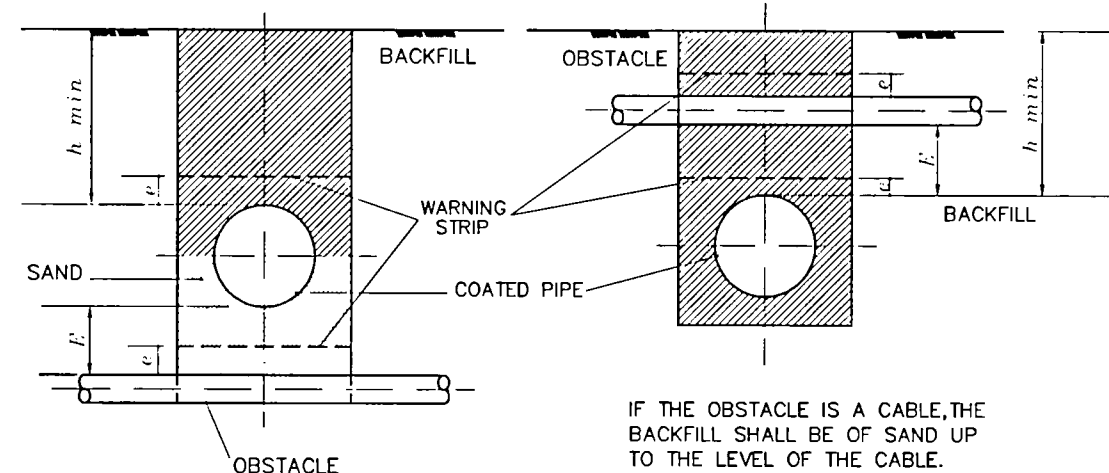
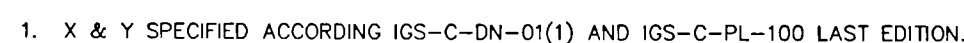
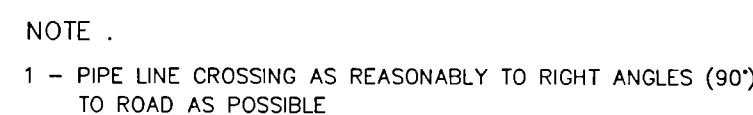
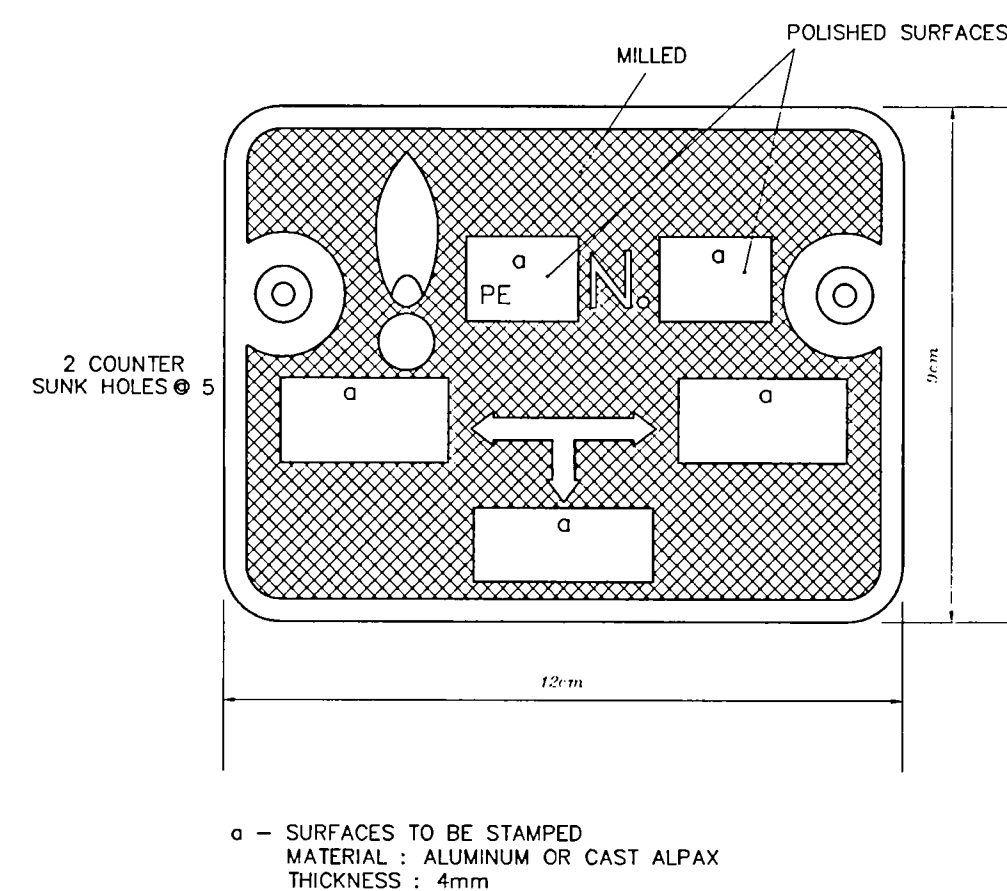


NO.4 TRENCH CROSS SECTION
BASIC GRID OR DISTRIBUTION NETWORK



e = MINIMUM HEIGHT BACKFILL IN SPECIFICATIONS
E = MINIMUM PERMISSIBLE DISTANCE TANGENTS OF OBSTACLE OR OF THE PIPELINE AND WARNING DEVICE e=0.20M
E = MINIMUM PERMISSIBLE DISTANCE BETWEEN TANGENTS OF THE OBSTACLE AND THE PIPELINE
1- IF THE OBSTACLE IS A TELECOMMUNICATION CABLE OR A METAL PIPELINE OR OTHER WISE FOR NON-INFLAMMABLES, E = 0.40M
2- IF THE OBSTACLE IS AN ELECTRIC ENERGY TRANSMISSION CABLE REFER TO N.I.G.C SAFETY REGULATION STANDARD
3- IF THE OBSTACLE IS METAL PIPELINE FOR INFLAMMABLES
a. WITH DESIGN PRESSURE (250-1050 PSIG) E=0.90M OR THE DIAMETER OF LARGER PIPE
b. WITH DESIGN PRESSURE (60 PSIG) E=0.40M OR THE DIAMETER OF LARGER PIPE



305 mm

25mm PURGING TEE

GAS LINE END

CAP

1 - A WELD ON 25mm PURGING TEE IS TO BE FITTED ADJACENT TO ALL CAPS

CROSSING STEEL CASING
 DO HLE COAT AND
 WHARF WITH COLLAR

GRADE
 TOP OF LOW BANK
 TOP OF LOW BANK
 NORMAL WATER LEVEL
 TOP OF HIGH BANK
 TOP OF HIGH BANK
 NORMAL COVER
 OR 45° ELBOW
 PE-PIPE
 SAG
 SAG
 MIN TO TOP OF PIPE OR WEIGHTS IF REQUIRED

45°

NOTE.

- 1 - THIS DRAWING APPLICABLE TO ALL STREAM OR DITCH CROSSING NOT SHOWN INDIVIDUALLY DESIGNED ON OTHER ACCOMPANYING DRAWINGS.
- 2 - WEIGHTS TO BE INSTALLED AS DIRECTED BY COMPANY
- 3 - ALL NEW CONSTRUCTION TO BE DONE BY CONTRACTOR

CONCRETE LINER

NORMAL WATER LEVEL

TOP OF LEVEL

NATURAL GRADE

2500 mm

1000 mm

BRUSH WITH COLTAN

PE-PIPE

PIPE TO BE INSTALLED BY BORING OR PIPE JACKING SEE N3-5780 LAST EDITION

SAG

CROSSING STREET, CASING, BORING, COAT AND BRUSH WITH COLTAN

ELEVATION

NOTE.

- 1 - LIMITS OF BORING TO EXTEND (1.5m) BEYOND TOE OF SLOPE ON EACH SIDE OF CANAL.
- 2 - CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO CONCRETE PIER AND LEAVES AND SHALL REPAIR ANY DAMAGE TO THE SATISFACTION OF THE CANAL OWNER.
- 3 - CONSTRUCTION POINT BETWEEN PRESENT CONCRETE AND REPLACED CONCRETE SHALL CONSIST OF JOINT FILLER OF MIXED ASPHALT AND MINERAL FILLER COMPLYING WITH A.A. S.S.H.O.M-89 PENETRATION GRADE 40 TO 50.

THE PIPE COVER SHALL NORMALLY BE 150mm BUT CAN VARY TO SUIT SITE CONDITION

SOIL AS PER SPECIFICATION no.12

WARNING STRIP

WARNING STRIP

SAND OF SOFT MATERIAL

100 mm

Ø 111 x Ø 112 - 700 mm

NOTE.

1. PIPELINE WITH DESIGN PRESSURE 60-250 PSIG AND O.D 6"-12"
2. PIPELINE WITH DESIGN PRESSURE 60 PSIG AND O.D 2"-6"
3. X & Y SPECIFIED ACCORDING IGS-C-DN-01(1) AND IGS-C-PL-100 LAST EDITION.

Diagram illustrating the relationship between an existing obstacle and a new gas pipeline. The top horizontal line is labeled "EXISTING OBSTACLE". Below it, a vertical double-headed arrow indicates a distance F . The bottom horizontal line is labeled "NEW GAS PIPELINE (60-250 PSIG)".

E = MINIMUM PERMISSIBLE DISTANCE BETWEEN OBSTACLE AND NEW GAS PIPELINE

- 1 - IF THE OBSTACLE IS A TELECOMMUNICATION CABLE OR METAL PIPELINE OR OTHER WSE, FOR NON INFLAMMABLES, $E=0.50M$
- 2 - IF THE OBSTACLE IS AN ECLECTIC ENERGY TRANSMISSION CABLE REFER TO N.I.G.C SAFETY REGULATION STANDARD
- 3 - IF THE OBSTACLE IS METAL GAS PIPELINE FOR INFLAMMABLES A WITH DESIGN PRESSURE 60-250 PSIG, $E=0.60M$ OR THE DIAMETER OF LARGER PIPE

0 cm Ø 9.5 Ø 16

100 mm

1000 mm

100 mm

CLAMP Ø 5

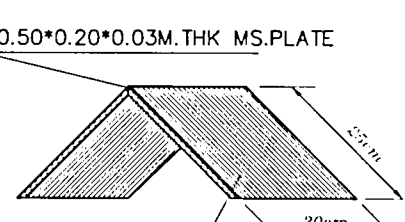
3 RODS Ø 16

PLATE TO BE BOLTED

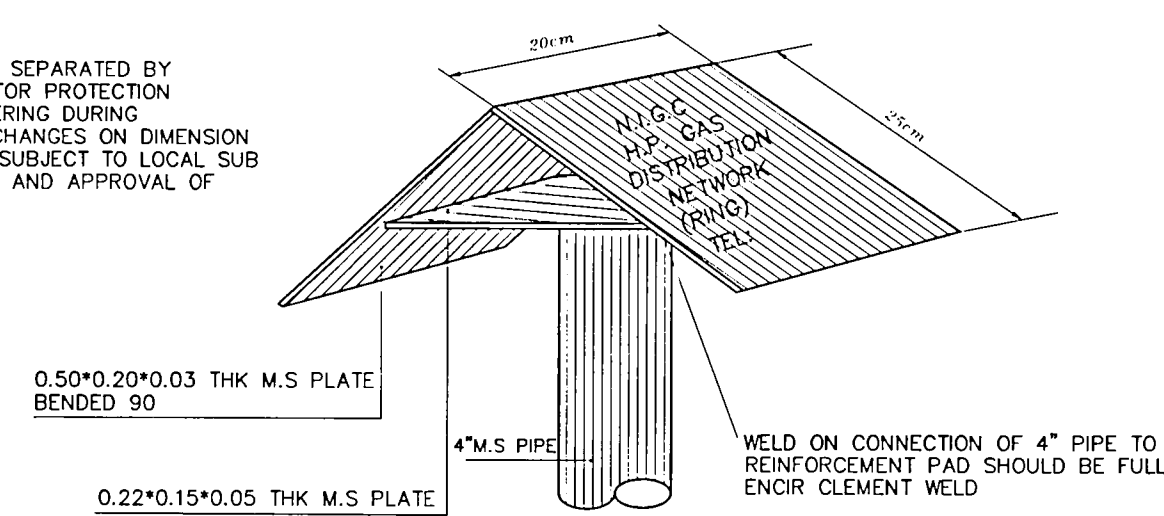
CONCRETE 250kg

REINFORCEMENT AT LEAST 20mm FROM OUTSIDE SURFACE OF MARKER

MASS CONCRETE SEPARATED BY NYLON SHEETS FOR PROTECTION AGAINST DEWATERING DURING CONSTRUCTION CHANGES ON DIMENSION ARE PERMITTED SUBJECT TO LOCAL SUBSOIL CONDITIONS AND APPROVAL OF SITE ENGINEER.



PAINTED WITH ONE COAT OF ANTRUST PAINT AND TWO COATS OF YELLOW PAINT WITH NOTES WRITTEN IN BLACK AND TO SATISFACTION OF SITE ENGINEER (N.I.G.C) ONE SIDE (km.) OTHER SIDE



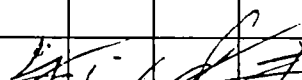
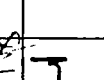
The diagram illustrates a road construction zone with the following details:

- Direction of Traffic:** Indicated by an arrow pointing to the right.
- Construction Area:** A hatched triangular region labeled "CONSTRUCTION AREA" with a width of 2000 m.
- Signage:**
 - Direction Sign:** Located 500 m from the start of the construction area.
 - Warning Sign:** Located 200 m from the end of the construction area.
 - Warning Tape and Lighting:** Located 1500 m from the end of the construction area.
- Dimensions:**
 - 500 m: Distance from the start of the construction area to the Direction Sign.
 - 2000 m: Width of the construction area.
 - 200 m: Distance from the end of the construction area to the Warning Sign.
 - 1500 m: Distance from the end of the construction area to the Warning Tape and Lighting.
- Labels:**
 - SING
 - DIRECTION SIGN
 - CONSTRUCTION AREA CORDONED OFF BY CONE'S FENCE/MSD LUMINOUS WARNING TAPE AND LIGHTING
 - WARNING SIGN
 - EDGE OF ROAD
 - TEMPORARY TRAFFIC LIGHT

NOTE.
FOR TRENCH WORK CONSTRUCTED
ACROSS THE CARRIAGE WAY THE
EXTENT OF THE WORKS SHOULD
BE LIMITED TO HALF OF THE ROADS WIDTH

The diagram illustrates a road construction area with a lane closure. Key features include:

- Direction of Traffic:** Indicated by arrows on the left, showing flow from left to right.
- Flow:** Indicated by an arrow within the road area, pointing right.
- Central Reservation:** The area between the two main road sections.
- Edge of Road:** The boundary of the road on the left side.
- Construction Area:** A hatched area on the right side of the road, labeled "CONSTRUCTION AREA CORRODED BY CONES, FENCEPIMS, RED LUMINOUS WARNING TAPE AND LIGHTING".
- Sing (Road Clear):** A point further to the right, labeled "SING (ROAD CLEAR)".
- Dimensions:**
 - 5000 m (width of the road section on the left)
 - 5000 m (width of the road section on the right)
 - 20000 m (distance between the two road sections)
 - 3000 m (width of the central reservation)
 - 3000 m (width of the construction area)
- Warning Sign:** Located at the end of the road on the right.

| | | | | | |
|--|----------------------------|--|--------|---|------------------------------------|
| A -X & Y SPECIFIED IN NO.4,NO.5,NO.6 | |  M. Zariem | |  M. Samadpour | |
| REV | DESCRIPTION | DRAWN | DESIGN | CHECK | APP DATE |
| NO CONSTRUCTION PERMITTED UNLESS THE DRAWING IS APPROVED | | | | | |
| <h2 style="text-align: center;">NATIONAL IRANIAN GAS COMPANY</h2> <p style="text-align: center;">ENGINEERING AND TECHNICAL SERVICES AFFAIRS</p> <h3 style="text-align: center;">GAS DISTRIBUTION NETWORK</h3> | | | | | |
| <p><u>STANDARD</u></p> <p>DRAWING FOR PIPING UNDER CROSSING (GRAVEL OR DIRT ROAD, STREAM,CANAL) TRENCH CROSS SECTION VICINITY OF UNDER GROUND UTILITIES PIPELINE MARKER INDICATOR PLATE INSTALLATION OF A PURGING POINT AND SPACING FOR PIPE RIG</p> | | | | | |
| DRAWN | CHECKED | BUD. REF. | SCALE | DRAWING NO | REV |
| DESIGNED | M. BOLODRI | _____ | _____ | <h1 style="font-size: 2em;">SM-6021</h1> | <h1 style="font-size: 2em;">A</h1> |
| DESIGNED | DES. SHEKH | APPROVED | DATE | | |
| N.I.G.C | E. BOLODRI F. SAMADPOUR | BAH. 63 | | | |