

- ## NOTES:
1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SHOWN.
  2. ALL LEVELS IN METRES ABOVE SEA LEVEL. (M.A.S.L.)
  3. COORDINATE SYSTEM BASED ON 1027 HARTBEESTHOCK 94
  4. \* INDICATES FARM NAME
  5. LOW-LIFT PUMP STATION RISING MAIN (2.1m DIAMETER) TO HAVE A CONSTANT UP-GRADE.
  6. A GAUGING WEIR IS REQUIRED DOWNSTREAM OF THE ABSTRACTION POINT, UPSTREAM OF THE FLOW TO THE STRUCTURE. THE STRUCTURE SHOULD BE DESIGNED TO ALLOW THE FLOW TO PASS AS POSSIBLE TO THE ABSTRACTION WEIR. IF IT IS POSSIBLE TO USE THE ABSTRACTION WEIR TO ACCURATELY GAUGE FLOWS THE A DOWNSTREAM WEIR IS NOT REQUIRED. TWO POSSIBLE LOCATIONS FOR THE GAUGING WEIR ARE SHOWN ALTHOUGH FURTHER INVESTIGATIONS ARE REQUIRED TO FIND A SUITABLE SITE.

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5. LOW-LIFT PUMP STATION RISING MAIN (2.1m DIAMETER) TO HAVE A CONSTANT UP-GRADE.

### A CONSTANT UP-GRADE

6. A GAUGING WEIR IS REQUIRED DOWNSTREAM OF THE ABSTRACTION WEIR TO MONITOR THE FLOWS PAST THE STRUCTURE. THE STRUCTURE SHOULD IDEALLY BE LOCATED AS CLOSE AS POSSIBLE TO THE ABSTRACTION WEIR. IF IT IS POSSIBLE TO USE THE ABSTRACTION WEIR TO ACCURATELY GAUGE FLOWS THE A DOWNSTREAM WEIR IS NOT REQUIRED. TWO POSSIBLE LOCATIONS FOR THE GAUGING WEIR ARE SHOWN, ALTHOUGH FURTHER INVESTIGATIONS ARE REQUIRED TO FIND A SUITABLE SITE.

## DESIGN PARAMETERS

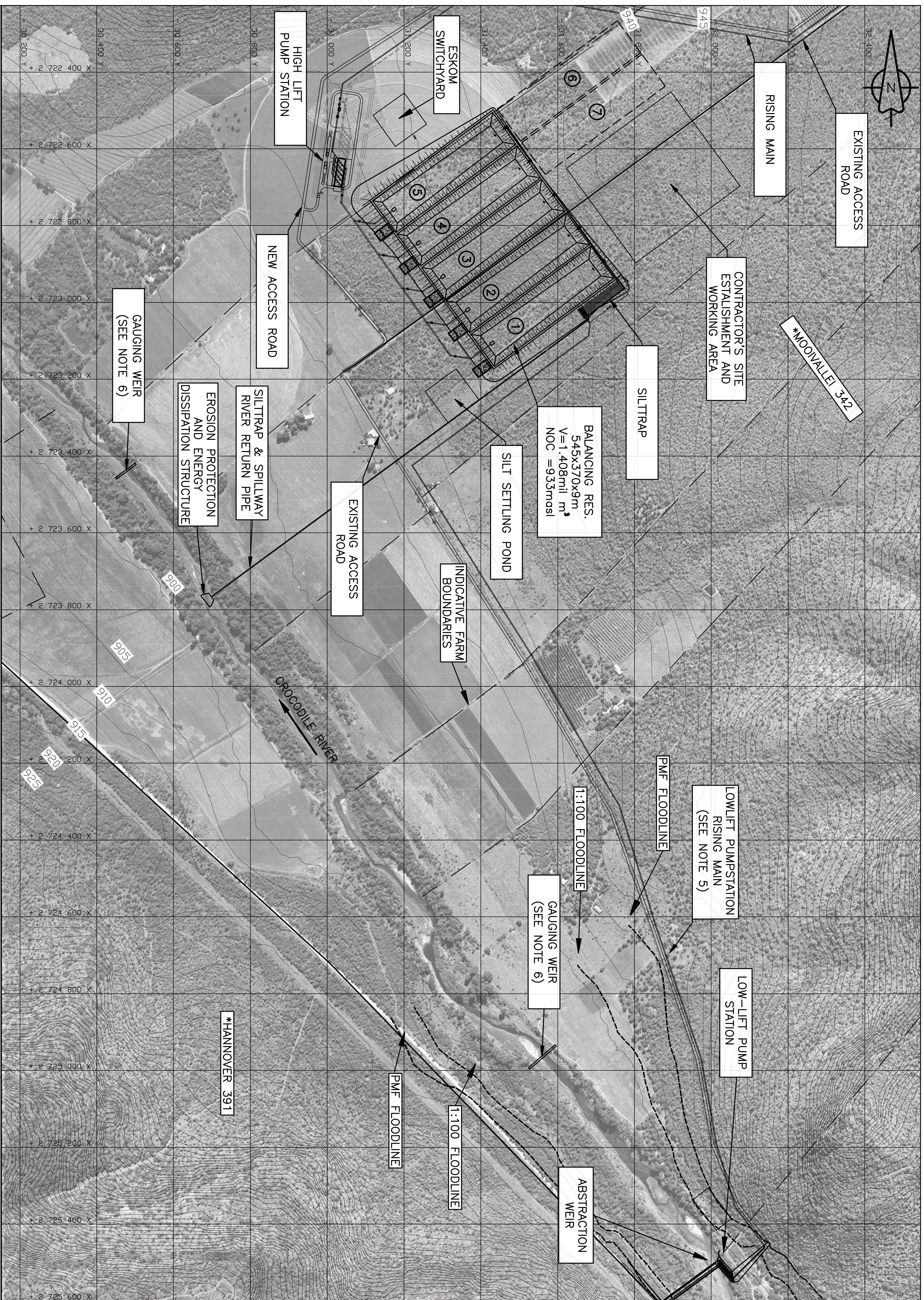
| PARAMETER                   | STAGE 1                | STAGE 2                |
|-----------------------------|------------------------|------------------------|
| SCHEME DELIVERY REQUIREMENT | 200 Mm <sup>3</sup> /a | 430 Mm <sup>3</sup> /a |
| AVERAGE DESIGN FLOW         | 6.3 m <sup>3</sup> /s  | 13.6 m <sup>3</sup> /s |
| MAXIMUM DESIGN FLOW (+20%)  | 7.6 m <sup>3</sup> /s  | 16.4 m <sup>3</sup> /s |
| BALANCING RESERVOIR         |                        |                        |

DURING STAGE 1, COMPARTMENTS 1 - 4 WILL BE REQUIRED. 1 COMPARTMENT WILL BE DRAWN DOWN AT A TIME WHILST THE PREVIOUSLY EMPTIED COMPARTMENT IS REFILLED.

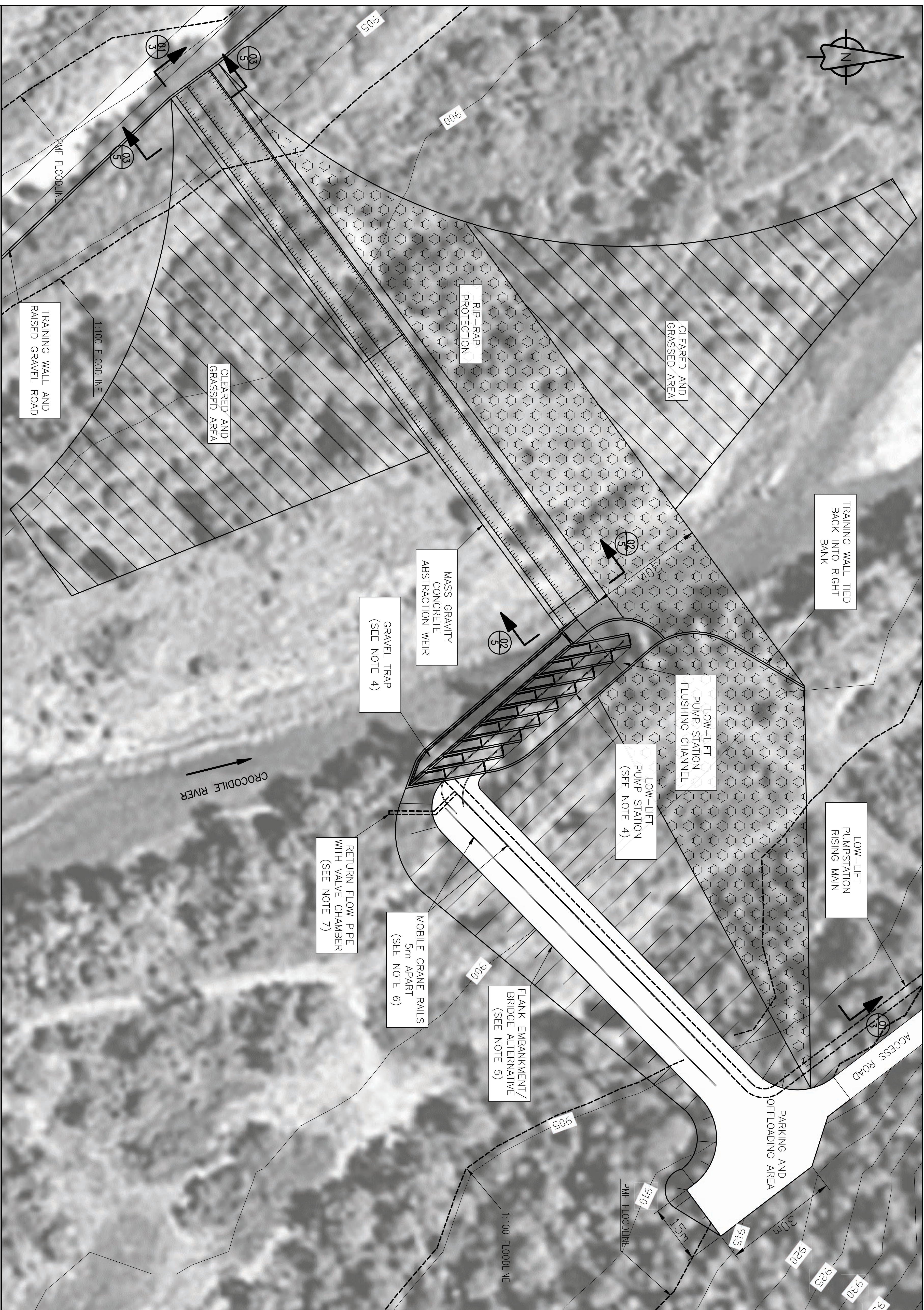
DURING STAGE 2, COMPARTMENT 5 IS ADDED. 2 COMPARTMENTS WILL BE DRAWN DOWN AT A TIME WHILST THE 2 PREVIOUSLY EMPTIED COMPARTMENTS ARE REFILLED.

COMPARTMENTS 6 AND 7 ARE AVAILABLE FOR FUTURE EXPANSION TO PROVIDE IMPROVEMENT OF RIVER MANAGEMENT EFFICIENCY

| Date:                                                                               | Day/night: | Duration:                                                                           | Deadline: | Topic:                                                                              |
|-------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------|
| AFRICON IN ASSOCIATION WITH VELAWKE AND KWEZI V3                                    |            |                                                                                     |           |                                                                                     |
|  |            |  |           |  |

[illegible][illegible]



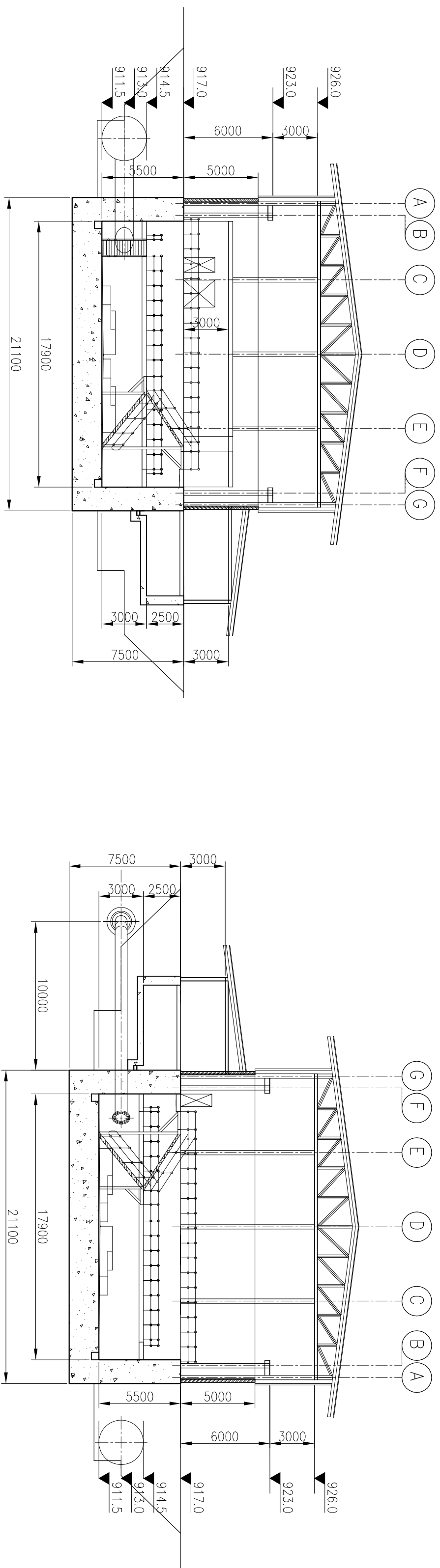


| NOTES: |                                                                                                                                                                                                                            |  |  |  |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| 1.     | ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SHOWN.                                                                                                                                                                      |  |  |  |
| 2.     | ALL LEVELS IN METRES ABOVE SEA LEVEL. (M.A.S.L.)                                                                                                                                                                           |  |  |  |
| 3.     | COORDINATE SYSTEM BASED ON 1027 HARTBEESTHOEK 94.                                                                                                                                                                          |  |  |  |
| 4.     | SEE DRAWINGS WP9582/DD/VPW/005 AND WP9582/DD/VPW/006 FOR LOW-LIFT PUMP STATION DETAILS.                                                                                                                                    |  |  |  |
| 5.     | THE FLANK EMBANKMENT ON THE RIGHT BANK CAN BE REPLACED WITH A BRIDGE STRUCTURE WHICH WILL ALLOW ACCESS TO THE LOW-LIFT PUMP STATION OPERATING LEVEL ABOVE THE PUMP FLOODLEVEL.                                             |  |  |  |
| 6.     | ALTERNATIVELY, THE MOBILE CRANE TRAILS CAN BE REPLACED WITH A ROAD SURFACE. A TRUCK CAN THEN GAIN ACCESS TO THE LOW-LIFT PUMP-STATION TO LOAD OR UNLOAD HEAVY EQUIPMENT.                                                   |  |  |  |
| 7.     | THE RETURN FLOW PIPE AND FLOW CONTROL VALVE CAN BE USED TO ADJUST FOR FLUCTUATING RIVER FLOWS THAT DO NOT MATCH THE FLOW-LIFT PUMP-STATION CAPACITY. THE RETURN PIPE WILL HAVE A MAXIMUM CAPACITY OF 0.5 m <sup>3</sup> /s |  |  |  |



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NOTES:

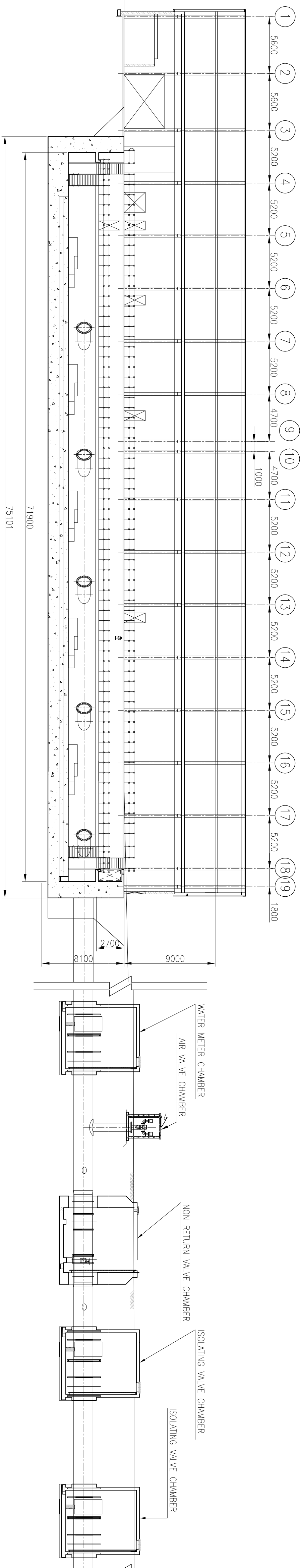


SECTION 01-01

SCALE: 1: 250

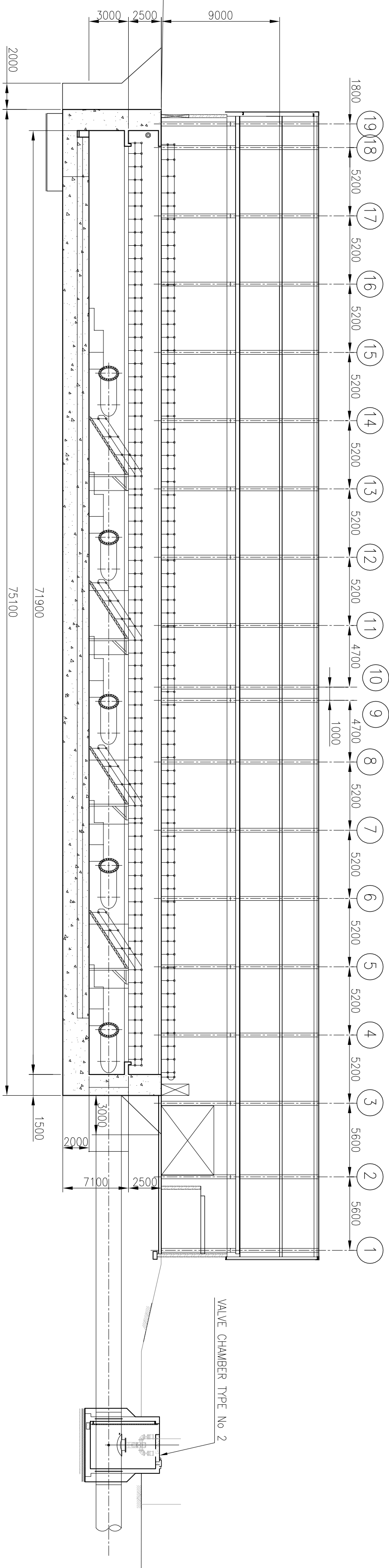
SECTION 02-02

SCALE: 1: 250



## SECTION 03-03

SCALE: 1: 250



## SECTION 04-04

SCALE: 1: 250

| Date  | Designee    | Drawing   | Received | Accepted |
|-------|-------------|-----------|----------|----------|
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| SHEET | DESCRIPTION | OTHER NO. | REC. NO. |          |

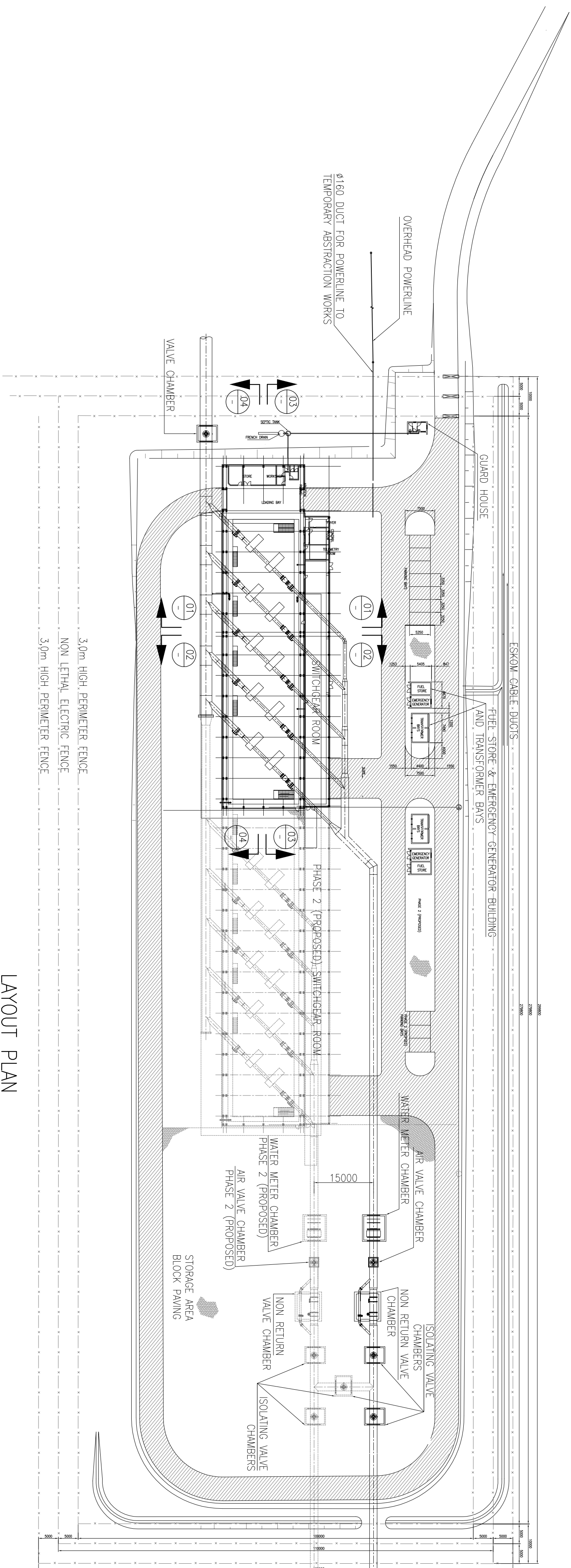
| SHEET | DESCRIPTION | OTHER NO. | REC. NO. |
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| DEPARTMENT OF WATER AFFAIRS AND FORESTRY |      | DEPARTMENT OF WATER AFFAIRS AND FORESTRY |      |
| SETTLING OUT POINTS:                     |      | REVISION                                 |      |
| MOD No.                                  | DATE | FOR                                      | DRAW |
|                                          |      |                                          |      |
| SCALES:                                  |      |                                          |      |

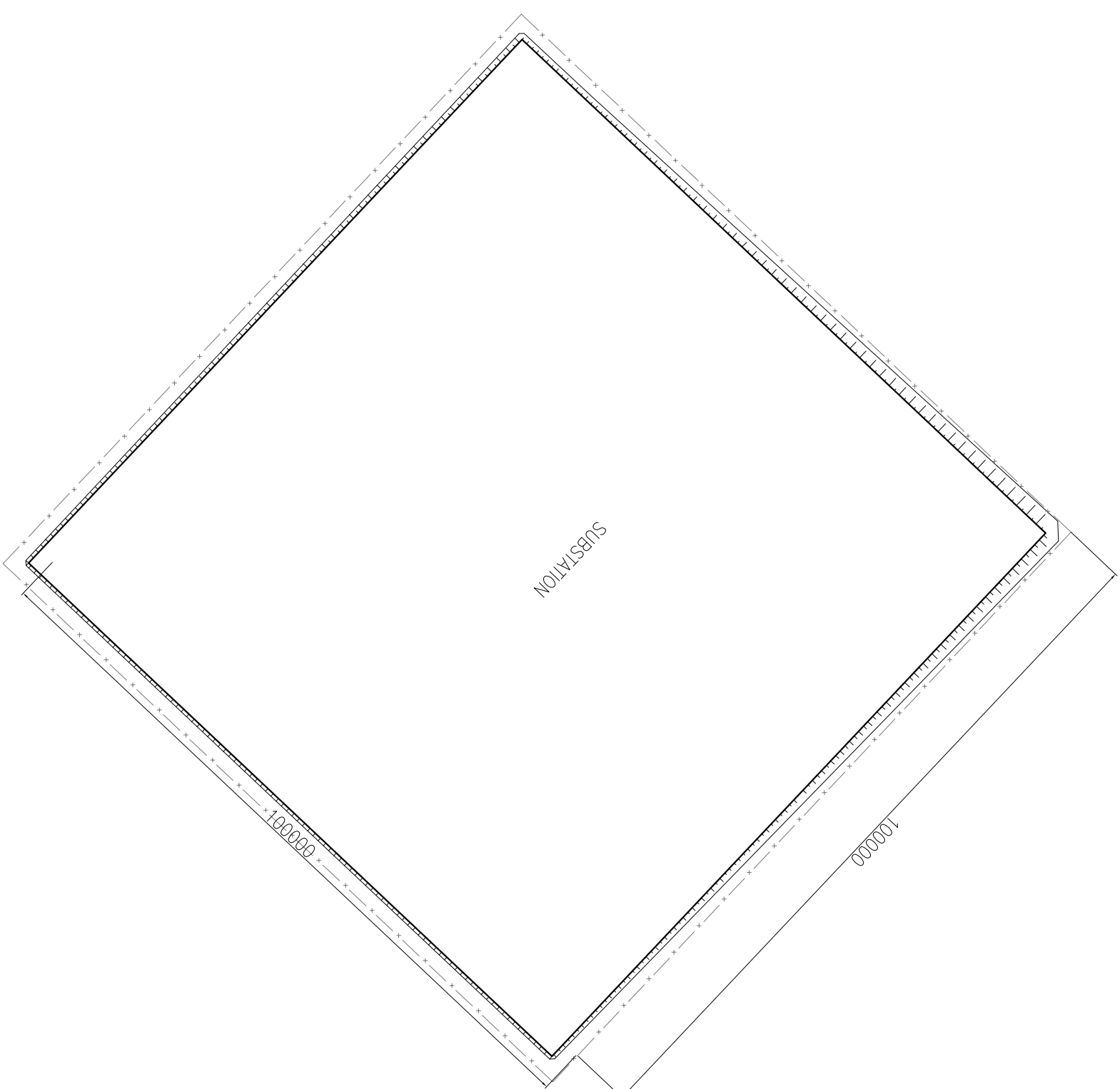
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|---------------------------------------------|--|--|--|--|--|--|--|--|--|
| REPUBLIC OF SOUTH AFRICA                    |  |  |  |  |  |  |  |  |  |
| MOKOLO-CROCODILE WATER AUGMENTATION PROJECT |  |  |  |  |  |  |  |  |  |
| VLEËPOORT HIGH LIFT PUMPSTATION             |  |  |  |  |  |  |  |  |  |
| SECTIONS                                    |  |  |  |  |  |  |  |  |  |
| PROVINCE: LIMPOPO                           |  |  |  |  |  |  |  |  |  |
| DISTRICT: WATERBERG                         |  |  |  |  |  |  |  |  |  |
| MUNICIPALITY: MOKOLO                        |  |  |  |  |  |  |  |  |  |
| LOCAL AUTHORITY: MOKOLO                     |  |  |  |  |  |  |  |  |  |
| PROJECT NO.: WP9528                         |  |  |  |  |  |  |  |  |  |
| DRAWING NO.: 1 OF 1                         |  |  |  |  |  |  |  |  |  |
| DATE: 14/10/05/04                           |  |  |  |  |  |  |  |  |  |
| DRAWN BY: .....                             |  |  |  |  |  |  |  |  |  |
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| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
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| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
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| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
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| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
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| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
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| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
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| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
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| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
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| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
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| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |
| DIRECTOR GENERAL                            |  |  |  |  |  |  |  |  |  |
| DESIGN: .....                               |  |  |  |  |  |  |  |  |  |
| DRAWING: .....                              |  |  |  |  |  |  |  |  |  |
| APPROVED: .....                             |  |  |  |  |  |  |  |  |  |
| DRAWER: .....                               |  |  |  |  |  |  |  |  |  |
| CHECKER: .....                              |  |  |  |  |  |  |  |  |  |
| TRACE: .....                                |  |  |  |  |  |  |  |  |  |
| P. YAKO                                     |  |  |  |  |  |  |  |  |  |



NOTES:



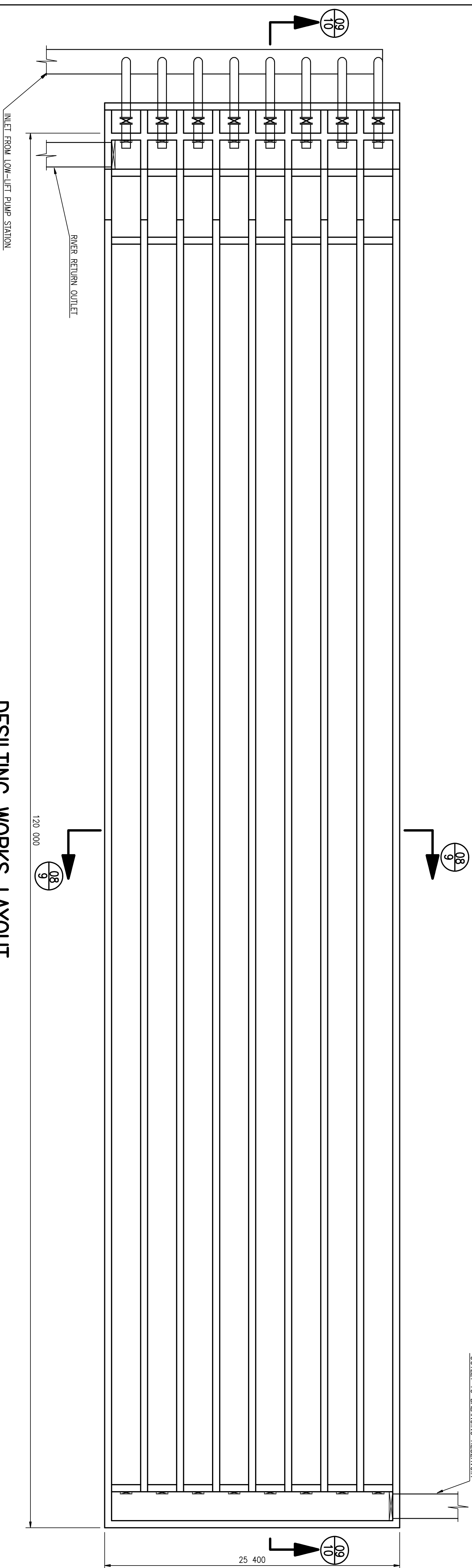
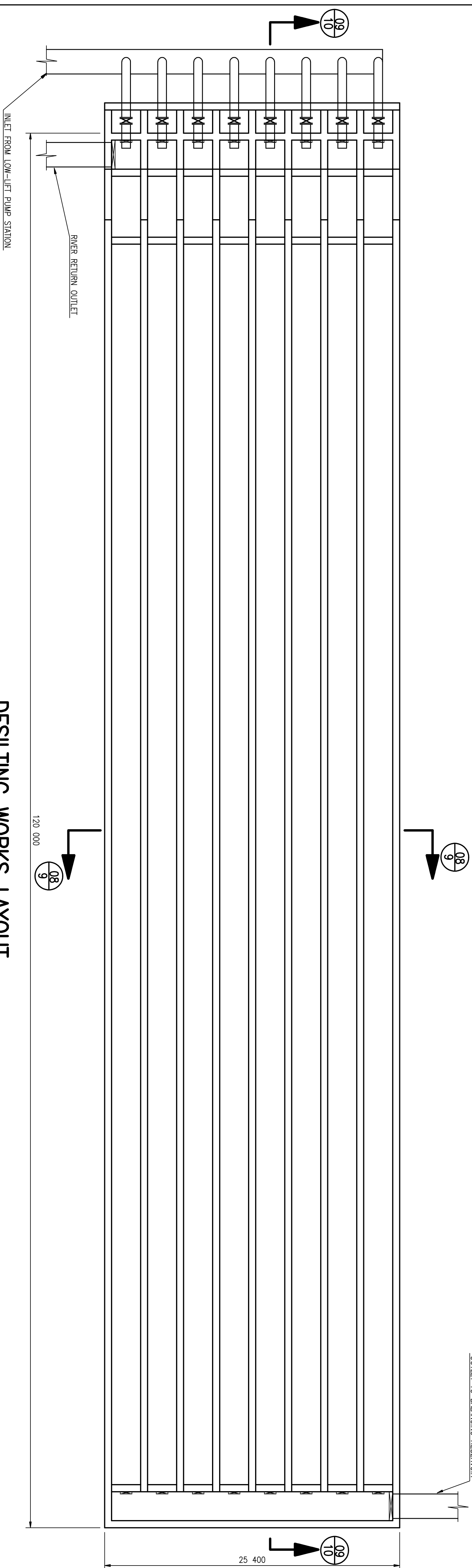
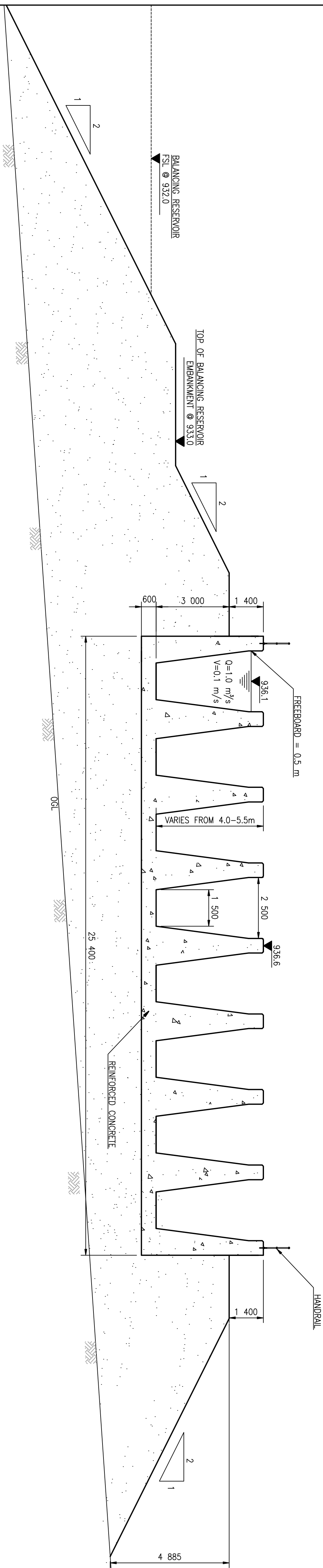
LAYOUT PLAN  
SCALE: 1:750

[illegible]

## LIST OF DRAWINGS

[illegible]





| DESISTING WORKS SIZING                         |  |  |  |  |                     |
|------------------------------------------------|--|--|--|--|---------------------|
|                                                |  |  |  |  | 0.1 m/s             |
|                                                |  |  |  |  | 2.5 m               |
|                                                |  |  |  |  | 3.5 m               |
|                                                |  |  |  |  | 1.0 m/s PER CHANNEL |
|                                                |  |  |  |  | 8                   |
|                                                |  |  |  |  | 0.34 m              |
|                                                |  |  |  |  | 0.34 m              |
|                                                |  |  |  |  | 0.5 m               |
|                                                |  |  |  |  | 1.80                |
| <b>BACKSLOPE FOR FLUSHING</b>                  |  |  |  |  |                     |
| <b>DESISTING WORKS OUTLET TO BALANCING DAM</b> |  |  |  |  |                     |
| DRAINER                                        |  |  |  |  | 2.100 mm            |
| HEAD REQUIRED                                  |  |  |  |  | 2.20 m              |
| HEAD AVAILABLE                                 |  |  |  |  | 3.70 m              |





AFRICON IN ASSOCIATION WITH VELAYKE AND KWEZI V3

| Date  | Designed:   | Drawn:    | CHECKED: | Appr: |
|-------|-------------|-----------|----------|-------|
|       |             |           |          |       |
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| SHEET | DESCRIPTION | OTHER NO. | REG. NO. |       |

LIST OF DRAWINGS

|                     |  |   |   |            |          |          |                        |     |      |
|---------------------|--|---|---|------------|----------|----------|------------------------|-----|------|
| Scales:             |  |   |   |            |          |          |                        |     |      |
| SETTING OUT POINTS: |  |   |   |            |          |          |                        |     |      |
| LOCATION / NUMBER   |  | Y | X | LEVEL (mm) | REVISION |          |                        |     |      |
|                     |  |   |   |            | MOO No.  | DATE     | DESCRIPTION            | FOR | DRAW |
|                     |  |   |   |            | A        | 09/09/09 | EXISTENT STAKE DRAWING | BY  |      |
|                     |  |   |   |            | 8        | 11/07/09 | FINAL FORECAST DRAWING | BY  |      |
|                     |  |   |   |            |          |          |                        |     |      |
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