





MAPS AND DRAWING

# KATHMANDU VALLEY

Legend Kathmandu Valley Map 1:50,000

- Main roads
- Secondary roads
- Tarmac thoroughfares
- Roads under construction
- Footpaths
- Unimproved paths  
e.g. temple, shrine, market
- Footways
- Power lines with pylons
- Other wires
- Bridges, trestles, viaducts

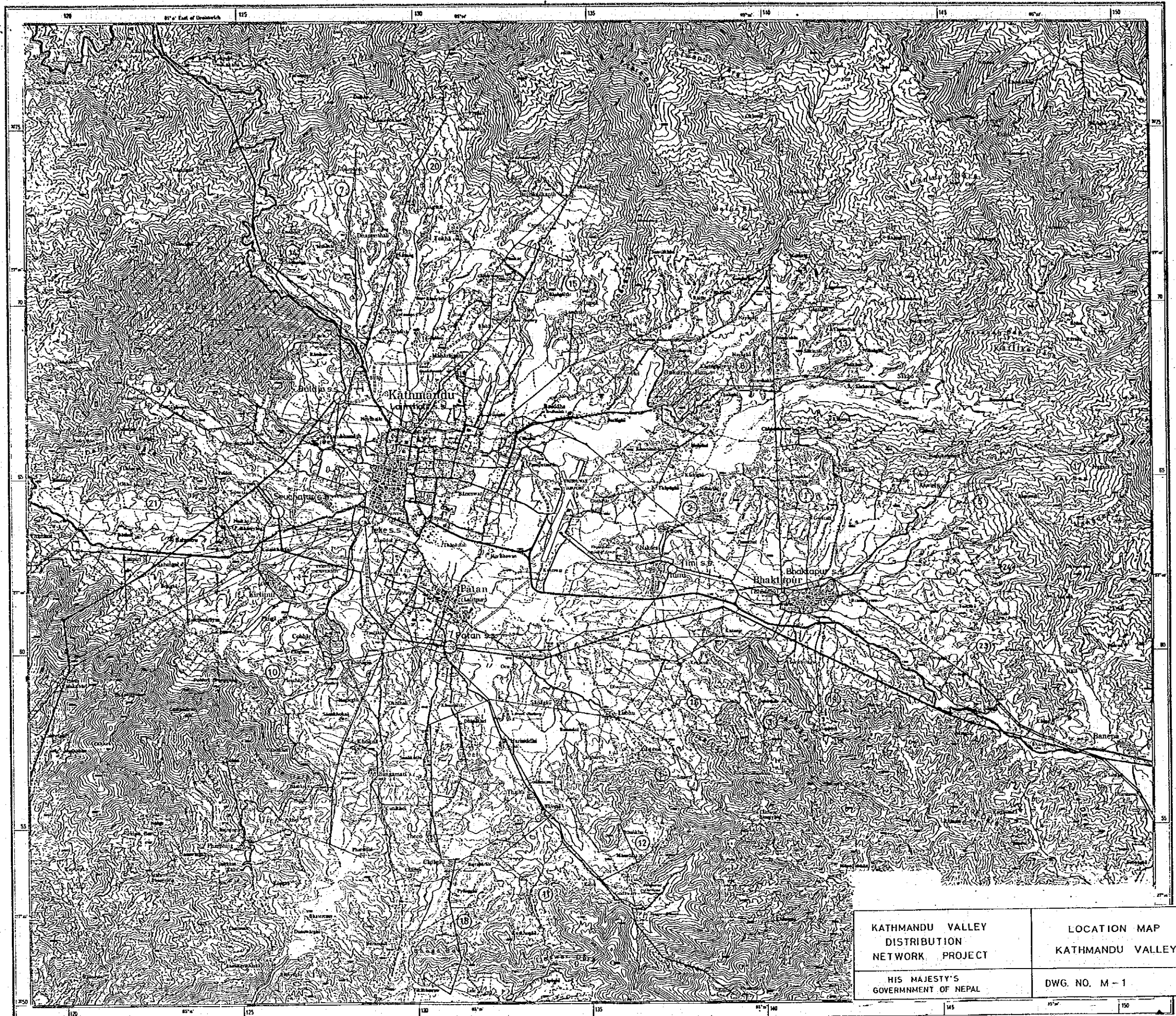
- 200 m = 656 ft
- 40 m = 131 ft
- 20 m = 66 ft



- Legend**
- Proposed 11kv Distribution line
  - Constructed by NEC
  - Constructed by 1st stage
  - Existing 11kv Distribution line
  - Existing 33kv Transmission line
  - Existing 66kv Transmission line
  - Existing 11kv Switching station
  - 66kv Sub station

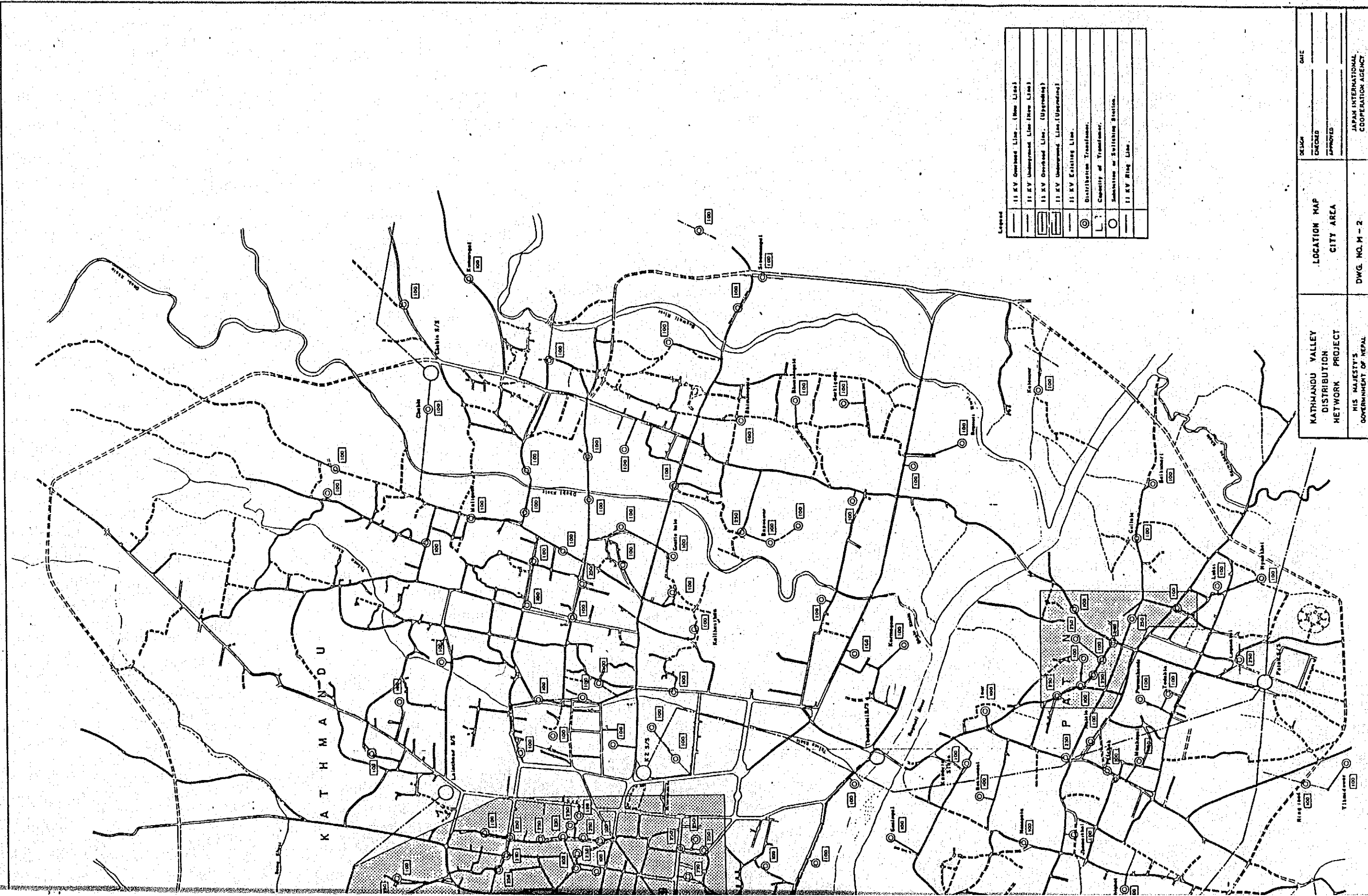
**Name of village**

- 1 Jhokhel
- 2 Duwakot
- 3 Gundu
- 4 Chhaling
- 5 Bageswari
- 6 Lamatar
- 7 Phutunga
- 8 Dachhi
- 9 Bimdunga
- 10 Chovar
- 11 Jharwarasi
- 12 Bisanku Narayan
- 13 Indrayani
- 14 Goldhunga
- 15 Chunikhel
- 16 Dadhikot
- 17 Nagar kot
- 18 Chapagaon
- 19 Shipadol
- 20 Jhor
- 21 Dahachoc
- 22 Lapsephedi
- 23 Tathali
- 24 Sudal



|   |                                  |  |
|---|----------------------------------|--|
| KATHMANDU VALLEY<br>DISTRIBUTION<br>NETWORK PROJECT<br><br>HIS MAJESTY'S<br>GOVERNMENT OF NEPAL | LOCATION MAP<br>KATHMANDU VALLEY | DESIGN _____ DATE _____<br>CHECKED _____<br>APPROVED _____ |
|   | DWG. NO. M-1                     | JAPAN INTERNATIONAL<br>COOPERATION AGENCY                  |



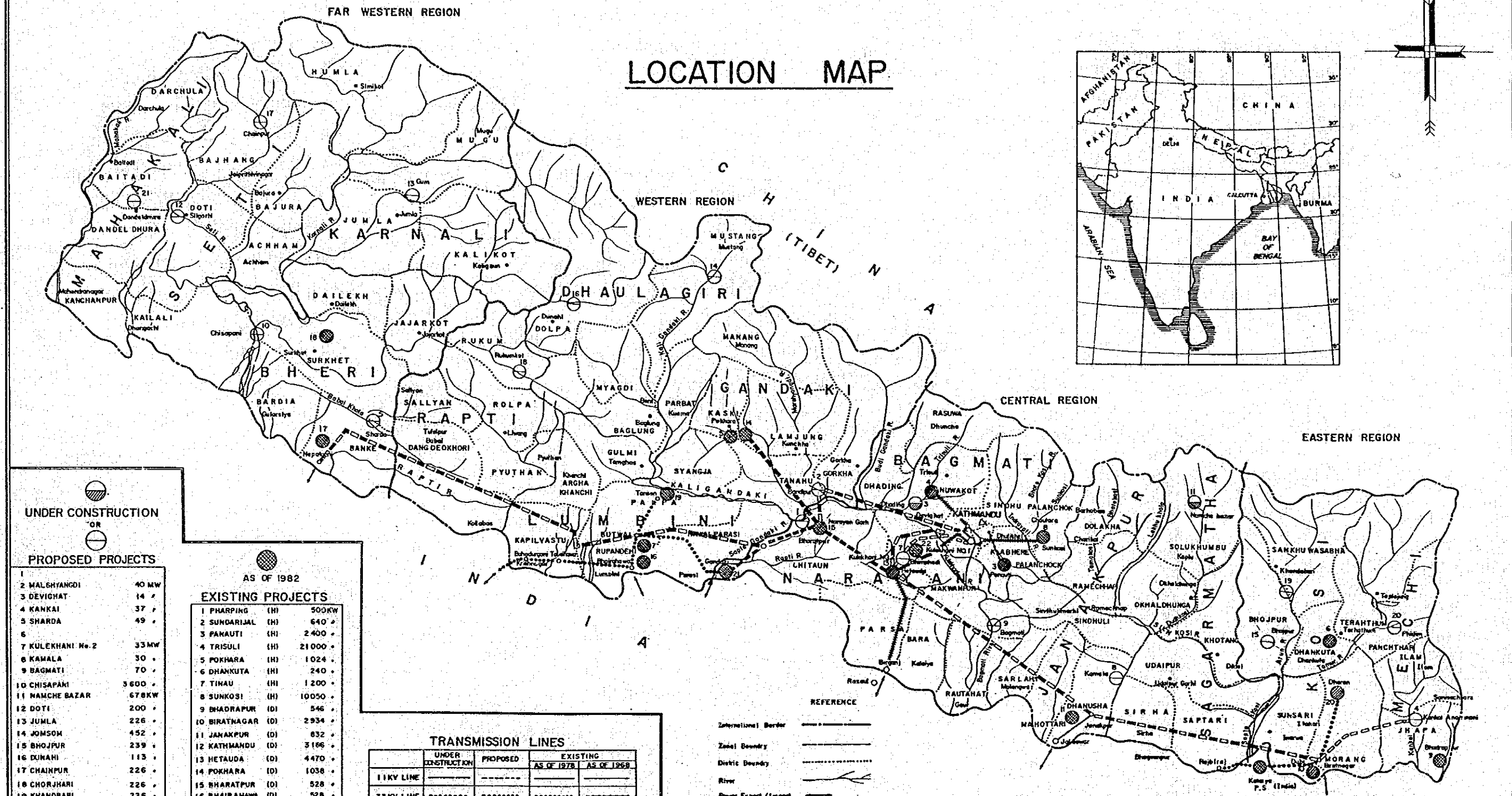
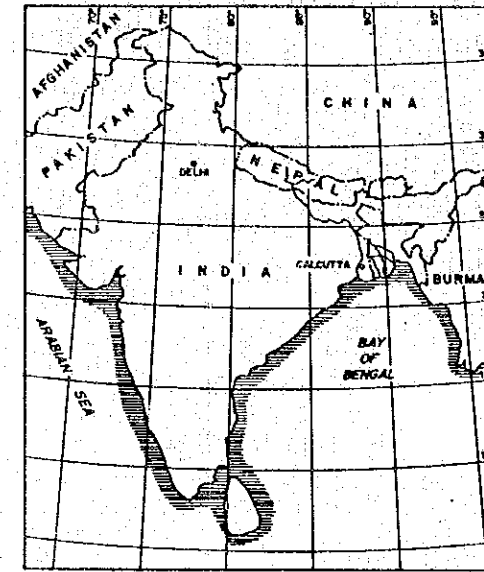
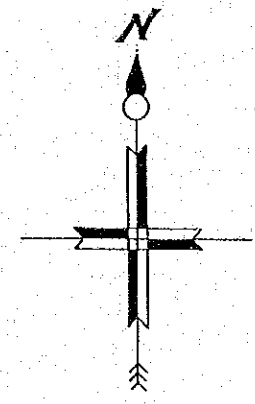


Legend

|       |                                   |
|-------|-----------------------------------|
| —     | 11 KV Overhead Line (New Line)    |
| - - - | 11 KV Underground Line (New Line) |
| —     | 11 KV Overhead Line (Upgrade)     |
| - - - | 11 KV Underground Line (Upgrade)  |
| ⊙     | 11 KV Existing Line               |
| ⊙     | Distribution Transformer          |
| ⊙     | Capacity of Transformer           |
| ⊙     | Substation or Switching Station   |
| —     | 11 KV Ring Line                   |

|   |  |
|---|--|
| DESIGN  | DATE                                   |
|   | CHECKED                                |
| LOCATION MAP                                  | CITY AREA                              |
|   | CITY AREA                              |
| KATHMANDU VALLEY DISTRIBUTION NETWORK PROJECT | DWG. NO. M - 2                         |
| HIS MAJESTY'S GOVERNMENT OF NEPAL             | JAPAN INTERNATIONAL COOPERATION AGENCY |

# LOCATION MAP



UNDER CONSTRUCTION  
OR  
PROPOSED PROJECTS

|    |                 |        |
|----|-----------------|--------|
| 1  | MALEHYANGDI     | 40 MW  |
| 2  | DEVICHT         | 14 "   |
| 3  | KANKAI          | 37 "   |
| 4  | SHARDA          | 49 "   |
| 5  |                 |        |
| 6  |                 |        |
| 7  | KULEKHANI No. 2 | 33 MW  |
| 8  | KAMALA          | 30 "   |
| 9  | BAGMATI         | 70 "   |
| 10 | CHISAPANI       | 3600 " |
| 11 | NAMCHE BAZAR    | 678 KW |
| 12 | DOTI            | 200 "  |
| 13 | JUMLA           | 226 "  |
| 14 | JOMSOM          | 452 "  |
| 15 | BHOJPUR         | 239 "  |
| 16 | DUNAI           | 113 "  |
| 17 | CHAINPUR        | 226 "  |
| 18 | CHORJHARI       | 226 "  |
| 19 | KHANDHARI       | 226 "  |
| 20 | PHIKH           | 226 "  |
| 21 | DANDHEL DHURA   | 239 "  |

AS OF 1982

EXISTING PROJECTS

|    |                |         |
|----|----------------|---------|
| 1  | PHARPING (H)   | 500KW   |
| 2  | SUNDARIAL (H)  | 640 "   |
| 3  | PAKAUTI (H)    | 2400 "  |
| 4  | TRISULI (H)    | 21000 " |
| 5  | POKHARA (H)    | 1024 "  |
| 6  | DHANKUTA (H)   | 240 "   |
| 7  | TINAU (H)      | 1200 "  |
| 8  | SUNKOSI (H)    | 10050 " |
| 9  | BHADRAPUR (D)  | 546 "   |
| 10 | BIRATNAGAR (D) | 2934 "  |
| 11 | JANAKPUR (D)   | 832 "   |
| 12 | KATHMANDU (D)  | 3186 "  |
| 13 | HETAUDA (D)    | 4470 "  |
| 14 | POKHARA (D)    | 1038 "  |
| 15 | BHARATPUR (D)  | 528 "   |
| 16 | BHAIRAHAMA (D) | 528 "   |
| 17 | NEPALGANJ (D)  | 528 "   |
| 18 | SURKHET (H)    | 345 "   |
| 19 | TANSEN (D)     | 248 "   |
| 20 | DHARAN (D)     | 212 "   |
| 21 | GANDAKI (D)    | 15000 " |
| 22 | KULEKHANI NO.1 | 60000 " |

TRANSMISSION LINES

|            | UNDER CONSTRUCTION | PROPOSED | EXISTING   |            |
|------------|--------------------|----------|------------|------------|
|            |                    |          | AS OF 1978 | AS OF 1982 |
| 11KV LINE  | -----              | -----    | -----      | -----      |
| 33KV LINE  | -----              | -----    | -----      | -----      |
| 66KV LINE  | -----              | -----    | -----      | -----      |
| 132KV LINE | -----              | -----    | -----      | -----      |

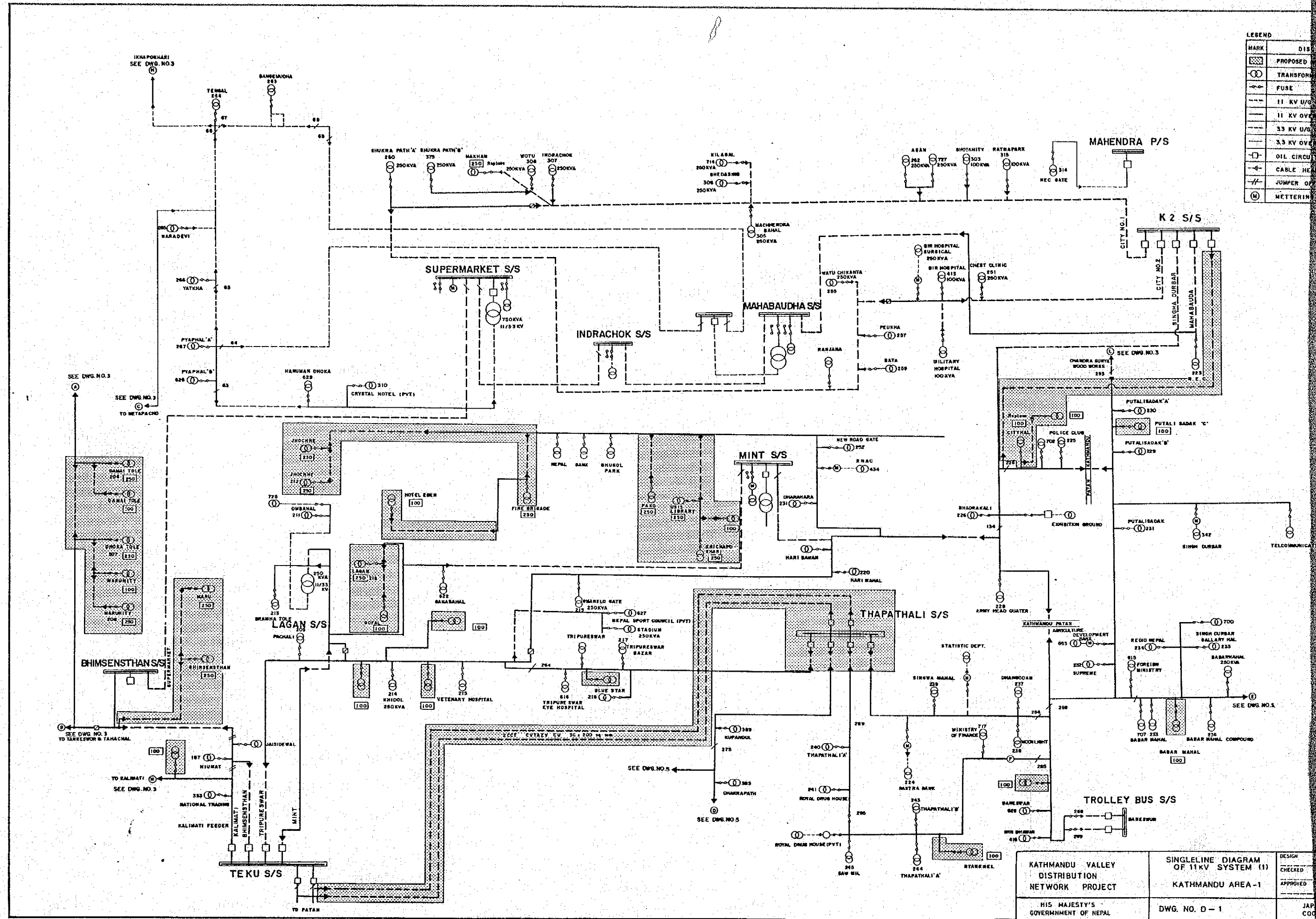
REFERENCE

- International Border
- Zonal Boundary
- District Boundary
- River
- Power Export / Import

SCALE : 1 : 1000,000

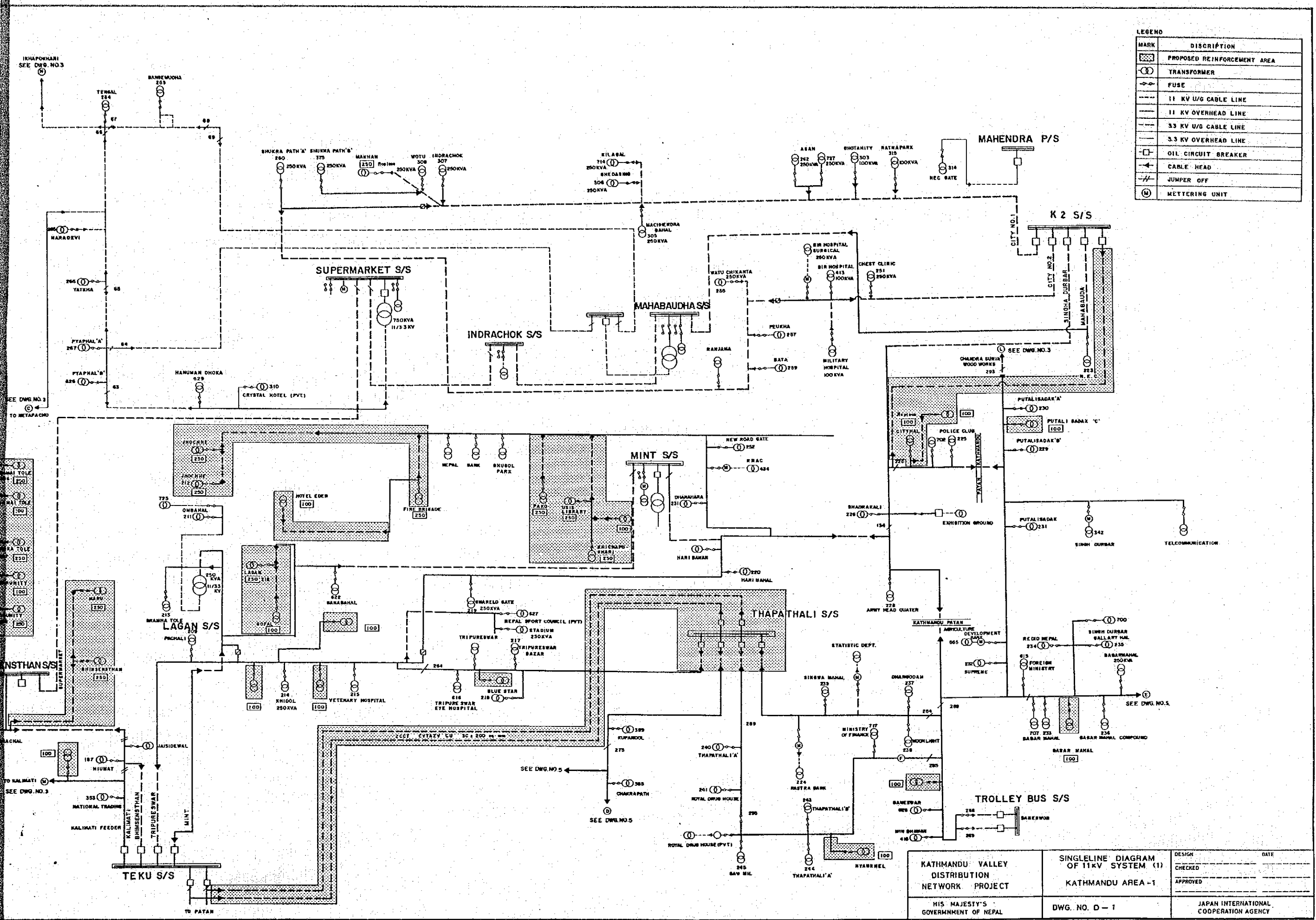
|  |                                      |  |
|--|--------------------------------------|--|
| KATHMANDU VALLEY DISTRIBUTION NETWORK PROJECT<br>HIS MAJESTY'S GOVERNMENT OF NEPAL | LOCATION MAP OF POWERSYSTEM IN NEPAL | DESIGN DATE                            |
|  | DWG. NO. M-3                         | CHECKED APPROVED                       |
|  |                                      | JAPAN INTERNATIONAL COOPERATION AGENCY |

| MARK | DIS                 |
|------|---------------------|
|      | PROPOSED            |
|      | TRANSFORMER         |
|      | FUSE                |
|      | 11 KV O/C           |
|      | 11 KV O/V           |
|      | 33 KV O/C           |
|      | 33 KV O/V           |
|      | OIL CIRCUIT BREAKER |
|      | CABLE HEAD          |
|      | JUMPER              |
|      | METERING            |

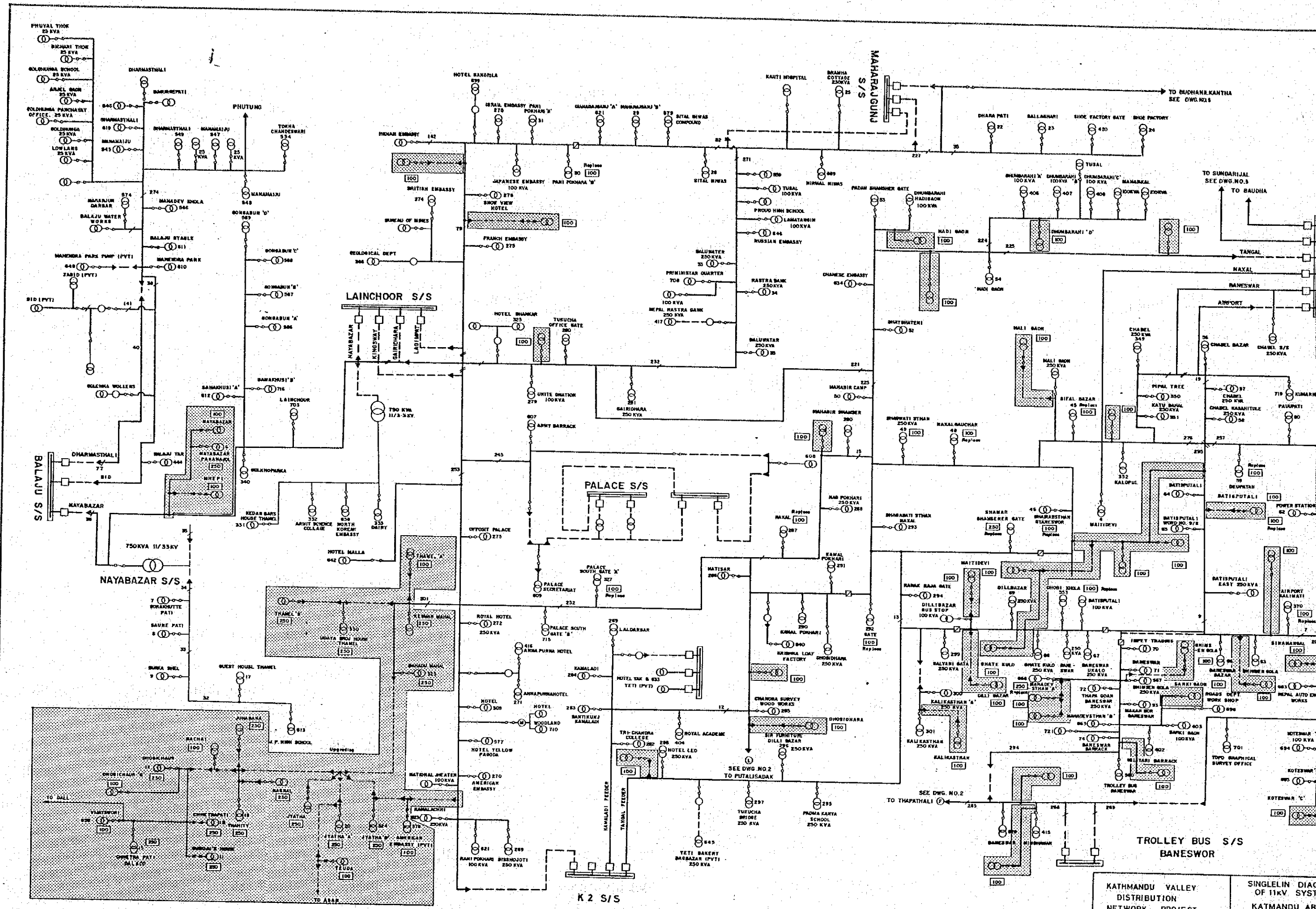


|   |  |            |
|---|--|------------|
| KATHMANDU VALLEY<br>DISTRIBUTION<br>NETWORK PROJECT | SINGLELINE DIAGRAM<br>OF 11KV SYSTEM (1) | DESIGN     |
|   | KATHMANDU AREA-1                         | CHECKED    |
| HIS MAJESTY'S<br>GOVERNMENT OF NEPAL                | DWG. NO. D-1                             | APPROVED   |
|   |  | JAP<br>COO |

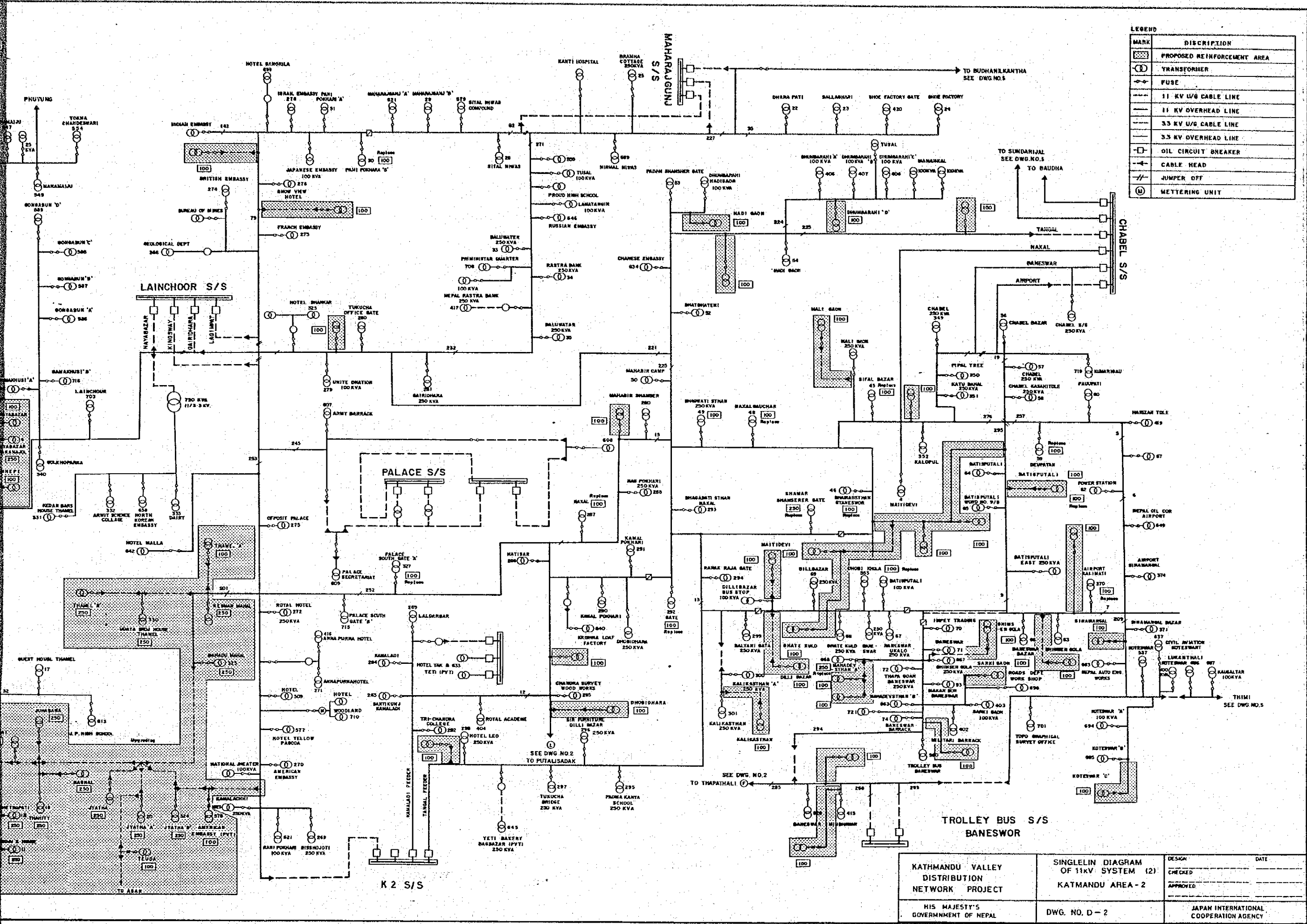
| MARK | DISCRPTION                  |
|------|-----------------------------|
|      | PROPOSED REINFORCEMENT AREA |
|      | TRANSFORMER                 |
|      | FUSE                        |
|      | 11 KV U/G CABLE LINE        |
|      | 11 KV OVERHEAD LINE         |
|      | 33 KV U/G CABLE LINE        |
|      | 33 KV OVERHEAD LINE         |
|      | OIL CIRCUIT BREAKER         |
|      | CABLE HEAD                  |
|      | JUMPER OFF                  |
|      | METERING UNIT               |



|   |   |   |
|---|---|---|
| KATHMANDU VALLEY<br>DISTRIBUTION<br>NETWORK PROJECT | SINGLELINE DIAGRAM<br>OF 11KV SYSTEM (1)<br>KATHMANDU AREA -1 | DESIGN _____ DATE _____                   |
|   |   | CHECKED _____                             |
|   |   | APPROVED _____                            |
| HIS MAJESTY'S<br>GOVERNMENT OF NEPAL                | DWG. NO. D - 1  | JAPAN INTERNATIONAL<br>COOPERATION AGENCY |



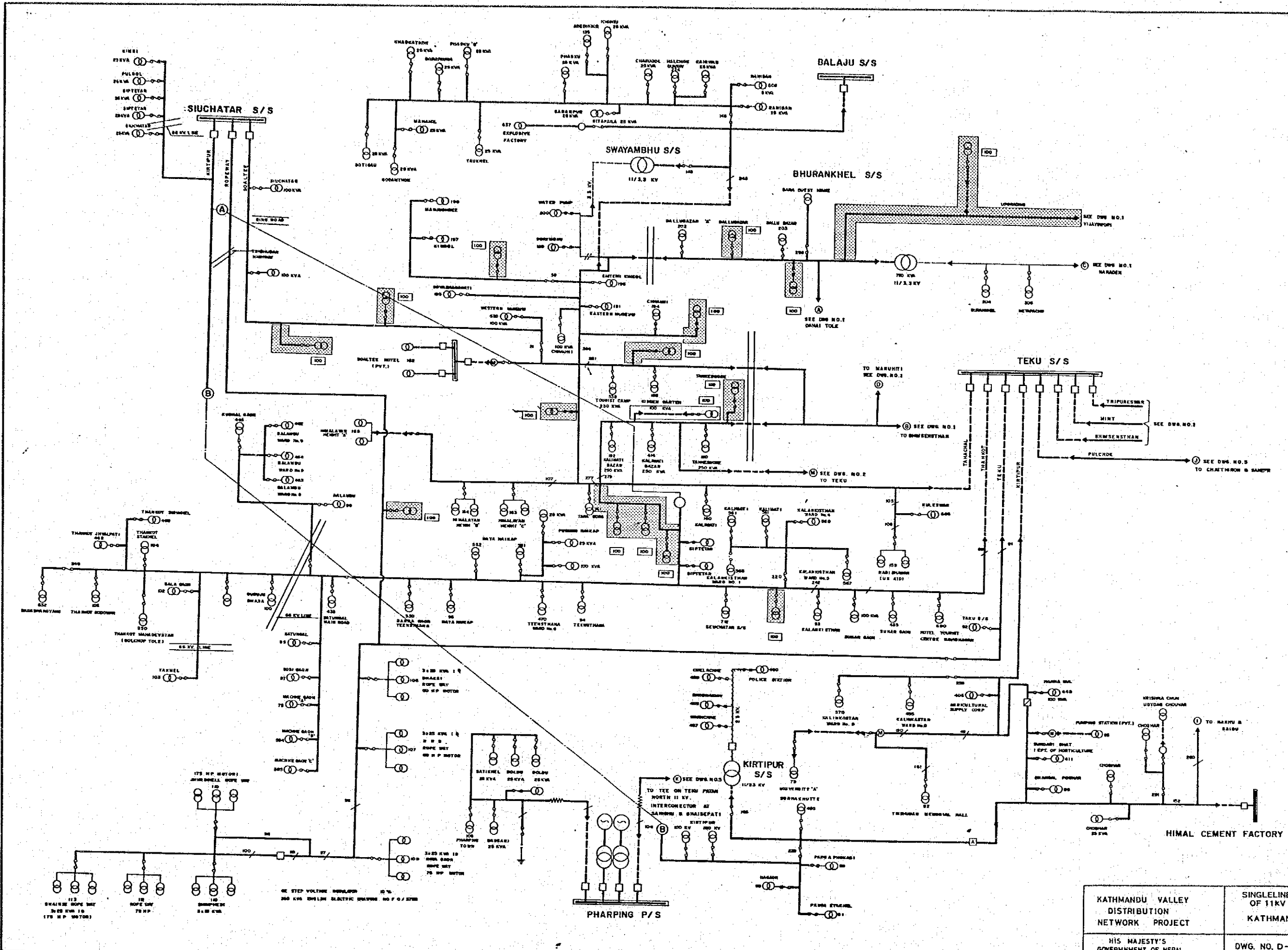
KATHMANDU VALLEY DISTRIBUTION NETWORK PROJECT  
 HIS MAJESTY'S GOVERNMENT OF NEPAL  
 SINGLELINE DIAG. OF 11kV SYSTEM IN KATHMANDU AREA  
 DWG. NO. D-2



**LEGEND**

| MARK              | DISCRPTION                  |
|-------------------|-----------------------------|
| [Hatched Box]     | PROPOSED REINFORCEMENT AREA |
| [Circle with 'X'] | TRANSFORMER                 |
| [Line with 'X']   | FUSE                        |
| [Solid Line]      | 11 KV U/G CABLE LINE        |
| [Dashed Line]     | 11 KV OVERHEAD LINE         |
| [Dotted Line]     | 3.3 KV U/G CABLE LINE       |
| [Dashed Line]     | 3.3 KV OVERHEAD LINE        |
| [Square]          | OIL CIRCUIT BREAKER         |
| [Triangle]        | CABLE HEAD                  |
| [Zigzag]          | JUMPER OFF                  |
| [Circle]          | METTERING UNIT              |

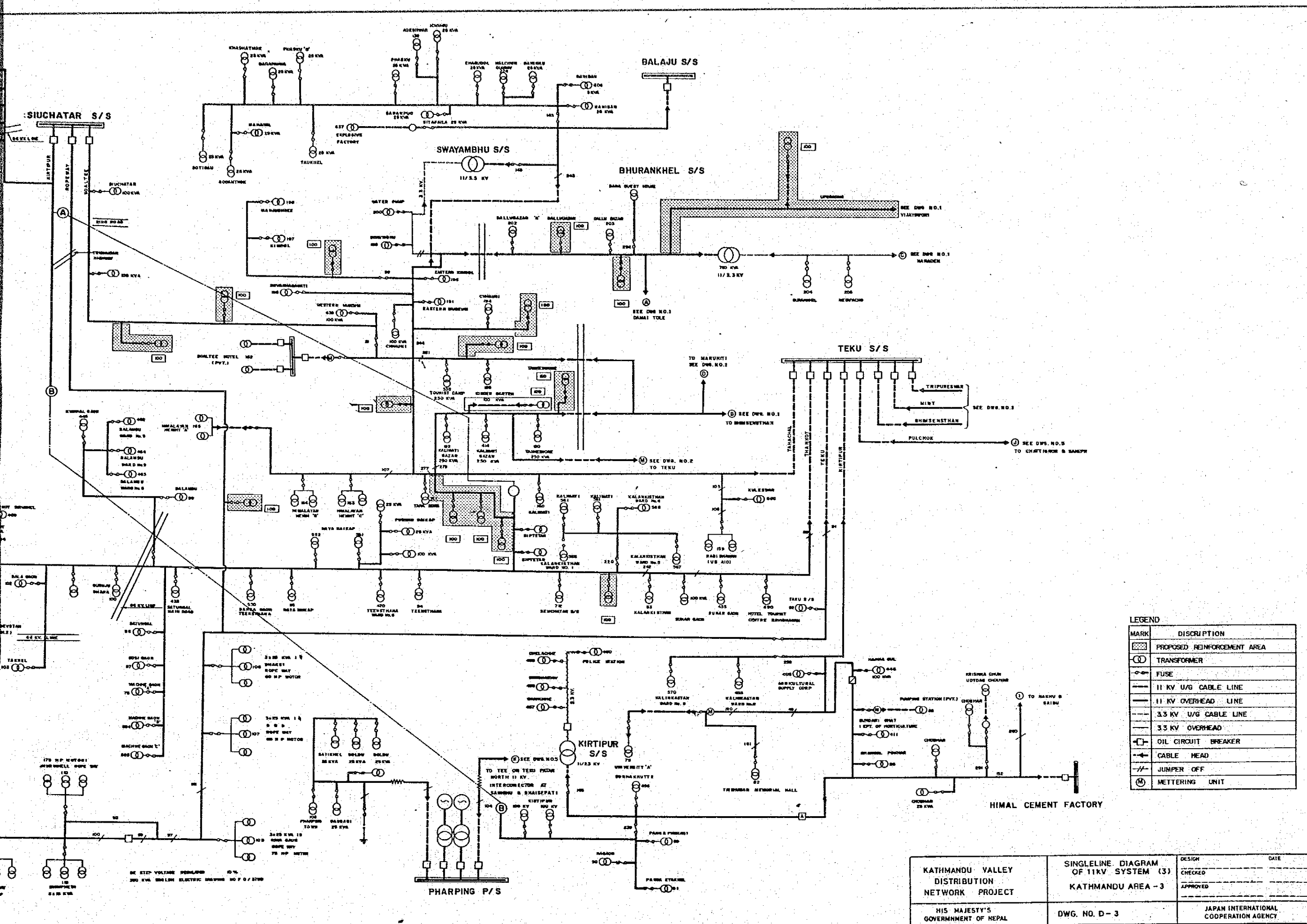
|  |  |   |      |
|--|--|---|------|
| KATHMANDU VALLEY<br>DISTRIBUTION<br>NETWORK<br>PROJECT | SINGLELINE DIAGRAM<br>OF 11KV SYSTEM (2)<br>KATHMANDU AREA - 2 | DESIGN                                    | DATE |
|  |  | CHECKED                                   |      |
|  |  | APPROVED                                  |      |
| HIS MAJESTY'S<br>GOVERNMENT OF NEPAL                   | DWG. NO. D - 2   | JAPAN INTERNATIONAL<br>COOPERATION AGENCY |      |



LEGEND:

|   |                     |
|---|---------------------|
| MARK  | DESCRIPTION         |
| (Symbol: Circle with dot)   | PROPOSED            |
| (Symbol: Circle with cross)   | TRANSFORMER         |
| (Symbol: Circle with horizontal line)   | FUSE                |
| (Symbol: Circle with vertical line)   | 11 KV LINE          |
| (Symbol: Circle with diagonal line)   | 11 KV CABLE         |
| (Symbol: Circle with horizontal line and vertical line)   | 3.3 KV              |
| (Symbol: Circle with diagonal line and vertical line)   | 3.3 KV CABLE        |
| (Symbol: Circle with horizontal line and diagonal line)   | OIL CIRCUIT BREAKER |
| (Symbol: Circle with horizontal line and diagonal line and vertical line)                                       | CABLE               |
| (Symbol: Circle with horizontal line and diagonal line and vertical line and horizontal line)                   | JUMPER              |
| (Symbol: Circle with horizontal line and diagonal line and vertical line and horizontal line and vertical line) | METER               |

KATHMANDU VALLEY DISTRIBUTION NETWORK PROJECT  
 SINGLELINE DIAGRAM OF 11KV SYSTEM (3)  
 KATHMANDU AREA - 3  
 HIS MAJESTY'S GOVERNMENT OF NEPAL  
 DWG. NO. D-3



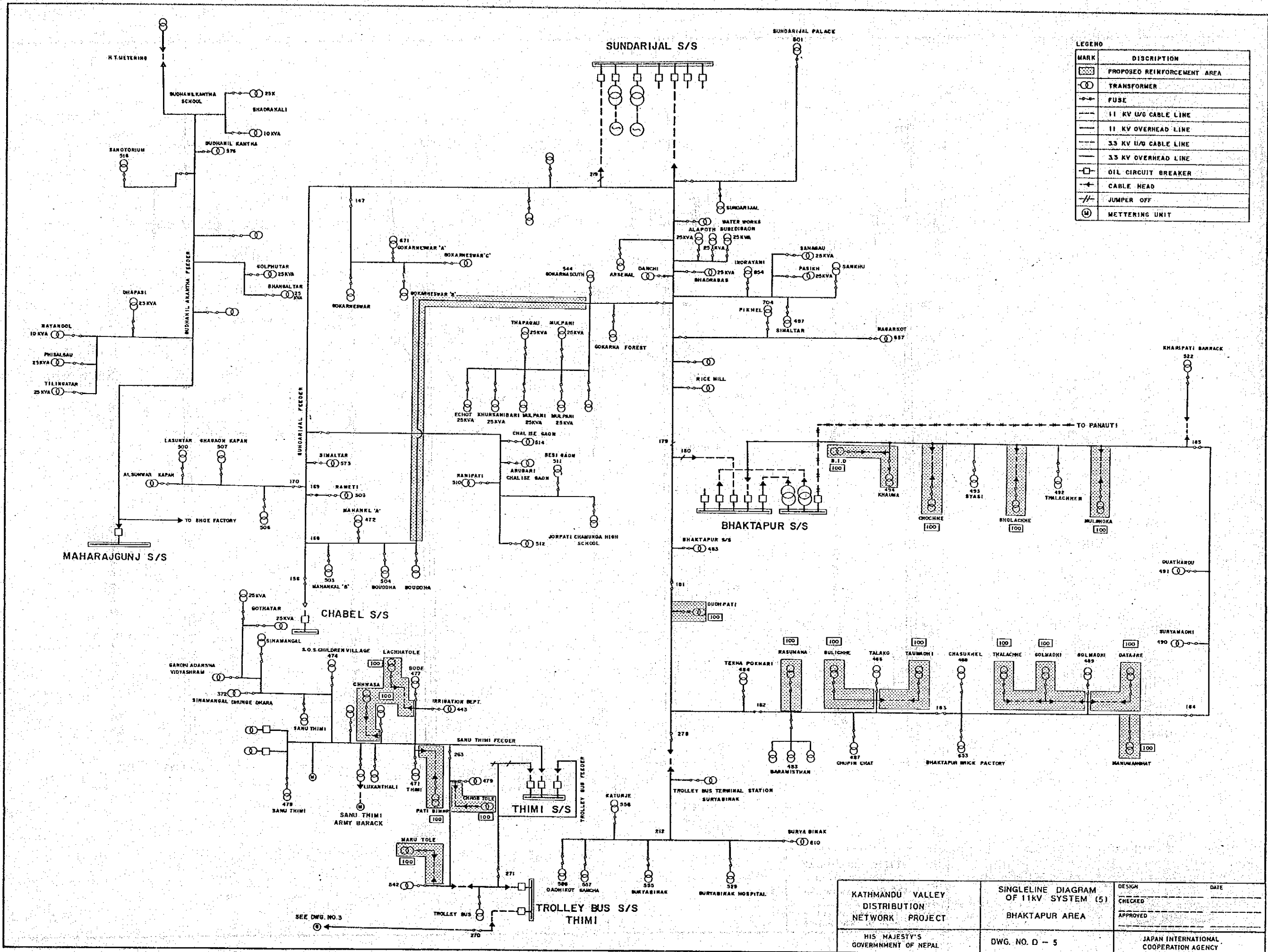
**LEGEND**

| MARK            | DISCRPTION                  |
|-----------------|-----------------------------|
| [Hatched Box]   | PROPOSED REINFORCEMENT AREA |
| [Circle with X] | TRANSFORMER                 |
| [Circle with F] | FUSE                        |
| [Solid Line]    | 11 KV U/G CABLE LINE        |
| [Dashed Line]   | 11 KV OVERHEAD LINE         |
| [Dotted Line]   | 3.3 KV U/G CABLE LINE       |
| [Dash-dot Line] | 3.3 KV OVERHEAD             |
| [Square with X] | OIL CIRCUIT BREAKER         |
| [Circle with T] | CABLE HEAD                  |
| [Circle with J] | JUMPER OFF                  |
| [Circle with M] | METERING UNIT               |

|   |  |   |            |
|---|--|---|------------|
| KATHMANDU VALLEY<br>DISTRIBUTION<br>NETWORK PROJECT<br><br>HIS MAJESTY'S<br>GOVERNMENT OF NEPAL | SINGLELINE DIAGRAM<br>OF 11KV SYSTEM (3)<br>KATHMANDU AREA - 3 | DESIGN _____<br>CHECKED _____<br>APPROVED _____ | DATE _____ |
|   | DWG. NO. D-3   | JAPAN INTERNATIONAL<br>COOPERATION AGENCY       |            |

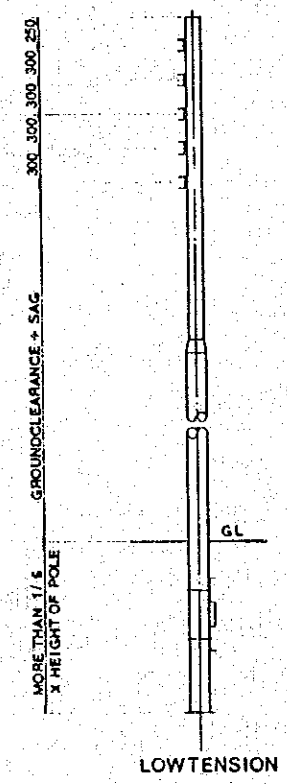
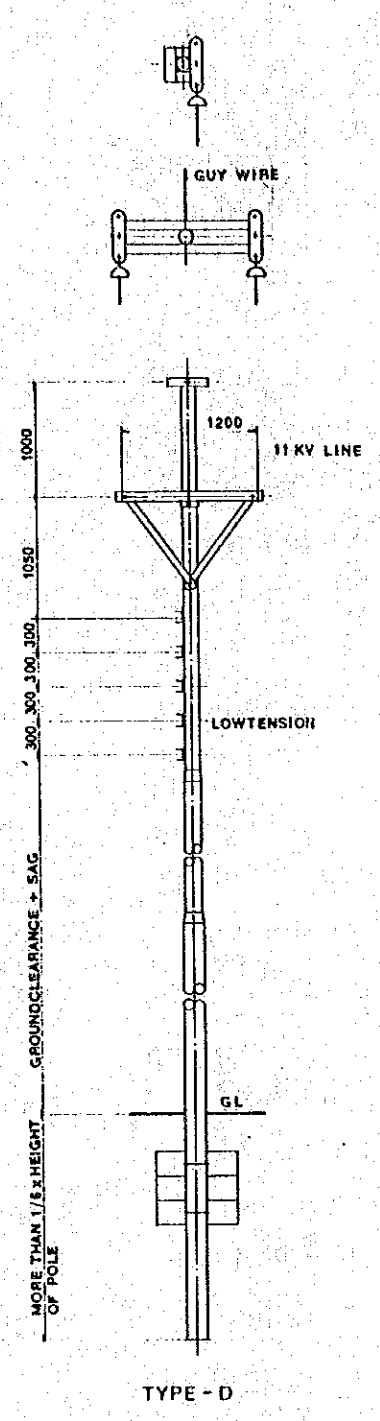
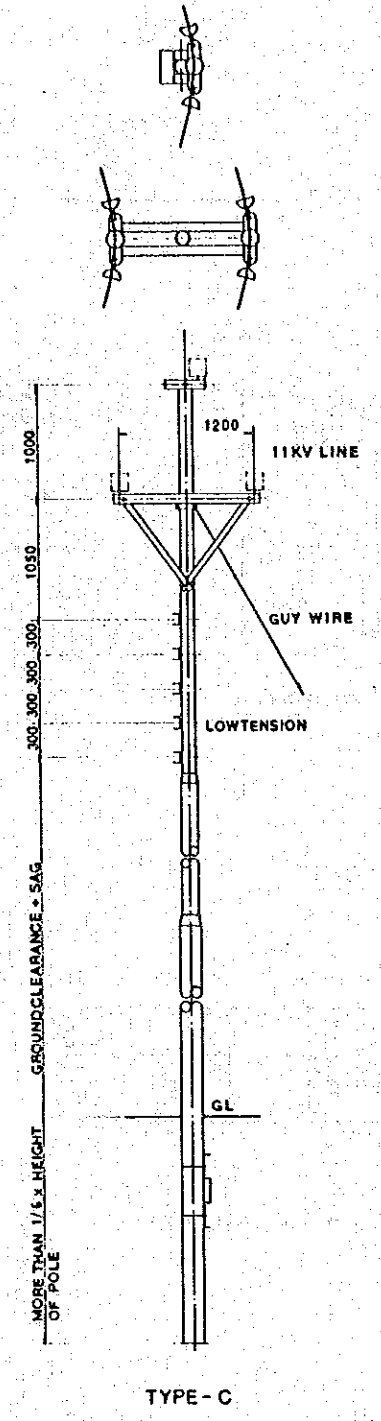
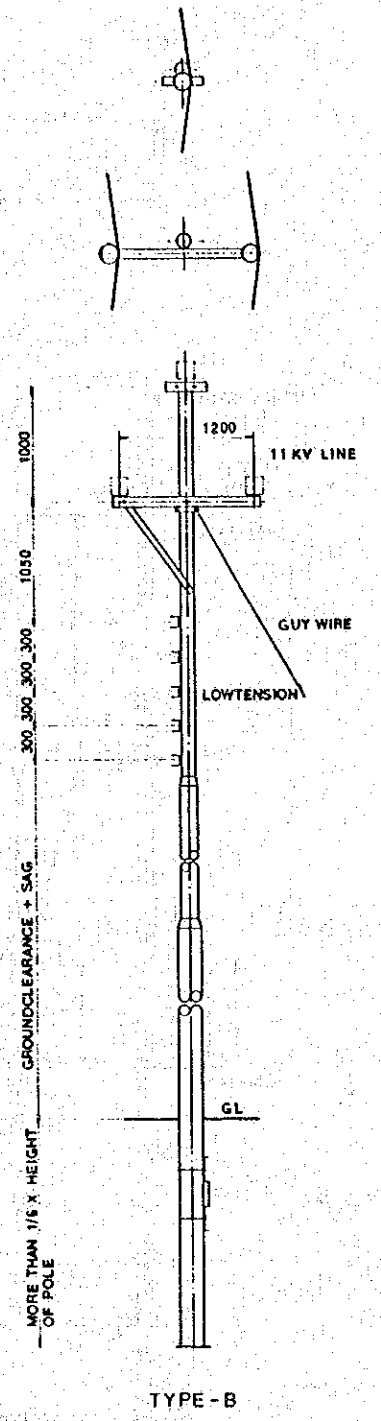
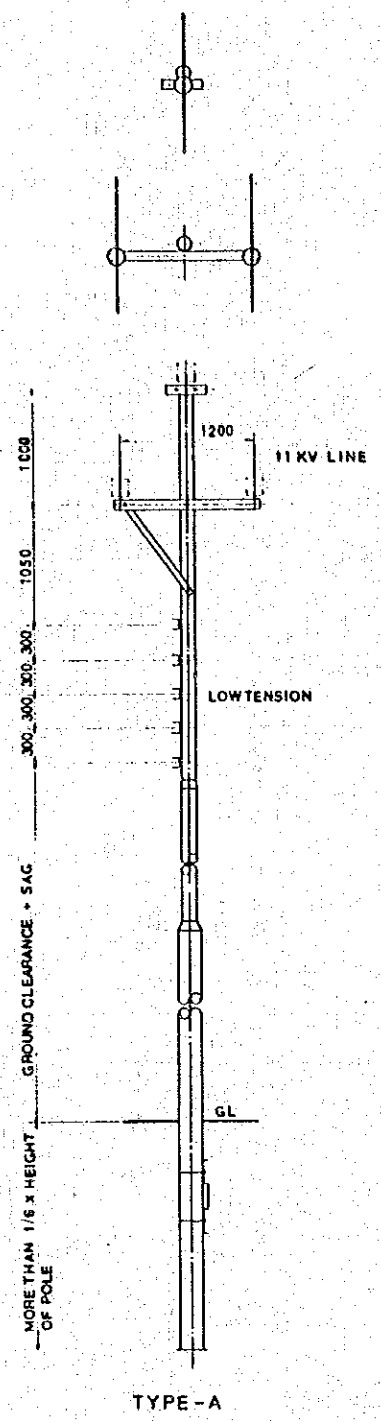




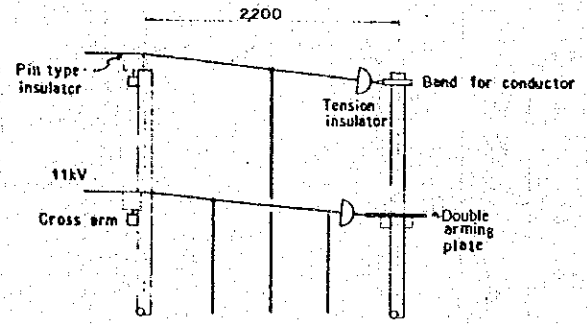
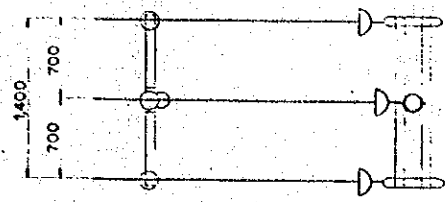
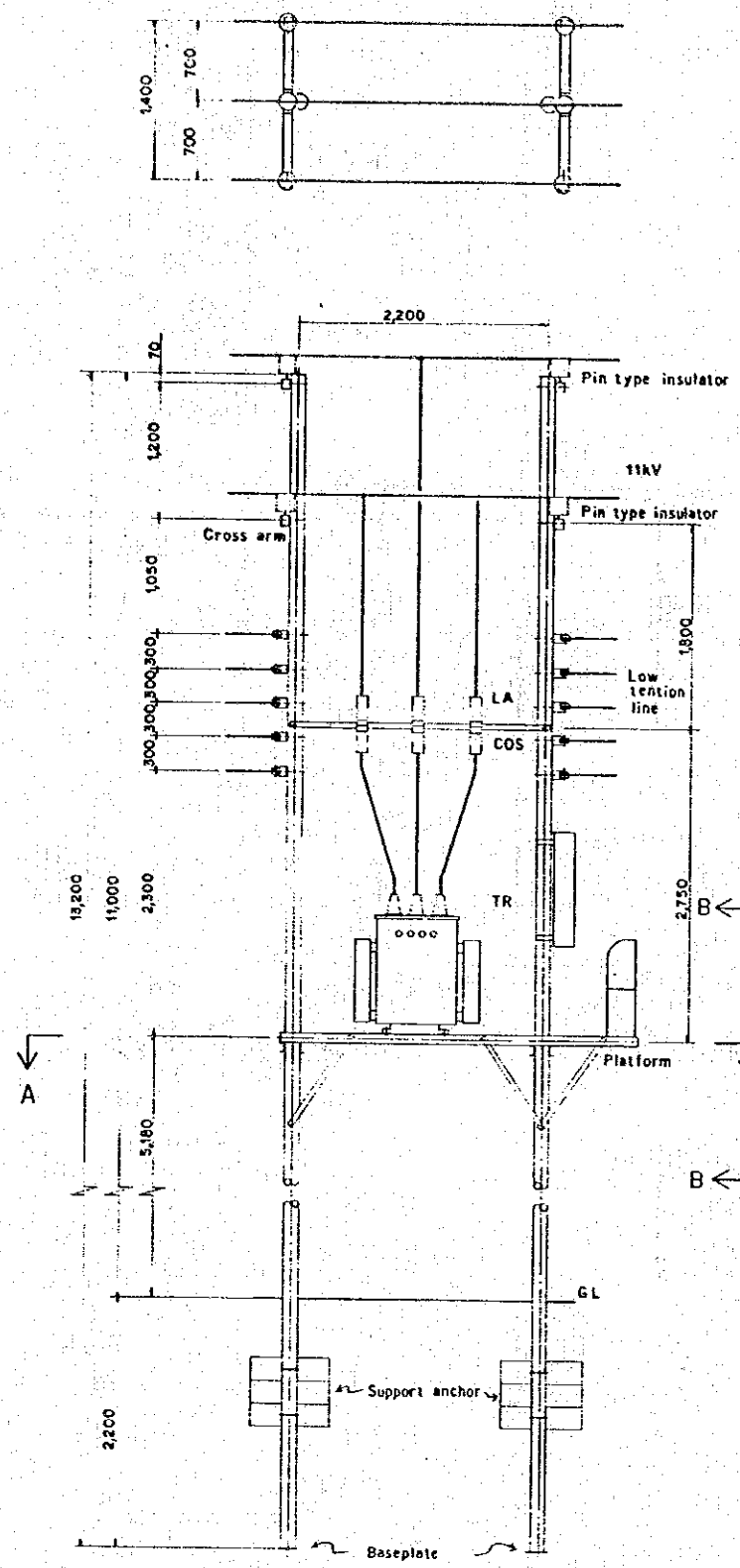


| MARK | DISCRIPTION                 |
|------|-----------------------------|
|      | PROPOSED REINFORCEMENT AREA |
|      | TRANSFORMER                 |
|      | FUSE                        |
|      | 11 KV U/G CABLE LINE        |
|      | 11 KV OVERHEAD LINE         |
|      | 3.3 KV U/G CABLE LINE       |
|      | 3.3 KV OVERHEAD LINE        |
|      | OIL CIRCUIT BREAKER         |
|      | CABLE HEAD                  |
|      | JUMPER OFF                  |
|      | METTERING UNIT              |

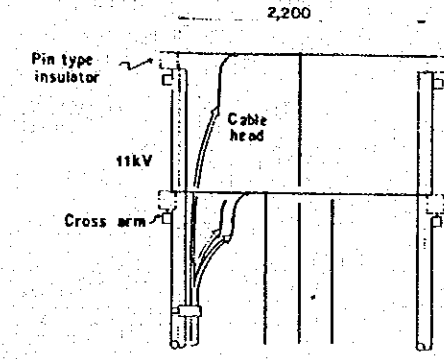
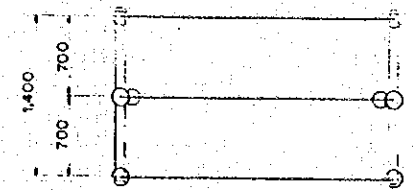
|   |  |   |
|---|--|---|
| KATHMANDU VALLEY<br>DISTRIBUTION<br>NETWORK PROJECT | SINGLELINE DIAGRAM<br>OF 11KV SYSTEM (5)<br>BHAKTAPUR AREA | DESIGN _____ DATE _____                   |
|   |  | CHECKED _____                             |
|   |  | APPROVED _____                            |
| HIS MAJESTY'S<br>GOVERNMENT OF NEPAL                | DWG. NO. D - 5   | JAPAN INTERNATIONAL<br>COOPERATION AGENCY |



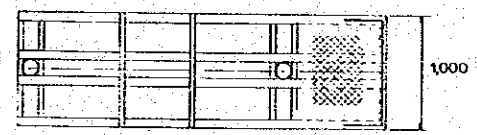
|   |                     |   |
|---|---------------------|---|
| KATHMANDU VALLEY<br>DISTRIBUTION<br>NETWORK PROJECT | TUBULAR STEEL POLES | DESIGN _____ DATE _____                   |
|   |                     | CHECKED _____                             |
|   |                     | APPROVED _____                            |
| HIS MAJESTY'S<br>GOVERNMENT OF NEPAL                | DWG. NO. D-6        | JAPAN INTERNATIONAL<br>COOPERATION AGENCY |



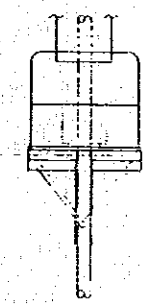
Under portion is same as left.



Under portion is same as left.



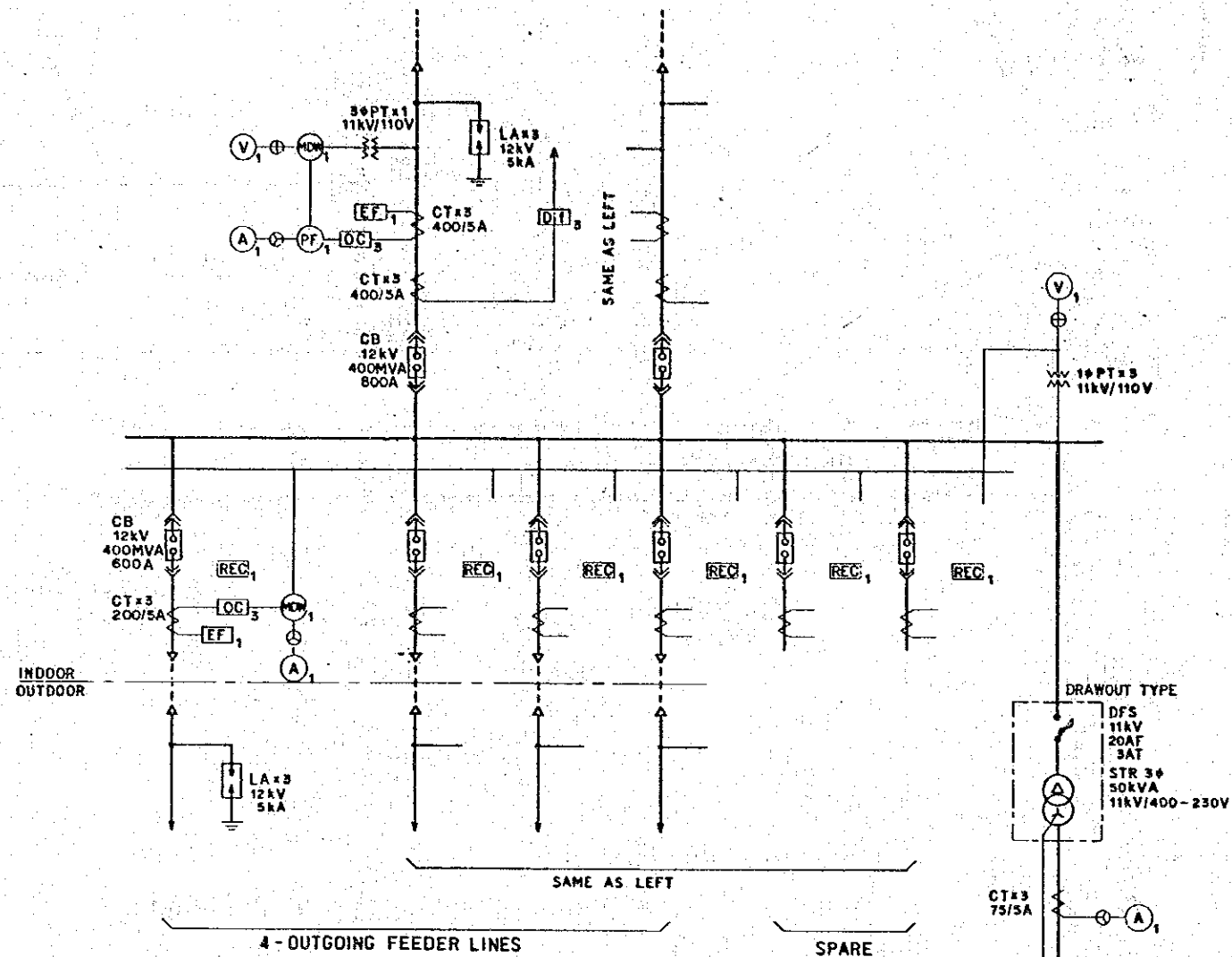
SECTION A - A



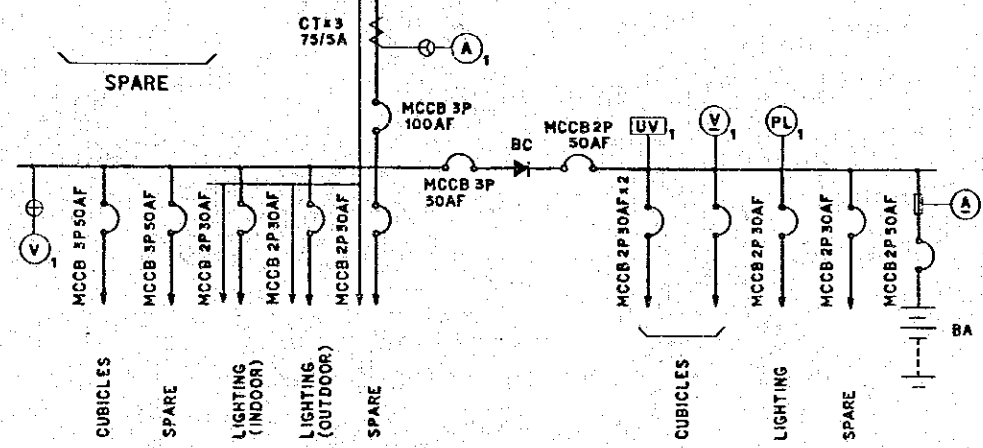
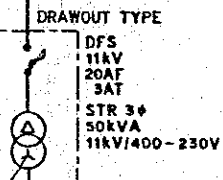
SECTION B - B

|   |   |   |
|---|---|---|
| KATHMANDU VALLEY<br>DISTRIBUTION<br>NETWORK PROJECT | TUBULAR STEEL POLES<br>FOR<br>TRANSFORMER | DESIGN _____ DATE _____                   |
|   |   | CHECKED _____                             |
|   |   | APPROVED _____                            |
| HIS MAJESTY'S<br>GOVERNMENT OF NEPAL                | DWG. NO. D - 7                            | JAPAN INTERNATIONAL<br>COOPERATION AGENCY |

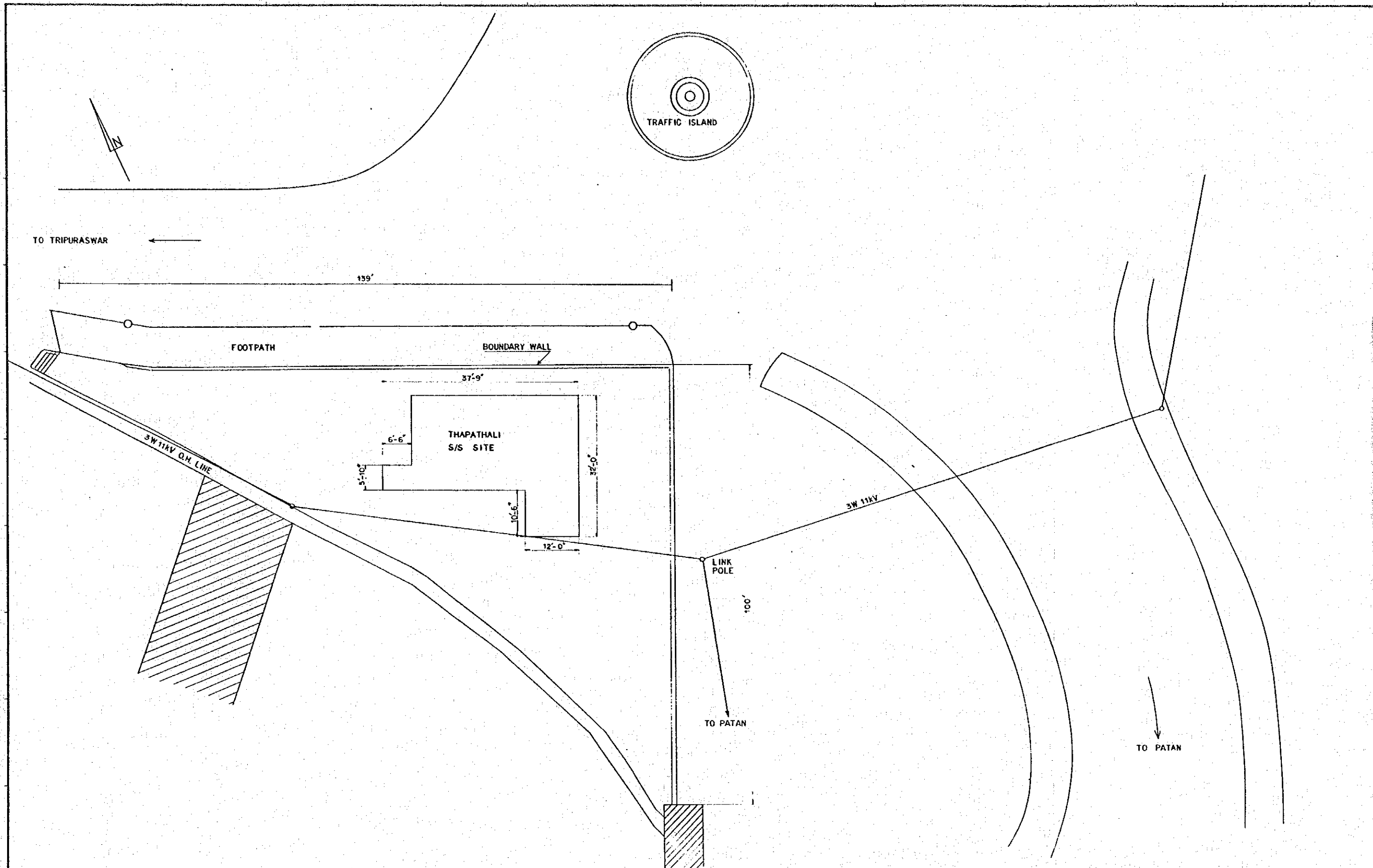
2 - INCOMING LINES



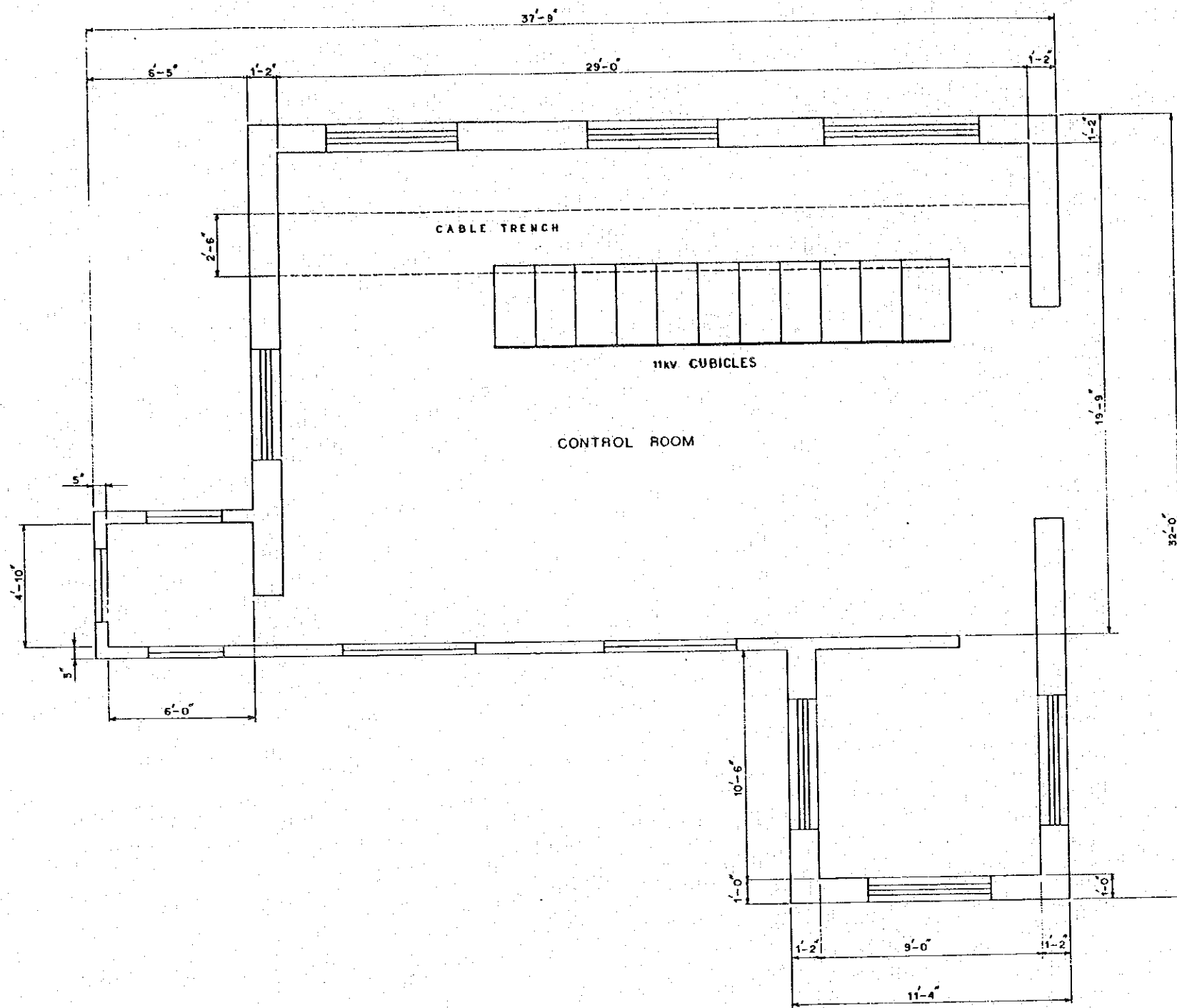
| LEGEND |                             |
|--------|-----------------------------|
| MARK   | DESCRIPTION                 |
| BA     | BATTERY                     |
| BC     | BATTERY CHARGER             |
| CB     | CIRCUIT BREAKER             |
| CT     | CURRENT TRANSFORMER         |
| DFS    | DISCONNECTING FUSE SWITCH   |
| LA     | LIGHTNING ARRESTER          |
| MCCB   | MOLDED CASE CIRCUIT BREAKER |
| PT     | POTENTIAL TRANSFORMER       |
| STR    | STATION SERVICE TRANSFORMER |
| A      | AC AMMETER                  |
| A      | DC AMMETER                  |
| MW     | MAXIMUM DEMAND WATTMETER    |
| PF     | POWER FACTOR METER          |
| PL     | PILOT LAMP                  |
| V      | AC VOLTMETER                |
| V      | DC VOLTMETER                |
| DT     | DIFFERENTIAL RELAY          |
| EF     | EARTH FAULT RELAY           |
| OC     | OVER CURRENT RELAY          |
| REC    | RECLOSEING RELAY            |
| UV     | UNDER VOLTAGE RELAY         |



|   |  |   |
|---|--|---|
| KATHMANDU VALLEY<br>DISTRIBUTION<br>NETWORK PROJECT | SINGLELINE DIAGRAM<br>OF<br>THAPATHALI S.S | DESIGN _____ DATE _____                   |
|   |  | CHECKED _____                             |
|   |  | APPROVED _____                            |
| HIS MAJESTY'S<br>GOVERNMENT OF NEPAL                | DWG. NO. D-8                               | JAPAN INTERNATIONAL<br>COOPERATION AGENCY |



|   |                                  |   |
|---|----------------------------------|---|
| KATHMANDU VALLEY<br>DISTRIBUTION<br>NETWORK PROJECT | LOCATION<br>OF<br>THAPATHALI S.S | DESIGN _____ DATE _____                   |
|   |                                  | CHECKED _____                             |
|   |                                  | APPROVED _____                            |
| HIS MAJESTY'S<br>GOVERNMENT OF NEPAL                | DWG. NO. D - 9                   | JAPAN INTERNATIONAL<br>COOPERATION AGENCY |



|   |                                       |   |
|---|---------------------------------------|---|
| KATHMANDU VALLEY<br>DISTRIBUTION<br>NETWORK PROJECT | ARRANGEMENT<br>OF<br>INDOOR EQUIPMENT | DESIGN _____ DATE _____                   |
|   |                                       | CHECKED _____                             |
|   |                                       | APPROVED _____                            |
| HIS MAJESTY'S<br>GOVERNMENT OF NEPAL                | DWG. NO. D-10                         | JAPAN INTERNATIONAL<br>COOPERATION AGENCY |





JICA