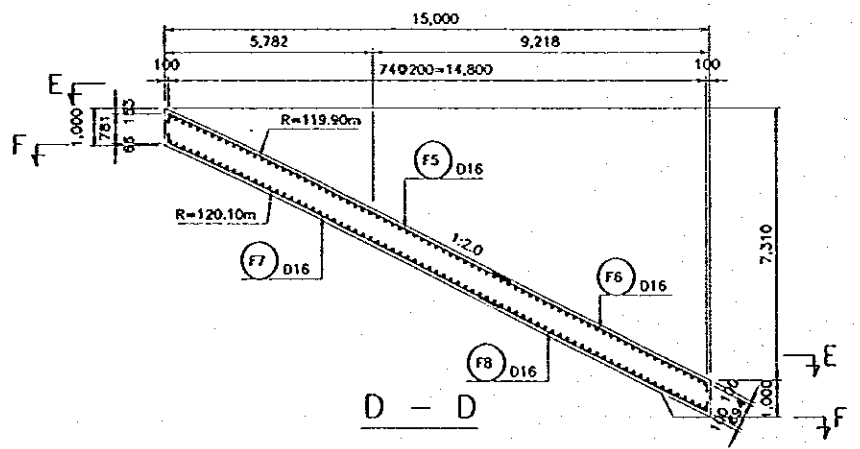
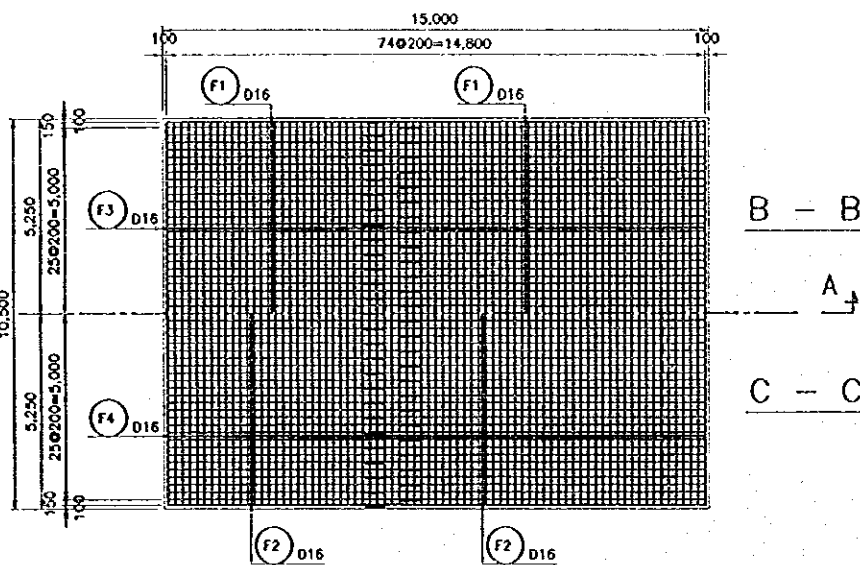
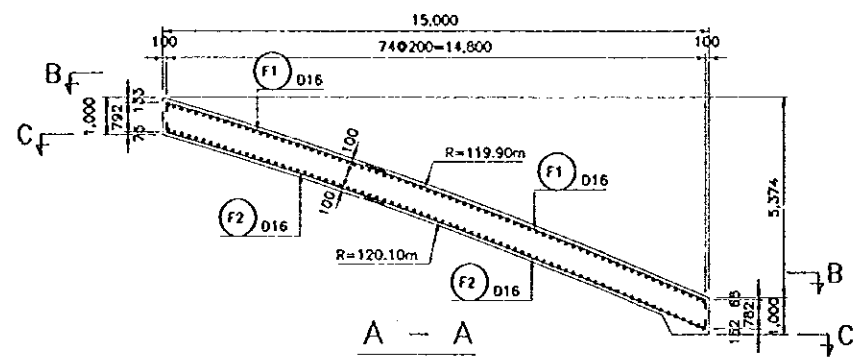
| NO. | DATE | REVISIONS | ORIGINATED | DESIGNED | APPROVED |
|-----|------|-----------|------------|----------|----------|
| | | | | | |

THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF URBAN SETTLEMENT
IRATUNSELUNA FLOOD CONTROL PROJECT
COMPONENT: JATIBARANG DAM CONSTRUCTION
SPILLWAY
REINFORCEMENT DETAILS
BLOCK C-6, C-7, C-8, C-9, C-10

JAPAN INTERNATIONAL COOPERATION AGENCY
CIH ENGINEERING CO., LTD. IN ASSOCIATION WITH
PACIFIC CONSULTANTS INTERNATIONAL
JANCO INTERNATIONAL INC.

DESIGNED: [Signature]
CHECKED: [Signature]
CHIEF OF PLANNING AND DESIGN
PROJECT MANAGER

PROVIDER: CENTRAL JAVA
PROJECT NAME: FLOOD CONTROL, URBAN DEVELOPMENT AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
DISTRICT: SEMARANG CITY
DRAWING NO. JD-P1-SP-Re-51
SHEET NO. 157
DATE: [Signature]
CONTRACT NO. [Signature]



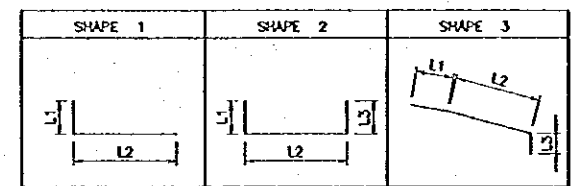
NOTE
ALL DIMENSIONS ARE IN MILIMETERS UNLESS OTHERWISE NOTED.

BAR WEIGHT

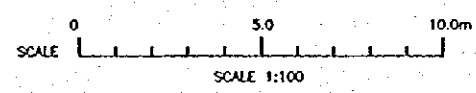
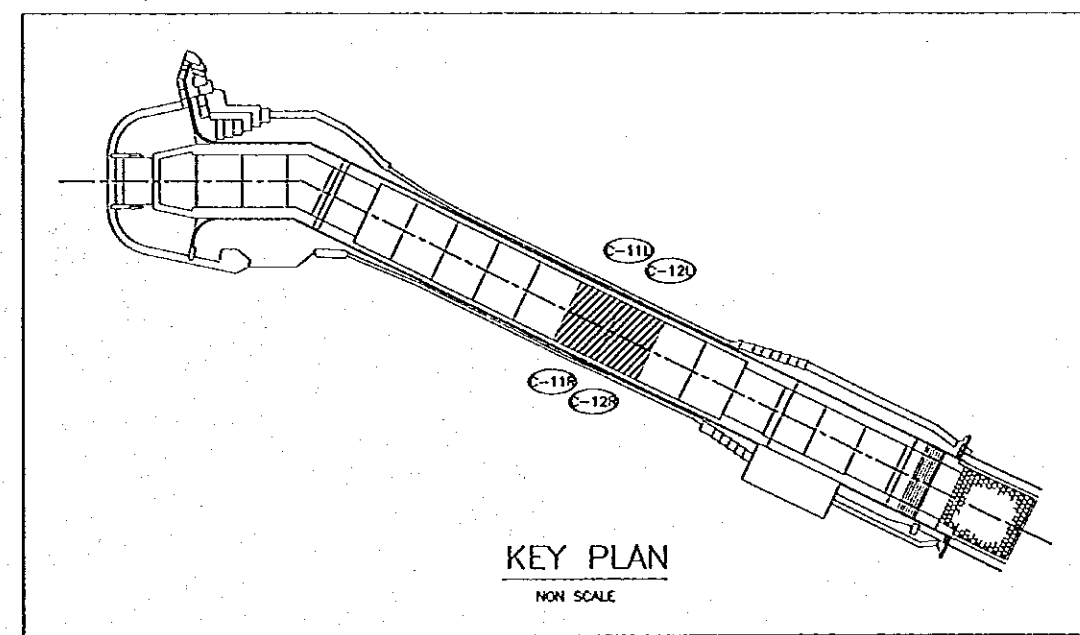
(UNIT: PER CONCRETE SLAB)

| BAR NO. | DIA | NUMBER | LENGTH (mm) | | | | | WEIGHT PER "m" (kg) | WEIGHT PER BAR (kg) | WEIGHT (kg) | SHAPE | |
|---------------------------------|-----|--------|-------------|-----|---------|---------|---|------------------------------------------|---------------------|-------------|-------|---|
| | | | TOTAL | L1 | L2 | L3 | R | | | | | |
| (CONCRETE SLAB FOR C-11) | | | | | | | | | | | | |
| F1 | 16 | 106 | 8,400 | 250 | 8,150 * | | | 119.90 m | 1.580 | 13.272 | 1,407 | 1 |
| F2 | 16 | 106 | 8,400 | 250 | 8,150 * | | | 120.10 m | 1.580 | 13.272 | 1,407 | 1 |
| F3 | 16 | 75 | 10,800 | 250 | 10,300 | 250 | | | 1.580 | 17.064 | 1,280 | 2 |
| F4 | 16 | 75 | 10,800 | 250 | 10,300 | 250 | | | 1.580 | 17.064 | 1,280 | 2 |
| | | | | | | | | NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | TOTAL | | 5,374 | |
| (CONCRETE SLAB FOR C-12) | | | | | | | | | | | | |
| F5 | 16 | 53 | 10,680 | 250 | 6,230 | 4,200 * | | 119.90 m | 1.580 | 16.874 | 894 | 3 |
| F6 | 16 | 53 | 7,310 | 250 | 7,060 * | | | | 1.580 | 11.550 | 612 | 1 |
| F7 | 16 | 53 | 10,930 | 250 | 6,330 | 4,350 * | | 120.10 m | 1.580 | 17.269 | 915 | 3 |
| F8 | 16 | 53 | 7,660 | 250 | 7,410 * | | | | 1.580 | 12.103 | 641 | 1 |
| F9 | 16 | 75 | 10,800 | 250 | 10,300 | 250 | | | 1.580 | 17.064 | 1,280 | 2 |
| F10 | 16 | 75 | 10,800 | 250 | 10,300 | 250 | | | 1.580 | 17.064 | 1,280 | 2 |
| | | | | | | | | NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | TOTAL | | 5,622 | |

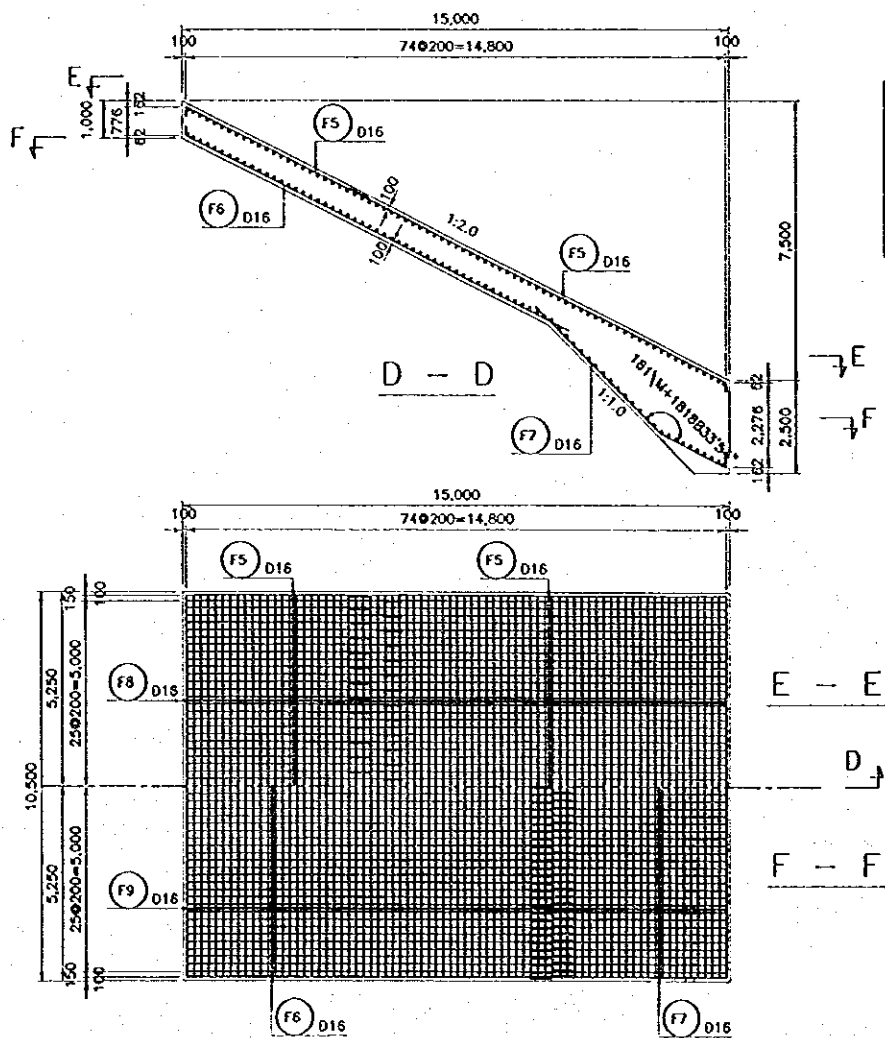
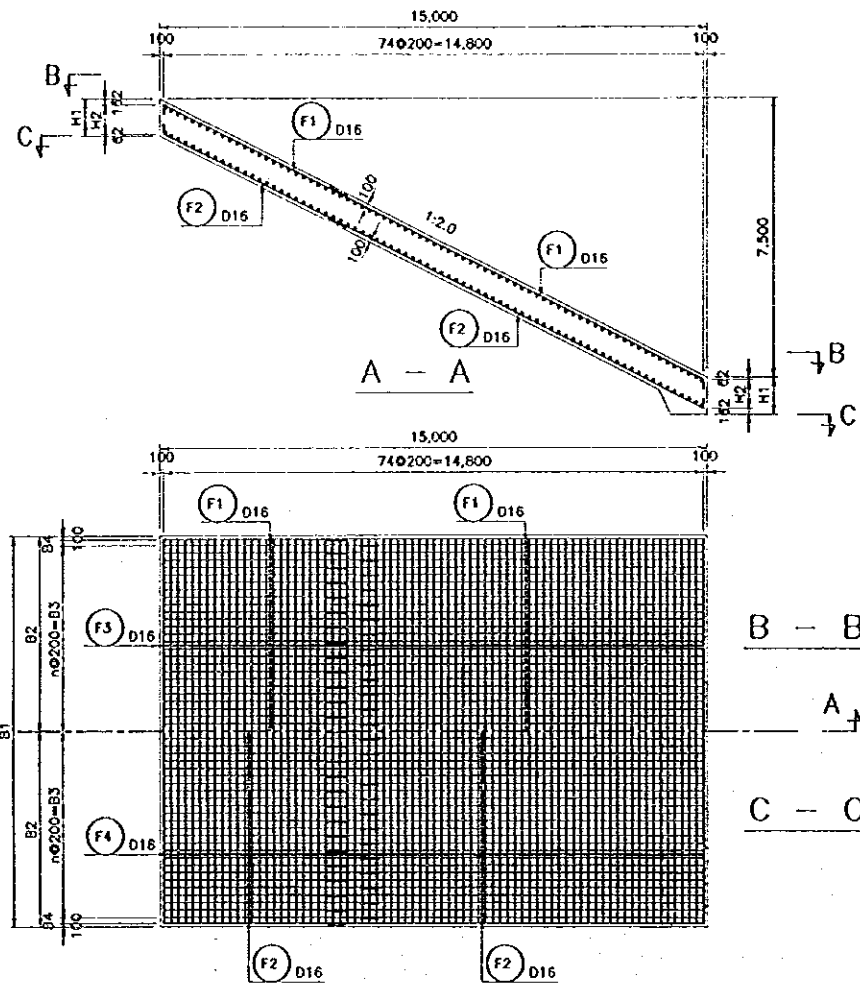
BAR BENDING SCHEDULE



| MEMBER | REMARKS |
|------------|---------------------------------|
| C-11 (L&R) | REFER TO SECTION A-A, B-B & C-C |
| C-12 (L&R) | REFER TO SECTION D-D, E-E & F-F |



| | | | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT JATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: JATIBARANG DAM CONSTRUCTION SPILLWAY REINFORCEMENT DETAILS BLOCK C-11, C-12 | | | SATAP INTERNATIONAL COOPERATION AGENCY CIE ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL FARO INTERNATIONAL INC. | | DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER | PROVINCE CENTRAL JAVA PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SOERABAYA IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY DRAWING NO. JD-P1-SP-Re-52 SHEET NO. 158 DATE CONTRACT NO. |
| NO. | DATE | REVISIONS | ORIGINATED | DESIGNED | APPROVED | APPROVED |



BAR WEIGHT

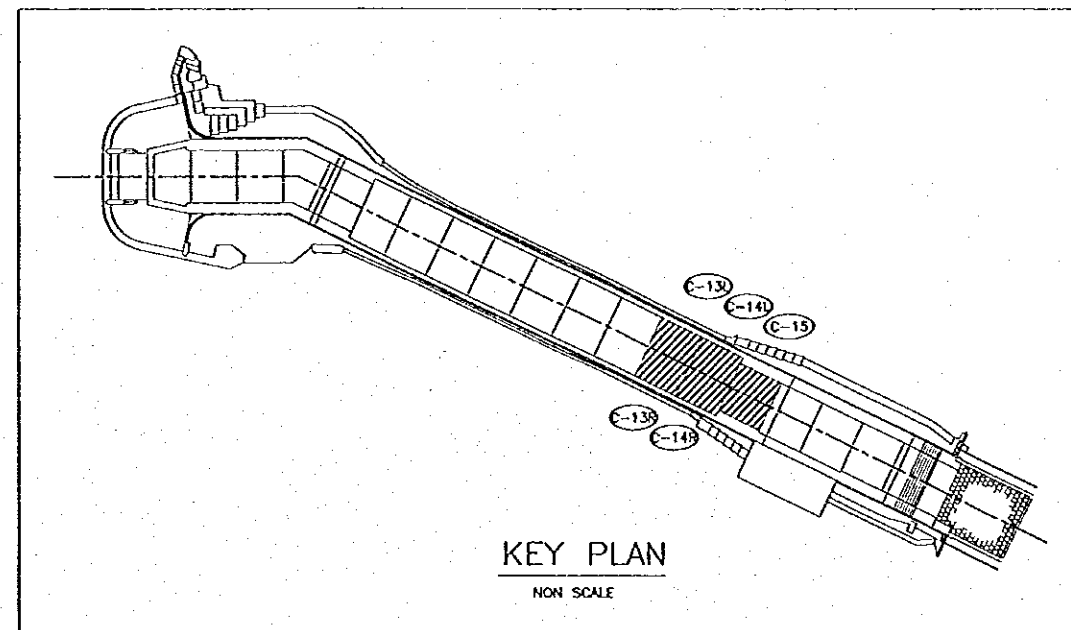
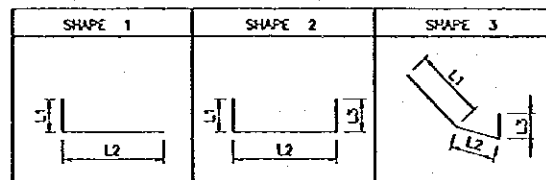
(UNIT: PER CONCRETE SLAB)

| BAR NO. | DIA | NUMBER | LENGTH (mm) | | | | | WEIGHT PER "m" (kg) | WEIGHT PER BAR (kg) | WEIGHT (kg) | SHAPE |
|------------------------------------------|-----|--------|-------------|-------|---------|-----|---|---------------------|---------------------|-------------|-------|
| | | | TOTAL | L1 | L2 | L3 | R | | | | |
| (CONCRETE SLAB FOR C-13) | | | | | | | | | | | |
| F1 | 16 | 106 | 9,090 | 250 | 8,840 * | | | 1.580 | 14.362 | 1,522 | 1 |
| F2 | 16 | 106 | 9,090 | 250 | 8,840 * | | | 1.580 | 14.362 | 1,522 | 1 |
| F3 | 16 | 75 | 10,800 | 250 | 10,300 | 250 | | 1.580 | 17.064 | 1,280 | 2 |
| F4 | 16 | 75 | 10,800 | 250 | 10,300 | 250 | | 1.580 | 17.064 | 1,280 | 2 |
| NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | | | | | | | | TOTAL | | 5,604 | |
| (CONCRETE SLAB FOR C-14) | | | | | | | | | | | |
| F5 | 16 | 106 | 9,090 | 250 | 8,840 * | | | 1.580 | 14.362 | 1,522 | 1 |
| F6 | 16 | 53 | 11,950 | 250 | 11,700 | | | 1.580 | 18.881 | 1,001 | 1 |
| F7 | 16 | 53 | 7,120 | 4,810 | 2,060 | 250 | | 1.580 | 11.250 | 596 | 3 |
| F8 | 16 | 75 | 10,800 | 250 | 10,300 | 250 | | 1.580 | 17.064 | 1,280 | 2 |
| F9 | 16 | 75 | 10,800 | 250 | 10,300 | 250 | | 1.580 | 17.064 | 1,280 | 2 |
| NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | | | | | | | | TOTAL | | 5,679 | |
| (CONCRETE SLAB FOR C-15) | | | | | | | | | | | |
| F1 | 16 | 170 | 9,090 | 250 | 8,840 * | | | 1.580 | 14.362 | 2,442 | 1 |
| F2 | 16 | 170 | 9,090 | 250 | 8,840 * | | | 1.580 | 14.362 | 2,442 | 1 |
| F3 | 16 | 150 | 9,210 | 250 | 8,960 * | | | 1.580 | 14.552 | 2,183 | 1 |
| F4 | 16 | 150 | 9,210 | 250 | 8,960 * | | | 1.580 | 14.552 | 2,183 | 1 |
| NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | | | | | | | | TOTAL | | 9,250 | |

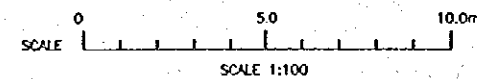
DIMENSION LIST

| MEMBER | H1 (m) | H2 (m) | B1 (m) | B2 (m) | B3 (m) | B4 (m) | n | REMARKS |
|------------|--------|--------|--------|--------|--------|--------|----|---------------------------------|
| C-13 (L&R) | 1.000 | 0.776 | 10.500 | 5.250 | 5.000 | 0.150 | 25 | REFER TO SECTION A-A, B-B & C-C |
| C-14 (L&R) | | | | | | | | REFER TO SECTION D-D, E-E & F-F |
| C-15 | 2.500 | 2.276 | 17.000 | 8.500 | 8.200 | 0.200 | 41 | REFER TO SECTION A-A, B-B & C-C |

BAR BENDING SCHEDULE

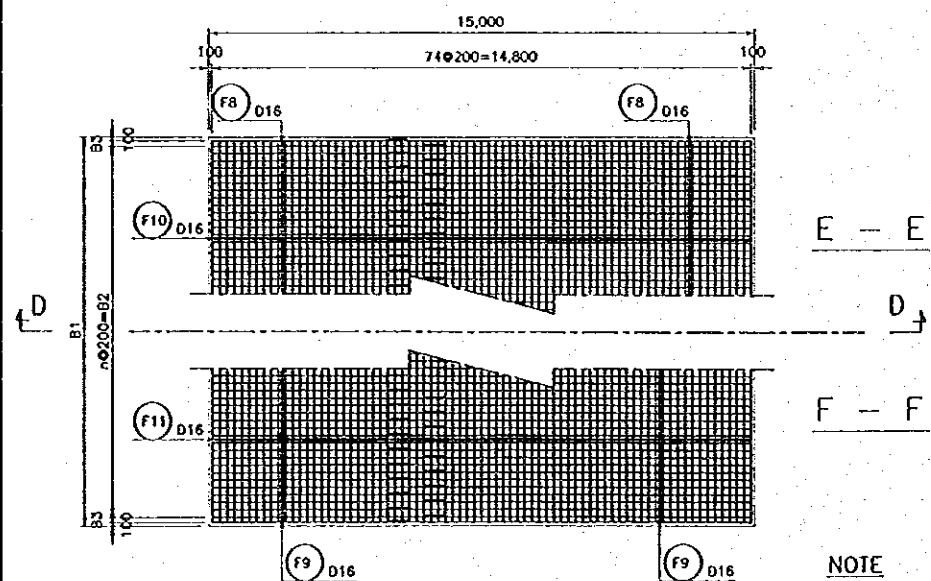
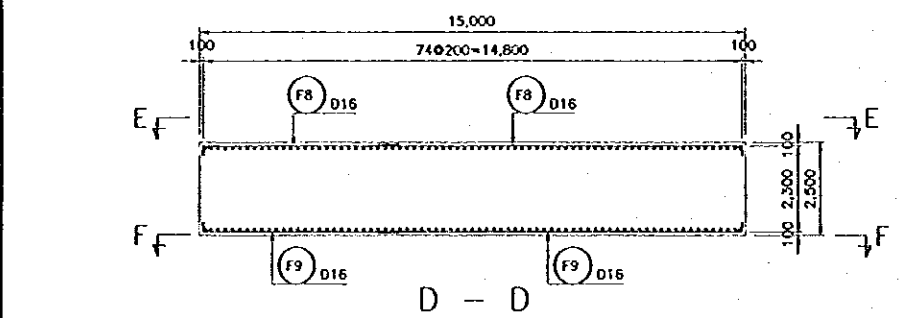
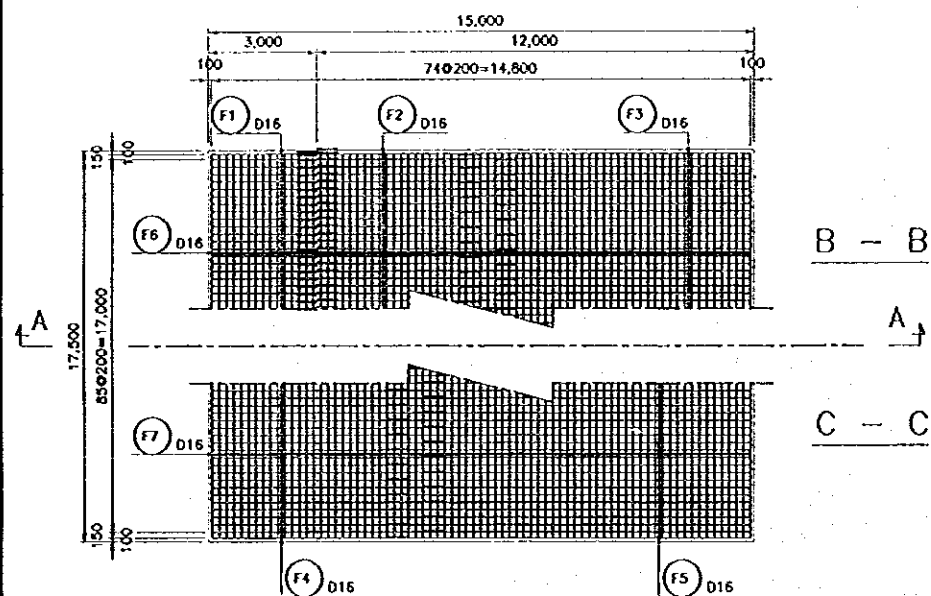
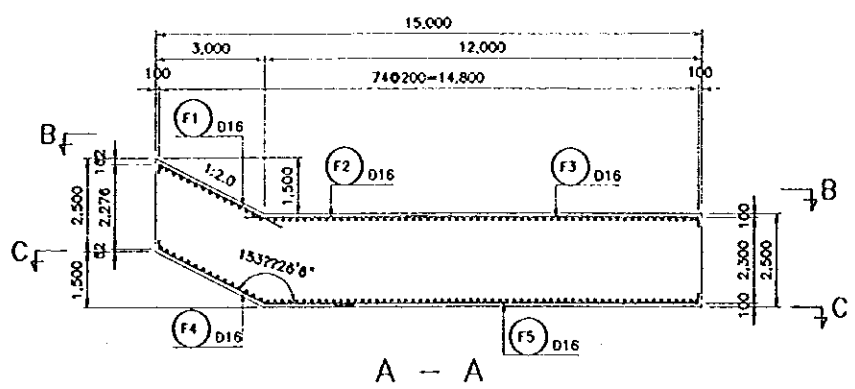


NOTE
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.



| NO. | DATE | REVISIONS | ORIGINATED | DESIGNED | APPROVED |
|-----|------|-----------|------------|----------|----------|
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| THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT | | PROVINCE CENTRAL JAVA |
| PRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION SPILLWAY REINFORCEMENT DETAILS BLOCK C-13, C-14, C15 | | PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT OF SEMARANG IN THE REPUBLIC OF INDONESIA |
| SAHJAN INTERNATIONAL COOPERATION AGENCY CTE ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL PAKO INTERNATIONAL INC. | | PROJECT SEMARANG CITY |
| CHIEF OF PLANNING AND DESIGN PROJECT MANAGER | | DRAWING NO. JD-P1-SP-Re-53 SHEET NO. 159 DATE CONTRACT NO. |



NOTE
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

BAR WEIGHT

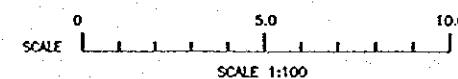
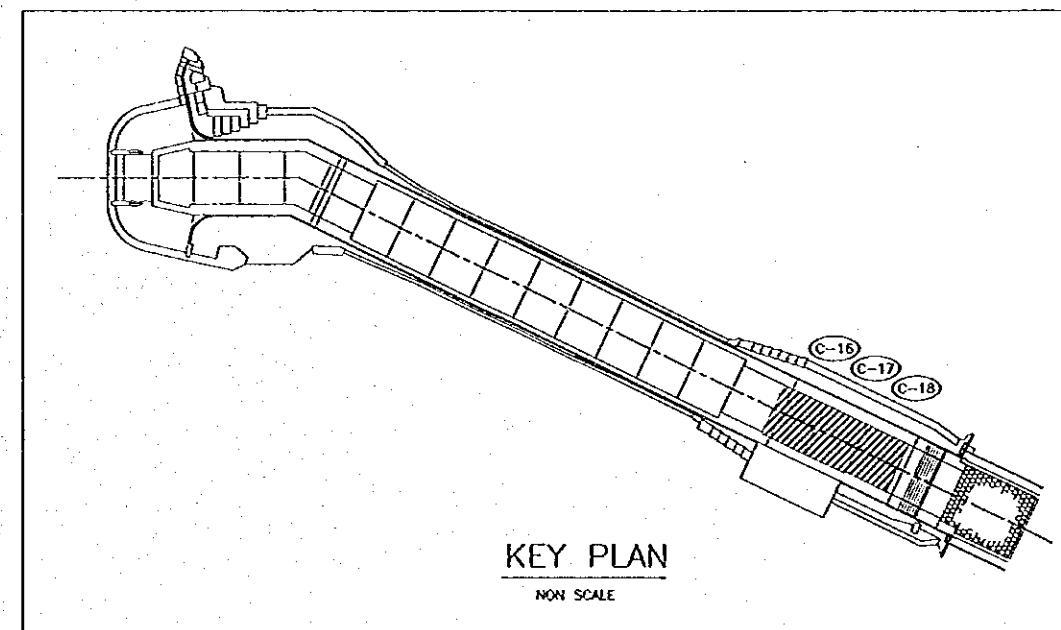
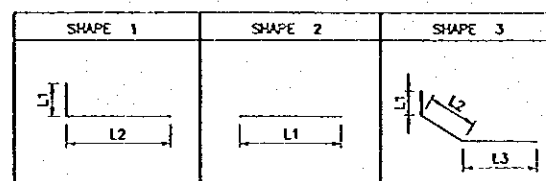
(UNIT: PER CONCRETE SLAB)

| BAR NO. | DIA | NUMBER | LENGTH (mm) | | | | WEIGHT PER "m" (kg) | WEIGHT PER BAR (kg) | WEIGHT (kg) | SHAPE |
|------------------------------------------|-----|--------|-------------|---------|---------|---------|---------------------|---------------------|-------------|-------|
| | | | TOTAL | L1 | L2 | L3 | | | | |
| (CONCRETE SLAB FOR C-16) | | | | | | | | | | |
| F1 | 16 | 88 | 4,030 | 250 | 3,780 | | 1.580 | 6.367 | 560 | 1 |
| F2 | 16 | 88 | 6,110 | 6,110 * | | | 1.580 | 9.654 | 850 | 2 |
| F3 | 16 | 88 | 7,750 | 250 | 7,500 * | | 1.580 | 12.245 | 1,078 | 1 |
| F4 | 16 | 88 | 6,460 | 250 | 3,270 | 2,940 * | 1.580 | 10.207 | 898 | 3 |
| E5 | 16 | 88 | 9,730 | 250 | 9,500 * | | 1.580 | 15.405 | 1,356 | 1 |
| F6 | 16 | 150 | 9,460 | 250 | 9,210 * | | 1.580 | 14.947 | 2,242 | 1 |
| F7 | 16 | 150 | 9,460 | 250 | 9,210 * | | 1.580 | 14.947 | 2,242 | 1 |
| NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | | | | | | TOTAL | | | 9,226 | |
| (CONCRETE SLAB FOR C-17) | | | | | | | | | | |
| F8 | 16 | 176 | 8,210 | 250 | 7,960 * | | 1.580 | 12.972 | 2,283 | 1 |
| F9 | 16 | 176 | 8,210 | 250 | 7,960 * | | 1.580 | 12.972 | 2,283 | 1 |
| F10 | 16 | 150 | 9,460 | 250 | 9,210 * | | 1.580 | 14.947 | 2,242 | 1 |
| F11 | 16 | 150 | 9,460 | 250 | 9,210 * | | 1.580 | 14.947 | 2,242 | 1 |
| NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | | | | | | TOTAL | | | 9,050 | |
| (CONCRETE SLAB FOR C-18) | | | | | | | | | | |
| F8 | 16 | 170 | 8,210 | 250 | 7,960 * | | 1.580 | 12.972 | 2,205 | 1 |
| F9 | 16 | 170 | 8,210 | 250 | 7,960 * | | 1.580 | 12.972 | 2,205 | 1 |
| F10 | 16 | 150 | 9,210 | 250 | 8,960 * | | 1.580 | 14.552 | 2,183 | 1 |
| F11 | 16 | 150 | 9,210 | 250 | 8,960 * | | 1.580 | 14.552 | 2,183 | 1 |
| NOTE: NUMBER HAVING SIGN "*" IS AVERAGE. | | | | | | TOTAL | | | 8,776 | |

DIMENSION LIST

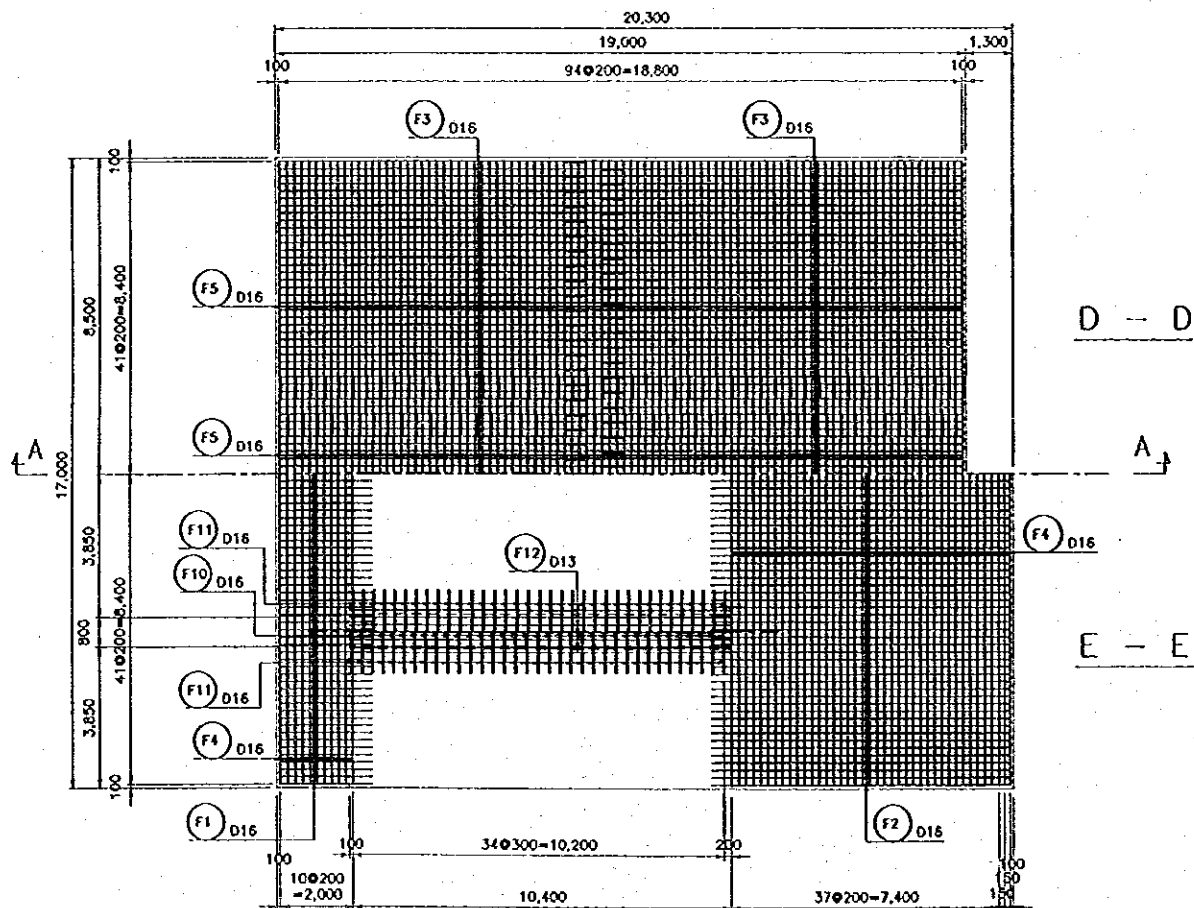
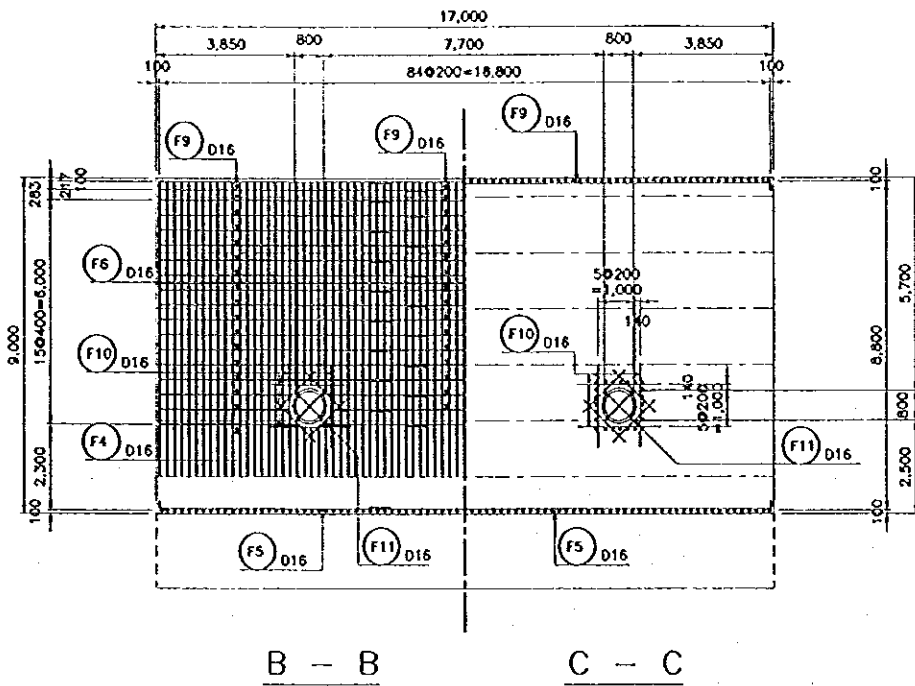
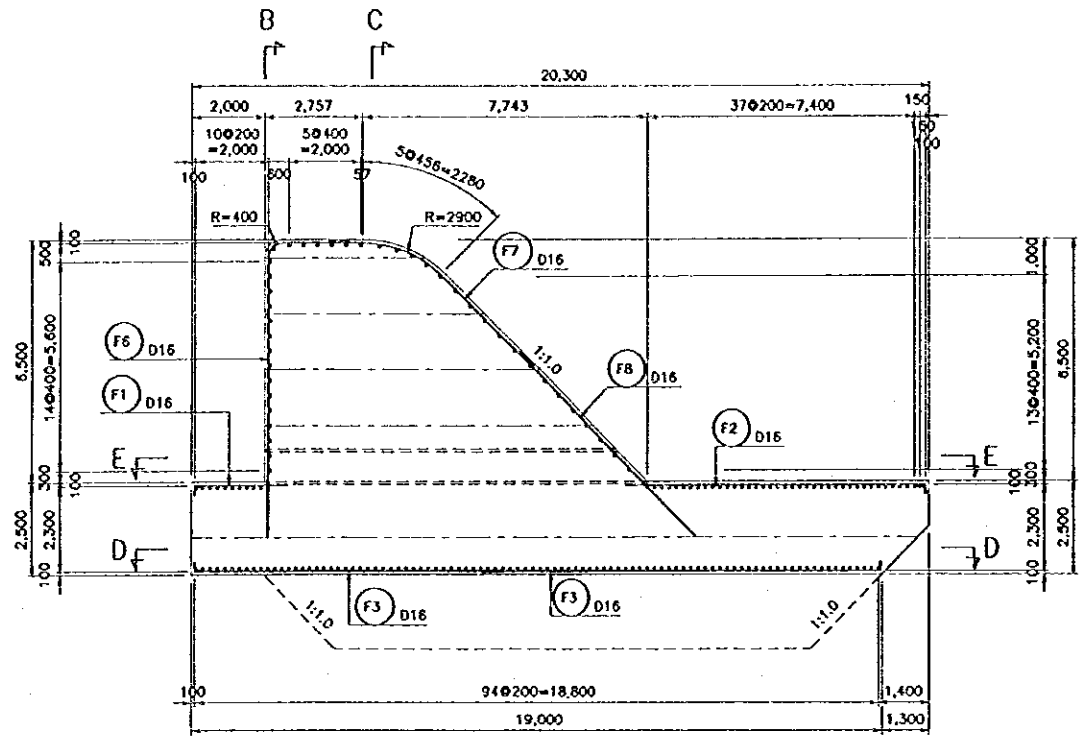
| MEMBER | B1 (m) | B2 (m) | B3 (m) | n | REMARKS |
|--------|--------|--------|--------|----|---------------------------------|
| C-16 | | | | | REFER TO SECTION A-A, B-B & C-C |
| C-17 | 17.500 | 17.000 | 0.150 | 85 | REFER TO SECTION D-D, E-E & F-F |
| C-18 | 17.000 | 16.400 | 0.200 | 82 | REFER TO SECTION D-D, E-E & F-F |

BAR BENDING SCHEDULE



| NO. | DATE | REVISIONS | ORIGINATED | DESIGNED | APPROVED |
|-----|------|-----------|------------|----------|----------|
| | | | | | |
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| THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT | | PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA |
| IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: JATIBARANG DAM CONSTRUCTION | | PROJECT NO. SEMARANG CITY |
| SPILLWAY REINFORCEMENT DETAILS BLOCK C-16, C-17, C-18 | | DRAWING NO. JD-P1-SP-Re-54 SHEET NO. 150 |
| DWAN INTERNATIONAL COOPERATION AGENCY CE ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL PAKO RESOURCES INC. | | DATE CONTRACT NO. |
| CHIEF OF PLANNING AND DESIGN | | PROJECT MANAGER |

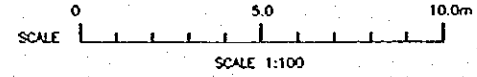
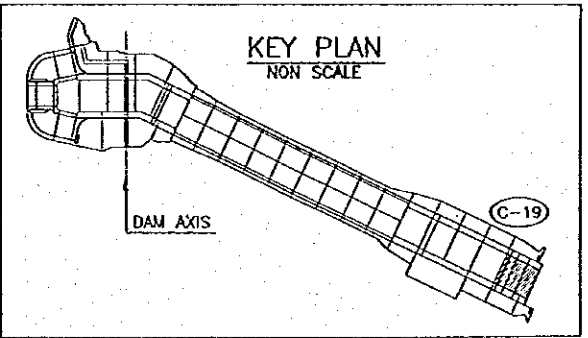
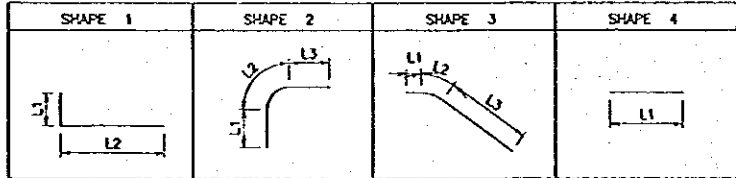


BAR WEIGHT

| BAR NO. | DIA | NUMBER | LENGTH (mm) | | | | WEIGHT PER "m" (kg) | WEIGHT PER BAR (kg) | WEIGHT (kg) | SHAPE | |
|---------|-----|--------|-------------|--------|---------|-------|---------------------|---------------------|-------------|-------|---|
| | | | TOTAL | L1 | L2 | L3 | | | | | R |
| F1 | 16 | 85 | 2,810 | 250 | 2,560 | | 1.580 | 4.440 | 377 | 1 | |
| F2 | 16 | 85 | 8,560 | 250 | 8,310 | | 1.580 | 13.525 | 1,150 | 1 | |
| F3 | 16 | 170 | 9,930 | 250 | 9,680 * | | 1.580 | 15.689 | 2,667 | 1 | |
| F4 | 16 | 102 | 8,930 | 250 | 8,680 * | | 1.580 | 14.109 | 1,439 | 1 | |
| F5 | 16 | 190 | 8,930 | 250 | 8,680 * | | 1.580 | 14.109 | 2,681 | 1 | |
| F6 | 16 | 85 | 10,010 | 7,500 | 630 | 1,880 | 400 | 1.580 | 15.816 | 1,344 | 2 |
| F7 | 16 | 85 | 6,750 | 950 | 2,280 | 3,520 | 2,900 | 1.580 | 10.655 | 907 | 3 |
| F8 | 16 | 85 | 6,970 | 6,970 | | | | 1.580 | 11.013 | 936 | 4 |
| F9 | 16 | 80 | 8,930 | 250 | 8,680 * | | 1.580 | 14.109 | 1,129 | 1 | |
| F10 | 16 | 280 | 2,260 | 2,260 | | | 1.580 | 3.571 | 1,000 | 4 | |
| F11 | 16 | 280 | 1,600 | 1,600 | | | 1.580 | 2.528 | 708 | 4 | |
| F12 | 13 | 48 | 10,300 | 10,300 | | | 1.040 | 10.712 | 514 | 4 | |
| | | | | | | | TOTAL | | 14,852 | | |

NOTE: NUMBER HAVING SIGN "*" IS AVERAGE.

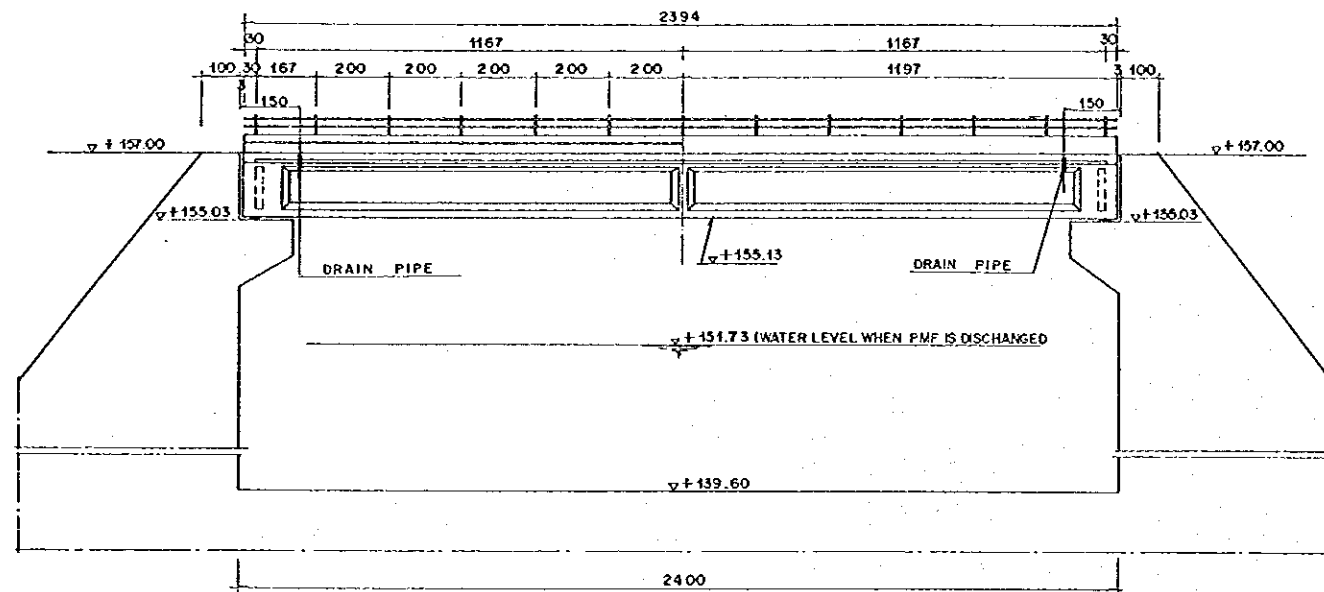
BAR BENDING SCHEDULE



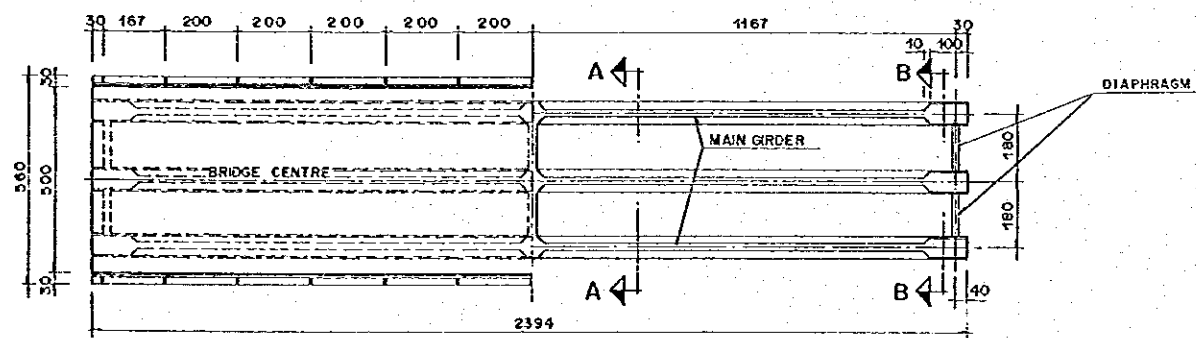
NOTE
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

| NO. | DATE | REVISIONS | ORIGINATED | DESIGNED | APPROVED |
|-----|------|-----------|------------|----------|----------|
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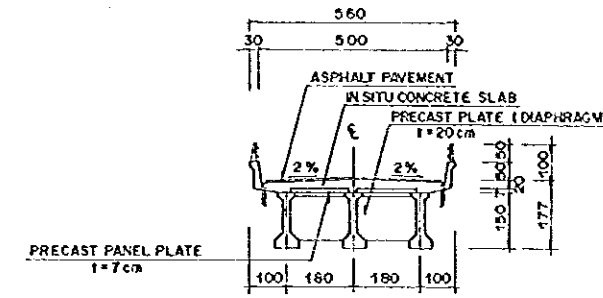
| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT | | PROVINCE CENTRAL JAVA |
| PRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: JATIBARANO DAM CONSTRUCTION SPILLWAY REINFORCEMENT DETAILS BLOCK C19 | | PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY |
| LAPAN INTERNATIONAL COOPERATION AGENCY CITI ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL PARCO INTERNATIONAL INC. | | DRAWING NO. J0-P1-SP-Re-55 SHEET NO. 161 DATE CONTRACT NO. |
| DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN | APPROVED | PROJECT MANAGER |



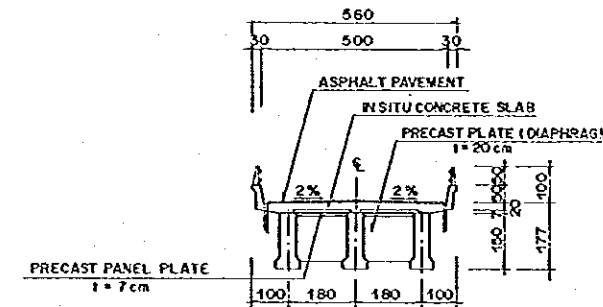
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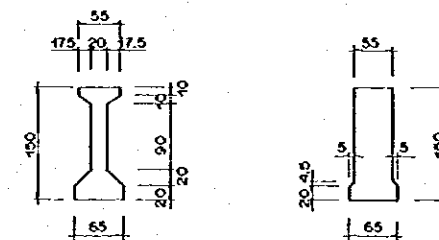
PLAN
SCALE A



SECTION A-A
SCALE A

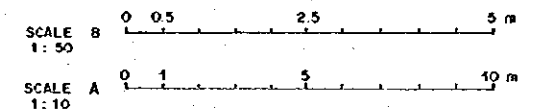


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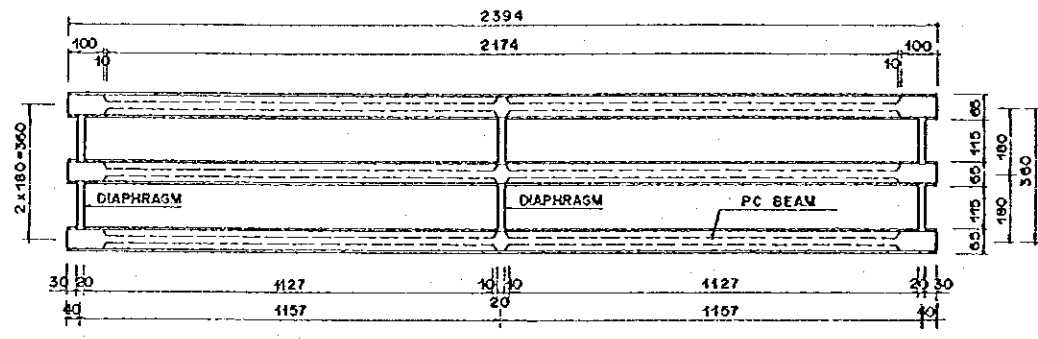
CENTER END
BEAM SECTION
SCALE B

- NOTE :
1. UNIT IN CENTIMETER
 2. CONCRETE QUALITY FOR MAIN GIRDER AND DIAPHRAGM K-400.
 3. CONCRETE QUALITY FOR SLAB K-250.
 4. PRECAST PANEL CONCRETE K-250

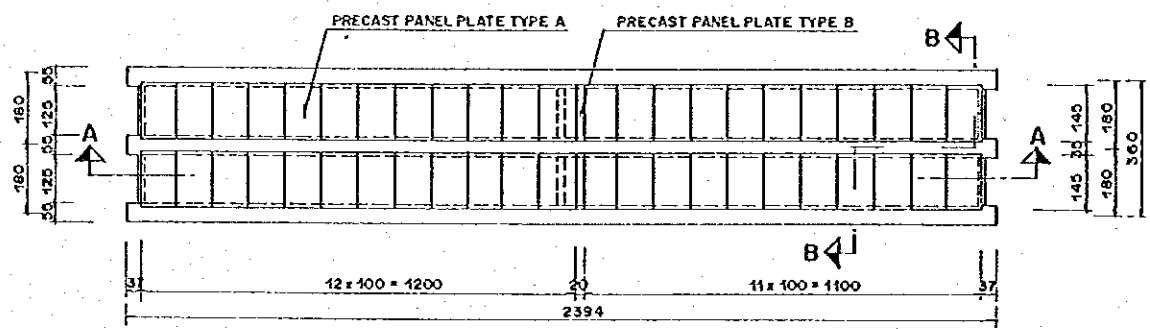


| NO. | DATE | REVISIONS | ORIGINATED | DESIGNED | APPROVED |
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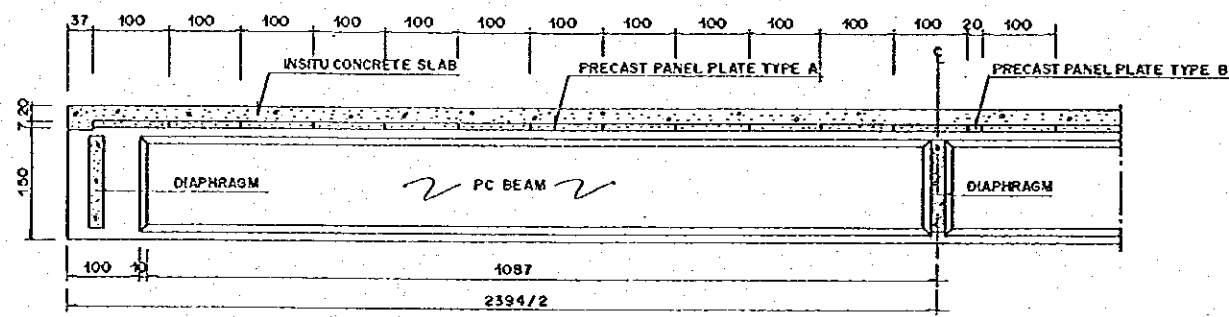
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| THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIREKTORAT JENDERAL BINA WILAYAH DAN PERENCANAAN DAN DIREKTORAT JENDERAL PERENCANAAN DAN BINA WILAYAH | | PROVINSI CENTRAL JAWA |
| TRATUNSELUKA FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION SPILLWAY BRIDGE 4/6 DIMENSION OF SUPERSTRUCTURE | | PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA |
| JAWA INTERNATIONAL COOPERATION AGENCY PT. INDOREKONGLO, LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND JAWA INTERNATIONAL INC. | | DESIGNED CHECKED DATE |
| ORDER OF PLANNING AND DESIGN PROJECT MANAGER | | CONTRACT NO. |



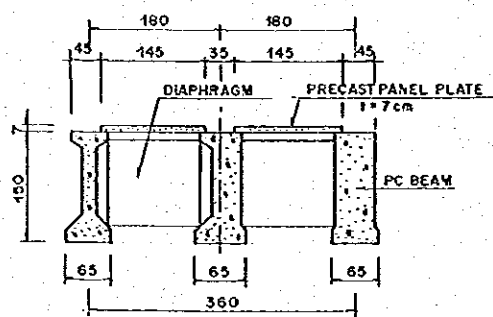
BEAM AND DIAPHRAGM ARRANGEMENT
SCALE A



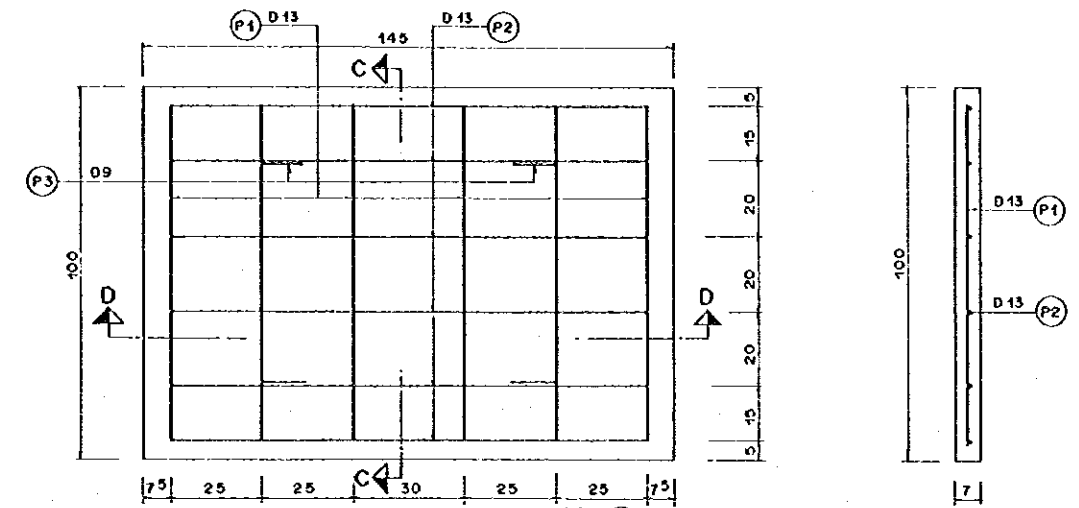
PANEL PLATE ARRANGEMENT
SCALE A



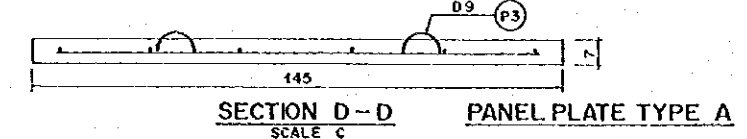
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SCALE B



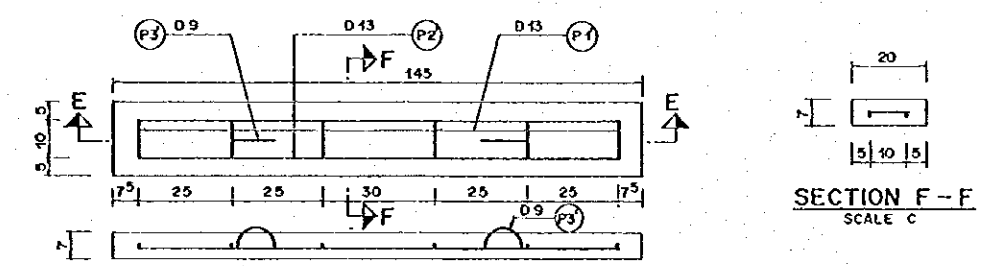
SECTION B-B
SCALE B



SECTION C-C
SCALE C



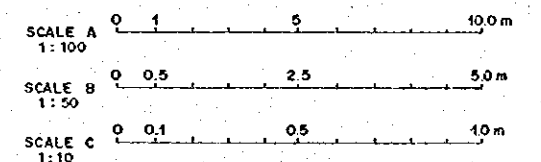
SECTION D-D SCALE C
PANEL PLATE TYPE A



SECTION E-E SCALE C
PANEL PLATE TYPE B

| REINFORCING BAR NO. | Ø (mm) | TYPE | BENDING DIMENSION (cm) | | | | | | TOTAL LENGTH (m) | UNIT WEIGHT (kg/m) | NUMBER | WEIGHT (kg) | REMARKS |
|---------------------|--------|------|------------------------|----|----|---|---|---|------------------|--------------------|--------|-------------|---------|
| | | | a | b | c | d | e | f | | | | | |
| □ 145 x 100 (46) | | | | | | | | | | | | | |
| P 1 | 13 | B | 90 | | | | | | 0.90 | 1.04 | 276 | 258 | — |
| P 2 | 13 | B | 130 | | | | | | 1.30 | 1.04 | 276 | 373 | — |
| P 3 | 9 | I | 20 | 10 | 12 | | | | 0.438 | 0.50 | 184 | 40 | — |
| □ 145 x 20 (2) | | | | | | | | | | | | | |
| P 1' | 13 | B | 10 | | | | | | 0.10 | 1.04 | 12 | 1 | — |
| P 2' | 13 | B | 130 | | | | | | 1.30 | 1.04 | 4 | 6 | — |
| P 3' | 9 | I | 20 | 10 | 12 | | | | 0.438 | 0.50 | 4 | 1 | — |
| TOTAL | | | | | | | | | | | 679 | kg | |

LIST OF REINFORCING BAR OF PANEL PLATE



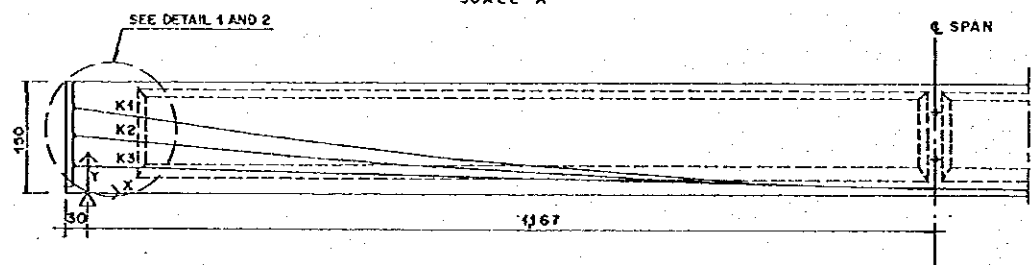
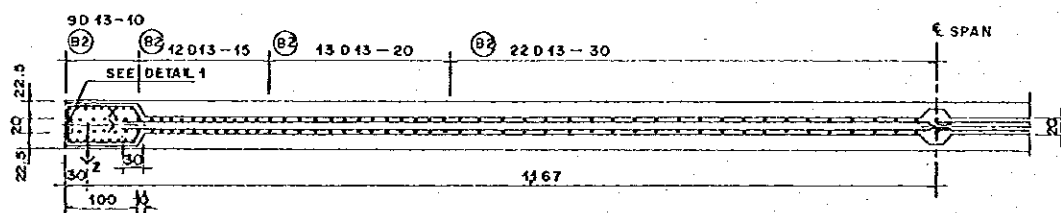
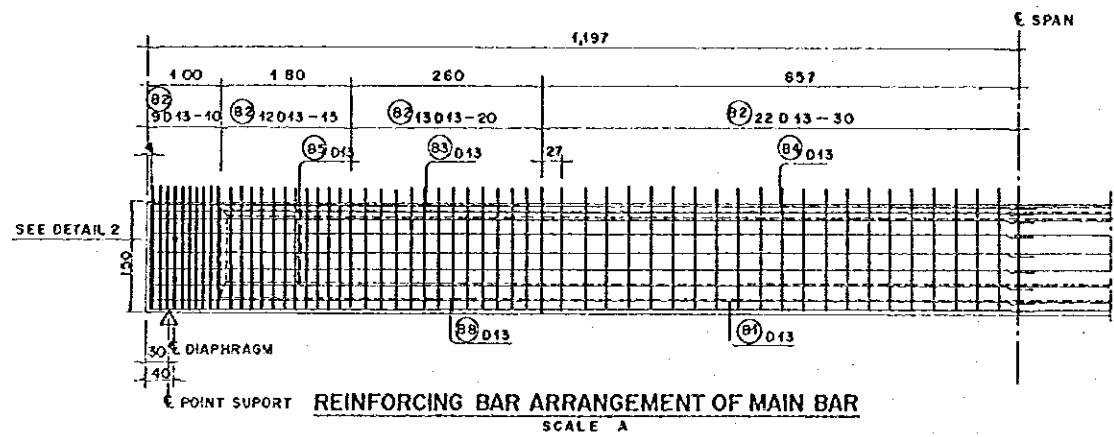
| NO. | DATE | REVISIONS | ORIGINATED | DESIGNED | APPROVED |
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THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

PROVINCE: CENTRAL JAWA
 PROJECT NAME: BEATUNSELUNA FLOOD CONTROL PROJECT
 COMPONENT: JATIBARANG DAM CONSTRUCTION
 SPILLWAY BRIDGE 2/6
 BAR ARRANGEMENT OF PANEL PLATE

DESIGNED: [Signature]
 CHECKED: [Signature]
 CHIEF OF PLANNING AND DESIGN: [Signature]
 PROJECT MANAGER: [Signature]

DRAWING NO. JO-PI-SP-Br-2
 SHEET NO. 163
 DATE: [] [] [] [] [] []
 CONTRACT NO. [] [] [] [] [] []

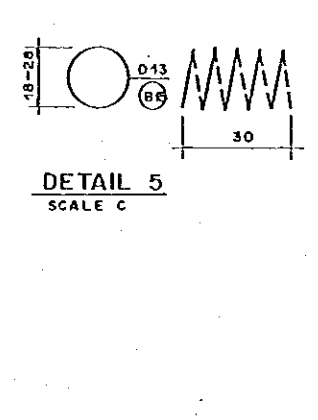
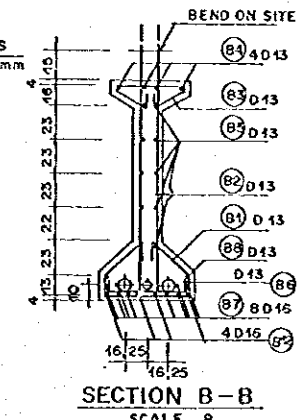
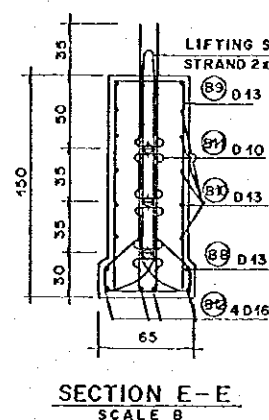
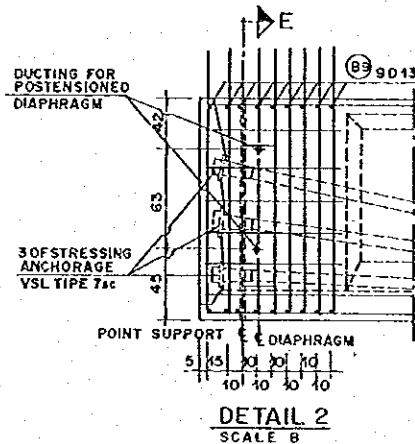
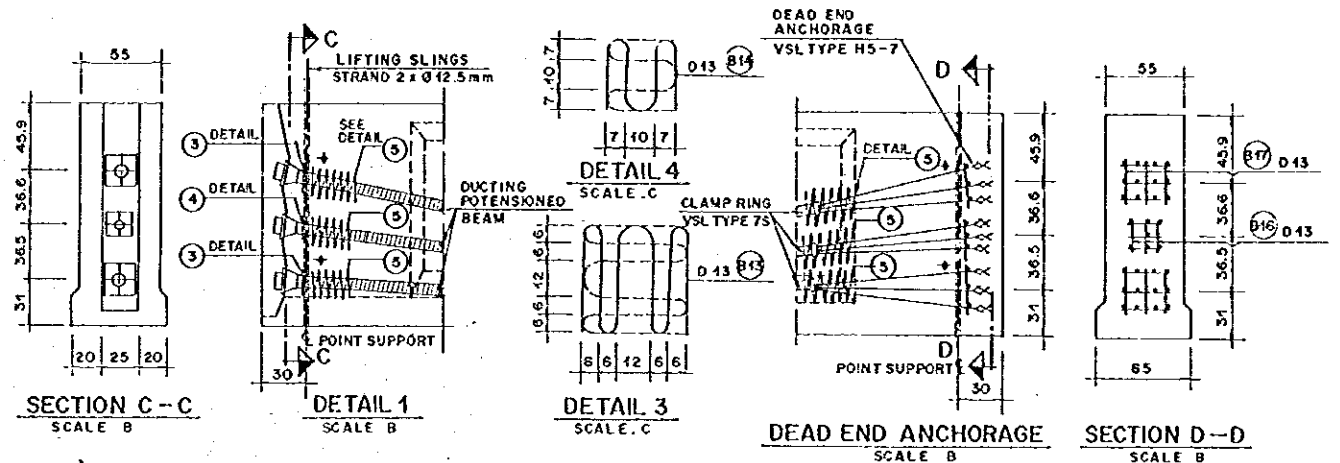


| | | | | | | | | | | | | | | |
|------------|---|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| | X | 0 | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1,000 | 1,100 | 1,167 |
| KABLE (K3) | Y | 30.0 | 26.9 | 24.1 | 21.6 | 19.2 | 17.2 | 15.4 | 13.9 | 12.6 | 11.6 | 10.8 | 10.3 | 10.0 |
| | Z | 0 | 1.8 | 3.5 | 5.1 | 6.5 | 7.7 | 8.8 | 9.7 | 10.4 | 11.1 | 11.5 | 11.8 | 12.0 |
| KABLE (K2) | Y | 65.0 | 56.6 | 48.8 | 41.8 | 35.4 | 29.8 | 24.9 | 20.6 | 17.1 | 14.3 | 12.2 | 10.8 | 10.0 |
| | Z | 0 | 0 | 0 | 0 | 0 | -3.0 | -5.5 | -7.7 | -9.4 | -10.7 | -11.5 | -12.0 | |
| KABLE (K1) | Y | 100 | 85.2 | 73.5 | 62.0 | 51.6 | 42.4 | 34.3 | 27.4 | 21.7 | 17.4 | 13.6 | 11.3 | 10.0 |
| | Z | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

LIST OF CABLE COORDINATE (Cm)

| REINFORCING BAR NO | Ø (mm) | TYPE | BENDING DIMENSION (cm) | | | | | | TOTAL LENGTH (m) | UNIT WEIGHT (kg/m) | NUMBER | WEIGHT (kg) | REMARKS |
|--------------------|--------|---------|------------------------|---|---|---|---|---|------------------|--------------------|--------|-------------|---------|
| | | | a | b | c | d | e | f | | | | | |
| K 1 | 12.7 | STRANDS | 288.67 | | | | | | 288.67 | 0.789 | 3 | 683 | |
| K 2 | 12.7 | STRANDS | 168.24 | | | | | | 168.24 | 0.789 | 3 | 398 | |
| K 3 | 12.7 | STRANDS | 289.03 | | | | | | 289.03 | 0.789 | 3 | 684 | |
| TOTAL = 1,765 kg | | | | | | | | | | | | | |

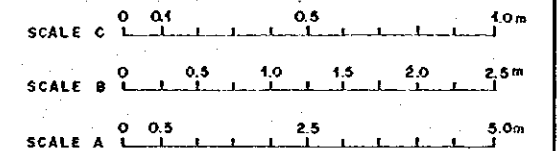
LIST OF PC CABLE OF MAIN GIRDER



| REINFORCING BAR NO | Ø (mm) | TYPE | BENDING DIMENSION (cm) | | | | | | TOTAL LENGTH (m) | UNIT WEIGHT (kg/m) | NUMBER | WEIGHT (kg) | REMARKS |
|--------------------|--------|------|------------------------|-----|-----|----|---|-------|------------------|--------------------|--------|-------------|---------|
| | | | a | b | c | d | e | f | | | | | |
| B1 | 13 | D | 57 | 15 | 35 | 10 | | 1.77 | 1.04 | 3x413 | 624 | | |
| B2 | 13 | E | 12 | 181 | | | | 3.74 | 1.04 | 3x413 | 1,319 | | |
| B3 | 13 | C | 47 | 4 | 42 | 20 | | 1.19 | 1.04 | 3x95 | 353 | | |
| B4 | 13 | A | 2384 | | | | | 24.23 | 1.04 | 3x4 | 302 | | |
| B5 | 13 | A | 2242 | | | | | 22.81 | 1.04 | 3x10 | 712 | | |
| B6 | 13 | G | 55 | 10 | | | | 0.75 | 1.04 | 3x1 | 2 | | |
| B7 | 16 | A | 2384 | | | | | 24.32 | 1.58 | 3x8 | 922 | | |
| B8 | 13 | A | 2384 | | | | | 22.81 | 1.04 | 3x2 | 142 | | |
| B9 | 13 | H | 47 | 142 | 6.5 | | | 3.91 | 1.04 | 3x18 | 220 | | |
| B10 | 13 | B | 92 | 23 | 15 | | | 1.30 | 1.04 | 3x10 | 41 | | |
| B11 | 10 | F | 16 | 4 | | | | 0.24 | 0.617 | 3x240 | 140 | | |
| B12 | 16 | A | 2384 | | | | | 24.32 | 1.58 | 3x4 | 461 | | |
| B13 | 13 | I | 6 | 6 | 36 | | | 2.36 | 1.04 | 6x2 | 30 | | |
| B14 | 13 | J | 7 | 10 | | | | 0.95 | 1.04 | 6x4 | 28 | | |
| B15 | 13 | K | 30 | 18 | | | | 3.391 | 1.04 | 6x6 | 127 | | |
| B16 | 13 | B | 15 | | | | | 0.90 | 1.04 | 6x2 | 11 | | |
| B17 | 13 | B | 30 | | | | | 1.80 | 1.04 | 6x1 | 11 | | |
| TOTAL = 5,445 kg | | | | | | | | | | | | | |

LIST OF REINFORCING BAR OF MAIN GIRDER

- NOTE :
- CONCRETE COMPRESSION STRENGTH OF
 - fc' = 35.2 MPa
 - fd' = 22.5 MPa
 - TENSILE STRENGTH OF REINFORCING BAR
 - fy = 320 MPa
 - TENDON SPECIFICATION
 - TYPE = 7 SUPER STRANDS
 - DIAMETER = 12.7mm
 - AREA A = 100mm²
 - MIN TENSILE STRENGTH = 1840 MPa
 - MIN BREAKING LOAD 184 KN
 - TOTAL = 31 STRANDS
 - K1 = 12 STRANDS
 - K2 = 7 STRANDS
 - K3 = 12 STRANDS
 - EACH STRAND SHALL BE PRESTRESSED TO 150 KN.
 - IMMEDIATELY PRIOR TO BE FIXED
 - UNIT IN CENTIMETER EXCEPT FOR DIAMETER OF REINFORCING BAR
 - CONCRETE QUALITY K-400
 - STEEL QUALITY BJ-32



THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

JATUNSELUNA FLOOD CONTROL PROJECT
 COMPONENT : JATIBARANG DAM CONSTRUCTION
 SPILLWAY BRIDGE 3/6
 CABLE AND BAR ARRANGEMENT OF GIRDER

PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
 PROJECT LOCATION: SEMARANG CITY
 DRAWING NO. JD - PJ - SP - Br - 3
 SHEET NO. 164

JAPAN INTERNATIONAL COOPERATION AGENCY
 CH. ENGINEERING CO., LTD. IN ASSOCIATION WITH
 PACIFIC CONSULTANTS INTERNATIONAL AND
 PARCO INTERNATIONAL, INC.

DESIGNED: [Signature]
 CHECKED: [Signature]
 CARRY OF PLANNING AND DESIGN
 PROJECT MANAGER

NO. DATE REVISIONS ORIGINATED DRAWING APPROVED APPROVED DATE CONTRACTING