

|                                  |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| PROPOSED CANAL BED ELEVATION     | 843.99 | 843.27 | 842.82 | 842.44 | 842.20 | 842.20 | 841.64 | 841.20 | 841.17 | 840.98 | 840.95 | 840.56 | 840.19 | 840.04 |
| PROPOSED WATER SURFACE ELEVATION | 845.00 | 844.28 | 843.83 | 843.45 | 843.21 | 843.21 | 842.65 | 842.21 | 842.18 | 841.99 | 841.96 | 841.57 | 841.20 | 841.05 |
| GROUND SURFACE ELEVATION         | 845.0  | 845.0  | 844.0  | 843.0  | 843.0  | 843.0  | 843.0  | 842.5  | 842.0  | 842.0  | 842.1  | 841.0  | 839.7  | 841.8  |
| REDUED DISTANCE                  | 0      | 220    | 670    | 765    | 985    | 1000   | 1565   | 2000   | 2015   | 2060   | 2090   | 2480   | 2850   | 3000   |
| DISTANCE                         | 0      | 220    | 450    | 95     | 270    | 275    | 565    | 435    | 15     | 30     | 30     | 390    | 385    | 150    |
| STATION                          | NO.0   | +220   | +670   | +765   | +985   | NO.1   | +565   | NO.2   | +30    | +60    | +90    | +480   | +850   | NO.3   |

**LEGEND**

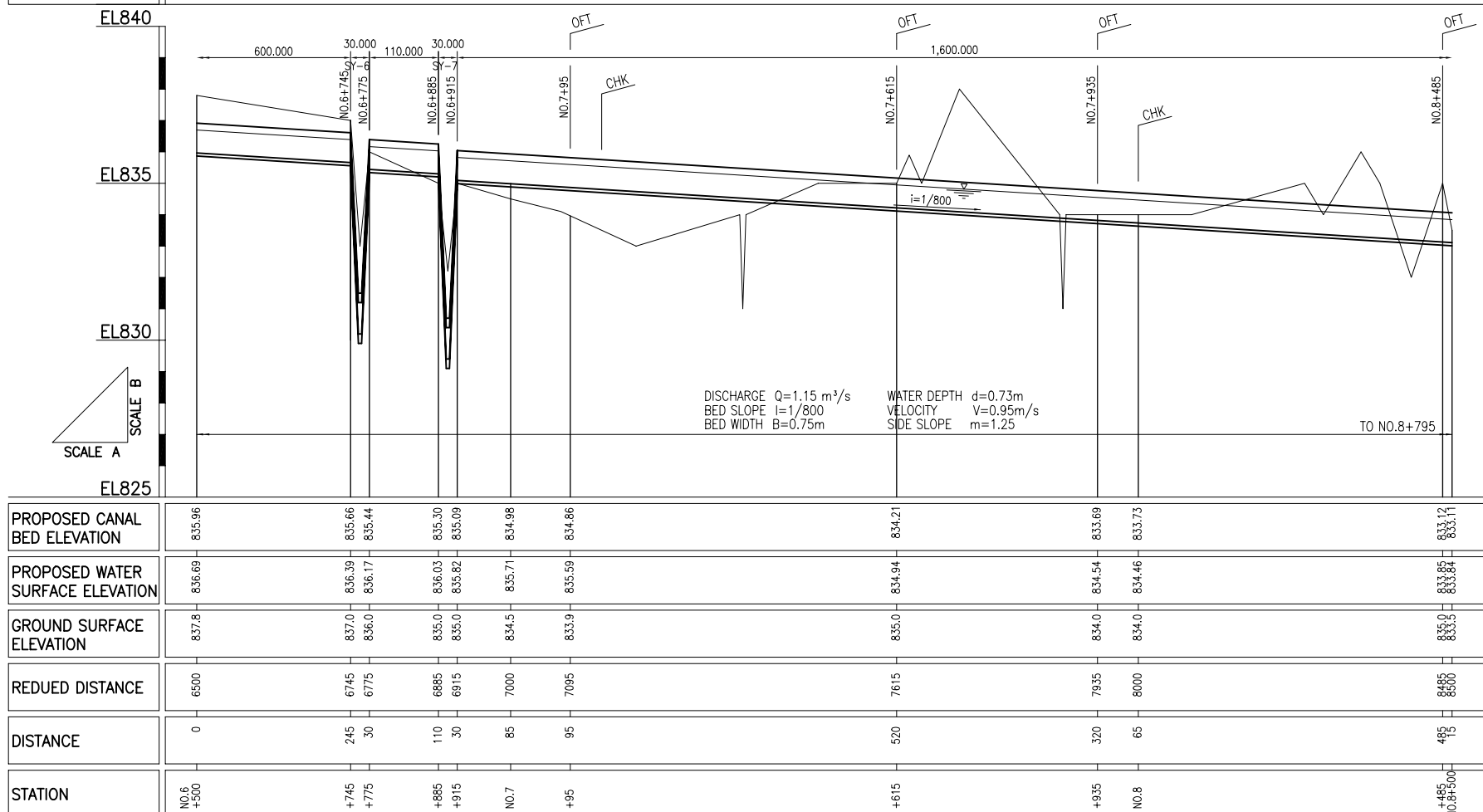
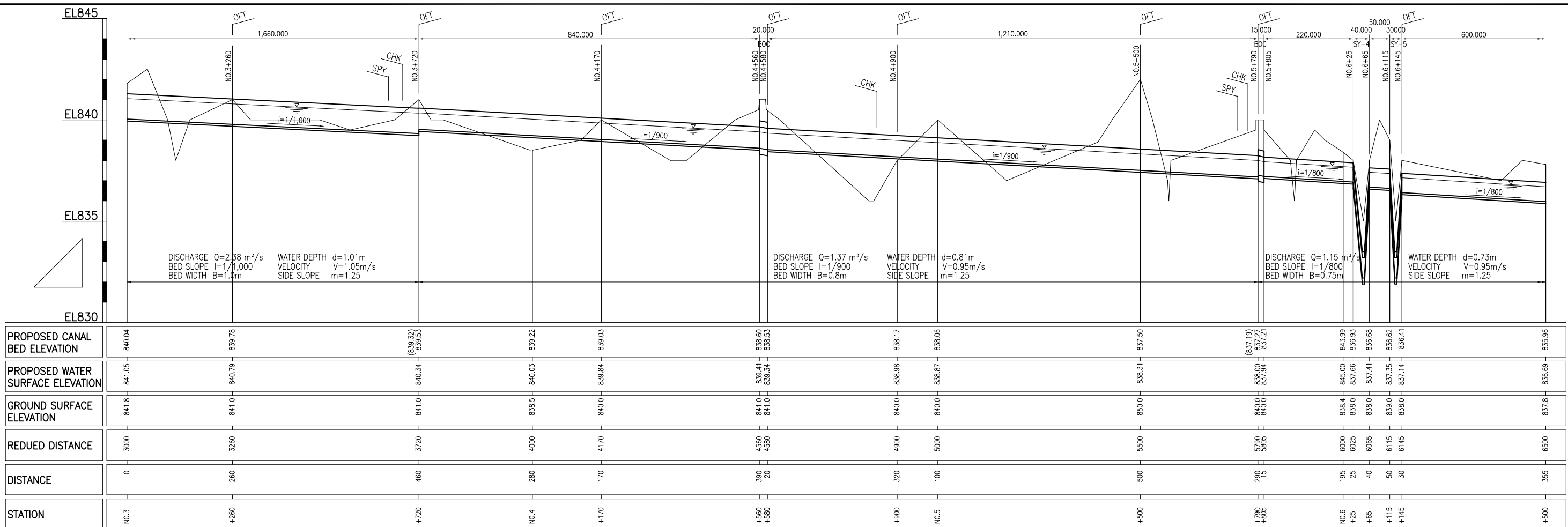
- OFT : OFFTAKE OR TURNOUT
- DRP : DORP
- CHK : CHEK
- SPY : SPILLWAY
- AQT : AQUEDUCT
- BOC : BOX CULVERTE
- SY- : SYPHON

SCALE A  
0 100 200 300 400 500m

SCALE B  
0 2 4 6 8 10m

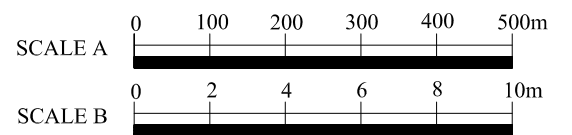
L'ETUDE DE FAISABILITE POUR  
LE DEVELOPPEMENT DES RESSOURCES EN EAU  
PAR LES BARRAGES MOYENS DANS LE MILIEU RURAL  
L'AGENCE JAPONAISE DE COOPERATION INTERNATIONALE

Plan 408  
Azghar Irrigation  
Coupe longitudinal du Canal principal (1/3)



**LEGEND**

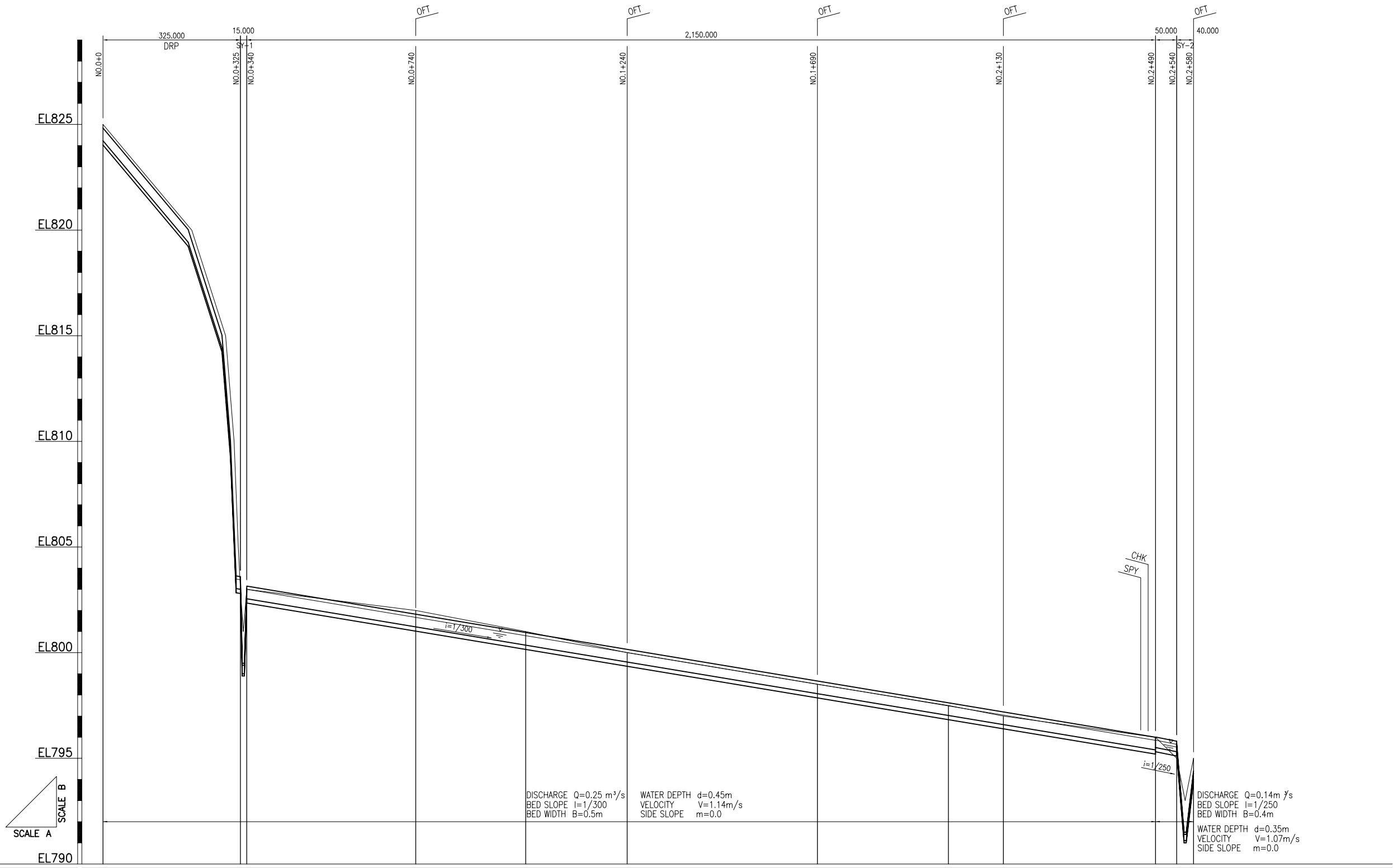
- OFT : OFFTAKE OR TURNOUT
- DRP : DORP
- CHK : CHEK
- SPY : SPILLWAY
- AQT : AQUEDUCT
- BOC : BOX CULVERTE
- SY- : SYPHON



L'ETUDE DE FAISABILITE POUR  
LE DEVELOPPEMENT DES RESSOURCES EN EAU  
PAR LES BARRAGES MOYENS DANS LE MILIEU RURAL  
L'AGENCE JAPONAISE DE COOPERATION INTERNATIONALE

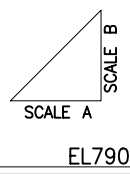
Plan 409  
Azghar Irrigation  
Coupe longitudinal du Canal principal (2/3)





DISCHARGE  $Q=0.25 \text{ m}^3/\text{s}$   
 BED SLOPE  $i=1/300$   
 BED WIDTH  $B=0.5\text{m}$   
 WATER DEPTH  $d=0.45\text{m}$   
 VELOCITY  $V=1.14\text{m/s}$   
 SIDE SLOPE  $m=0.0$

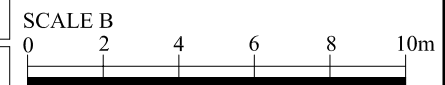
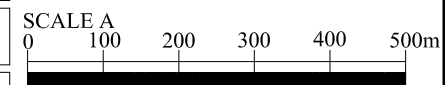
DISCHARGE  $Q=0.14 \text{ m}^3/\text{s}$   
 BED SLOPE  $i=1/250$   
 BED WIDTH  $B=0.4\text{m}$   
 WATER DEPTH  $d=0.35\text{m}$   
 VELOCITY  $V=1.07\text{m/s}$   
 SIDE SLOPE  $m=0.0$



**LEGEND**

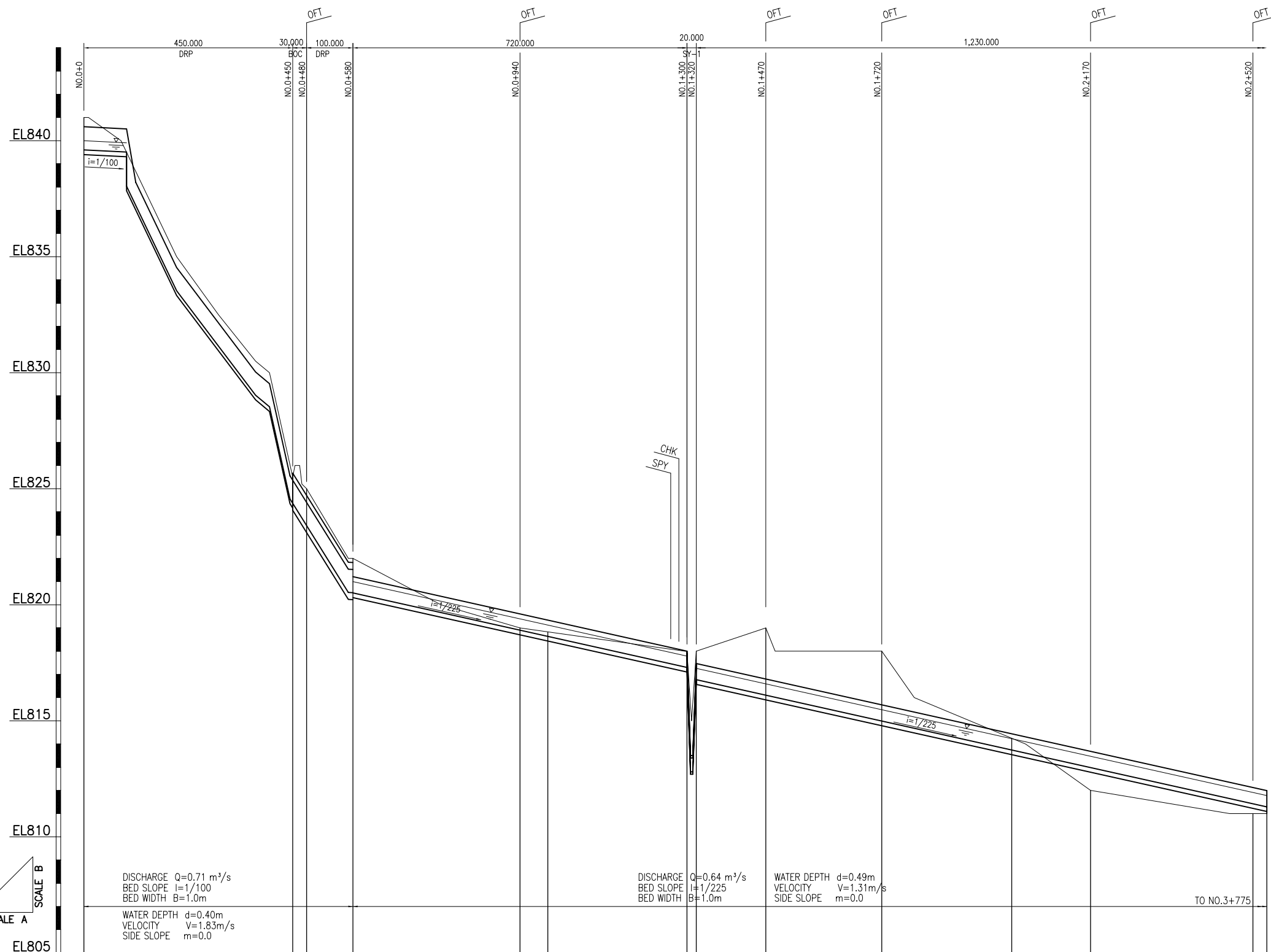
- OFT : OFFTAKE OR TURNOUT
- DRP : DORP
- CHK : CHECK
- SPY : SPILLWAY
- AQT : AQUEDUCT
- BOC : BOX CULVERTE
- SY- : SYPHON

|                                  |       |        |        |        |        |        |        |        |        |        |        |
|----------------------------------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| PROPOSED CANAL BED ELEVATION     |       | 803.95 | 801.22 | 800.35 | 799.55 | 798.05 | 797.02 | 796.58 | 795.01 | 795.31 | 794.00 |
| PROPOSED WATER SURFACE ELEVATION |       | 803.90 | 801.67 | 800.80 | 800.00 | 798.50 | 797.47 | 797.03 | 795.86 | 795.86 | 794.35 |
| GROUND SURFACE ELEVATION         | 825.0 | 803.0  | 802.0  | 801.0  | 800.0  | 798.5  | 797.5  | 797.0  | 796.0  | 795.0  | 795.0  |
| REDUED DISTANCE                  | 0     | 346    | 740    | 1000   | 1240   | 1690   | 2000   | 2130   | 2490   | 2540   | 2580   |
| DISTANCE                         | 0     | 346    | 400    | 260    | 240    | 450    | 310    | 130    | 360    | 50     | 40     |
| STATION                          | NO.0  | +346   | +740   | NO.1   | +240   | +690   | NO.2   | +130   | +490   | +540   | +580   |



L'ETUDE DE FAISABILITE POUR  
 LE DEVELOPPEMENT DES RESSOURCES EN EAU  
 PAR LES BARRAGES MOYENS DANS LE MILIEU RURAL  
 L'AGENCE JAPONAISE DE COOPERATION INTERNATIONALE

Plan 411  
 Azghar Irrigation  
 Coupe longitudinale du Canal de branchement (1)



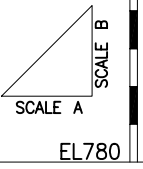
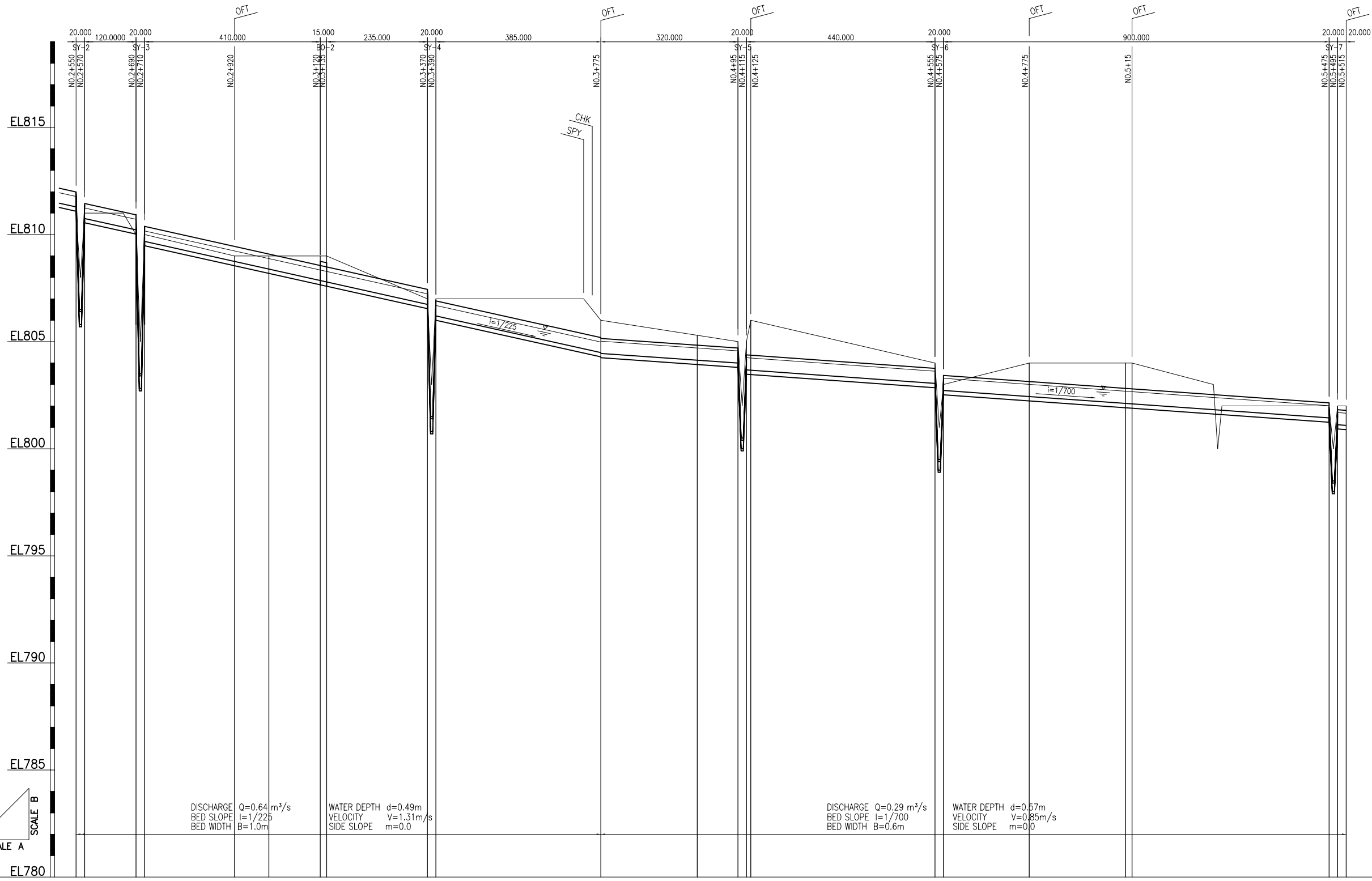
|                                  |        |       |                 |        |        |        |        |        |        |        |        |        |        |      |
|----------------------------------|--------|-------|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| PROPOSED CANAL BED ELEVATION     | 839.60 |       | (820.52) 820.51 | 818.91 | 818.64 | 817.70 | 816.77 | 816.10 | 814.99 | 813.74 | 812.99 | 811.43 | 811.29 |      |
| PROPOSED WATER SURFACE ELEVATION | 840.00 |       | (820.92) 821.00 | 819.40 | 819.13 | 817.70 | 817.26 | 816.59 | 815.48 | 814.23 | 813.48 | 811.92 | 811.78 |      |
| GROUND SURFACE ELEVATION         | 841.0  | 825.5 | 825.0           | 822.0  | 819.0  | 818.8  | 818.0  | 819.0  | 818.0  | 814.3  | 812.0  | 811.0  | 811.0  |      |
| REDUED DISTANCE                  | 0      | 450   | 480             | 580    | 940    | 1000   | 1300   | 1320   | 1470   | 1720   | 2000   | 2170   | 2520   |      |
| DISTANCE                         | 0      | 450   | 30              | 100    | 360    | 60     | 300    | 20     | 150    | 250    | 280    | 170    | 350    |      |
| STATION                          | NO.0   | +450  | +480            | +580   | +940   | NO.1   | +300   | +320   | +470   | +720   | NO.2   | +170   | +520   | +550 |

**LEGEND**

- OFT : OFFTAKE OR TURNOUT
- DRP : DORP
- CHK : CHEK
- SPY : SPILLWAY
- AQT : AQUEDUCT
- BOC : BOX CULVERTE
- SY- : SYPHON

SCALE A  
0 100 200 300 400 500m

SCALE B  
0 2 4 6 8 10m



DISCHARGE  $Q=0.64 \text{ m}^3/\text{s}$   
 BED SLOPE  $i=1/225$   
 BED WIDTH  $B=1.0\text{m}$

WATER DEPTH  $d=0.49\text{m}$   
 VELOCITY  $V=1.31\text{m/s}$   
 SIDE SLOPE  $m=0.0$

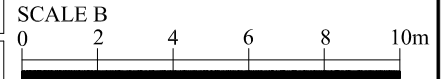
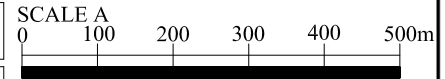
DISCHARGE  $Q=0.29 \text{ m}^3/\text{s}$   
 BED SLOPE  $i=1/700$   
 BED WIDTH  $B=0.6\text{m}$

WATER DEPTH  $d=0.57\text{m}$   
 VELOCITY  $V=0.85\text{m/s}$   
 SIDE SLOPE  $m=0.0$

**LEGEND**

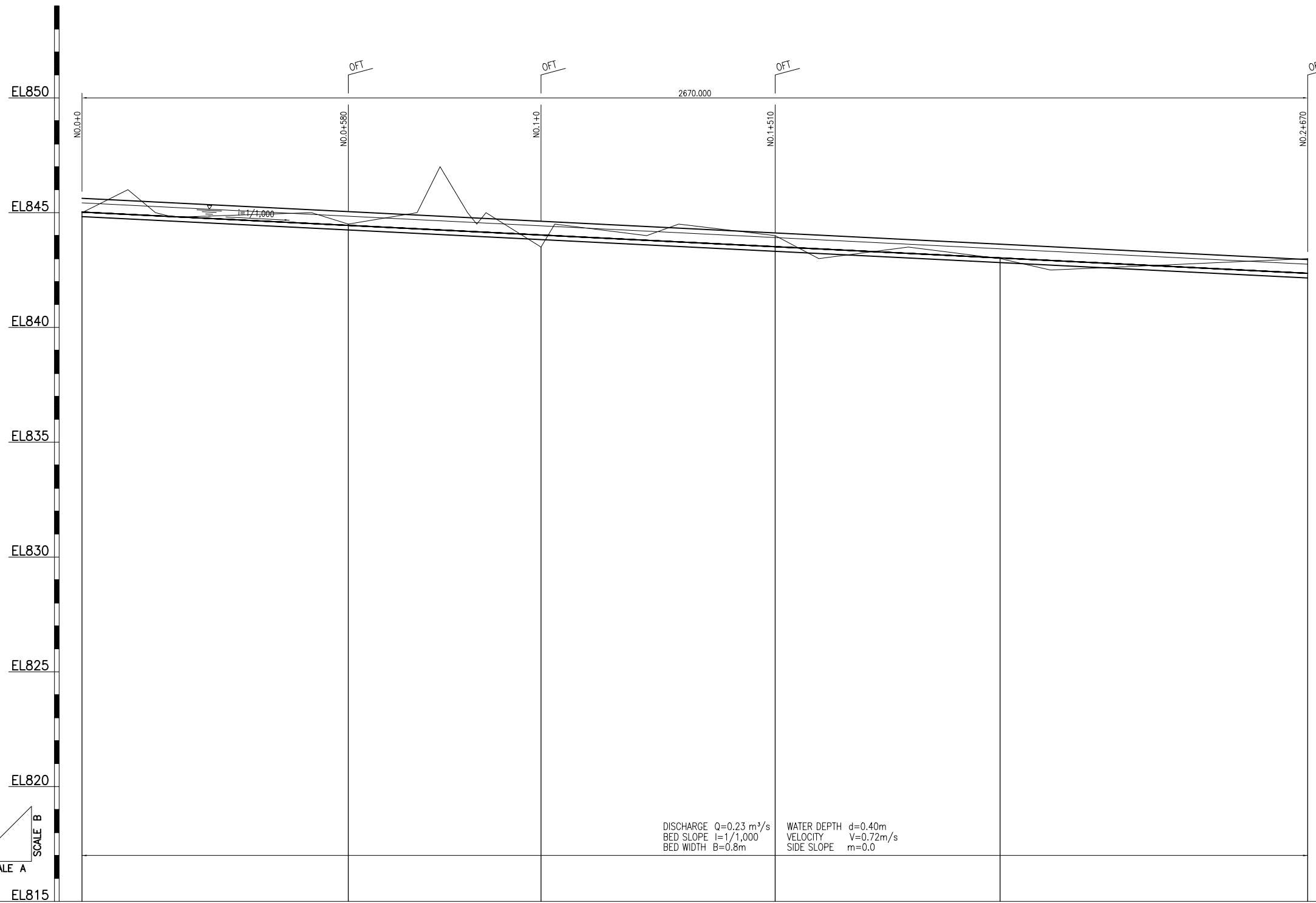
- OFT : OFFTAKE OR TURNOUT
- DRP : DORP
- CHK : CHEK
- SPY : SPILLWAY
- AQT : AQUEDUCT
- BOC : BOX CULVERTE
- SY- : SYPHON

|                                  |                      |                  |        |        |                  |                  |                    |        |                  |                  |        |                  |                            |
|----------------------------------|----------------------|------------------|--------|--------|------------------|------------------|--------------------|--------|------------------|------------------|--------|------------------|----------------------------|
| PROPOSED CANAL BED ELEVATION     | 811.29<br>810.75     | 810.22<br>809.68 | 808.75 | 808.39 | 807.86<br>807.79 | 806.74<br>806.20 | (804.49)<br>804.46 | 804.14 | 804.00<br>803.68 | 803.52<br>802.72 | 802.43 | 802.11<br>802.09 | 801.44<br>801.12<br>801.09 |
| PROPOSED WATER SURFACE ELEVATION | 811.78<br>811.24     | 810.71<br>810.17 | 809.24 | 808.88 | 808.35<br>808.28 | 807.23<br>806.69 | (804.98)<br>805.03 | 804.71 | 804.57<br>804.24 | 803.52<br>803.29 | 803.00 | 802.68<br>802.66 | 802.01<br>801.69<br>801.66 |
| GROUND SURFACE ELEVATION         | 811.0<br>811.0       | 810.0<br>810.0   | 809.0  | 809.0  | 809.0<br>809.0   | 807.0<br>807.0   | 806.0              | 805.3  | 805.0<br>805.0   | 804.0<br>803.0   | 804.0  | 804.0<br>803.9   | 802.0<br>802.0<br>802.0    |
| REDUED DISTANCE                  | 2550<br>2570         | 2690<br>2710     | 2920   | 3000   | 3120<br>3135     | 3370<br>3390     | 3775               | 4000   | 4095<br>4125     | 4555<br>4575     | 4775   | 5090<br>5075     | 5475<br>5495<br>5515       |
| DISTANCE                         | 0<br>20              | 120<br>20        | 210    | 80     | 175              | 235<br>20        | 385                | 225    | 95<br>70         | 430<br>20        | 200    | 475              | 460<br>20<br>20            |
| STATION                          | NO.2<br>+550<br>+570 | +690<br>+710     | +920   | NO.3   | +120<br>+135     | +370<br>+390     | +775               | NO.4   | +95<br>+125      | +555<br>+575     | +775   | NO.5<br>+15      | +475<br>+495<br>+515       |

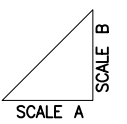


L'ETUDE DE FAISABILITE POUR  
 LE DEVELOPPEMENT DES RESSOURCES EN EAU  
 PAR LES BARRAGES MOYENS DANS LE MILIEU RURAL  
 L'AGENCE JAPONAISE DE COOPERATION INTERNATIONALE

Plan 413  
 Azghar Irrigation  
 Coupe longitudinale du Canal de branchement (2) (2/2)



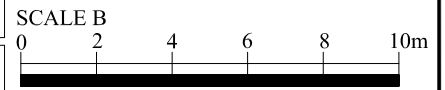
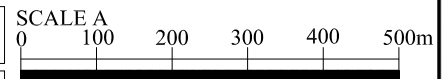
DISCHARGE  $Q=0.23 \text{ m}^3/\text{s}$   
 BED SLOPE  $I=1/1,000$   
 BED WIDTH  $B=0.8\text{m}$   
 WATER DEPTH  $d=0.40\text{m}$   
 VELOCITY  $V=0.72\text{m/s}$   
 SIDE SLOPE  $m=0.0$

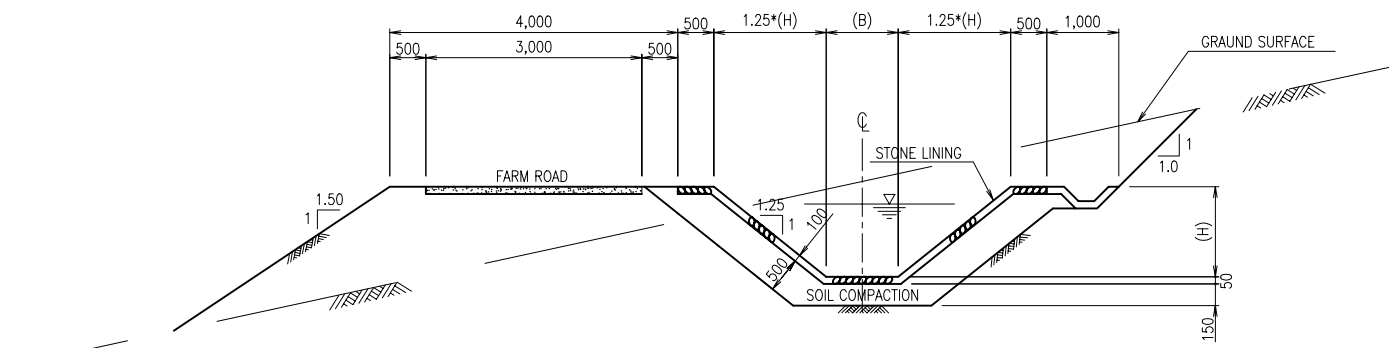


**LEGEND**

- OFT : OFFTAKE OR TURNOUT
- DRP : DORP
- CHK : CHEK
- SPY : SPILLWAY
- AQT : AQUEDUCT
- BOC : BOX CULVERTE
- SY- : SYPHON

|                                  |        |        |        |        |        |        |
|----------------------------------|--------|--------|--------|--------|--------|--------|
| PROPOSED CANAL BED ELEVATION     | 845.03 | 844.45 | 844.03 | 843.52 | 843.03 | 842.36 |
| PROPOSED WATER SURFACE ELEVATION | 845.83 | 845.25 | 844.83 | 844.32 | 843.83 | 843.16 |
| GROUND SURFACE ELEVATION         | 845.0  | 844.5  | 843.5  | 843.5  | 845.0  | 845.0  |
| REDUED DISTANCE                  | 0      | 580    | 1000   | 1510   | 2000   | 2670   |
| DISTANCE                         | 0      | 580    | 420    | 510    | 480    | 670    |
| STATION                          | NO.0   | +580   | NO.1   | +510   | NO.2   | +670   |

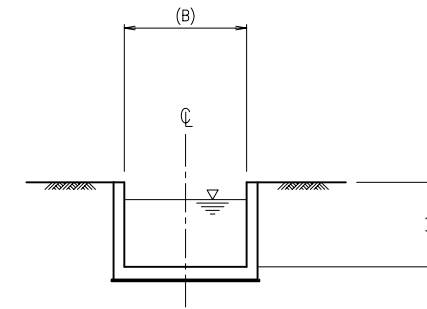




CROSS SECTION OF CANAL

Dimension

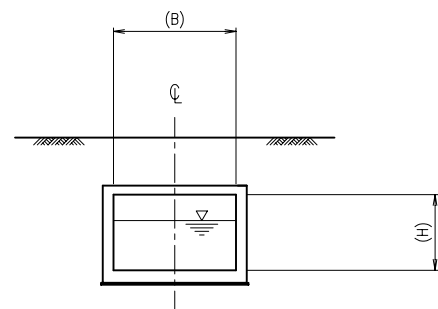
| No. | Division | STATION |        | LENGTH (m) | (B) mm | (H) mm | Remarks |
|-----|----------|---------|--------|------------|--------|--------|---------|
|     |          | FROM    | TO     |            |        |        |         |
| 1   | Main     | 0+220   | 0+670  | 450        | 1,000  | 1,250  |         |
| 2   | Ditto    | 0+765   | 2+030  | 1,265      | 1,000  | 1,250  |         |
| 3   | Ditto    | 2+060   | 3+720  | 1,660      | 1,000  | 1,250  |         |
| 4   | Ditto    | 3+720   | 4+560  | 840        | 800    | 1,050  |         |
| 5   | Ditto    | 4+580   | 5+790  | 1,210      | 800    | 1,050  |         |
| 6   | Ditto    | 5+805   | 6+025  | 220        | 750    | 950    |         |
| 7   | Ditto    | 6+065   | 6+115  | 50         | 750    | 950    |         |
| 8   | Ditto    | 6+145   | 6+745  | 600        | 750    | 950    |         |
| 9   | Ditto    | 6+775   | 6+885  | 110        | 750    | 950    |         |
| 10  | Ditto    | 6+915   | 8+515  | 1,600      | 750    | 950    |         |
| 11  | Ditto    | 8+615   | 8+745  | 130        | 750    | 950    |         |
| 12  | Ditto    | 8+795   | 9+055  | 260        | 750    | 900    |         |
| 13  | Ditto    | 9+095   | 9+745  | 650        | 750    | 900    |         |
| 14  | Ditto    | 9+795   | 11+745 | 1,950      | 750    | 900    |         |
| 15  | Ditto    | 11+745  | 13+545 | 1,800      | 600    | 800    |         |



CROSS SECTION OF CANAL(CONCRETE FLUME)

Dimension

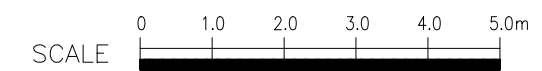
| No.   | Division  | STATION |       | LENGTH (m) | (B) mm | (H) mm | Remarks |
|-------|-----------|---------|-------|------------|--------|--------|---------|
|       |           | FROM    | TO    |            |        |        |         |
| B1-1  | Branch(1) | 0+000   | 0+325 | 325        | 500    | 600    |         |
| B1-2  | Ditto     | 0+340   | 2+490 | 2,150      | 500    | 600    |         |
| B1-3  | Ditto     | 2+490   | 2+540 | 50         | 400    | 500    |         |
| B2-1  | Branch(2) | 0+000   | 0+580 | 580        | 1,000  | 1,000  | Drop    |
| B2-2  | Ditto     | 0+580   | 1+300 | 720        | 1,000  | 700    |         |
| B2-3  | Ditto     | 1+320   | 2+550 | 1,230      | 1,000  | 700    |         |
| B2-4  | Ditto     | 2+570   | 2+690 | 120        | 1,000  | 700    |         |
| B2-5  | Ditto     | 2+710   | 3+370 | 660        | 1,000  | 700    |         |
| B2-6  | Ditto     | 3+390   | 3+775 | 385        | 1,000  | 700    |         |
| B2-7  | Ditto     | 3+775   | 4+095 | 320        | 600    | 700    |         |
| B2-8  | Ditto     | 4+115   | 4+555 | 440        | 600    | 700    |         |
| B2-9  | Ditto     | 4+575   | 5+475 | 900        | 600    | 700    |         |
| B2-10 | Ditto     | 5+495   | 5+515 | 20         | 600    | 700    |         |
| B3-1  | Branch(3) | 0+000   | 2+670 | 2,670      | 800    | 600    |         |



CROSS SECTION OF BOX CULVERT

Dimension

| No. | Division | STATION |       | LENGTH (m) | (B) mm | (H) mm | Remarks |
|-----|----------|---------|-------|------------|--------|--------|---------|
|     |          | FROM    | TO    |            |        |        |         |
| 1   | Main     | 4+560   | 4+580 | 20         | 1,600  | 990    |         |
| 2   | Ditto    | 5+790   | 5+805 | 15         | 1,500  | 930    |         |



|   |   |
|---|---|
| L'ETUDE DE FAISABILITE POUR<br>LE DEVELOPPEMENT DES RESSOURCES EN EAU<br>PAR LES BARRAGES MOYENS DANS LE MILIEU RURAL<br>L'AGENCE JAPONAISE DE COOPERATION INTERNATIONALE | Plan 415<br>Azghar Irrigation<br>Coupe transversale du Canal d'irrigation |
|---|---|