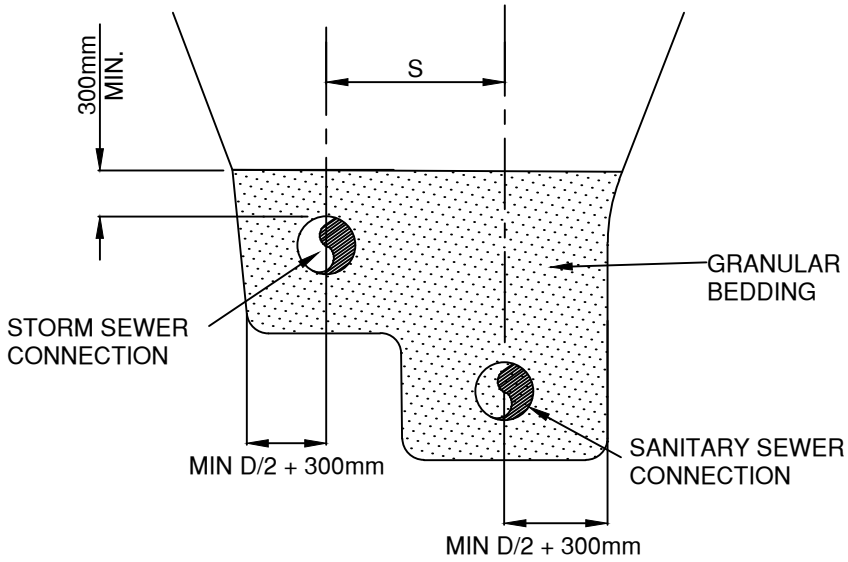
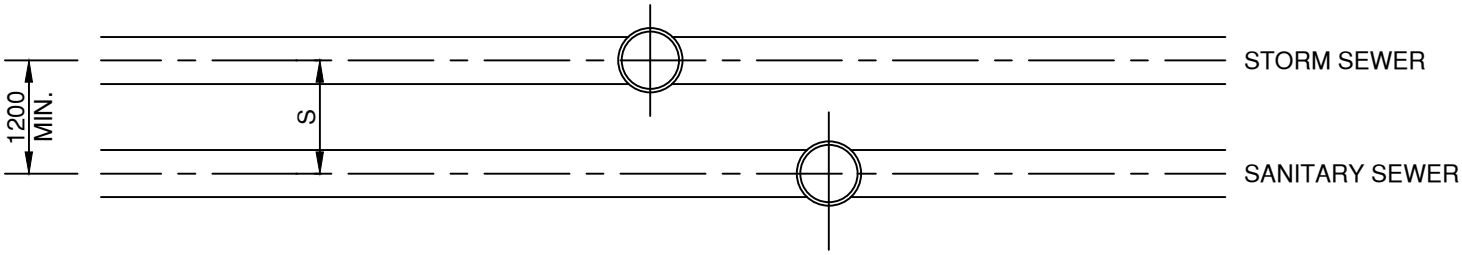



$$\text{MINIMUM SEPARATION (S)} = \frac{\text{Ø STORM MANHOLE} + \text{Ø SANITARY MANHOLE}}{2} + 300\text{mm (OR 1.2 METRES)}$$

## COMMON TRENCH INSTALLATION

NOTE: 1. FOR PERMANENT PAVEMENT RESTORATION REFER TO SDG-2
2. FOR TEMPORARY PAVEMENT RESTORATION REFER TO SDG-1

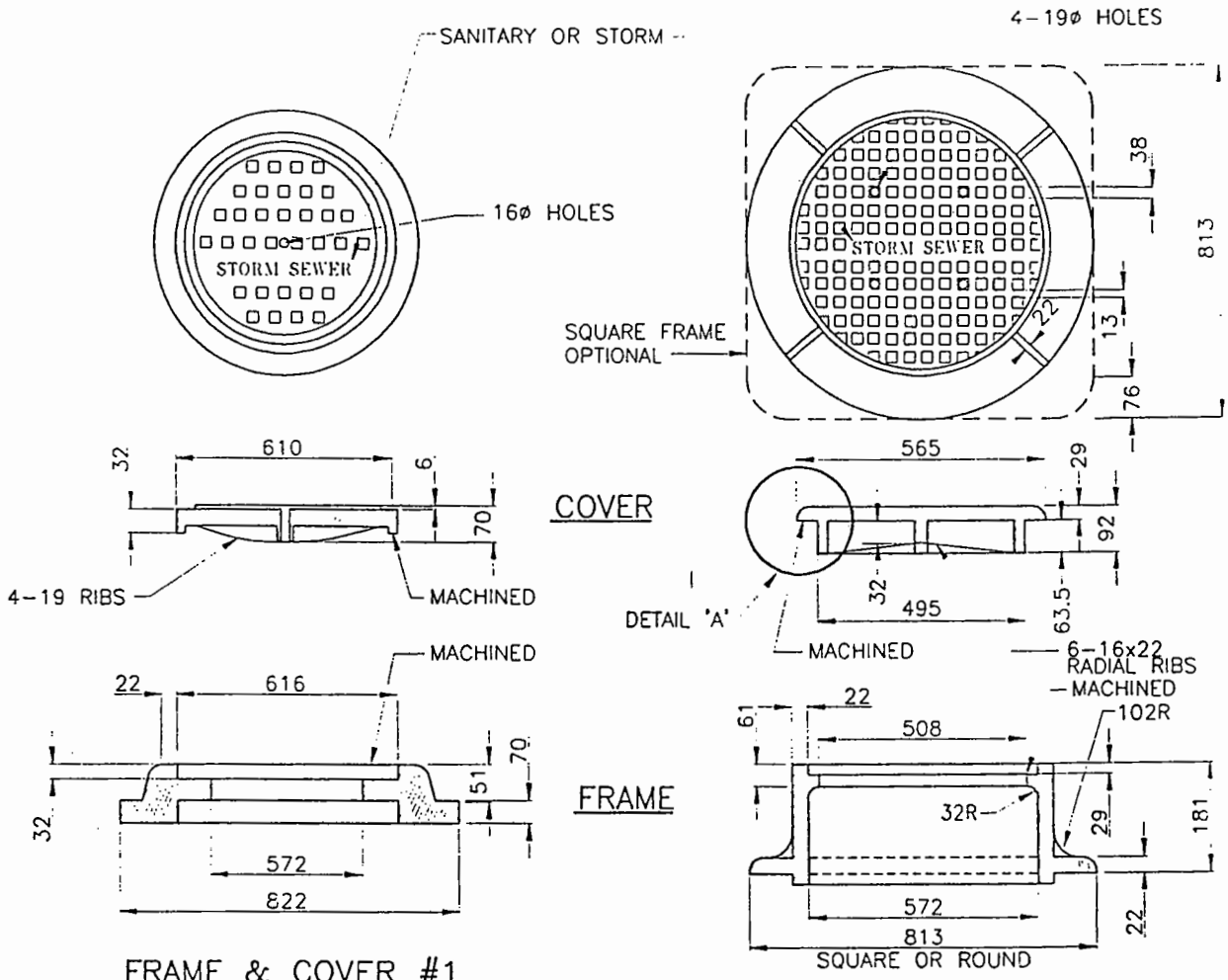
# COMMON TRENCH INSTALLATION

DISTRICT OF HOPE

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| DRAWN: | 2026-10-29 |
| REVISED: | 2026-10-29 |
| SCALE: | N.T.S. |

SDS-1

File Path:S:\11-ENGINEERING AND PUBLIC WORKS (5200-5799)\5240 ENGINEERING - GENERAL\-06 Design Standards and Specifications\-01 DoH - Std Drawings\S-1-Common Trench Installation.dwg Plot Date: 2026-10-29 User: bchiba




## FRAME & COVER #1

( LIGHTWEIGHT )

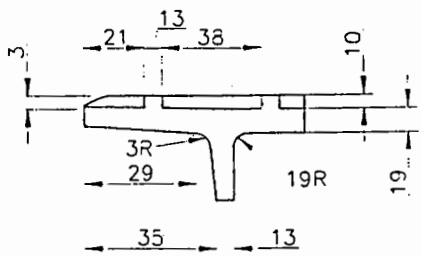
## FRAME & COVER #2

( H20 LOADING )

## NOTES

1. APPROXIMATE WEIGHTS:
   - COVER No.1 61 kg
   - FRAME No.1 47-52 kg
   - COVER No.2 63 kg
   - FRAME No.2 102-138 kg
   - GRATE FOR ABOVE (NOT SHOWN) 50-59 kg

   FOR DETAILS OF COVER AND FRAME No.1 SEE DOBNEY B-26D AND B-26F OR APPROVED EQUAL. FOR DETAILS OF COVER, FRAME AND GRATE No.2 SEE DOBNEY C-18 OR APPROVED EQUAL.
2. LIMITS OF TOLERANCE ± 2mm.
3. COVER SHALL BE MARKED SANITARY OR STORM AS REQUIRED AND MACHINED FOR A NON ROCKING FIT IN ALL POSITIONS.
4. CASTINGS SHALL BE FINISHED BT COATING WITH HOT ASPHALT AND BLACK PAINT EMULSION.
5. LETTERING TO BE 25mm FLATTENED FACE GOTHIC LETTERING WITH FACE OF LETTERS RAISED TO THE SAME LEVEL AS THE TOP OF THE RIBS.




DETAIL 'A'

| NO. | REVISION | APPROVED |
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| SCALE: | N.T.S. | |
| DATE: | JUNE, 1999 | |

DISTRICT OF HOPE

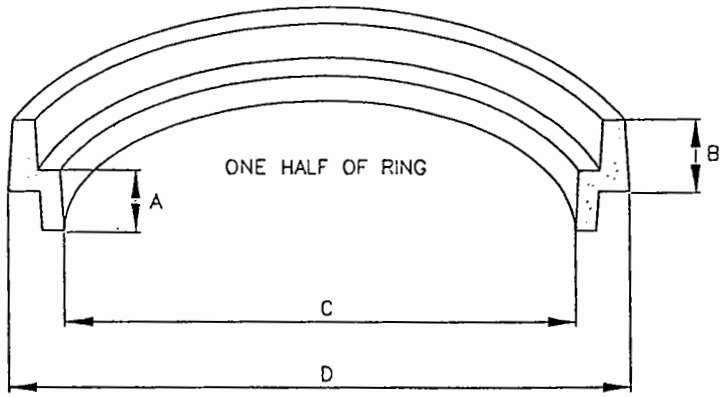
Incorporated 1929

# DISTRICT OF HOPE

TITLE:

MANHOLE FRAME AND COVER

SDS-2




## MANHOLE EXTENSION RING

| MANHOLE EXTENSION RING DETAILS | | | |
|---|---|---|---|
| DIMENSIONS | | | |
| A | B | C | D |
| 38 | 38 | 508 | 616 |
| 51 | 38 | 508 | 616 |
| 63 | 38 | 508 | 616 |
| 76 | 38 | 508 | 616 |
| 101 | 38 | 508 | 616 |
| 127 | 38 | 508 | 616 |

| NO | REVISION | APPROVED |
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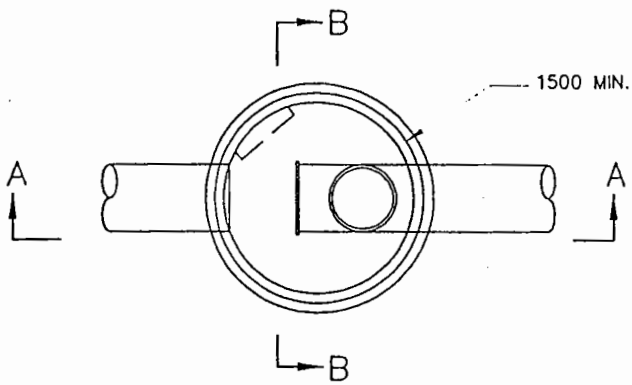
SCALE: N.T.S.

DATE: JUNE, 1999

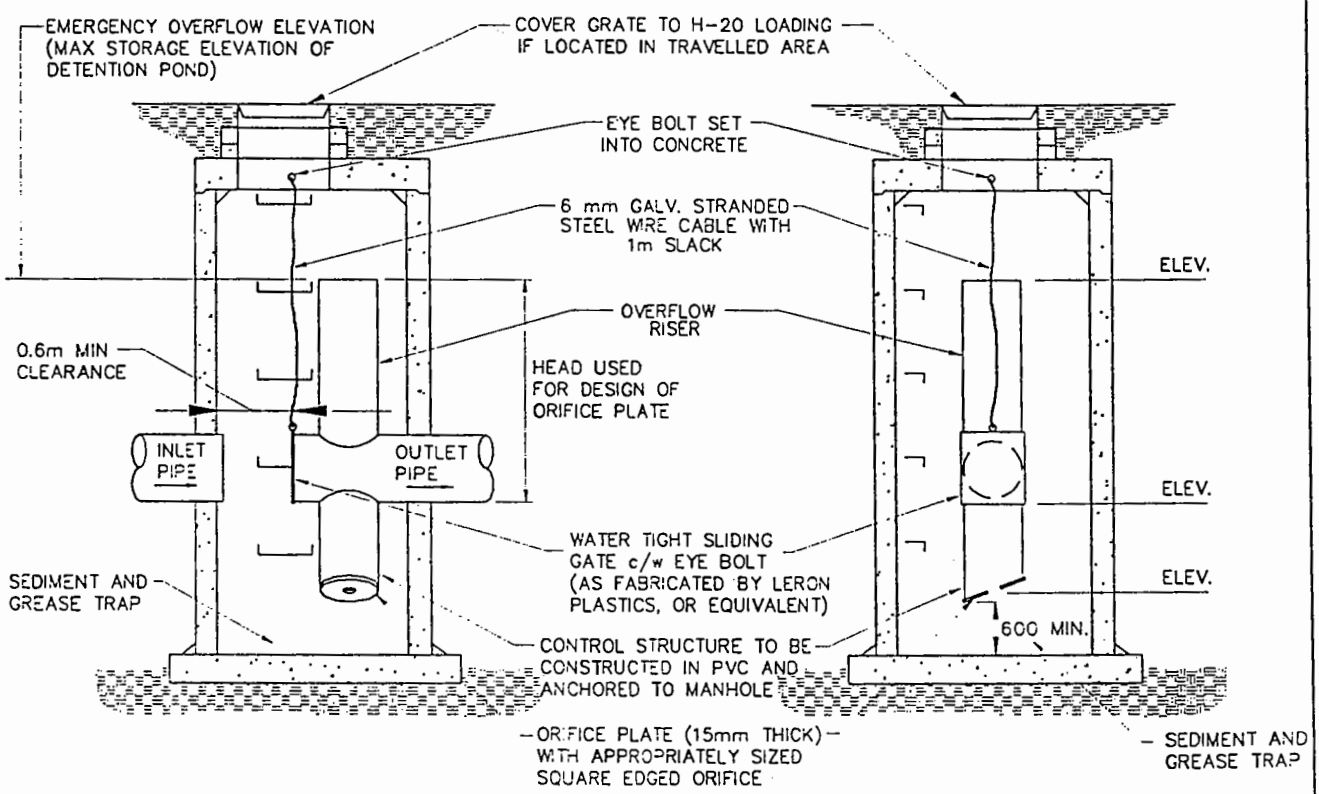
DISTRICT OF HOPE

TITLE: RISER RING

SDS-3




PLAN




STANDARD MANHOLE
SECTION A–A

STANDARD MANHOLE
SECTION B–B

NOTES:

1. CONSTRUCT MANHOLE AS PER DWG MMCD S–1.
2. MINIMUM MANHOLE SIZE TO BE 1200mm DIAMETER.

| NO | REVISION | APPROVED |
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SCALE N.T.S.

DATE JUNE, 1999

DISTRICT OF HOPE

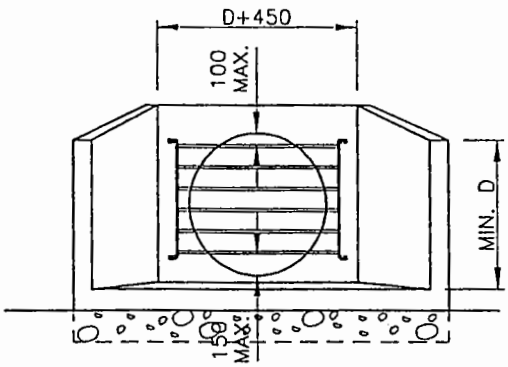
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DISTRICT OF HOPE

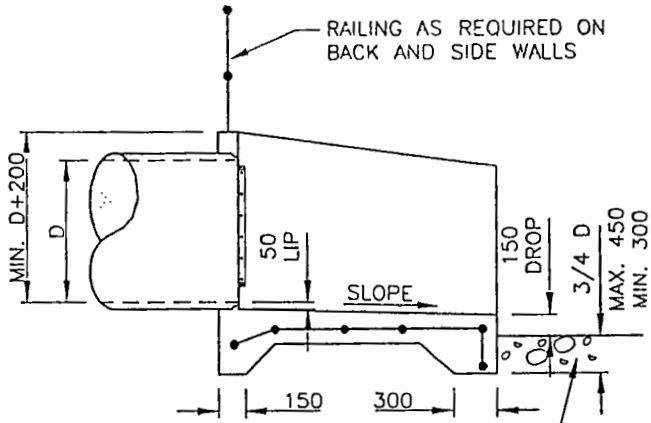
TITLE

FLOW CONTROL MANHOLE

SDS–4

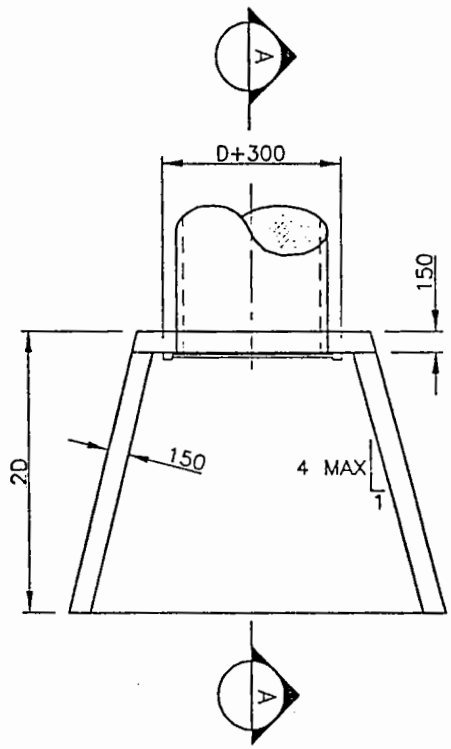



ELEVATION

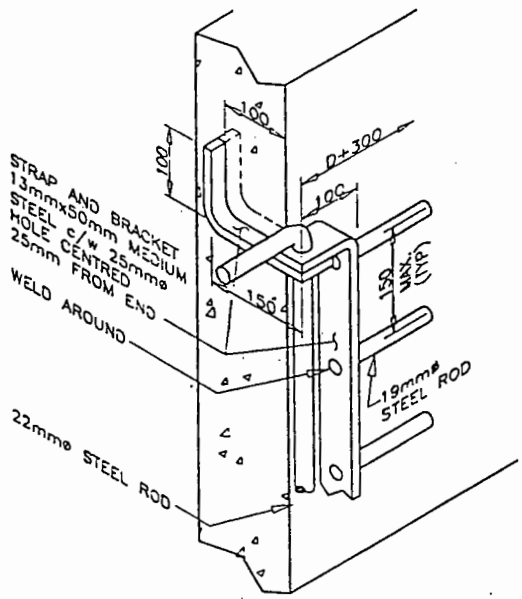



SECTION A

RIPRAP. SEE NOTE BELOW




PLAN




NOTES:

1. RIPRAP SUITABLY SIZED OR GABIONS c/w FILTER BED SHALL BE PLACED ON BOTTOM AND SIDES TO DESIGN WATER LEVEL AND DOWNSTREAM DISTANCE OF 1.5 TIMES THE DESIGN WATER VELOCITY (1.0m MIN.).
2. PIPE SIZES LARGER THAN 1050mmø, WATER VELOCITIES GREATER THAN 2.14m/SEC. OR WALLS HIGHER THAN 2.0m SHALL REQUIRE A SPECIAL DESIGN FOR THE STRUCTURE.
3. REBAR 10M AT 200mm BOTH WAYS AND CENTRED PLUS ONE 10M AROUND PIPE.
4. REBAR TO HAVE MINIMUM 50mm COVER.
5. CONCRETE TO BE 30MPa AT 28 DAYS.
6. CHAMFER ALL EXPOSED CORNERS 25mm.
7. RAILINGS REQUIRED ON WALLS 1.2m AND HIGHER.
8. GRILLAGE NOT REQUIRED ON PIPES LESS THAN 400mmø.
9. ALL STEEL COMPONENTS TO BE GALVANIZED.
10. CONSTRUCT STRUCTURE ON 100mm MIN OF 20mm CRUSHED BASE GRAVEL TO 95% M.P.D.

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SCALE: N.T.S.

DATE: JUNE, 1999

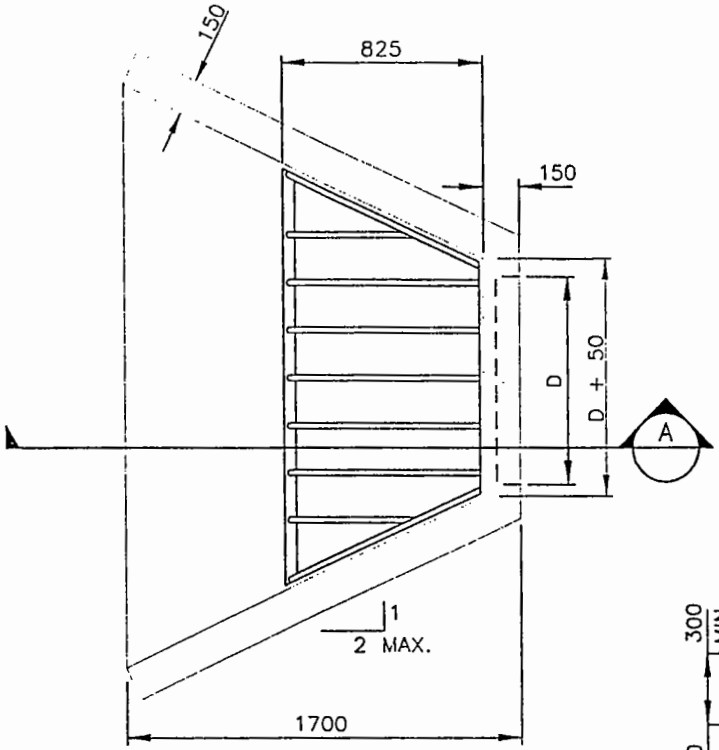
DISTRICT OF HOPE

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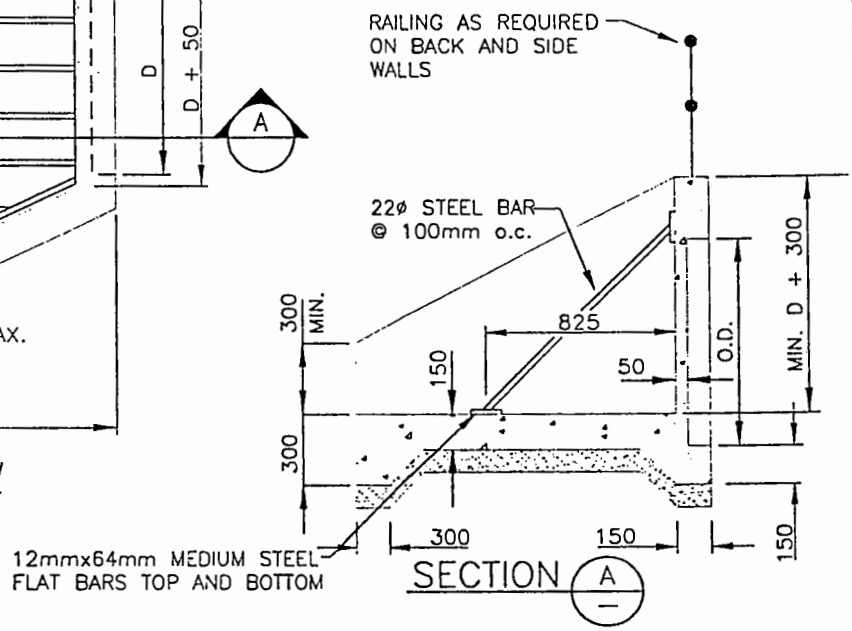
DISTRICT OF HOPE

TITLE: OUTLET STRUCTURE

SDS-8

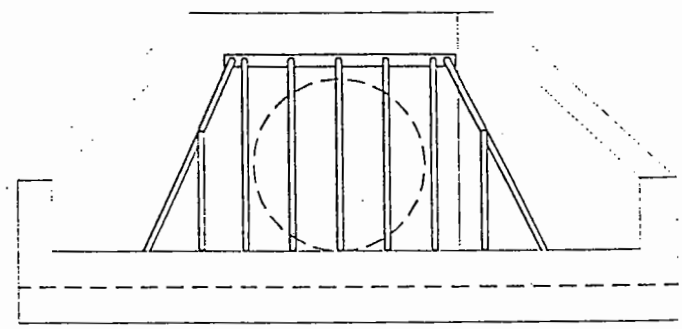



PLAN VIEW




NOTES:

1. GRILLAGE NOT REQUIRED ON PIPES LESS THAN 300mmø.
2. ALL STEEL COMPONENTS TO BE HOT DIPPED GALVANIZED AFTER FABRICATION.
3. CONCRETE: TO BE 30MPa @ 28 DAYS
4. REINFORCING:
   i) 50mm MIN. COVER
   ii) 10M @ 200mm o.c. EACH WAY.
5. 25mm CHAMFER ON ALL EXPOSED EDGES.
6. SEE DWG S-11 FOR GRATE CONNECTION DETAILS.
7. RAILINGS REQUIRED FOR WALLS 1.2m AND HIGHER.
8. CONSTRUCT STRUCTURE ON 100mm MIN. OF 20mm CRUSHED BASE GRAVEL TO 95% M.P.D



FRONT ELEVATION

| NO. | REVISION | APPROVED |
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SCALE N.T.S.

DATE JUNE, 1999

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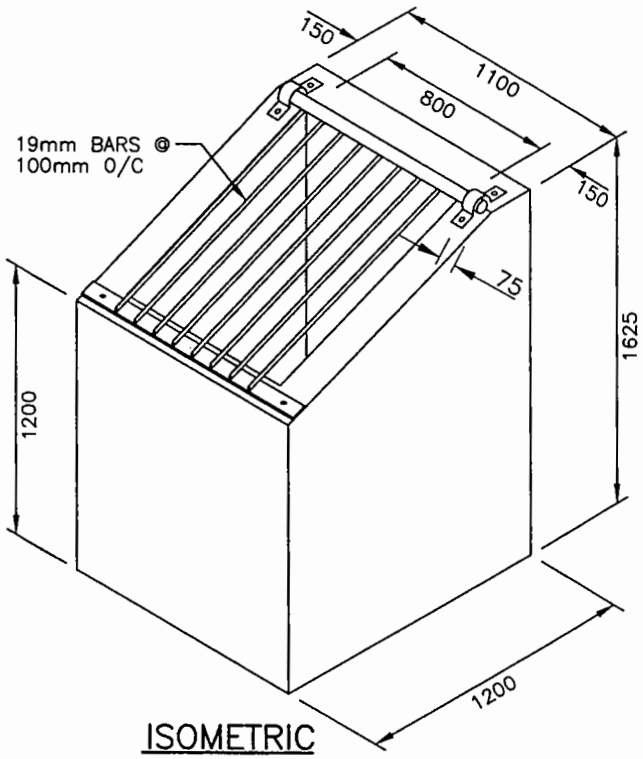
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TITLE

INLET STRUCTURE c/w GRILLAGE (FOR 1050mmø OR LESS)

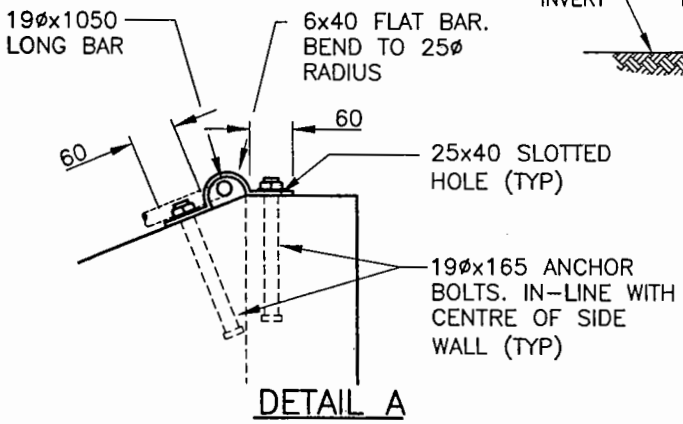
SDS-9



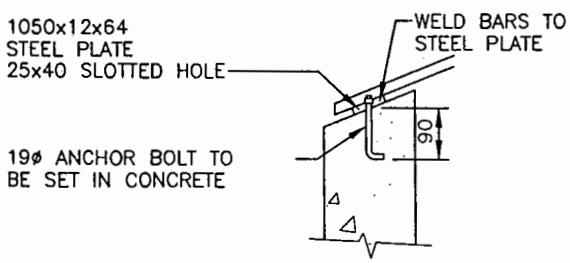

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**NOTES:**

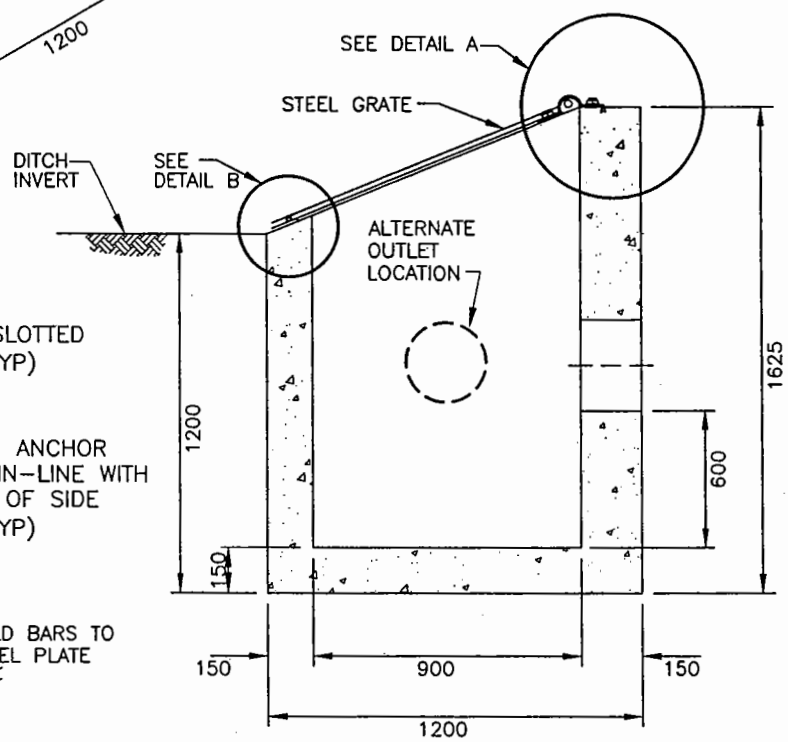
1. GRILLAGE NOT REQUIRED ON PIPES LESS THAN 300mmø.
2. ALL STEEL COMPONENTS TO BE HOT DIPPED GALVANIZED AFTER FABRICATION.
3. CONCRETE: MIN. 30MPa @ 28 DAYS
4. REINFORCING:
   i) 50mm MIN. COVER
   ii) 10M @ 200mm o.c.EACH WAY.
5. 20mm CHAMFER ON ALL EXPOSED EDGES.
6. SEE DWG S-11 FOR CONNECTION DETAILS.
7. ALL METAL TO BE HOT DIPPED GALVANIZED.
8. ALL DIMENSIONS ARE IN MILLIMETRES.




DETAIL A




DETAIL B




SECTION

| No. | REVISION | APPROVED |
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SCALE: N.T.S.

DATE: JUNE, 1999

DISTRICT OF HOPE

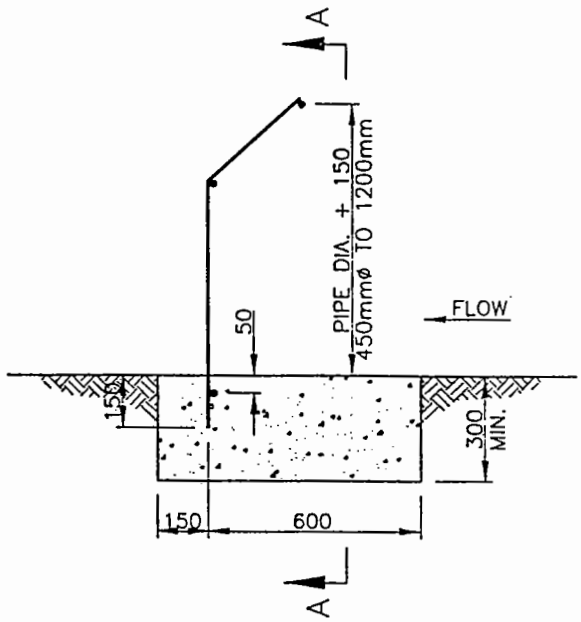
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# DISTRICT OF HOPE

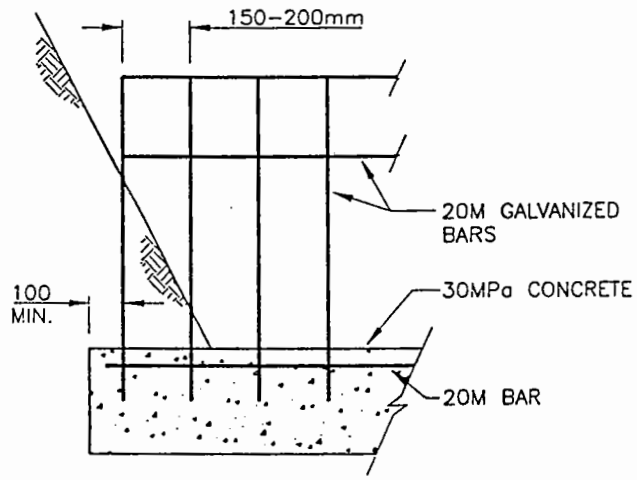
TITLE

CAST IN PLACE
INLET STRUCTURE
(MAX. 300ø PIPE)

SDS-11




SIDE VIEW




SECTION A–A

| No. | REVISION | APPROVED |
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SCALE N.T.S.

DATE JUNE, 1999

DISTRICT OF HOPE

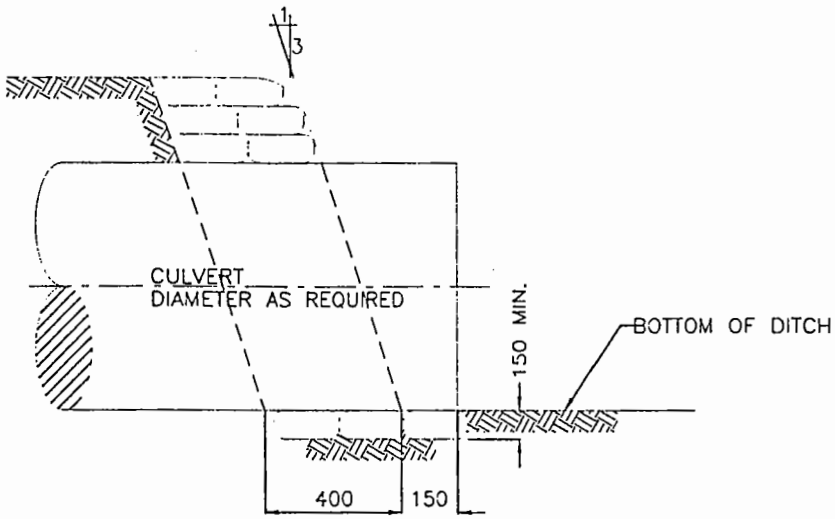
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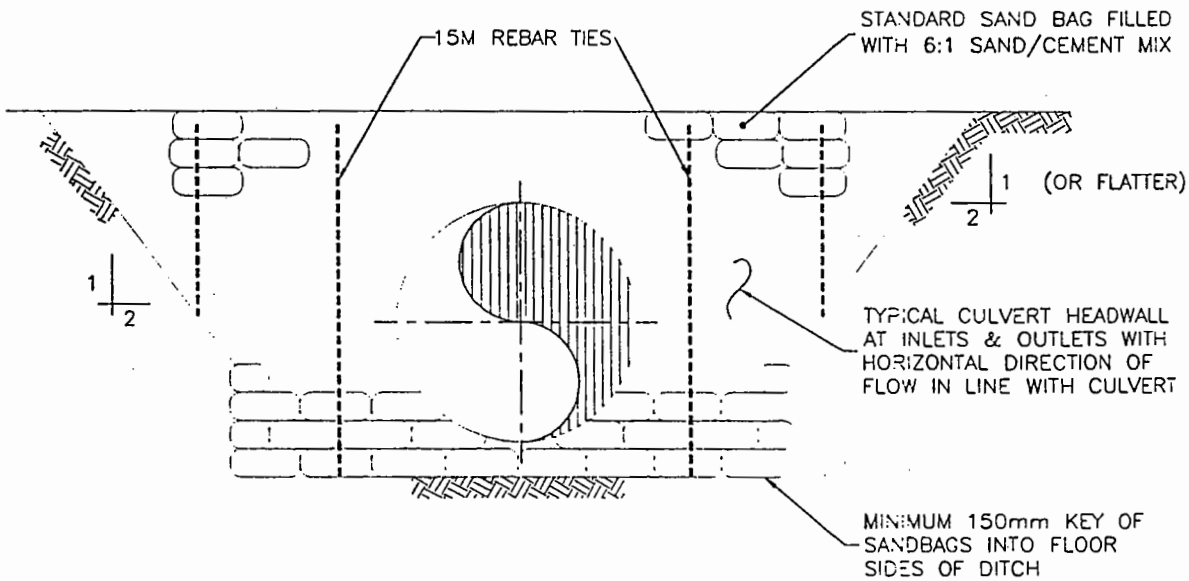
TITLE

TRASH RACK

SDS–14




SECTION




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SCALE N.T.S.

DATE JUNE, 1999

DISTRICT OF HOPE

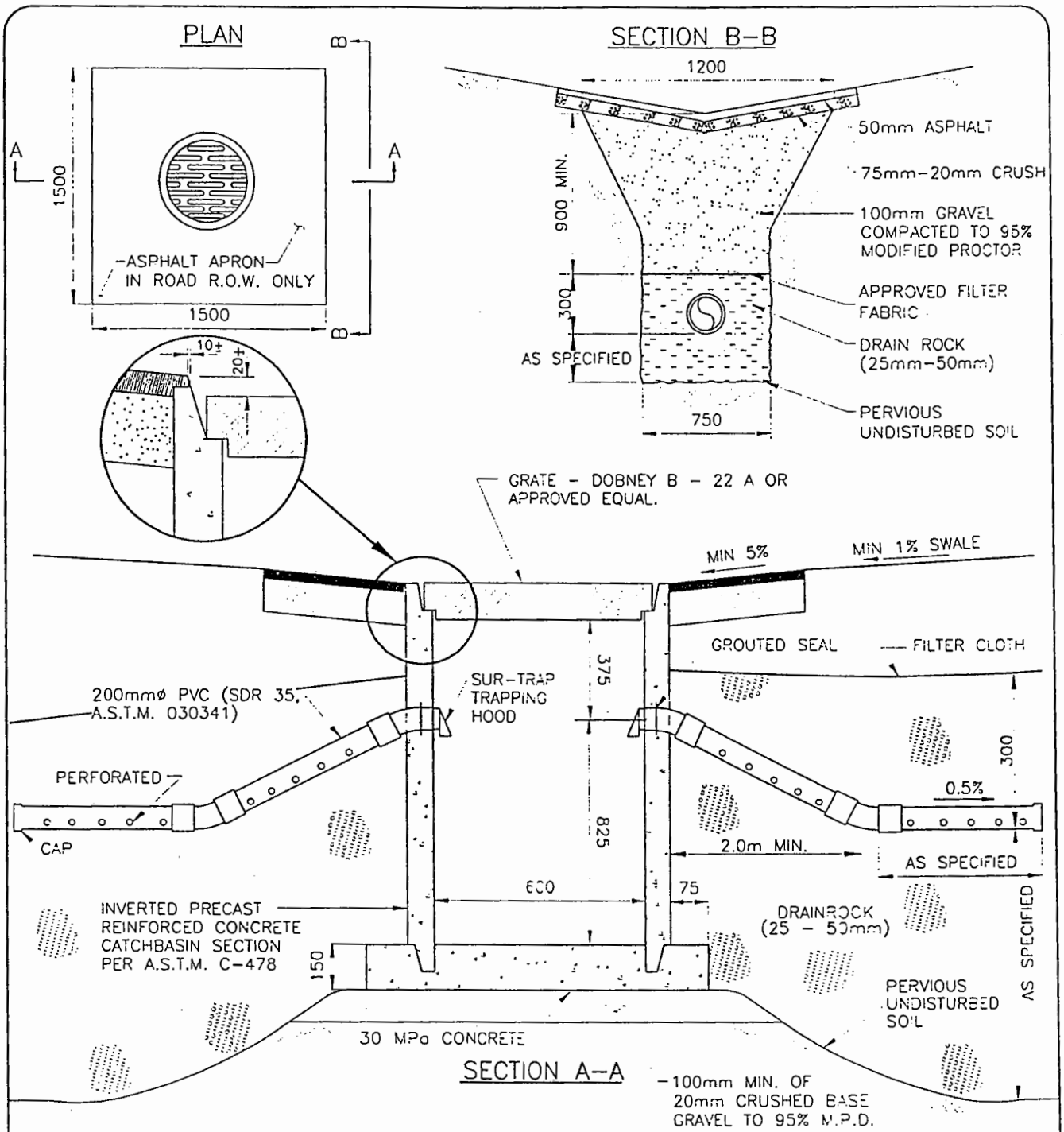
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# DISTRICT OF HOPE

TITLE

SANDBAG TYPE
CULVERT HEADWALL

SDS-15




NOTES:
1. DISCHARGE PIPES TO BE ALIGNED PARALLEL TO THE ROAD CENTRELINE.
2. TRENCH DEPTH SHALL BE AS REQUIRED TO REACH A PERVIOUS UNDISTURBED SOIL.
3. DEPTH OF DRAINROCK TO BE SPECIFIED BY THE ENGINEER.
4. USE ROCK PIT ONLY WITH A SURFACE DRAINAGE OUTLET ROUTE.

FOR USE ONLY WITH DISTRICT'S APPROVAL

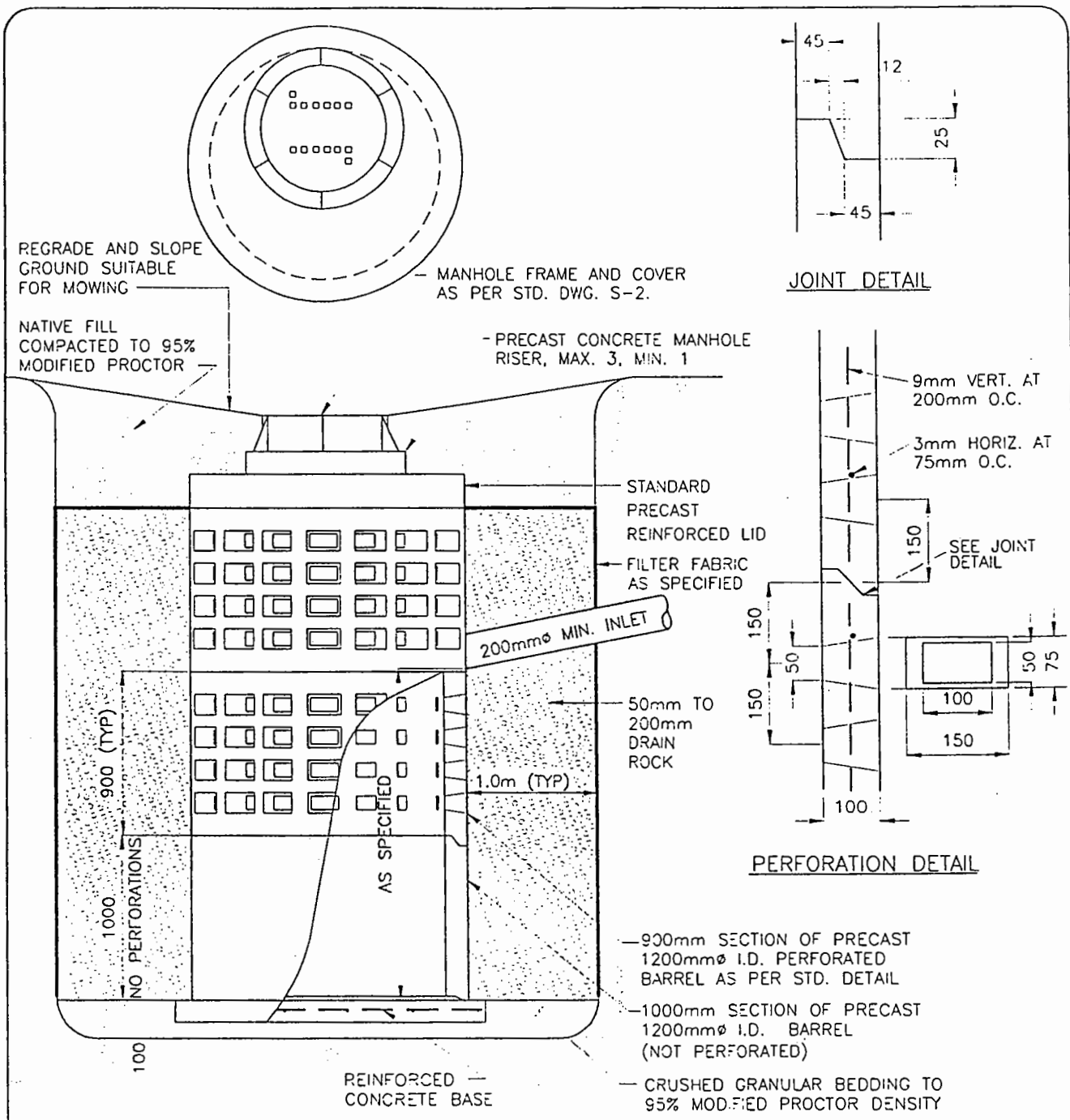
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SCALE: N.T.S.
DATE: JUNE, 1999

DISTRICT OF HOPE
Incorporated 1929

TITLE: ROCK PIT

SDS–16




NOTE:
1. CONSTRUCT MANHOLE AS PER DWG. MMCD S-1.
2. ROCK PIT DEPTH TO BE DETERMINED IN THE FIELD AND TO PROJECT 1.0m MIN. INTO NATIVE PERMEABLE MATERIAL.
3. WHERE DRYWELL FORMS PART OF STORM SEWER SYSTEM, MANHOLE RUNGS SHALL BE INSTALLED IN ACCORDANCE WITH DWG. MMCD S-1.

FOR USE ONLY WITH DISTRICT'S APPROVAL

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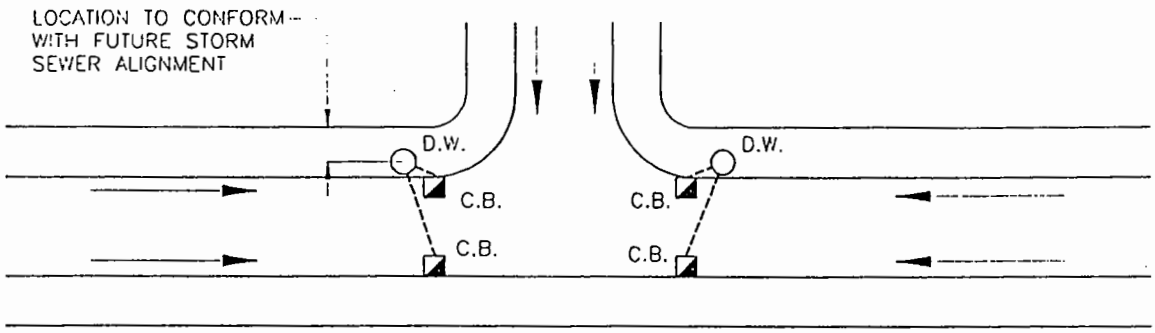
DATE JUNE, 1999

DISTRICT OF HOPE

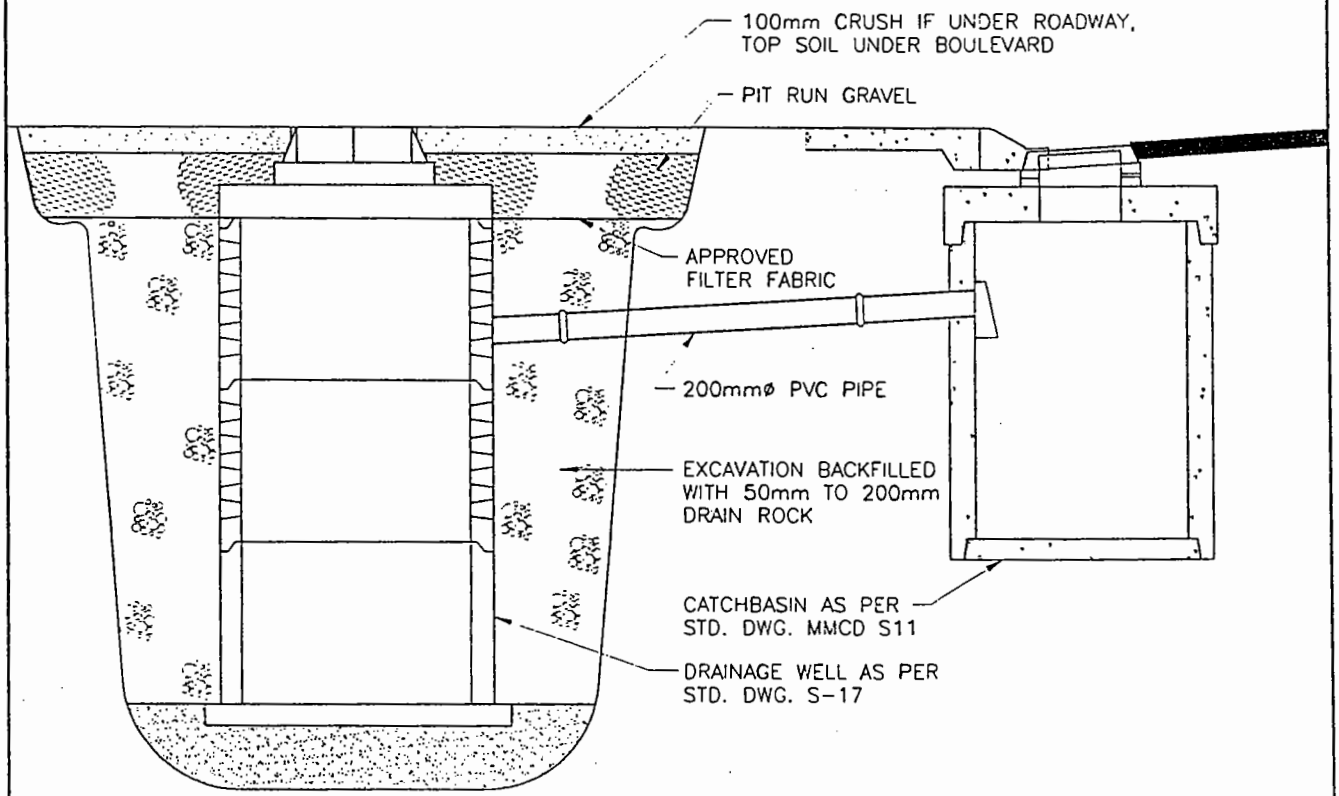
TITLE

DRAINAGE
DRYWELL

SDS-17




## TYPICAL INSTALLATION




NOTES:

1. THE NUMBER AND SPACING OF DRAINAGE DRYWELLS WILL BE CALCULATED IN ACCORDANCE WITH DRAINAGE DESIGN CRITERIA AND WILL DEPEND UPON THE AREA DRAINED AND EXISTING GROUND CONDITIONS.
2. FILTER FABRIC TO BE PLACED OVER TOP OF BARREL PRIOR TO PLACING COVERSLAB. ACCESS TO DRYWELL NOT TO BE CUT THROUGH FILTER FABRIC UNTIL FINAL INSPECTION.
3. THE DRYWELL SHALL BE INSTALLED ON THE UPHILL SIDE OF THE RIGHT-OF-WAY.

FOR USE ONLY WITH DISTRICT'S APPROVAL

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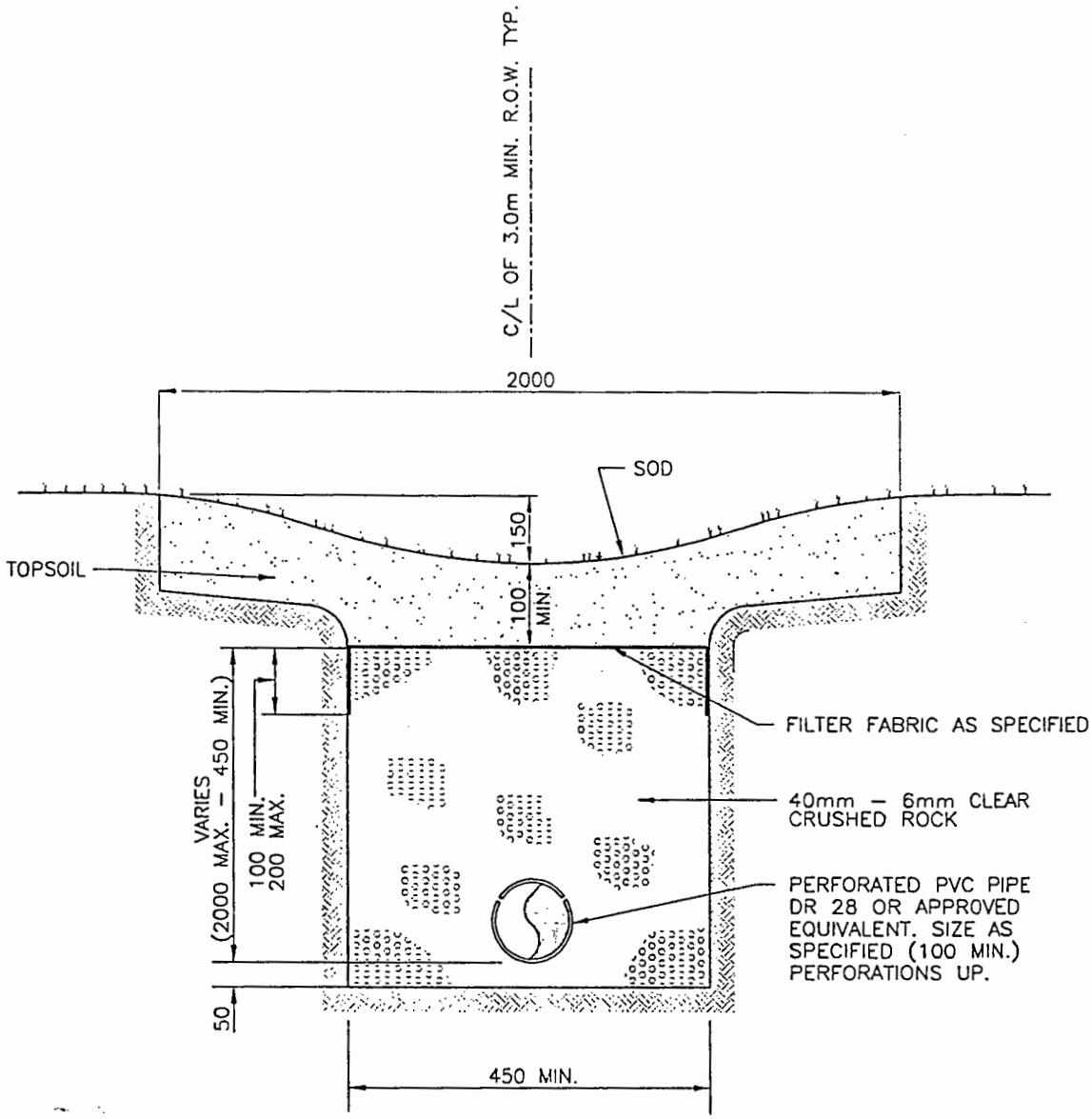
DATE: JUNE, 1999

DISTRICT OF HOPE

Incorporated 1929

TITLE: INSTALLATION OF DRAINAGE DRYWELL

SDS-18




NOTES:
1. SWALE TO BE CENTRED IN 3.0m R.O.W.
2. SOD TO PLACED ON MINIMUM 100mm TOPSOIL.
3. PROVIDE CLEANOUT AS PER MMCD S6 AT 50m MAX. SPACING.

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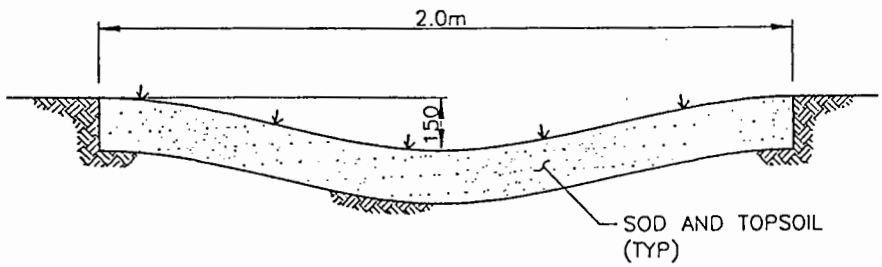
DATE: JUNE, 1999

DISTRICT OF HOPE

Incorporated 1929

TITLE: SWALE AND FRENCH DRAIN

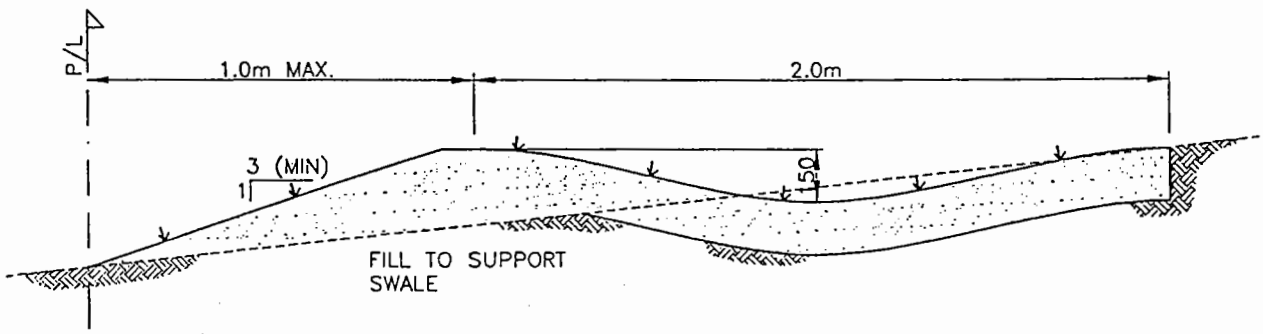
SDS–19




TYPE 'A'

NOTE:

1. SWALE TYPICALLY CENTRED ON 3.0m R.O.W.
2. SOD TO BE PLACED ON 100mm TOPSOIL.




TYPE 'B'

NOTE:

1. EASMEMENT WIDTH AS REQUIRED TO SUPPORT PROPOSED SWALE.

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DATE: JUNE, 1999

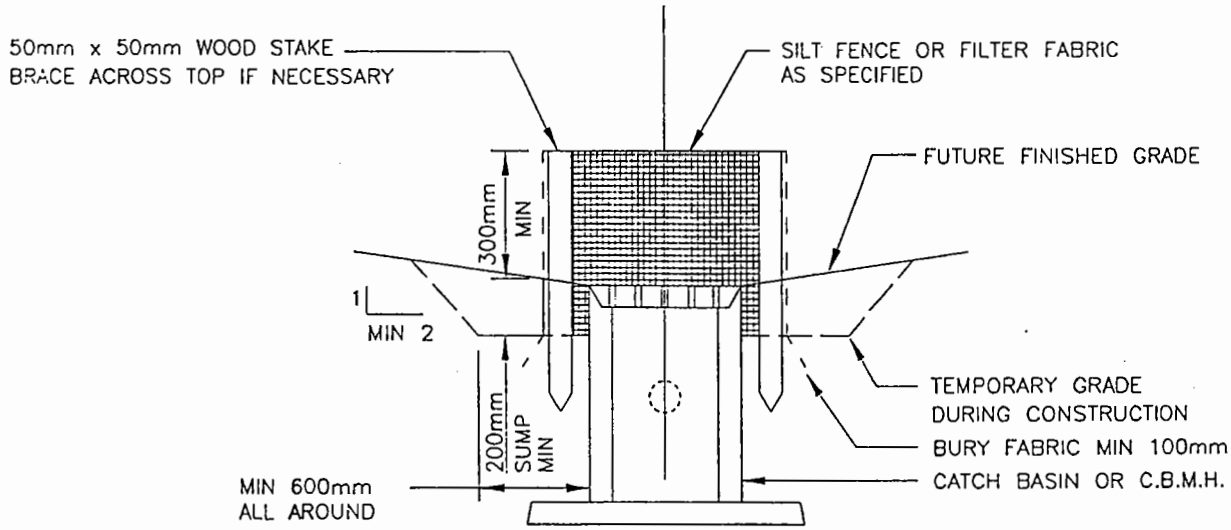
DISTRICT OF HOPE

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DISTRICT OF HOPE

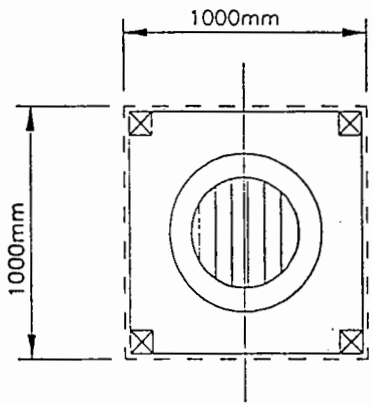
TITLE: SWALE

SDS-20




SECTION

| NOTE: | 1. | INSPECT SEDIMENT TRAP AFTER EVERY RAINFALL |
|---|---|---|
| | 2. | REMOVE SEDIMENT WHEN SUMP IS 1/2 FULL |
| | 3. | REPAIR FILTER MATERIAL AS REQUIRED. |




PLAN

# TYPICAL DETAIL OF CATCH BASIN SEDIMENT TRAP

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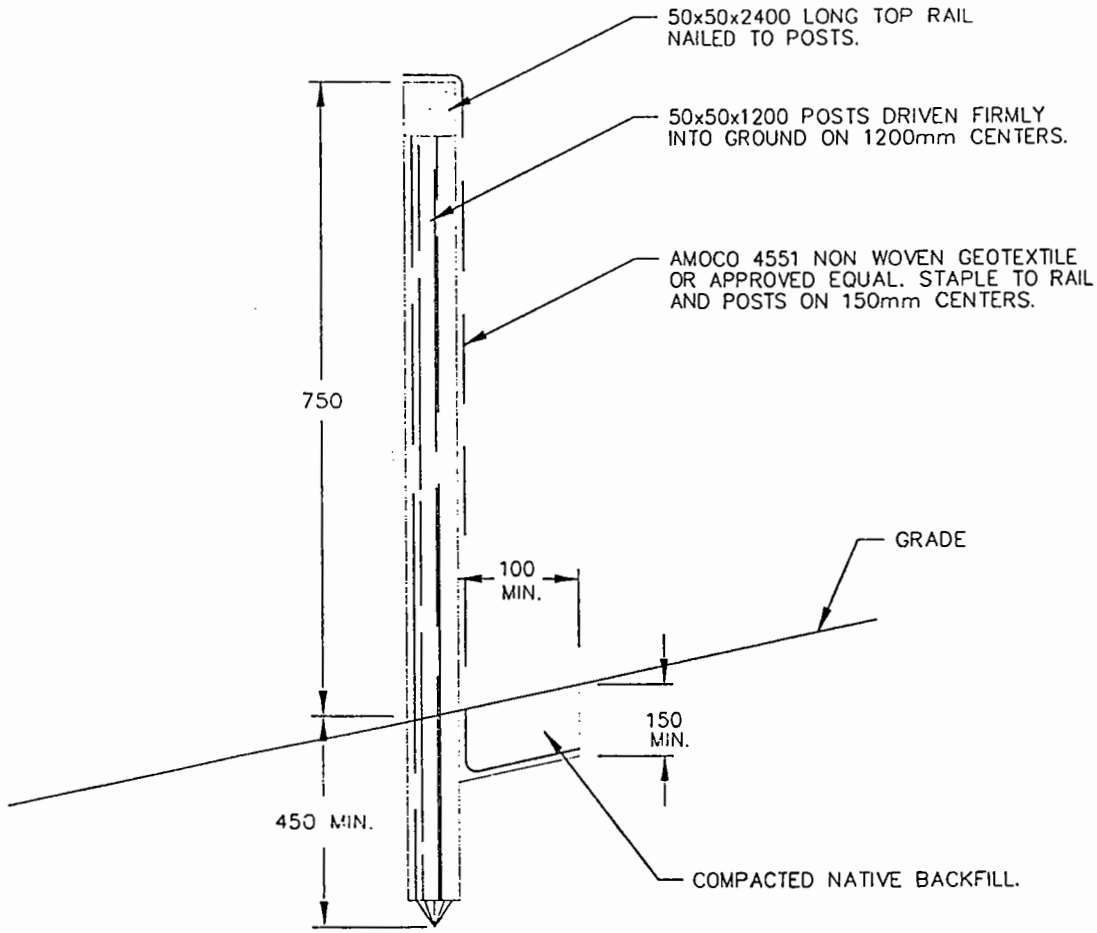
DATE: JUNE, 1999

DISTRICT OF HOPE

Incorporated 1909

TITLE: SEDIMENT TRAP

SDS–21




INSTALLATION PROCEDURE

1. LAY OUT A SUITABLE FENCE LINE AND SET POSTS ALONG IT. ON SLOPES, ALIGN THE FENCE ALONG THE CONTOUR AS CLOSELY AS POSSIBLE. IN SMALL SWALES, CURVE THE FENCE LINE UPSTREAM AT THE SIDES TO DIRECT THE FLOW TOWARD THE MIDDLE OF THE FENCE. THE ENDS SHOULD BE HIGHER THAN THE CENTER.

   EXCAVATE A TRENCH APPROXIMATELY 150mm DEEP AND 150mm WIDE ALONG THE LINE OF THE POSTS ON THE UPHILL SIDE OF THE BARRIER.

2. FASTEN THE FILTER FABRIC TO THE UPHILL SIDE OF THE FENCE POSTS USING STAPLES OR TIE WIRES. EXTEND FABRIC AT LEAST 150mm INTO THE TRENCH, AND LEAVE A MAXIMUM OF 450mm HEIGHT ABOVE THE GROUND. CUT THE FABRIC FROM A CONTINUOUS ROLL TO AVOID THE USE OF JOINTS. WHERE JOINTS ARE NECESSARY, SPLICE THE FABRIC AT A POST WITH A MINIMUM 150mm OVERLAP, AND SECURELY FASTEN BOTH SECTIONS TO THE POST.

3. BACKFILL THE TRENCH OVER THE TOE OF THE FABRIC, AND COMPACT THE SOIL TO MEET THE ORIGINAL GRADE.

MATERIALS:

FILTER FABRIC
-AMOCO 4551 OR APPROVED EQUAL

FENCE POSTS
-WOOD POSTS-MIN. 50x50x1200 LONG
-STEEL POSTS-MIN. 1.97 kg/m x 1200 LONG

NOTE:
-INSPECT AFTER EVERY RAINFALL
-REMOVE SEDIMENT BEFORE DEPTH REACHES 1/4 HEIGHT OF FENCE
-REPAIR AS REQUIRED

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SCALE: N.T.S.

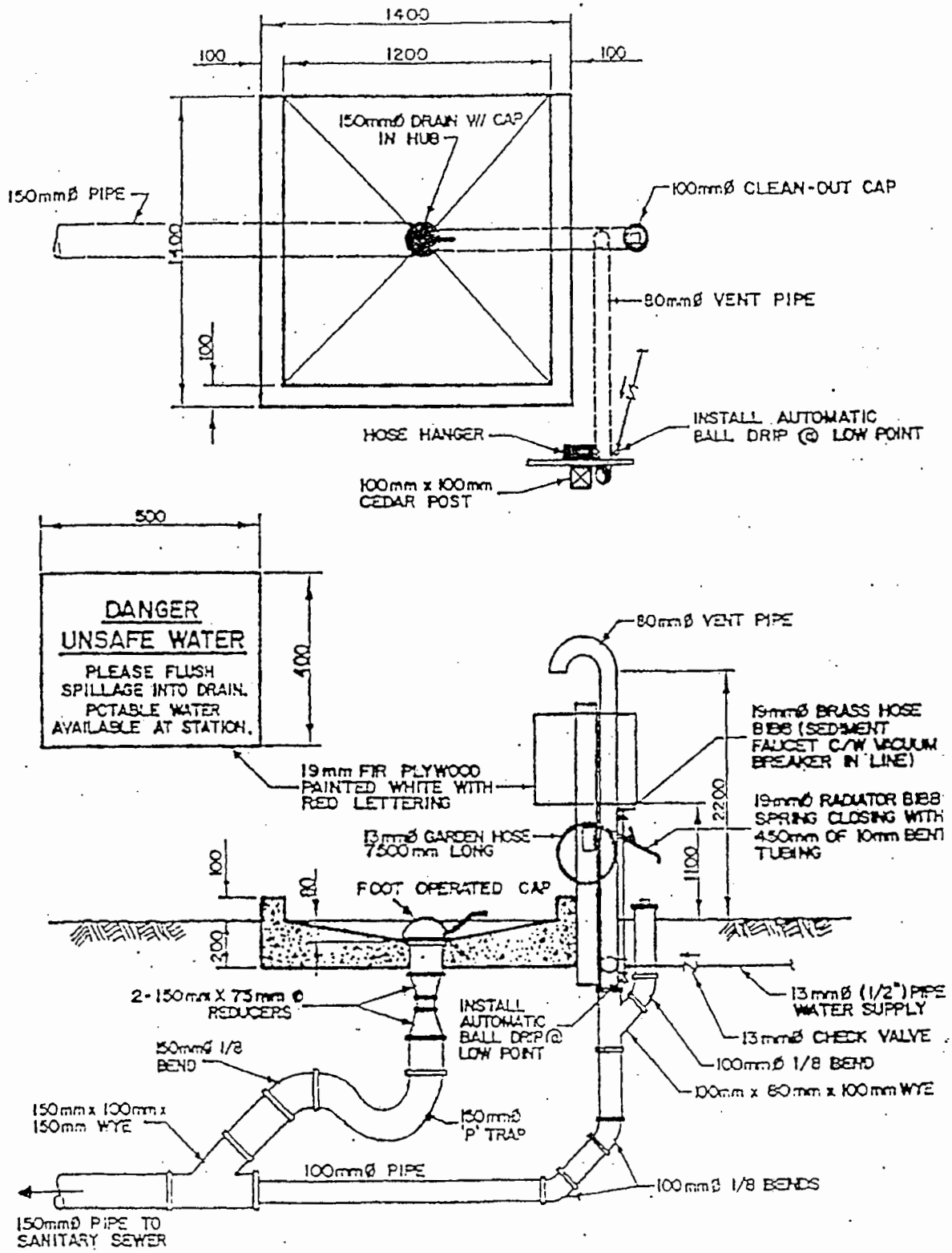
DATE: JUNE, 1999

DISTRICT OF HOPE

Incorporated 1929

TITLE: SILT FENCE DETAIL

SDS-22




| NO. | REVISION | APPROVED |
|---|---|---|
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SCALE: N.T.S.

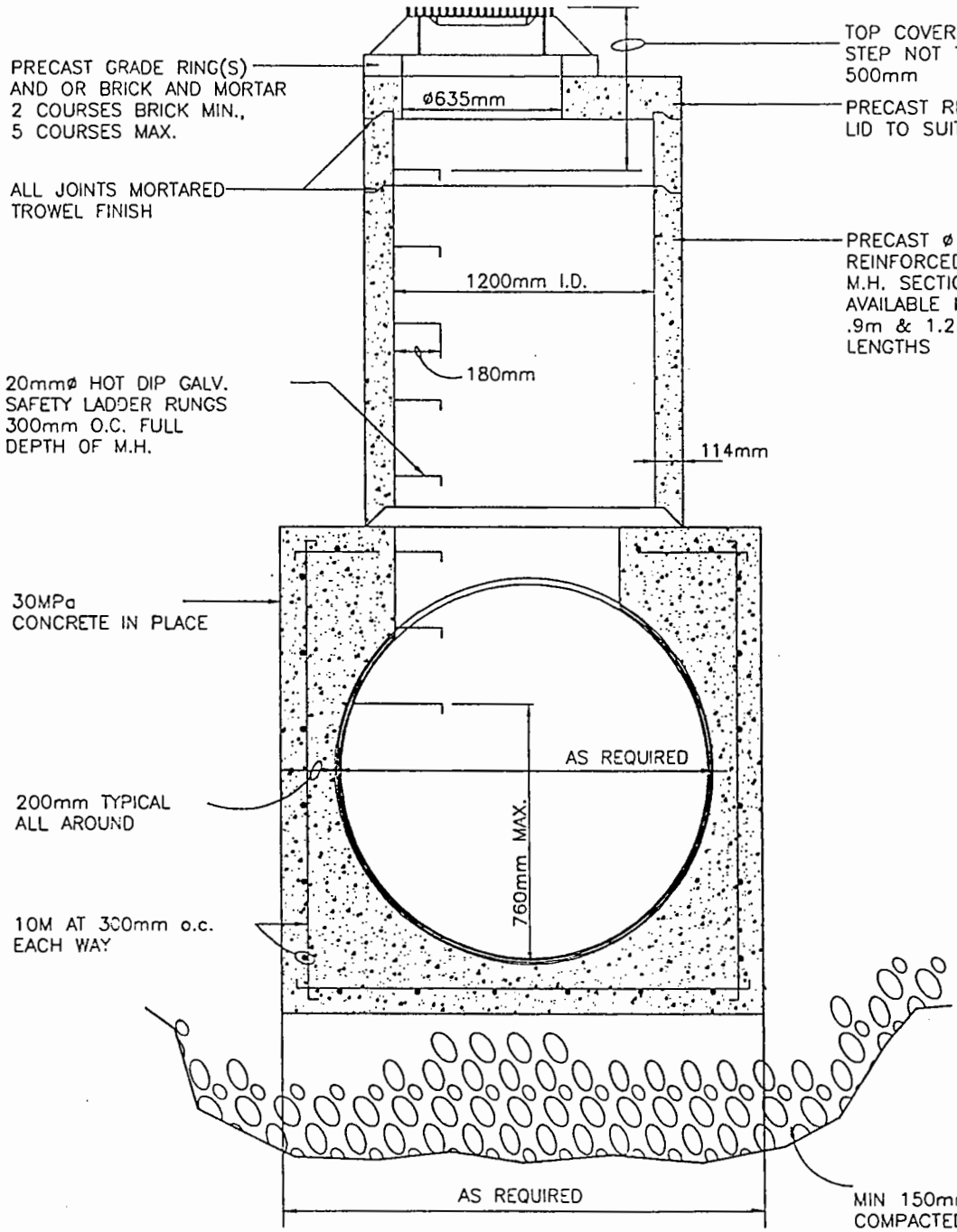
DATE: JUNE, 1999

DISTRICT OF HOPE

Incorporated 1929

TITLE: SANI-DUMP

SDS-23




NOTE:
FOR SEWERS LARGER THAN ø1050mm

FOR USE ONLY WITH ENGINEER'S APPROVAL.

| NO. | REVISION | APPROVED |
|---|---|---|
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| | | |

SCALE: N.T.S.

DATE: JUNE, 1999

DISTRICT OF HOPE

Incorporated 1928

TITLE

MANHOLE FOR LARGE DIAMETER SEWERS

SDS-24