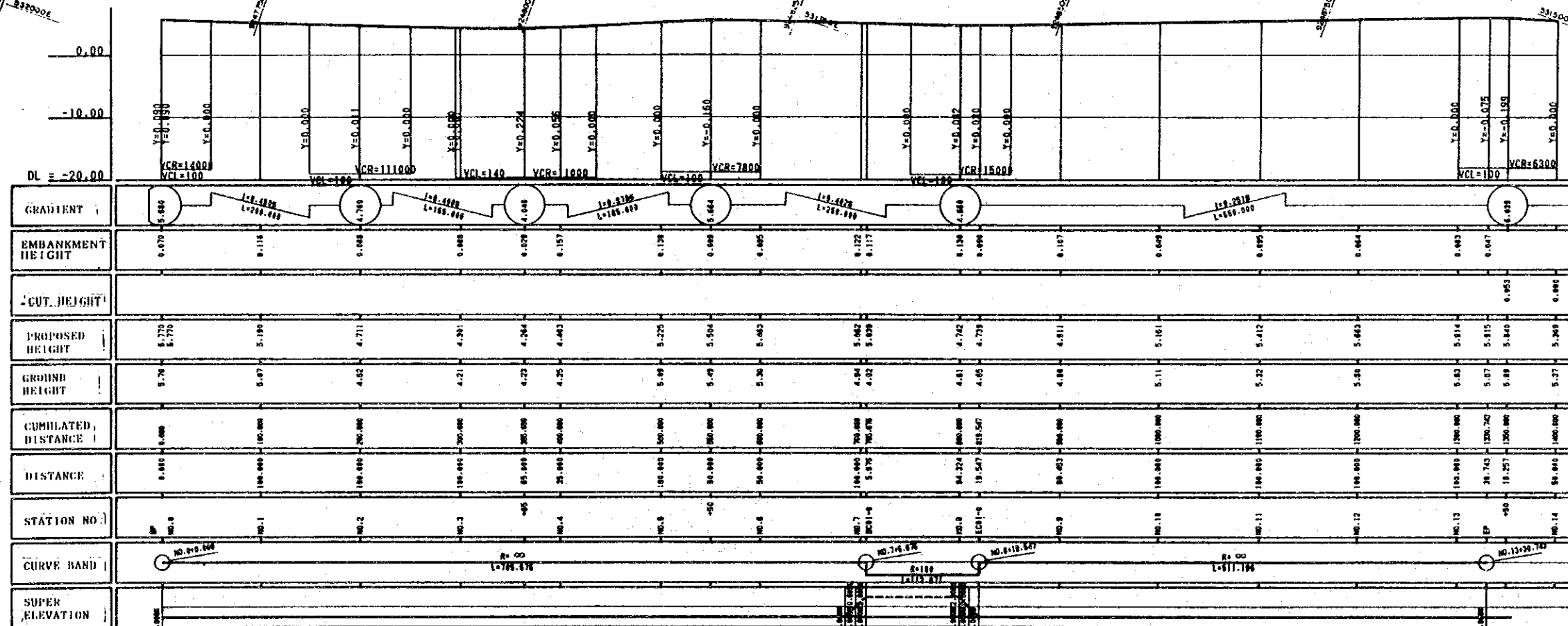


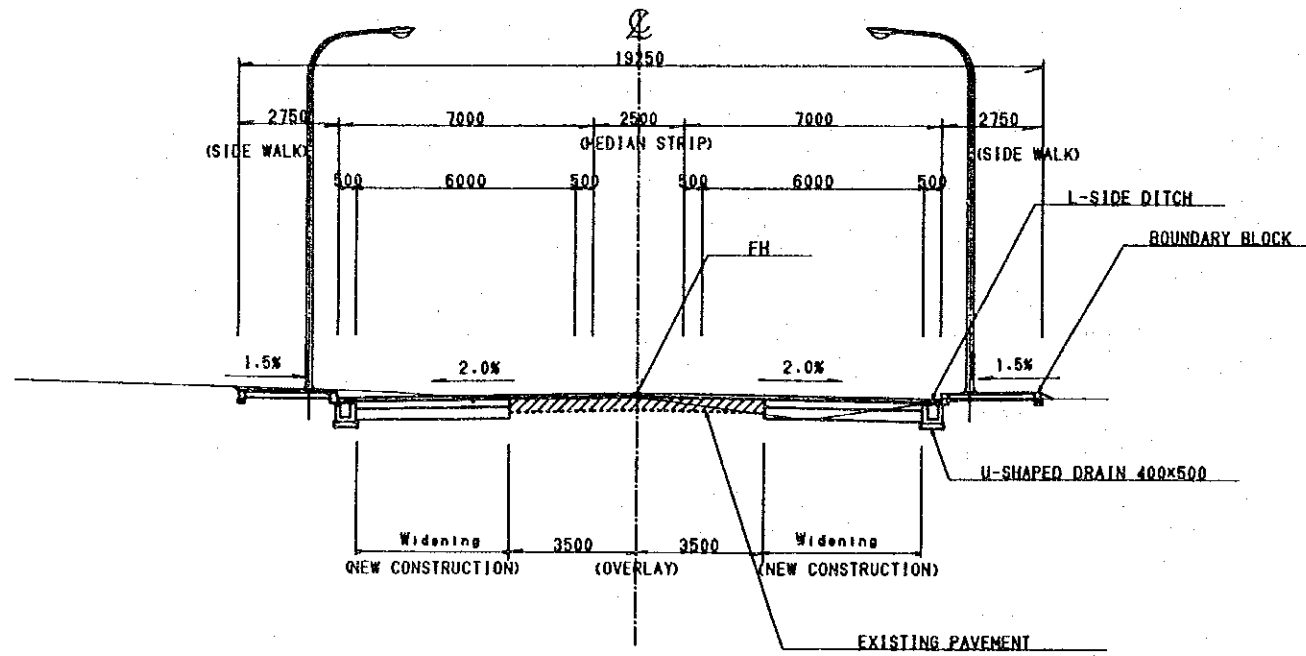
LIST OF BENCH MARK
UPANGA ROAD

| LOCATION | NO. | HEIGHT |
|----------|------------|--------|
| 2+30.0 | T. B. M. 1 | 5.277 |
| 7+10.0 | T. B. M. 2 | 4.408 |
| 13+00.0 | T. B. M. 3 | 5.749 |



TYPICAL CROSS SECTIONS OF UPANGA ROAD

S=1:100

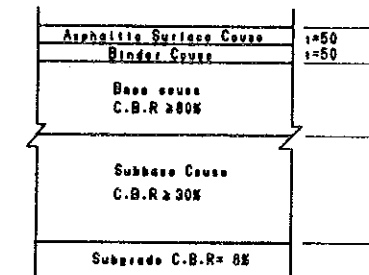


PAVEMENT STRUCTURE

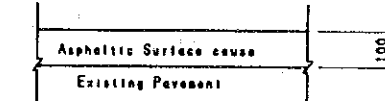
S=1:10

CARRIAGEWAY

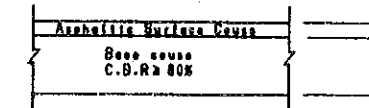
(NEW CONSTRUCTION)

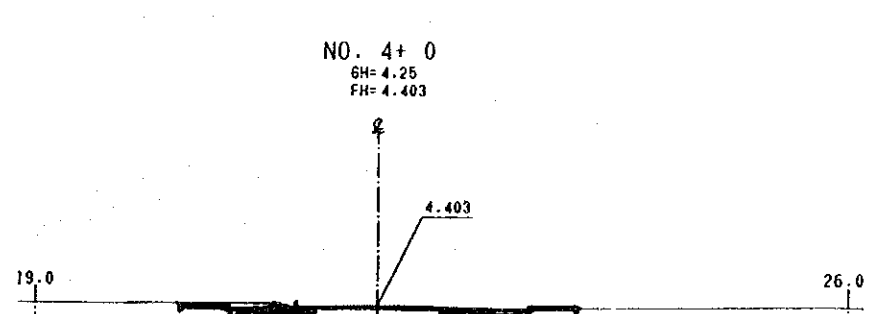
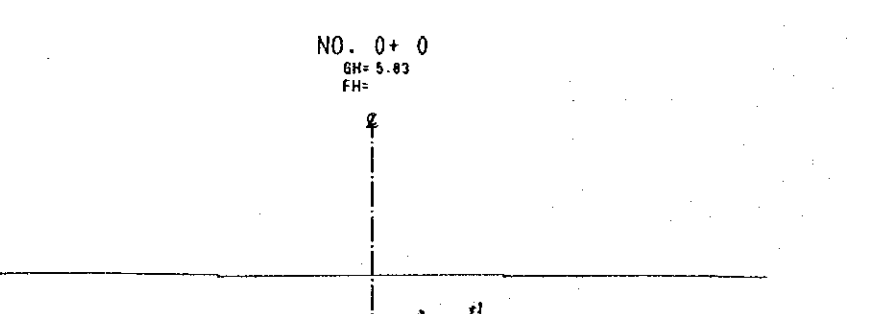
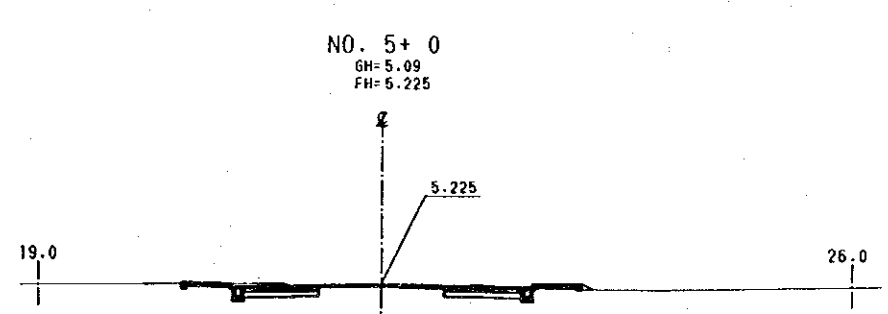
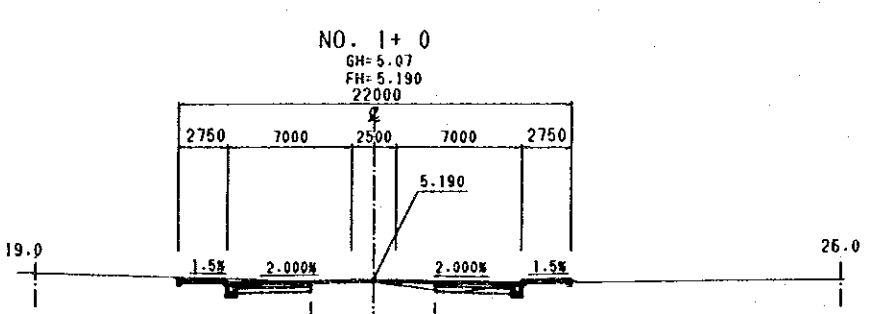
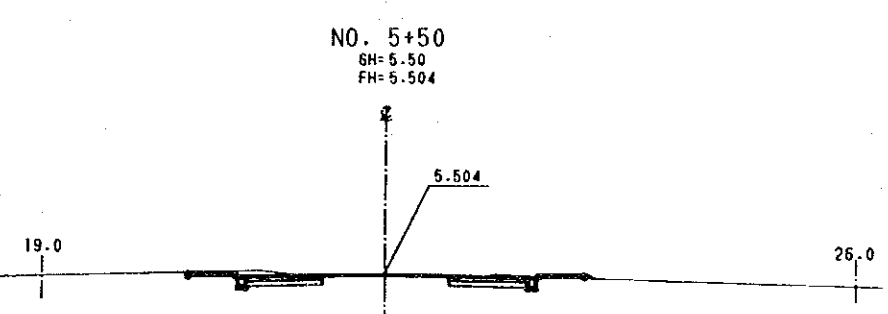
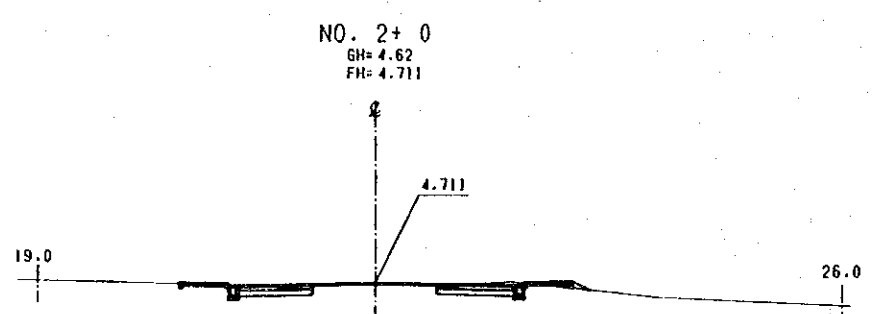
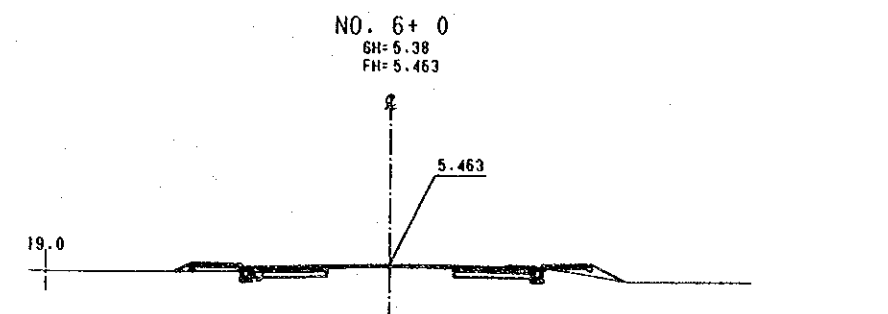
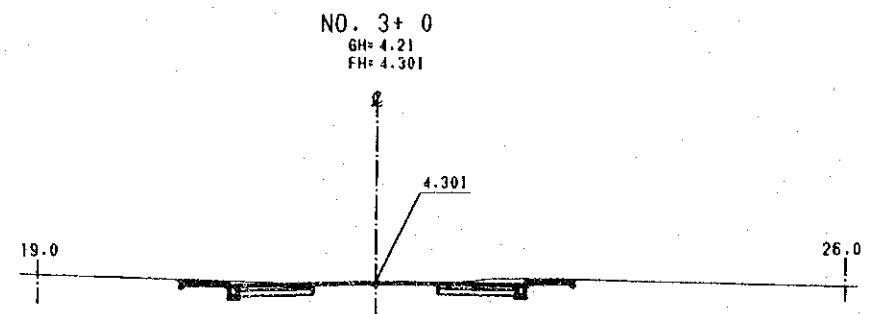


(OVERLAY)



SIDE WALK





DL = -5.00

DL = -5.00

DL = -5.00

DL = -5.00

DL = -5.00

DL = -5.00

DL = -5.00

DL = -5.00

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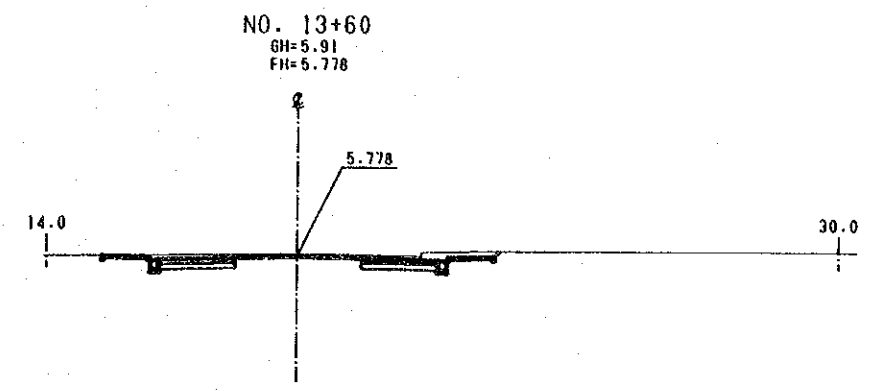
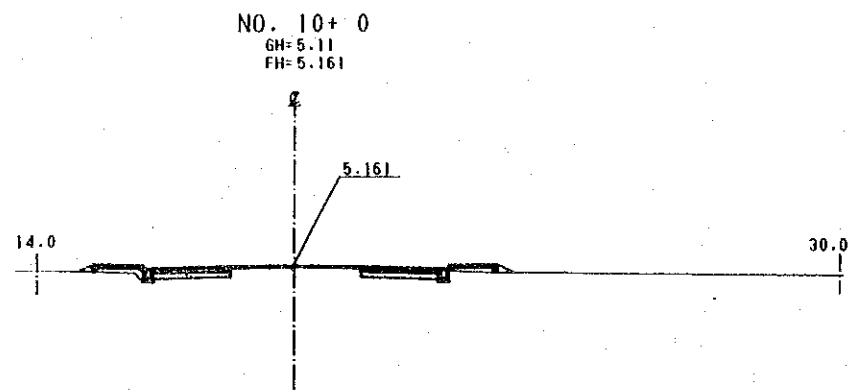
THE FEASIBILITY STUDY
ON
ROAD IMPROVEMENT AND MAINTENANCE IN DARES SALAAM

JAPAN INTERNATIONAL
COOPERATION AGENCY

UPANGA ROAD
CROSS SECTION (1)

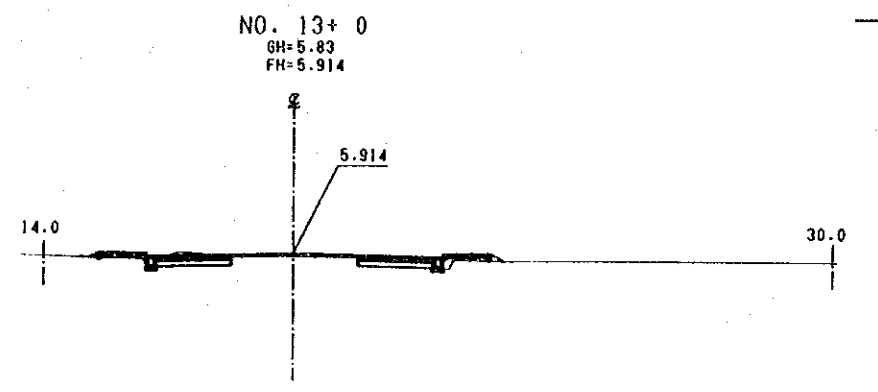
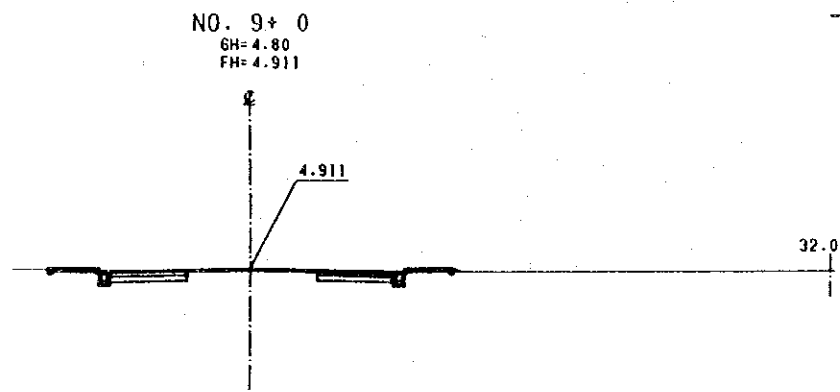
DATE
JUNE 1990

SHEET NO.
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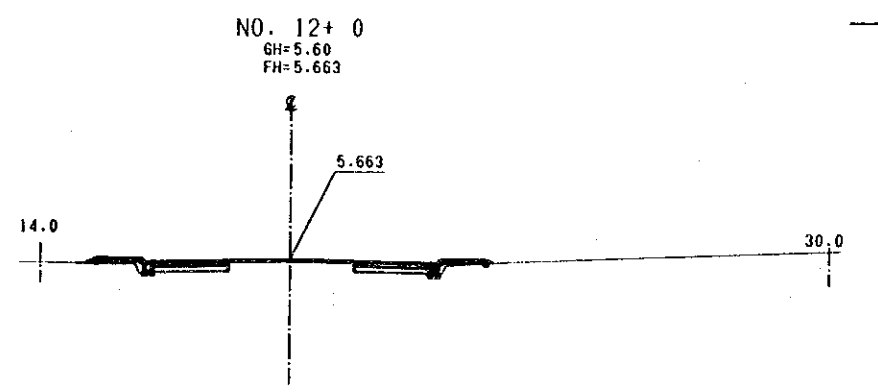
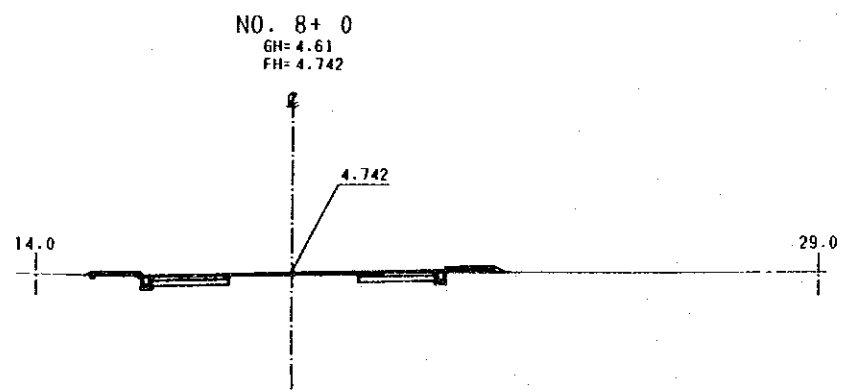
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DL= -5.00



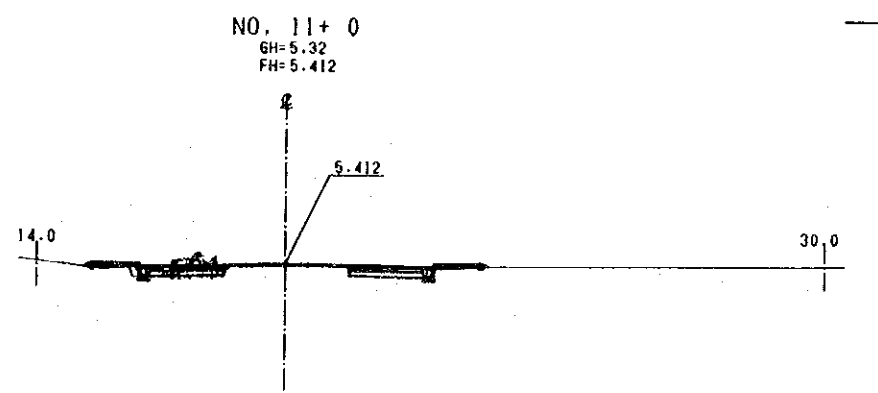
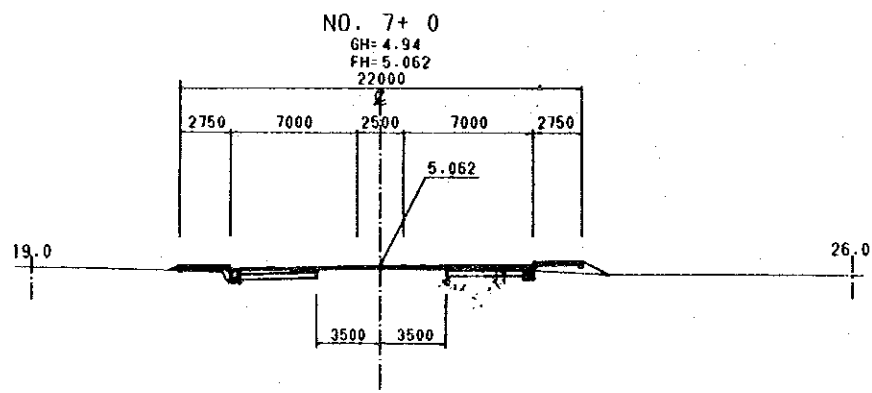
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DL= -5.00



DL= -5.00

DL= -5.00



DL= -5.00

DL= -5.00

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THE FEASIBILITY STUDY
ON
ROAD IMPROVEMENT AND MAINTENANCE IN DARES SALAAM

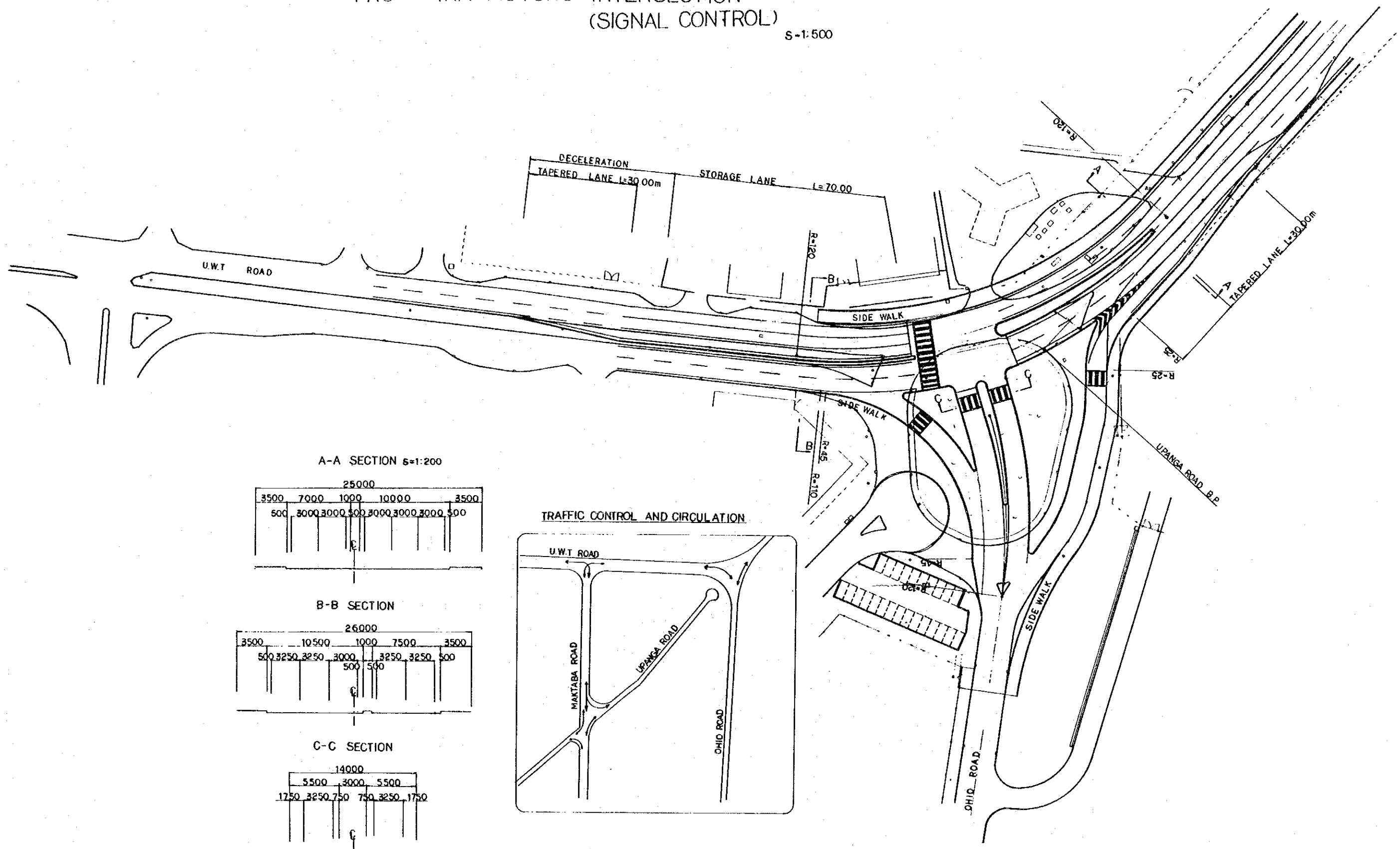
JAPAN INTERNATIONAL
COOPERATION AGENCY

UPANGA ROAD
CROSS SECTION (2)

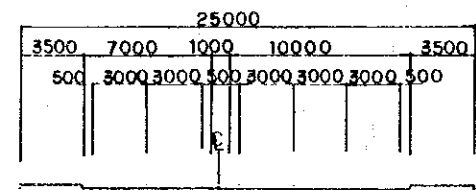
| DATE | SHEET NO. |
|-----------|-----------|
| JUNE 1990 | 35 / |

TAGANYIKA MOTORS INTERSECTION (SIGNAL CONTROL)

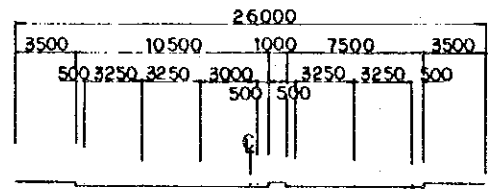
S-1:500



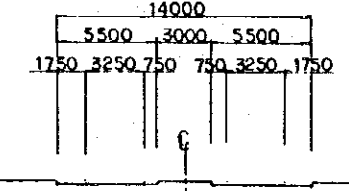
A-A SECTION S=1:200



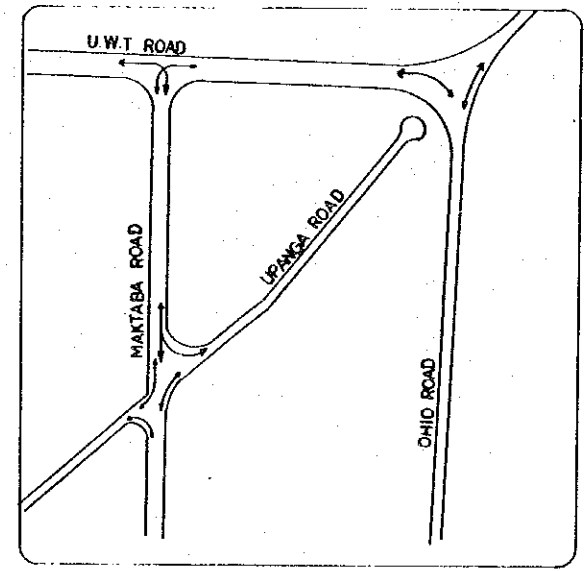
B-B SECTION

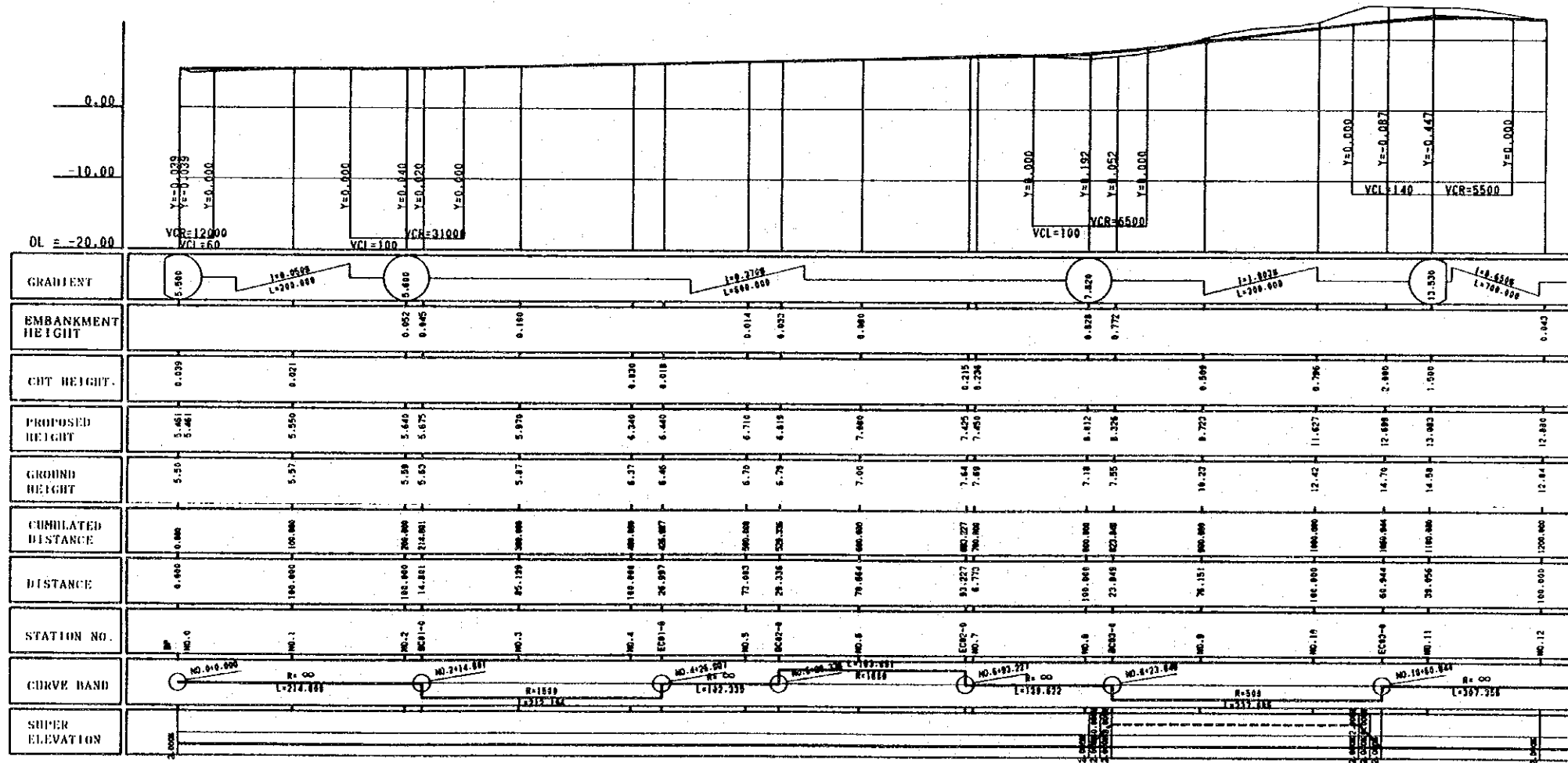
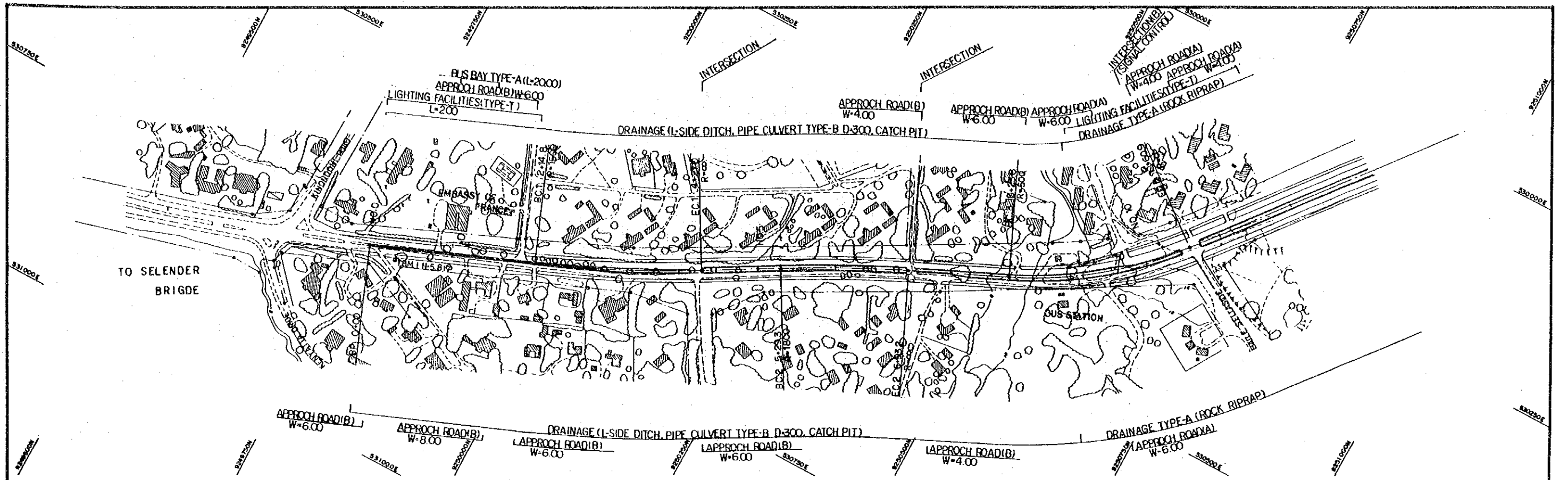


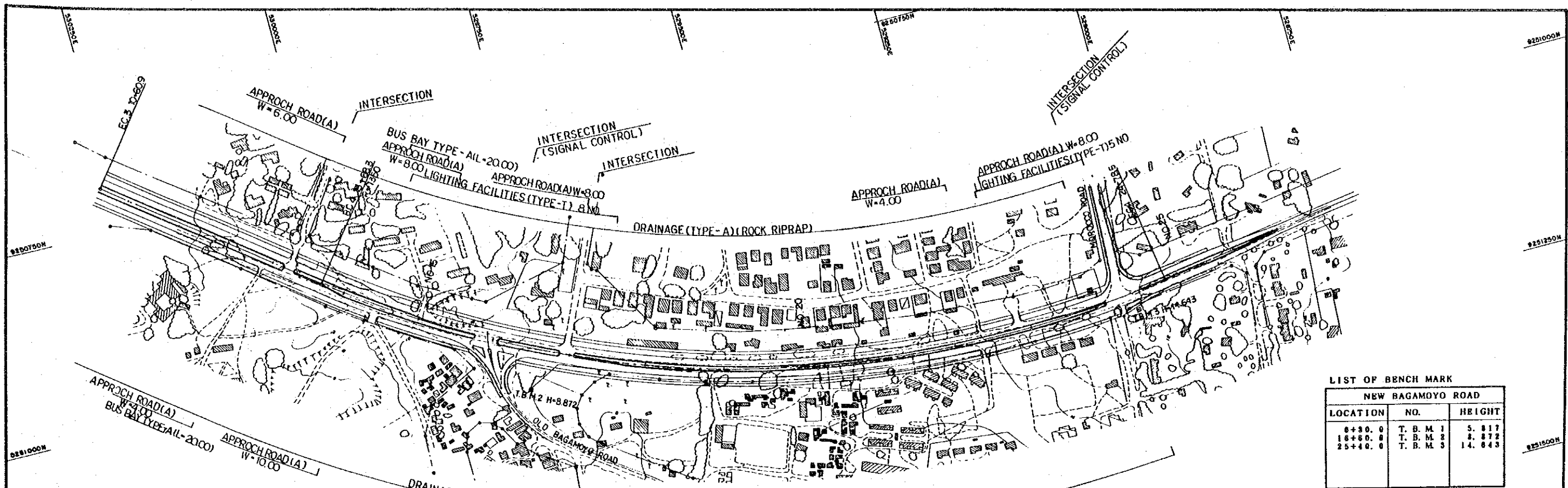
C-C SECTION



TRAFFIC CONTROL AND CIRCULATION

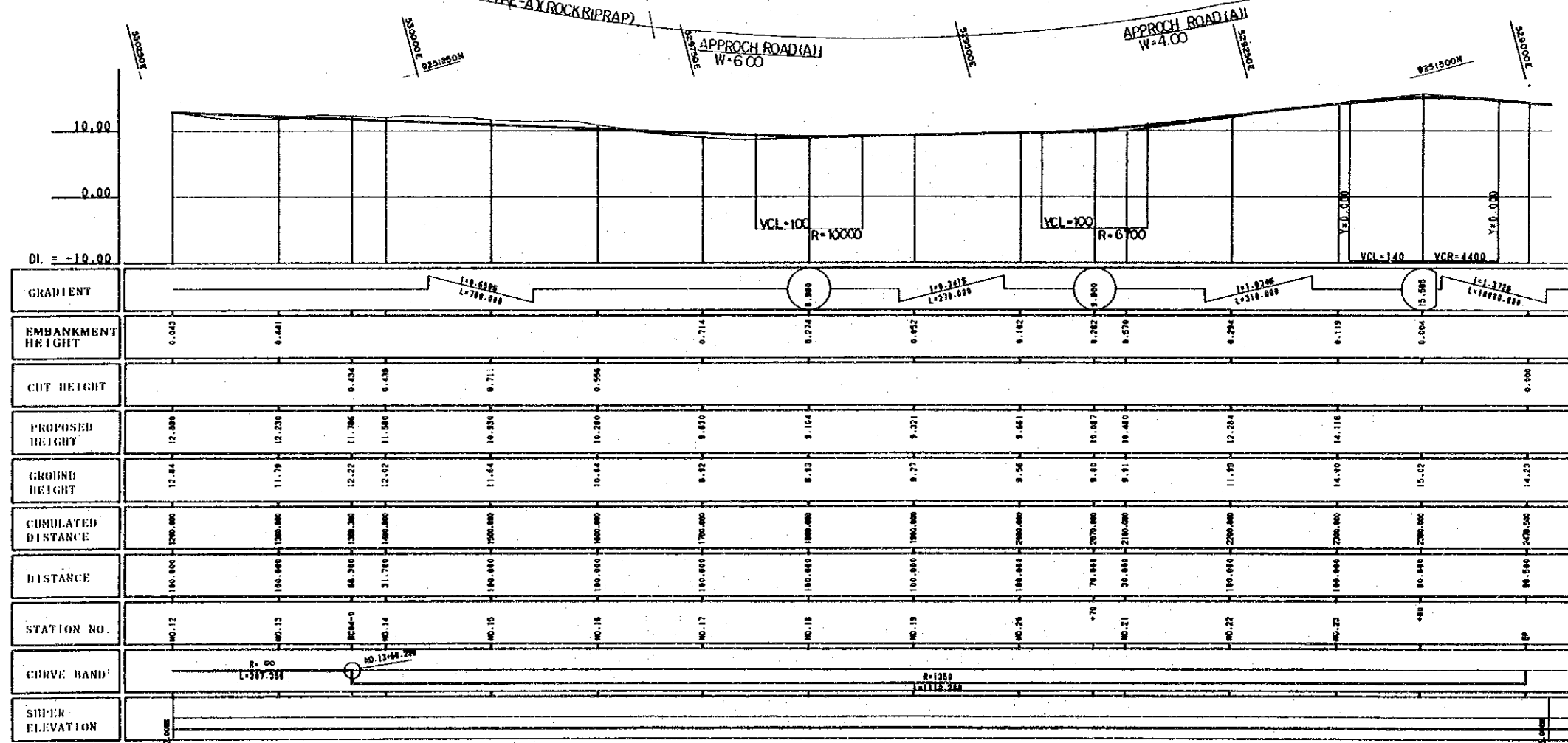






LIST OF BENCH MARK
NEW BAGAMOYO ROAD

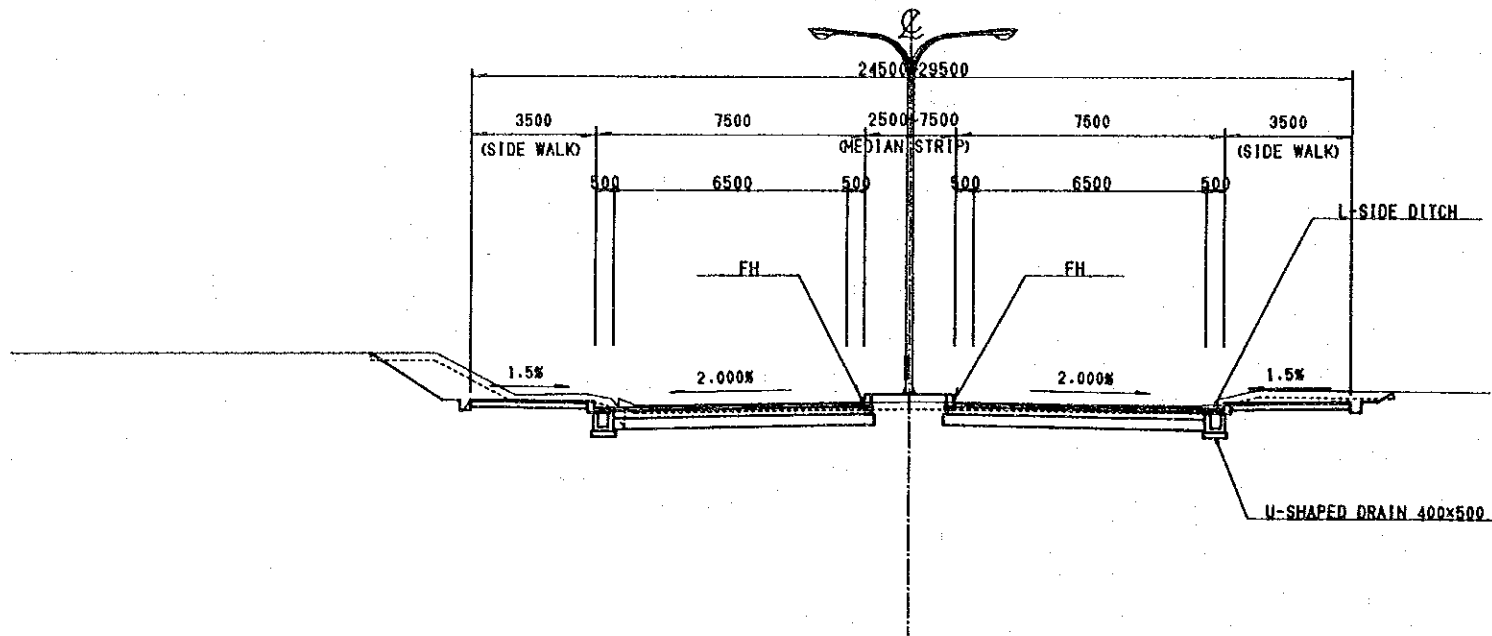
| LOCATION | NO. | HEIGHT |
|----------|------------|--------|
| 8+30.0 | T. B. M. 1 | 5.817 |
| 18+60.8 | T. B. M. 2 | 8.872 |
| 25+40.6 | T. B. M. 3 | 14.843 |



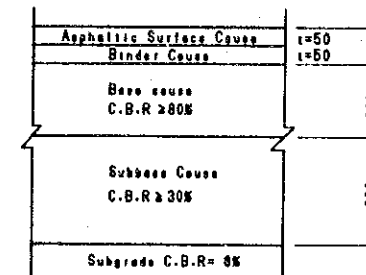
| | | | | | | | | | | | | | | | |
|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| GRADIENT | | | | | | | | | | | | | | | |
| EMBANKMENT HEIGHT | 0.643 | 0.441 | | | 0.714 | 0.274 | 0.052 | 0.182 | 0.282 | 0.576 | 0.294 | 0.119 | 0.004 | | 0.000 |
| CUT HEIGHT | | | 0.424 | 0.428 | 0.711 | 0.504 | | | | | | | | | 0.000 |
| PROPOSED HEIGHT | 12.880 | 12.230 | 11.786 | 11.580 | 10.930 | 10.280 | 9.630 | 9.104 | 9.321 | 9.561 | 10.087 | 10.480 | 12.284 | 14.118 | 14.230 |
| GROUND HEIGHT | 12.24 | 11.79 | 12.22 | 12.02 | 11.64 | 10.64 | 9.82 | 9.83 | 9.27 | 9.56 | 9.80 | 9.91 | 11.99 | 14.10 | 15.02 |
| CUMULATED DISTANCE | 1200.000 | 1300.000 | 1300.000 | 1400.000 | 1500.000 | 1600.000 | 1700.000 | 1800.000 | 1900.000 | 2000.000 | 2100.000 | 2200.000 | 2300.000 | 2400.000 | 2500.000 |
| DISTANCE | 100.000 | 100.000 | 66.300 | 31.700 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 70.000 | 20.000 | 100.000 | 100.000 | 80.000 |
| STATION NO. | 10+12 | 10+13 | 10+14 | 10+15 | 10+16 | 10+17 | 10+18 | 10+19 | 10+20 | 10+21 | 10+22 | 10+23 | 10+24 | 10+25 | 10+26 |
| CURVE BAND | | | | | | | | | | | | | | | |
| SUPER ELEVATION | | | | | | | | | | | | | | | |

TYPICAL CROSS SECTIONS OF NEW BAGAMOYO ROAD
S=1:100

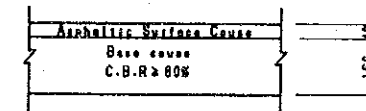
(No. 0+00~No. 9+00)



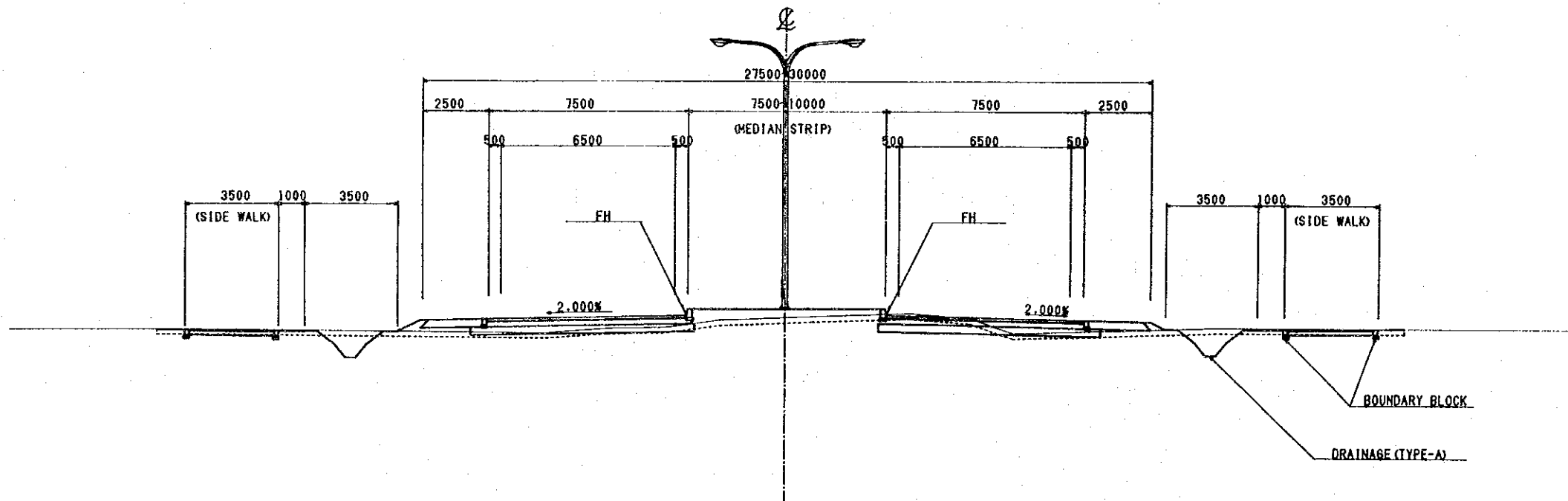
PAVEMENT STRUCTURE
S=1:10

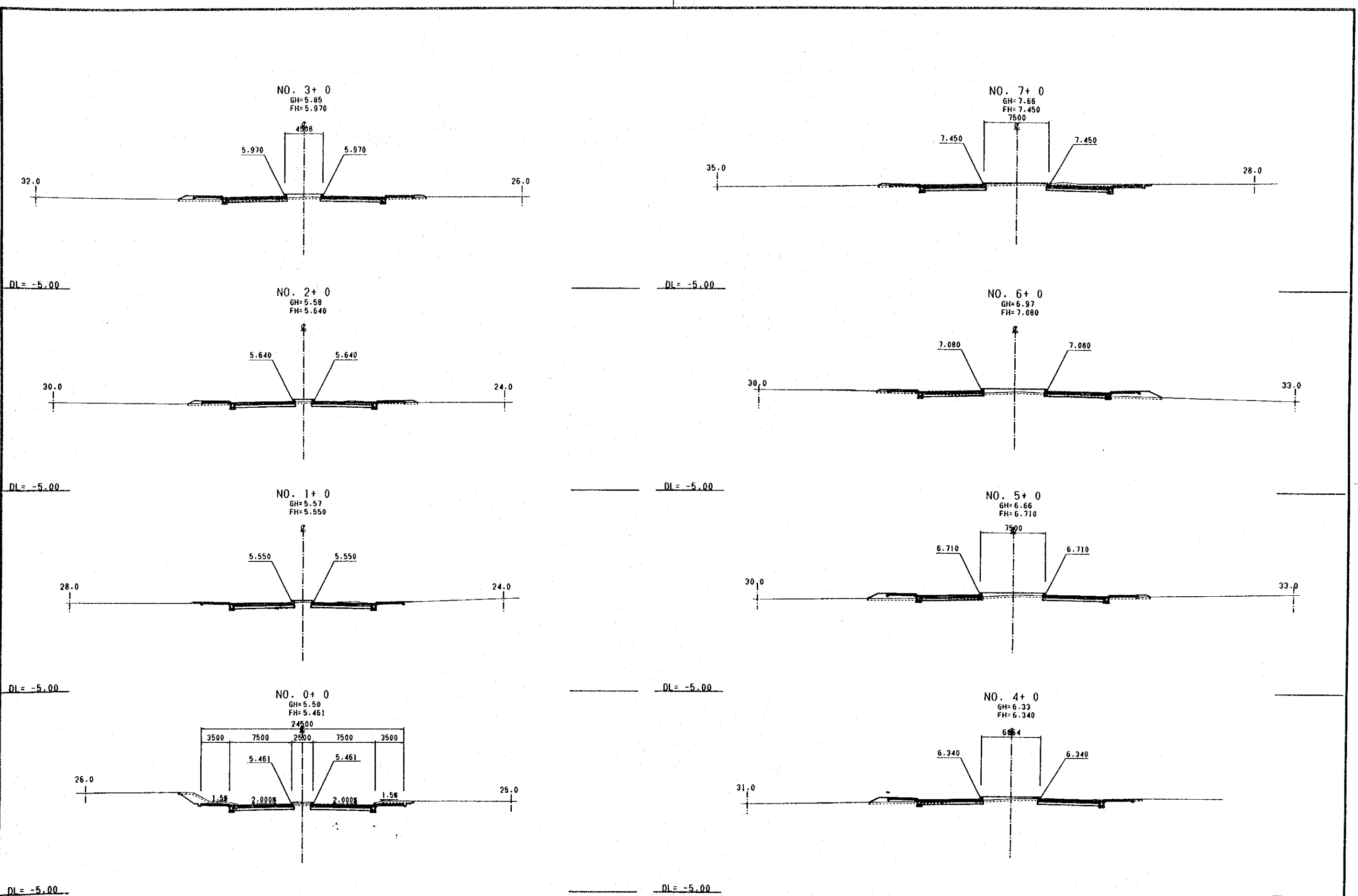


SIDE WALK



(No. 9+00~25+00)





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DAR ES SALAAM CITY COUNCIL

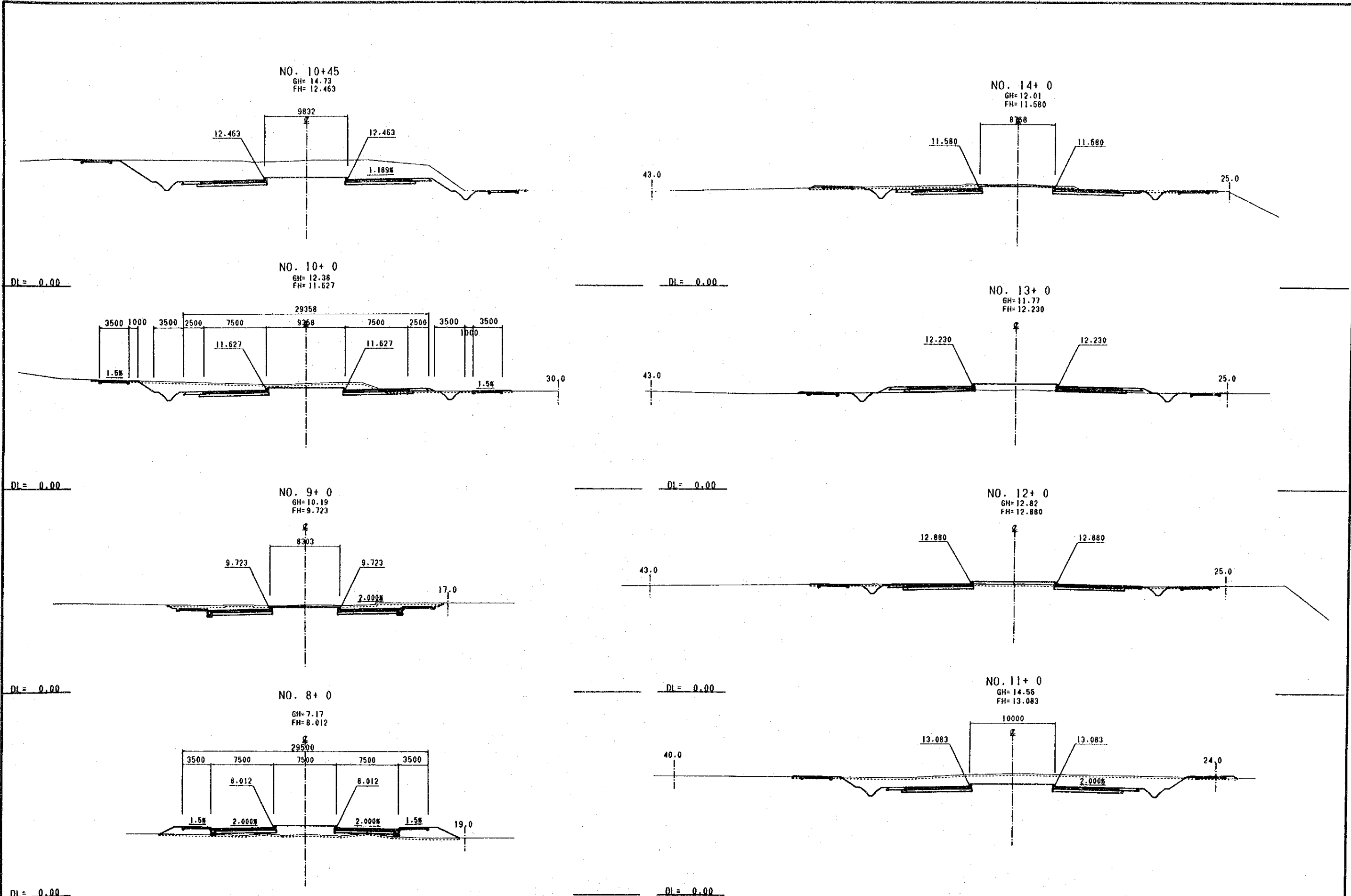
THE FEASIBILITY STUDY
ON
ROAD IMPROVEMENT AND MAINTENANCE IN DARES SALAAM

JAPAN INTERNATIONAL
COOPERATION AGENCY

NEW BAGAMORO ROAD
CROSS SECTION (I)

DATE
JUNE 1990

SHEET NO.
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DAR ES SALAAM CITY COUNCIL

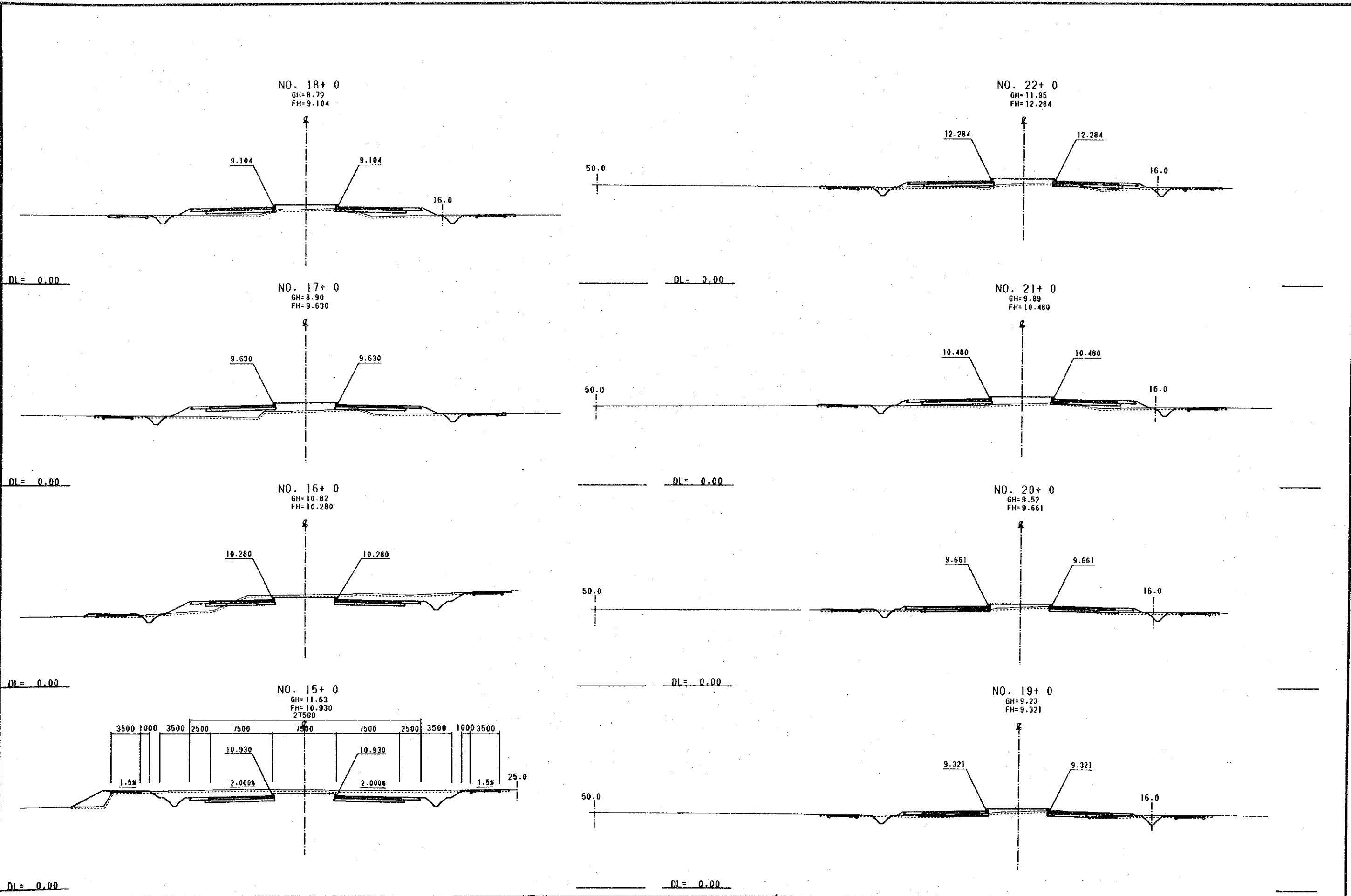
THE FEASIBILITY STUDY
ON
ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM

JAPAN INTERNATIONAL
COOPERATION AGENCY

NEW BAGAMORO ROAD
CROSS SECTION (2)

DATE
JUNE 1990

SHEET NO.
41 /



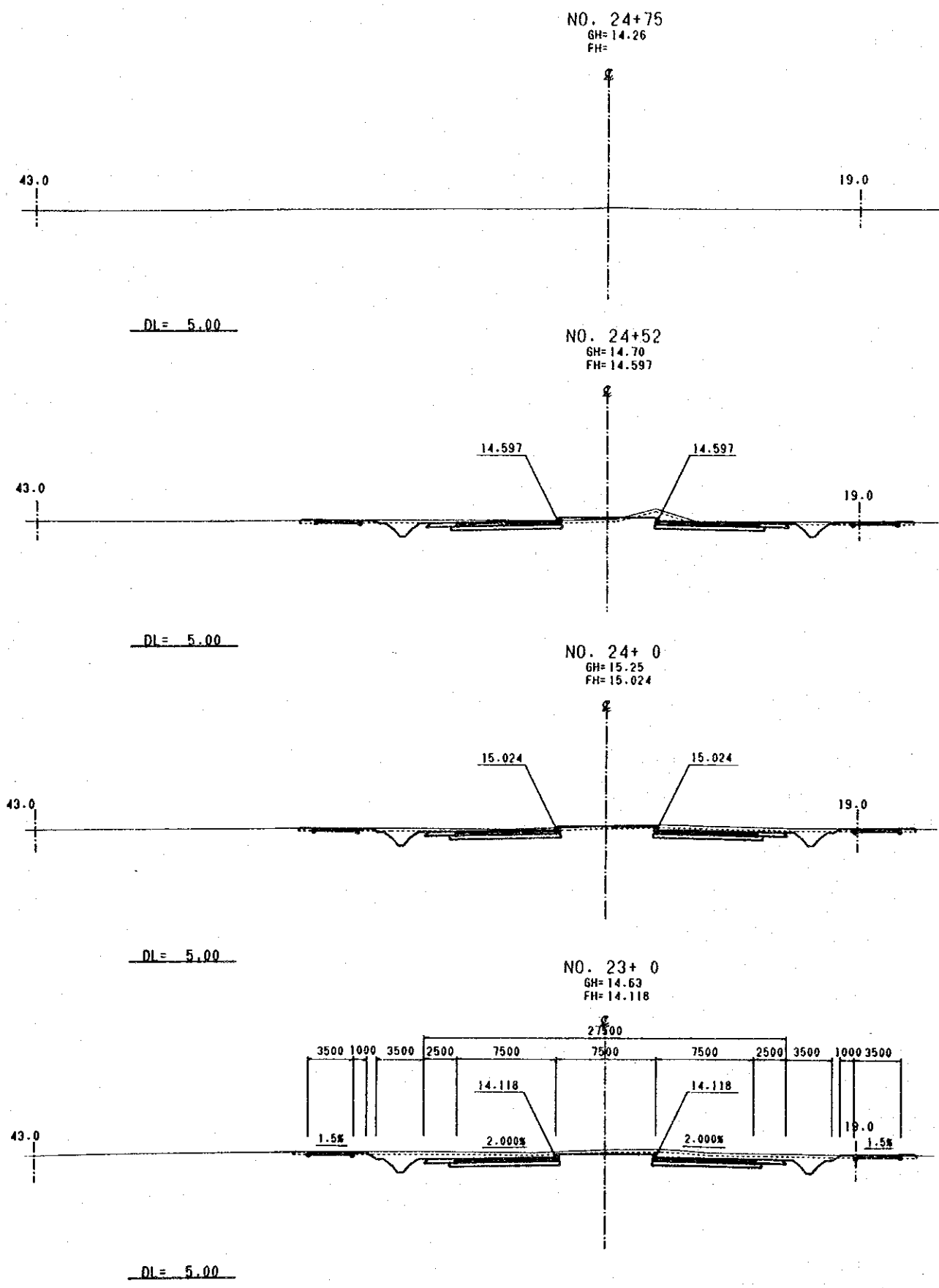
THE UNITED REPUBLIC OF TANZANIA
DAR ES SALAAM CITY COUNCIL

THE FEASIBILITY STUDY
ON
ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM

JAPAN INTERNATIONAL
COOPERATION AGENCY

NEW BAGAMORO ROAD
CROSS SECTION (3)

| | |
|-----------|----------|
| DATE | SHEET NO |
| JUNE 1990 | 42 / |



THE UNITED REPUBLIC OF TANZANIA
DAR ES SALAAM CITY COUNCIL

THE FEASIBILITY STUDY
ON
ROAD IMPROVEMENT AND MAINTENANCE IN DARES SALAAM

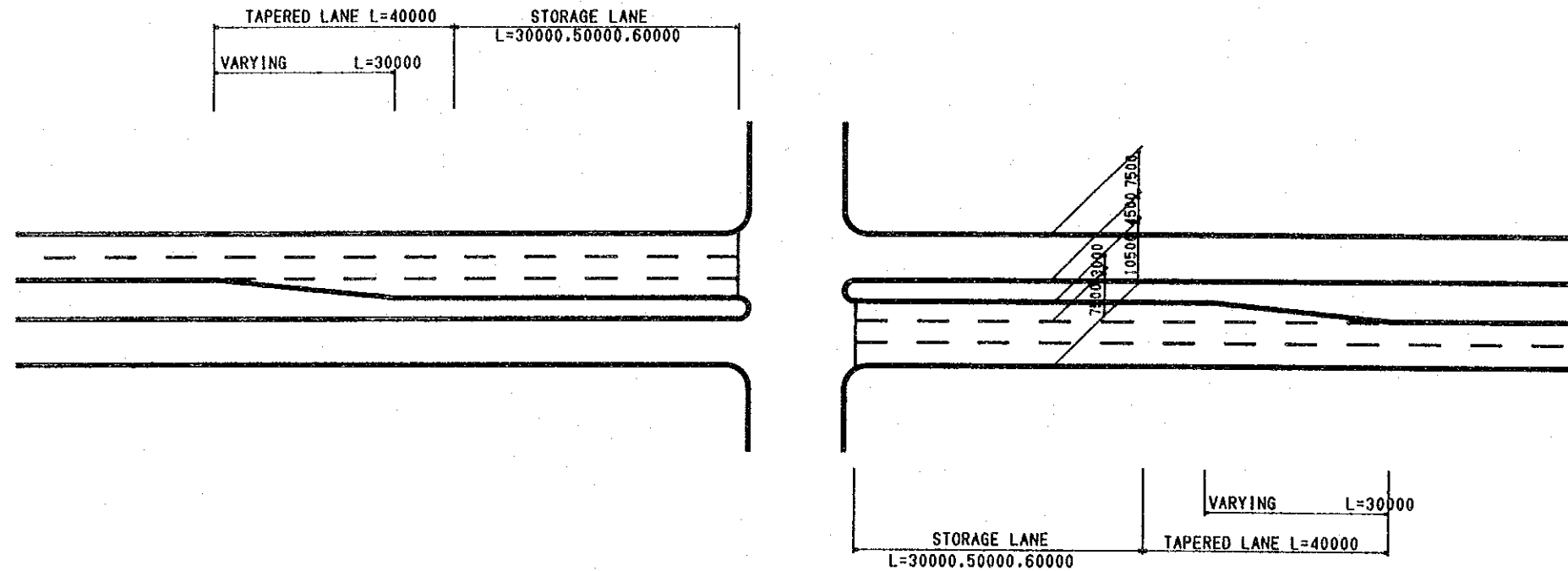
JAPAN INTERNATIONAL
COOPERATION AGENCY

NEW BAGAMORO ROAD
CROSS SECTION (4)

DATE
JUNE 1990

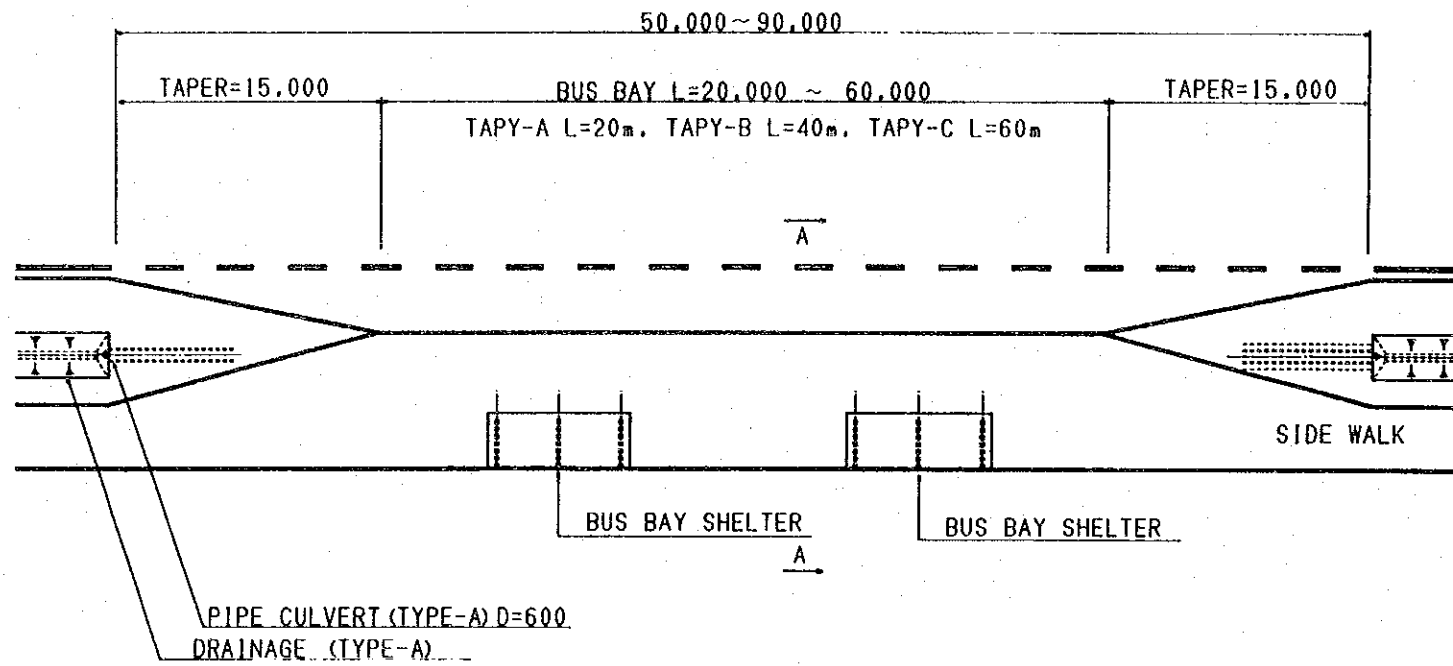
SHEET NO.
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PRIORITY INTERSECTIONS S=1:500

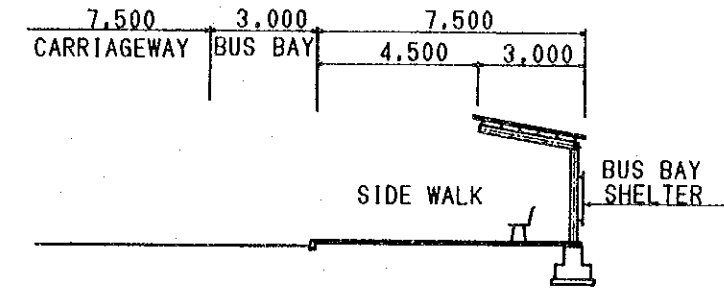


| LOCATION OF PRIORITY INTERSECTIONS | | |
|------------------------------------|-----------|----------------------------|
| NAME OF ROAD | LOCATION | LENGTH OF STORAGE LANE (m) |
| MOROGORO ROAD | NO. 5+15 | 30.00 |
| | NO. 7+80 | 30.00 |
| | NO. 14+00 | 30.00 |
| | NO. 24+00 | 30.00 |
| | NO. 28+80 | 30.00 |
| | NO. 32+60 | 30.00 |
| | NO. 36+95 | 30.00 |
| | NO. 44+60 | 50.00 |
| | NO. 52+50 | 30.00 |
| NEW BAGAMOY ROAD | NO. 4+25 | 30.00 |
| | NO. 7+00 | 30.00 |
| | NO. 10+60 | 50.00 |
| | NO. 13+20 | 30.00 |
| | NO. 16+00 | 50.00 |
| | NO. 17+00 | 30.00 |

BUS BAY TYPE A~C S=1:200

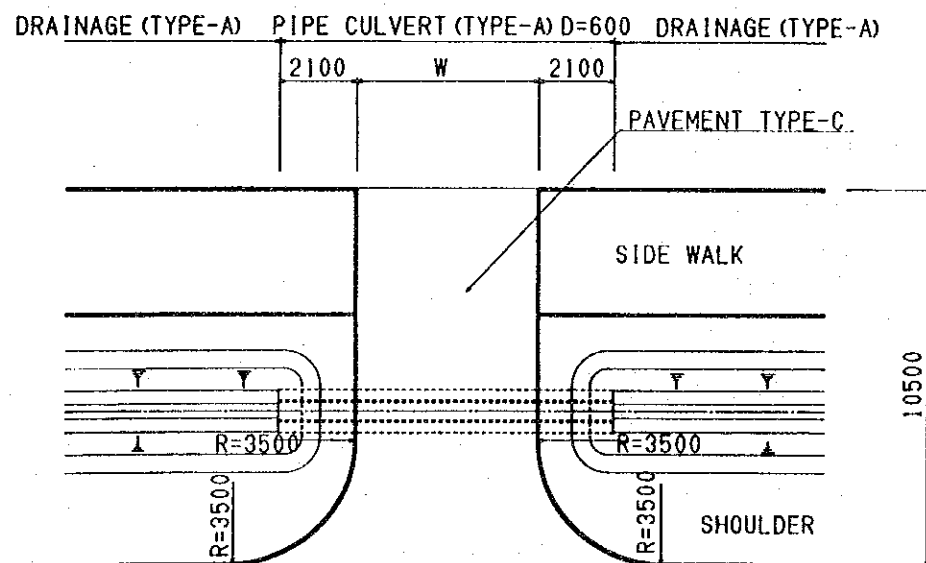


A-A SECTION S=1:100

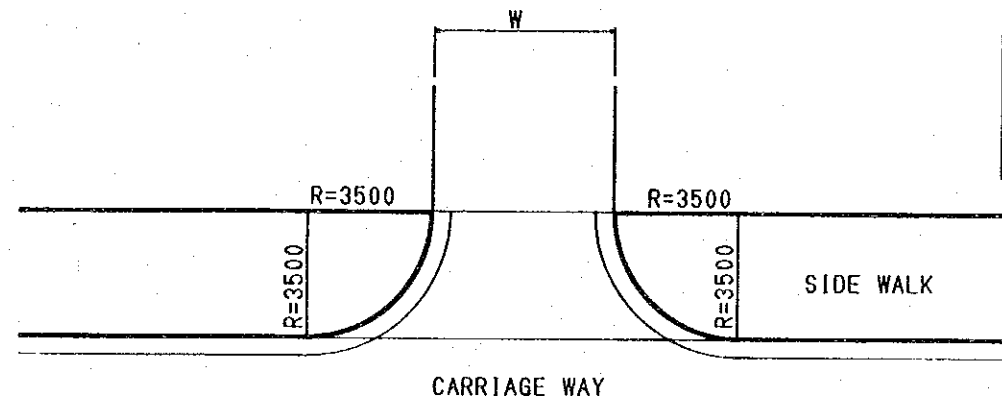


| LOCATION OF BAS BAY | | |
|---|-----------|--------------|
| NAME OF ROAD | LOCATION | TYPE |
| MOROGORO ROAD | NO. 0+70 | TYPE-B (L,R) |
| | NO. 10+30 | TYPE-C (L,R) |
| | NO. 17+90 | TYPE-C (L,R) |
| | NO. 35+30 | TYPE-B (L) |
| | NO. 37+60 | TYPE-B (R) |
| | NO. 41+30 | TYPE-A (L) |
| | NO. 44+20 | TYPE-A (L) |
| | NO. 46+80 | TYPE-A (R) |
| UPANGA ROAD | NO. 1+00 | TYPE-A (R) |
| | NO. 3+80 | TYPE-A (L) |
| | NO. 10+30 | TYPE-A (R) |
| | NO. 10+60 | TYPE-A (L) |
| NEW BAGAMOYO ROAD | NO. 1+20 | TYPE-A (L) |
| | NO. 12+40 | TYPE-A (R) |
| | NO. 14+40 | TYPE-A (L) |
| NEW BAGAMOYO ROAD (BEYOND MOROCCO J.C.) | 6 NOS. | TYPE-A |
| | 6 NOS. | TYPE-B |
| MOROCCO ROAD | 8 NOS. | TYPE-A |
| | 4 NOS. | TYPE-B |

APPROACH ROAD (A) W S=1:100



APPROACH ROAD (B) W S=1:100



LIGHTING FACILITIES

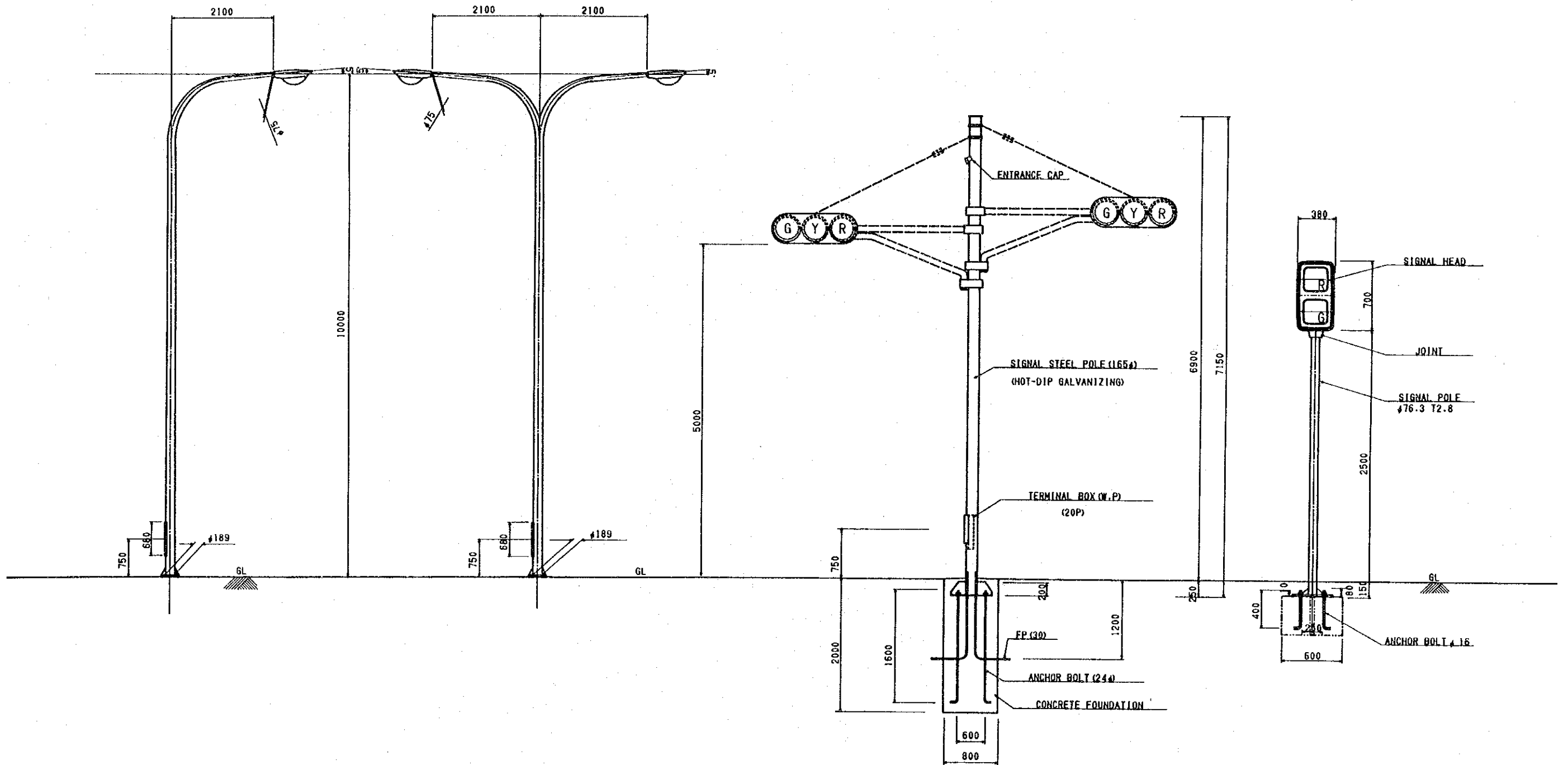
TRAFFIC SIGNAL

TYPE-L

TYPE-T

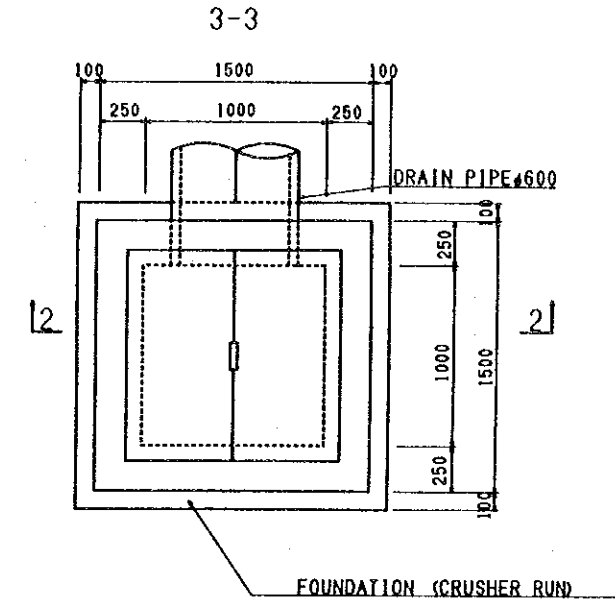
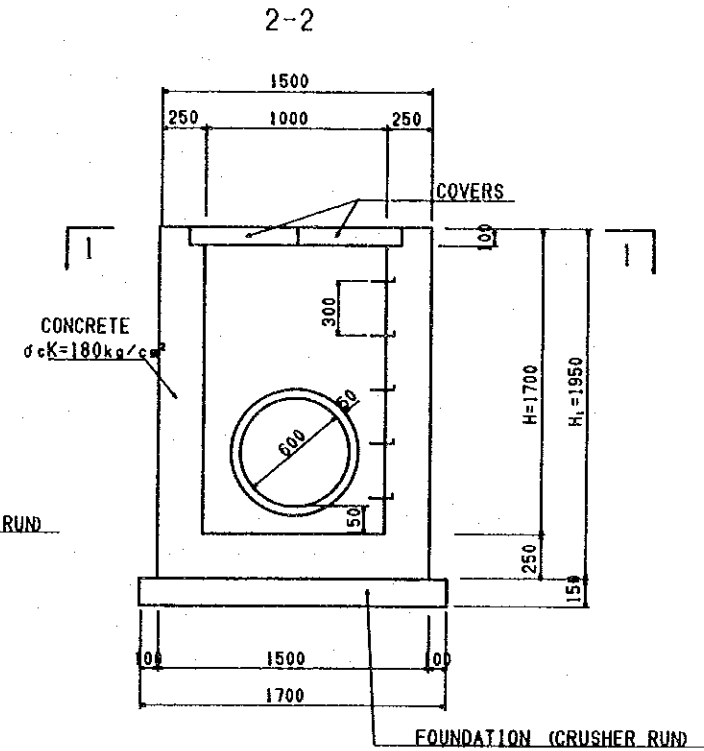
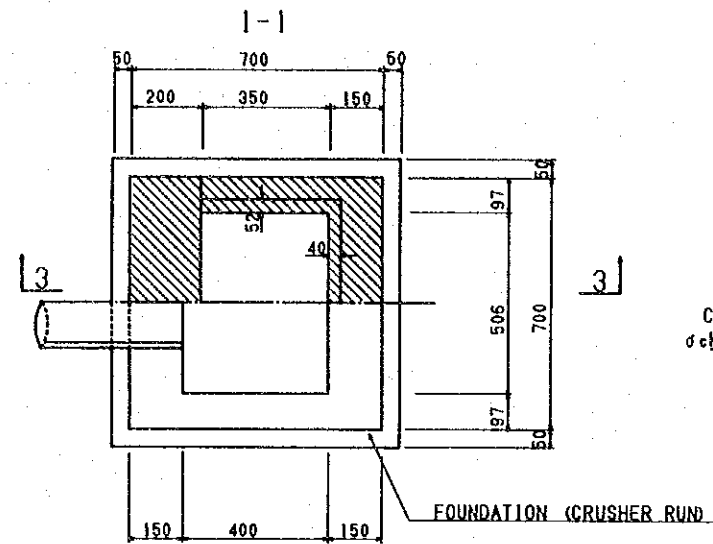
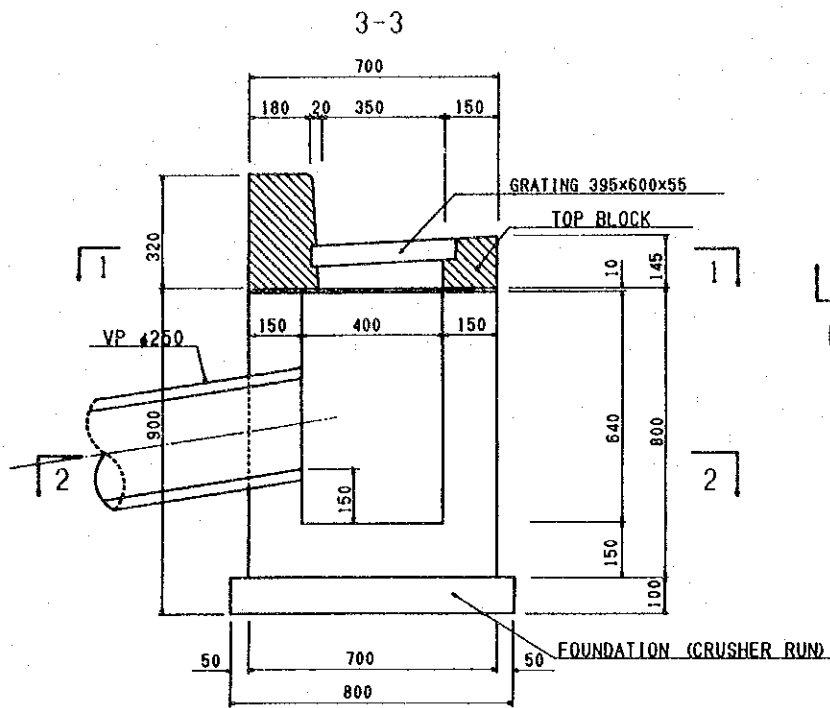
SIGNAL STEEL POLE
S=1:30

PEDESTRIAN SIGNAL
S=1:20

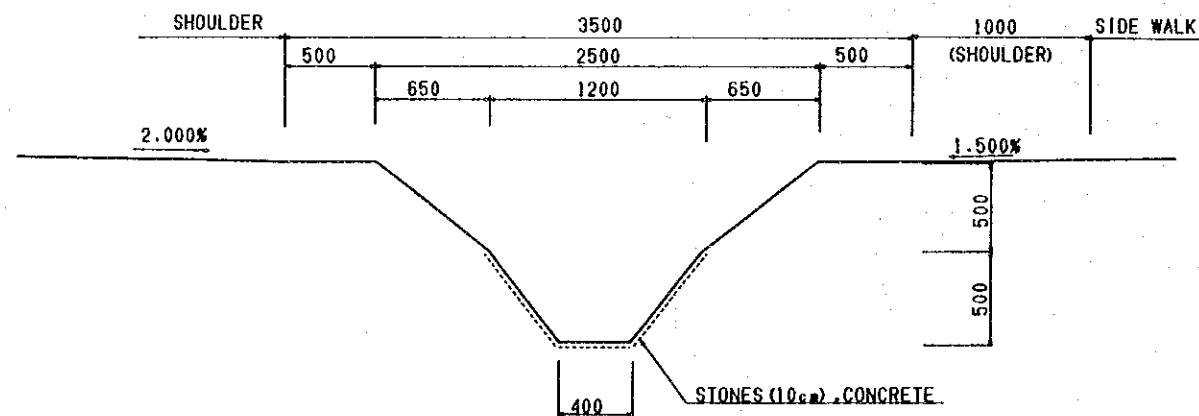


CATCH PIT $s = 1:10$
B400-L506-H640

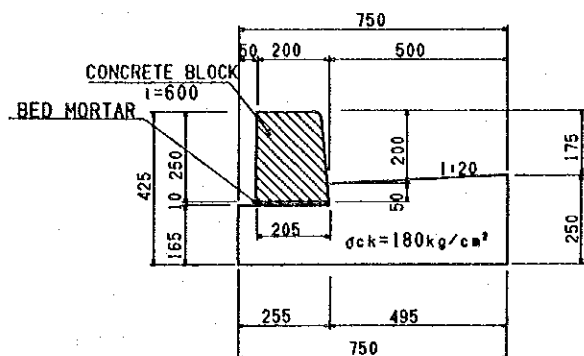
MAN HOLE $s = 1:20$
B1500-L1500-H



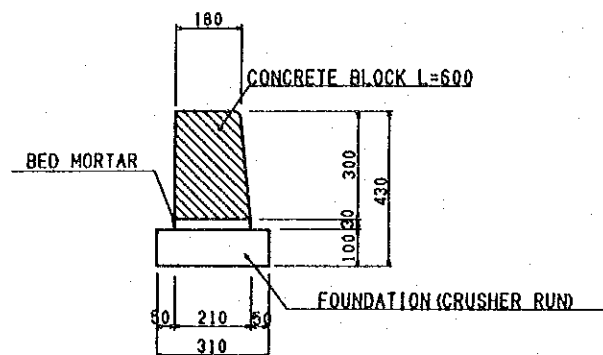
DRAINAGE (ROCK RIPRAP) TYPE-A $s=1:20$



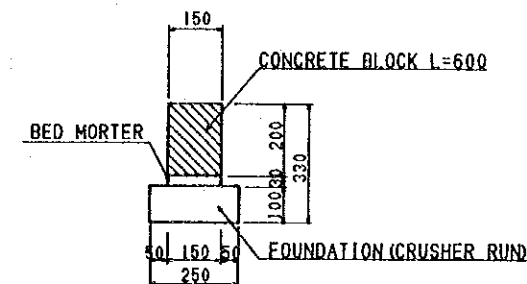
L-SIDE DITCH s=1:10



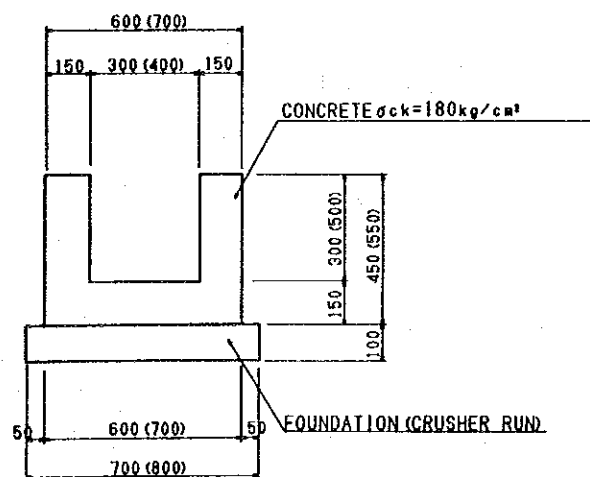
KERB (FOR MEDIAN STRIP) s=1:10



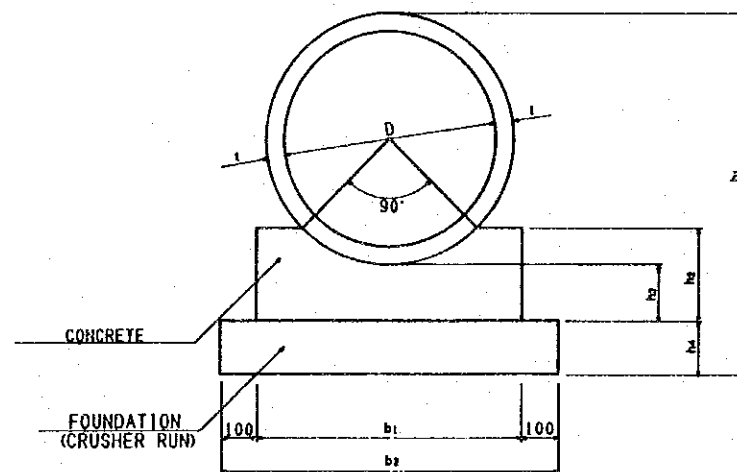
BOUNDARY BLOCK s=1:10



U-SHAPED DRAIN 300x300 (400x500)
S = 1:10

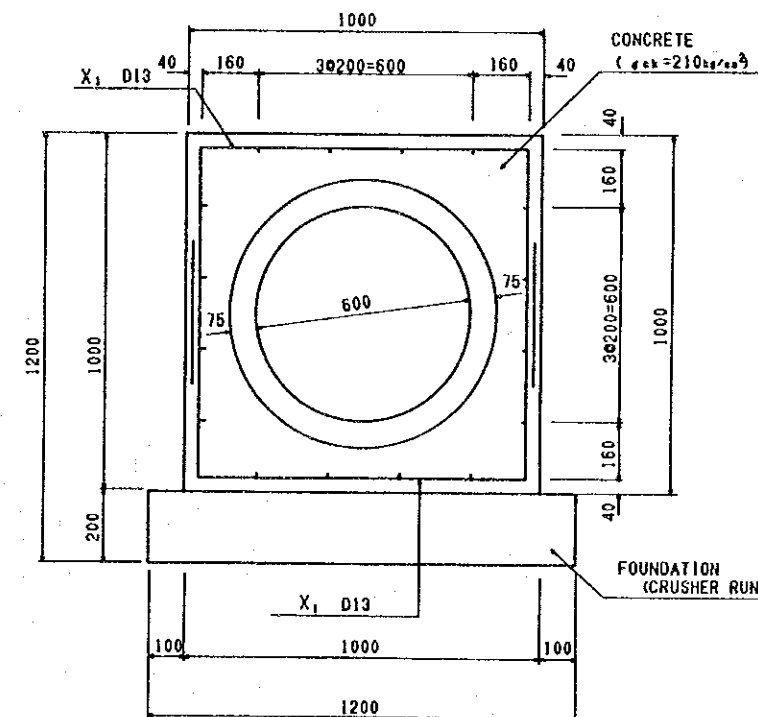


PIPE CULVERT TYPE-B
(D=300~1000) s=1:10



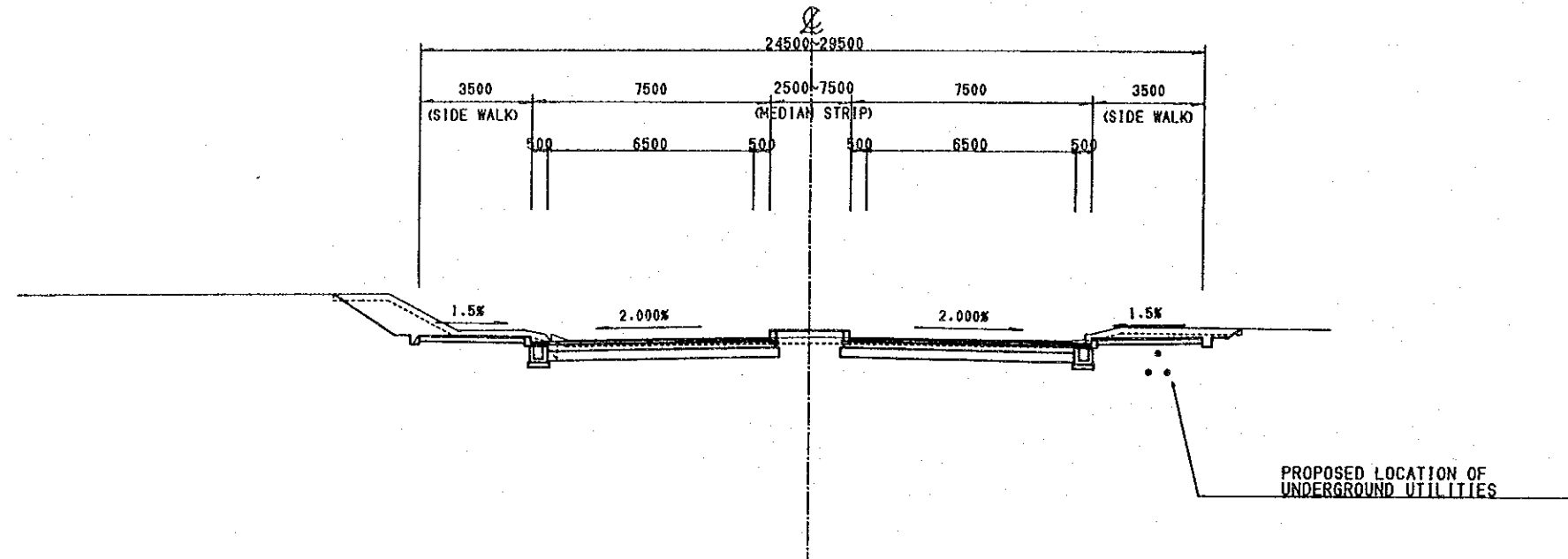
| TYPE | D | t | b1 | b2 | h1 | h2 | h3 | h4 |
|--------|------|----|------|------|------|-----|-----|-----|
| D-300 | 300 | 30 | 500 | 700 | 610 | 160 | 100 | 150 |
| D-600 | 600 | 50 | 750 | 950 | 1000 | 260 | 150 | 150 |
| D-1000 | 1000 | 82 | 1200 | 1400 | 1564 | 380 | 200 | 200 |

PIPE CULVERT TYPE-A (D=600)
DRAIN PIPE (A) s=1:10



RELOCATION PLAN OF EXISTING UTILITIES

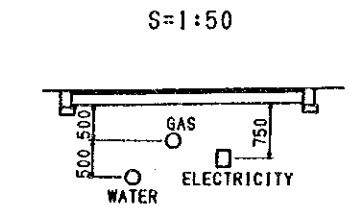
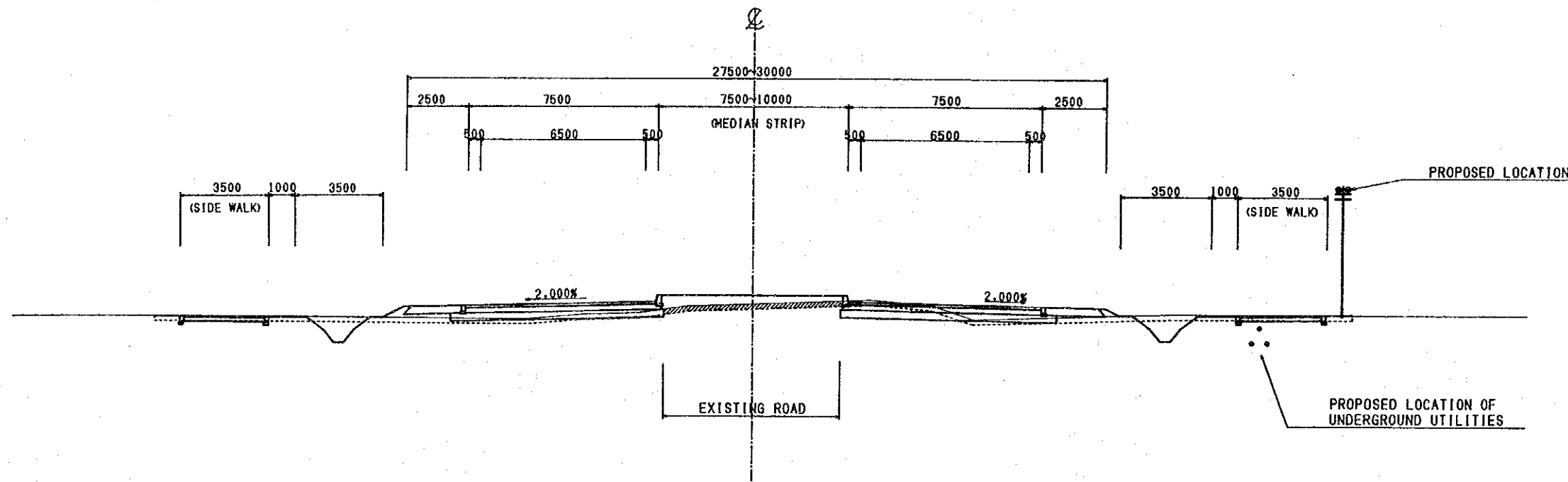
S=1:100



| NAME OF ROAD | QUANTITY |
|-------------------|--|
| MOROGORO ROAD | EXTELECOM LILE L = 5.7km HIGH TENSION LILE L = 11.4km |
| UPANGA ROAD | EXTELECOM L = 1.8km HIGH TENSION LILE L = 1.8km |
| NEW BAGAMOYO ROAD | HIGH TENSION LILE L = 3.5km WATER VALBE 5NOS. |

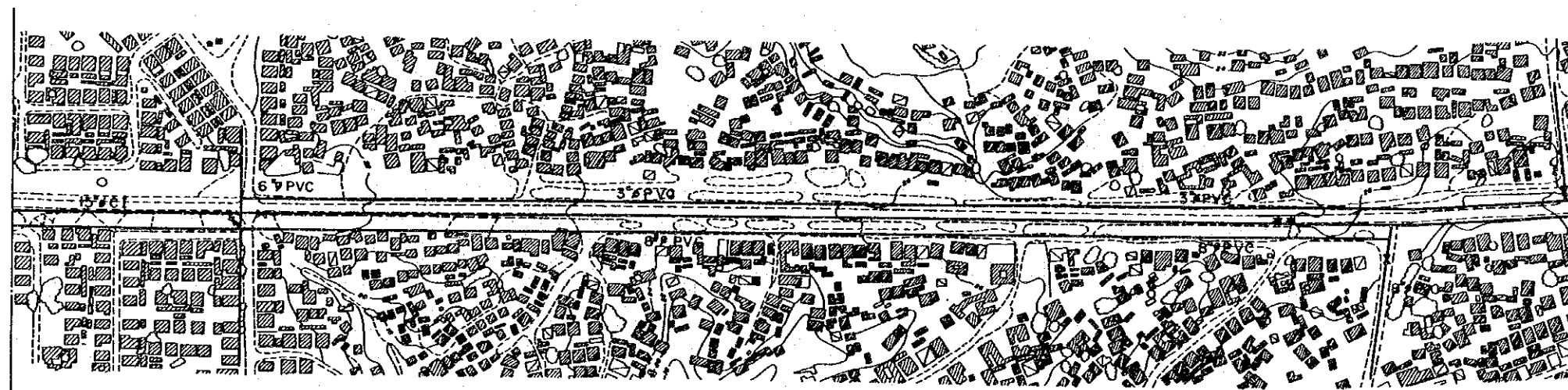
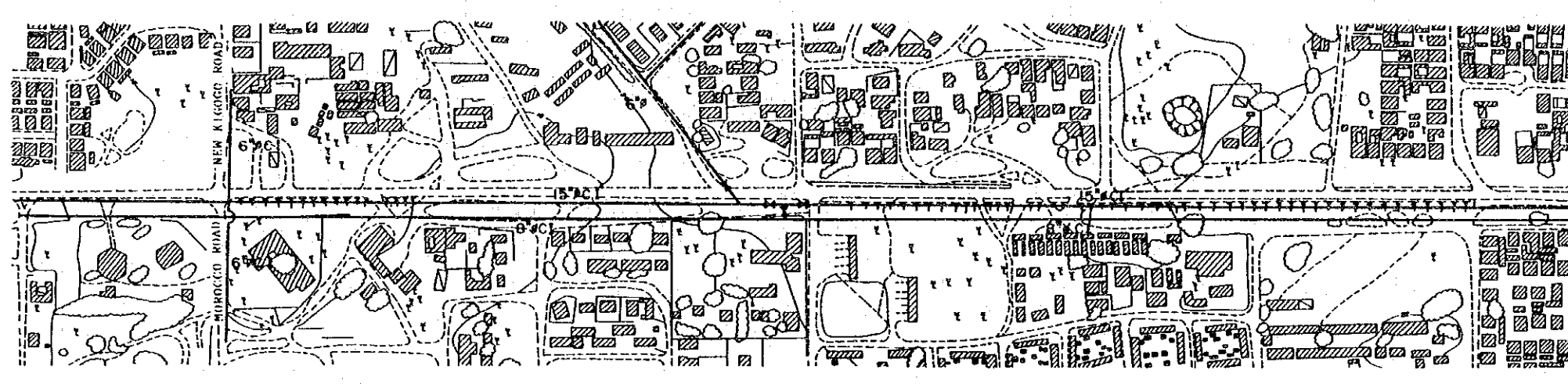
NOTE: Ⓞ EXISTING WATER MAIN ALONG THE PROPOSED ROAD ARE LAID BENEATH THE ROAD MORETHAN 2.0M IN DEPTH SO THAT NO RELOCATION OF WATER MAIN HAS BEEN PLANNED UNDER THIS PROJECT

Ⓞ EXISTING TELEPHONE CABLES LAID ALONG UPANGA AND NEW BAGAYO ROADS HAVE NOT BEEN INCLUDED IN THE PROJECT SINCE THE CABLES WILL BE IMPROVED AND REPLACED SOON WITH A ASSISTANCE OF JAPANESE GOVERNMENT.



DETAILED RELOCATION PLAN OF UTILITIES

MOROGORO ROAD (1)

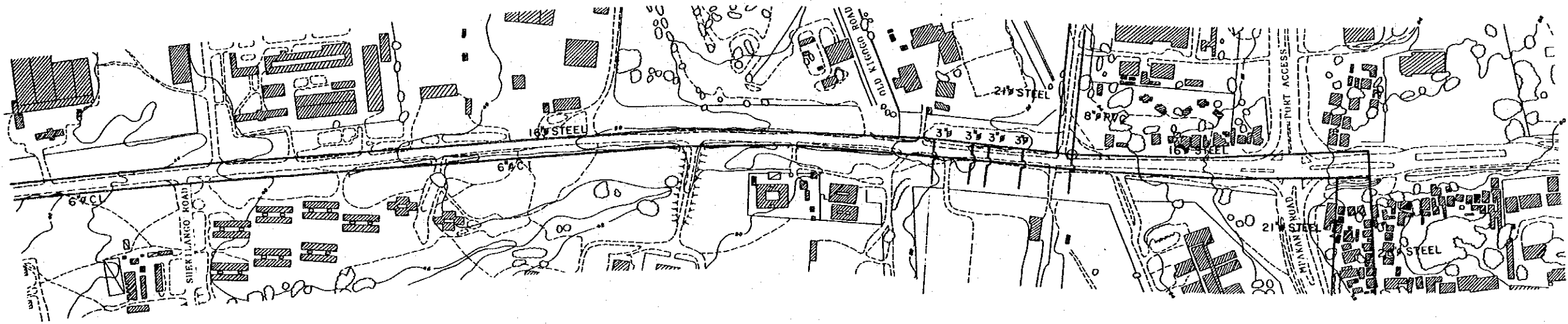
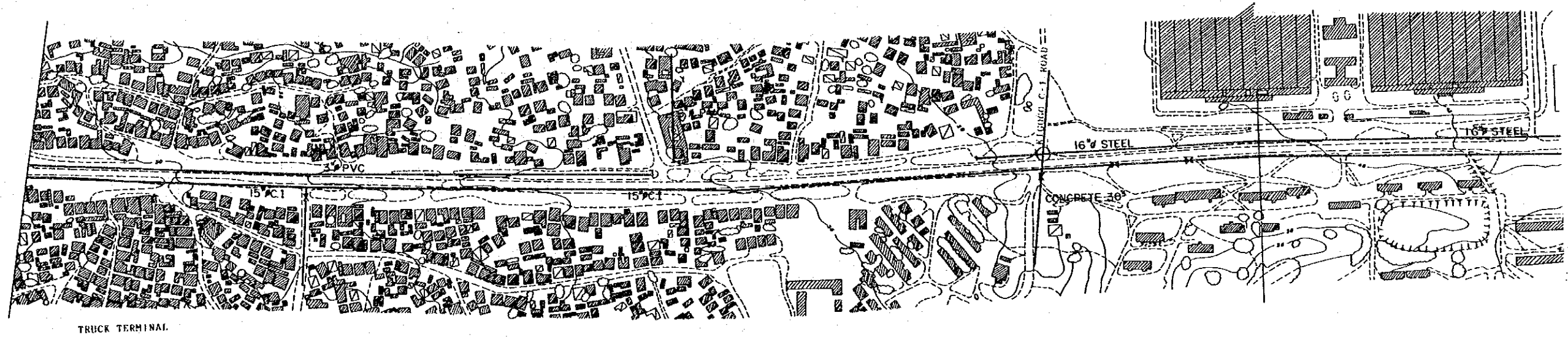



LEGEND

--- UNDER GROUND WATER PIPE

| | | | | | |
|---|--|---|---------------------|--------------|-----------|
| THE UNITED REPUBLIC OF TANZANIA DAR ES SALAAM CITY COUNCIL | THE FEASIBILITY STUDY ON ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM | JAPAN INTERNATIONAL COOPERATION AGENCY | MOROGORO ROAD (1) | DATE | SHEET NO. |
| | | | WATER PIPE LINE (1) | JUNE 1990 | 50 |

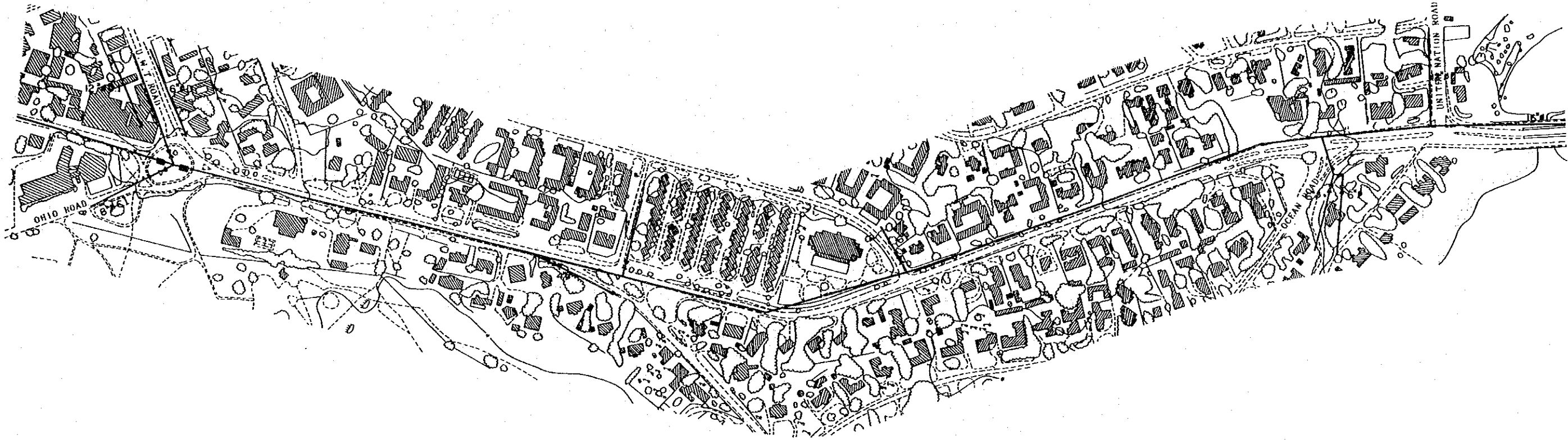
MOROGORO ROAD (2)



LEGEND
 UNDER GROUND WATER PIPE

| | | | | | |
|---|--|---|---------------------|--------------|-----------|
| THE UNITED REPUBLIC OF TANZANIA DAR ES SALAAM CITY COUNCIL | THE FEASIBILITY STUDY ON ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM | JAPAN INTERNATIONAL COOPERATION AGENCY | MOROGORO ROAD (2) | DATE | SHEET NO. |
| | | | WATER PIPE LINE (2) | JUNE 1990 | 51 |

UPANGA ROAD

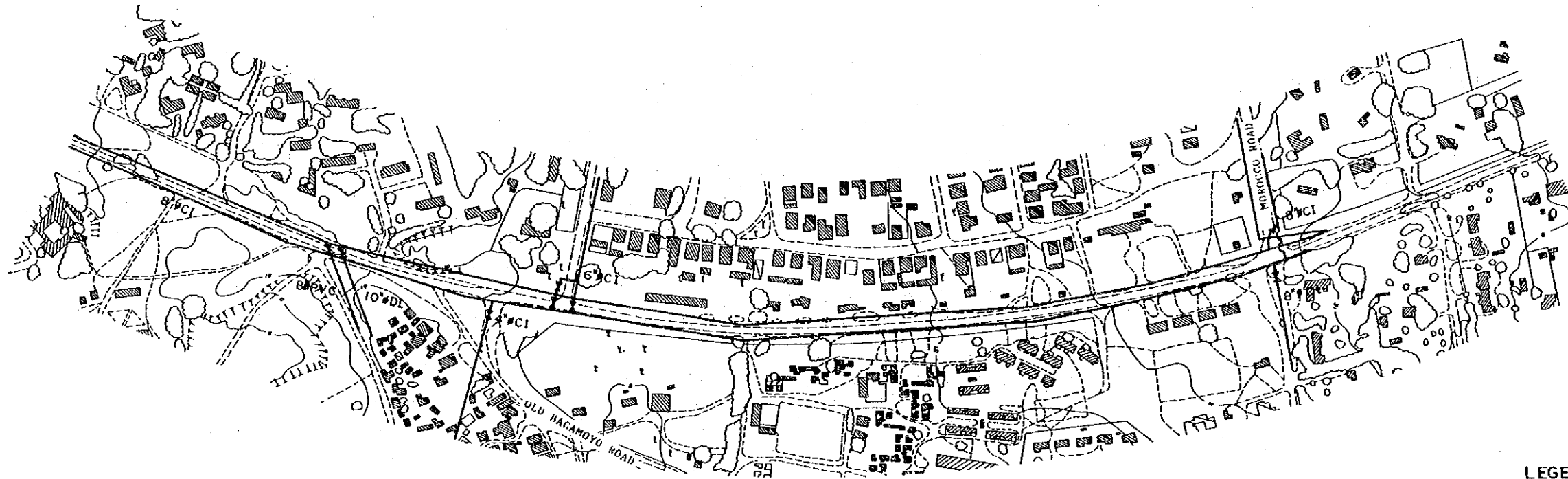
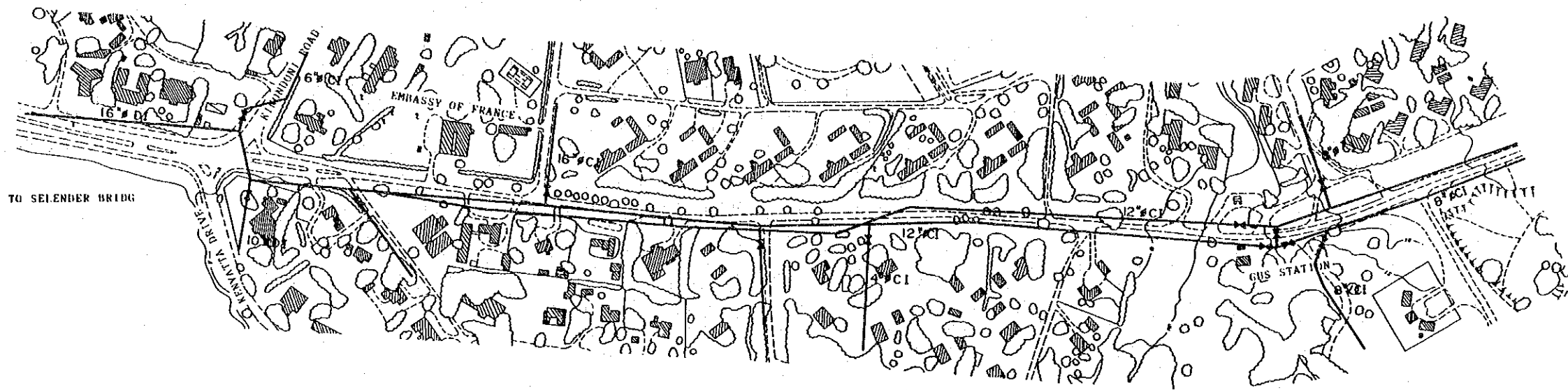


LEGEND

—*— UNDER GROUND WATER PIPE

| | | | | | |
|---|--|---|------------------------------------|----------------------|-------------------|
| THE UNITED REPUBLIC OF TANZANIA DAR ES SALAAM CITY COUNCIL | THE FEASIBILITY STUDY ON ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM | JAPAN INTERNATIONAL COOPERATION AGENCY | UPANGA ROAD WATER PIPE LINE (3) | DATE, JUNE . 1990 | SHEET NO. 52 / |
|---|--|---|------------------------------------|----------------------|-------------------|

NEW BAGAMOYO ROAD

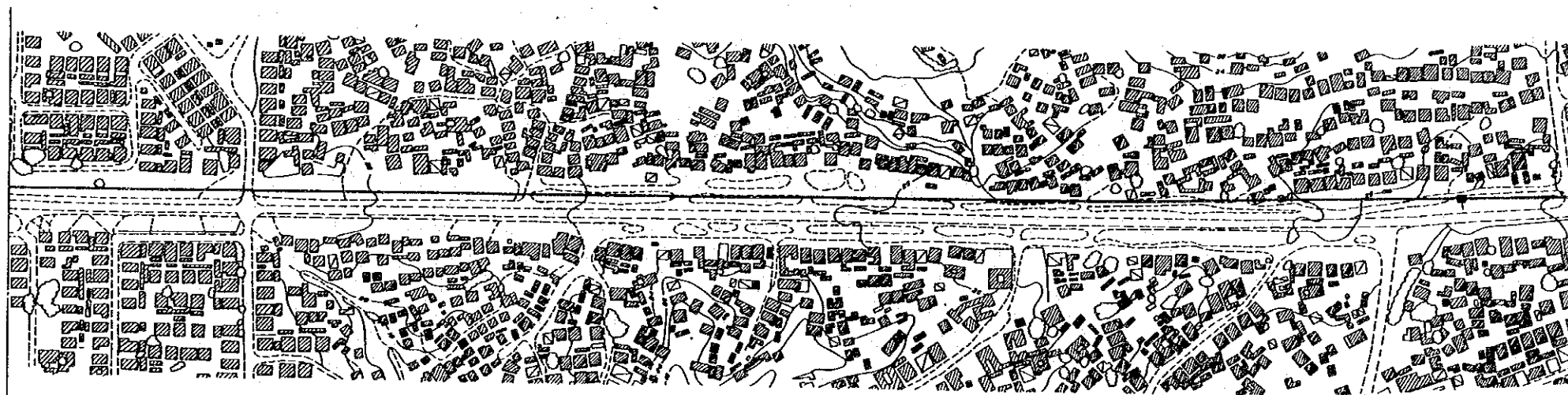
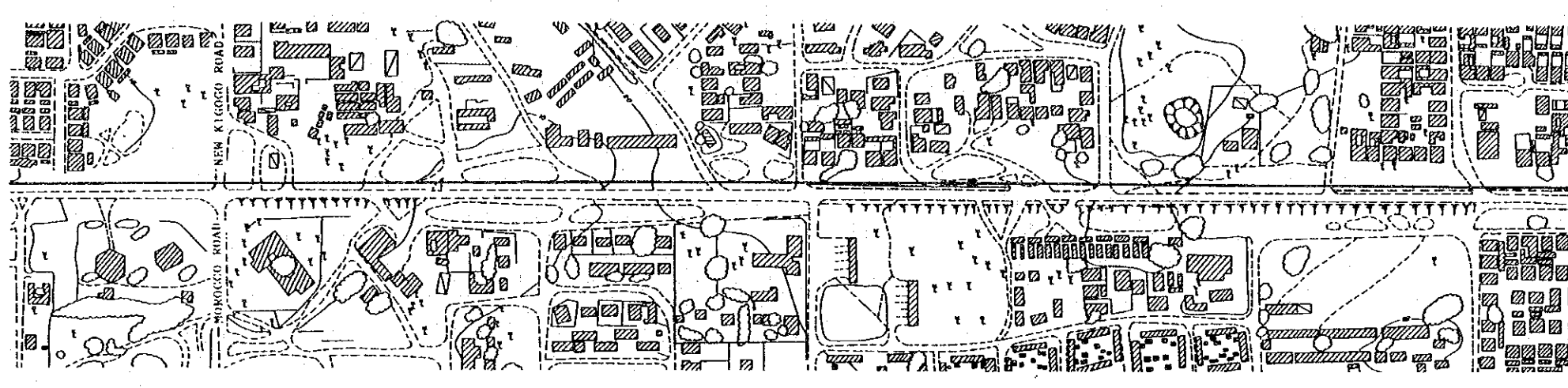


LEGEND

—+— UNDER GROUND WATER PIPE

| | | | | | |
|---|--|---|---------------------|--------------|-----------|
| THE UNITED REPUBLIC OF TANZANIA DAR ES SALAAM CITY COUNCIL | THE FEASIBILITY STUDY ON ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM | JAPAN INTERNATIONAL COOPERATION AGENCY | NEW BAGAMOYO ROAD | DATE | SHEET NO. |
| | | | WATER PIPE LINE (4) | JUNE 1990 | 53 |

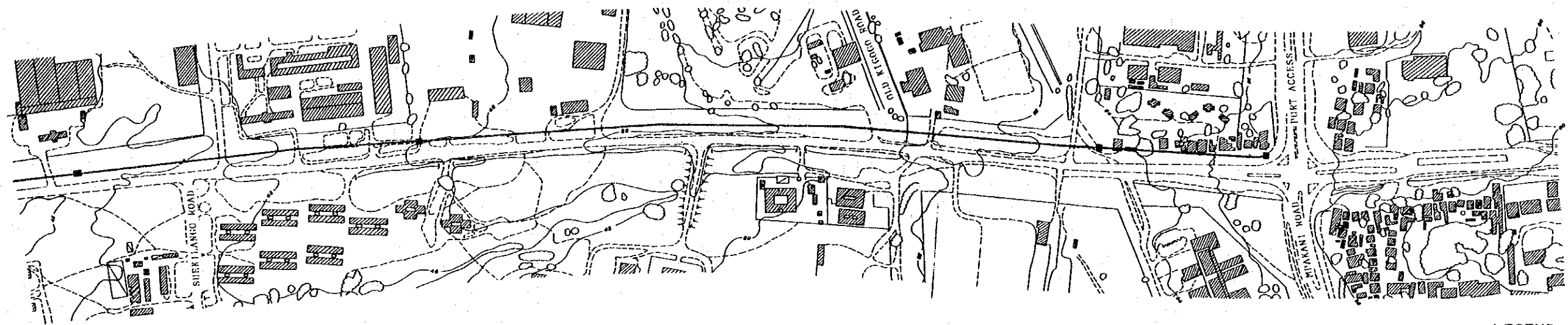
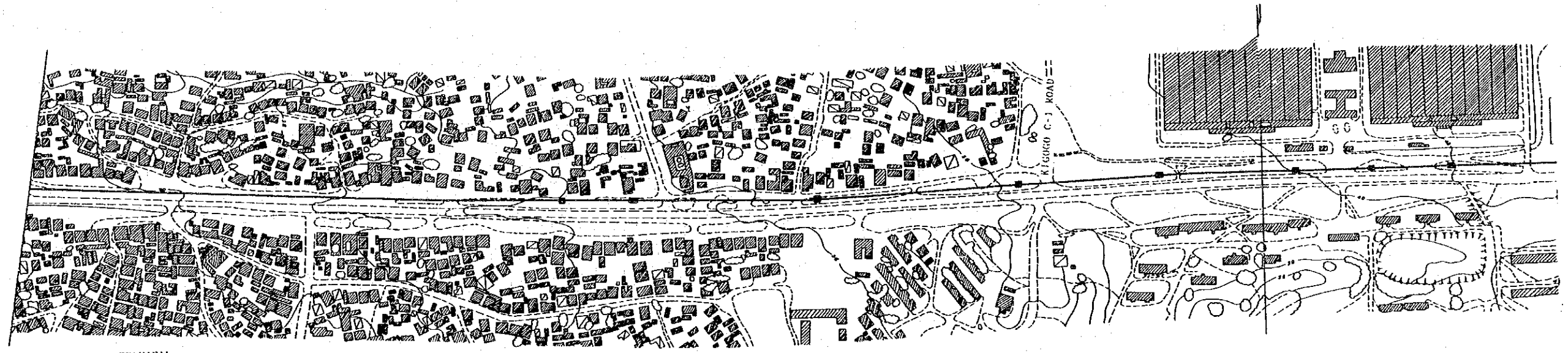
MOROGORO ROAD (1)



LEGEND
 —●— UNDER GROUND TELEPHONE CABLES

| | | | | | |
|---|--|---|---|--------------------|-----------------|
| THE UNITED REPUBLIC OF TANZANIA DAR ES SALAAM CITY COUNCIL | THE FEASIBILITY STUDY ON ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM | JAPAN INTERNATIONAL COOPERATION AGENCY | MOROGORO ROAD (1) TELEPHONE LINE (1) | DATE JUNE, 1990 | SHEET NO. 54 |
|---|--|---|---|--------------------|-----------------|

MOROGORO ROAD (2)



LEGEND

— UNDER GROUND TELEPHONE CABLES

| | | | | | |
|---|--|---|--------------------|--------------|-----------|
| THE UNITED REPUBLIC OF TANZANIA DAR ES SALAAM CITY COUNCIL | THE FEASIBILITY STUDY ON ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM | JAPAN INTERNATIONAL COOPERATION AGENCY | MOROGORO ROAD (2) | DATE | SHEET NO. |
| | | | TELEPHONE LINE (2) | JUNE 1990 | 55 |

UPANGA ROAD



LEGEND

—+— UNDER GROUND TELEPHONE CABLES

THE UNITED REPUBLIC OF TANZANIA
DAR ES SALAAM CITY COUNCIL

THE FEASIBILITY STUDY
ON
ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM

JAPAN INTERNATIONAL
COOPERATION AGENCY

UPANGA ROAD
TELEPHONE LINE (3)

| DATE | SHEET NO. |
|----------------|-----------|
| JUNE 1 1990 | 56 |

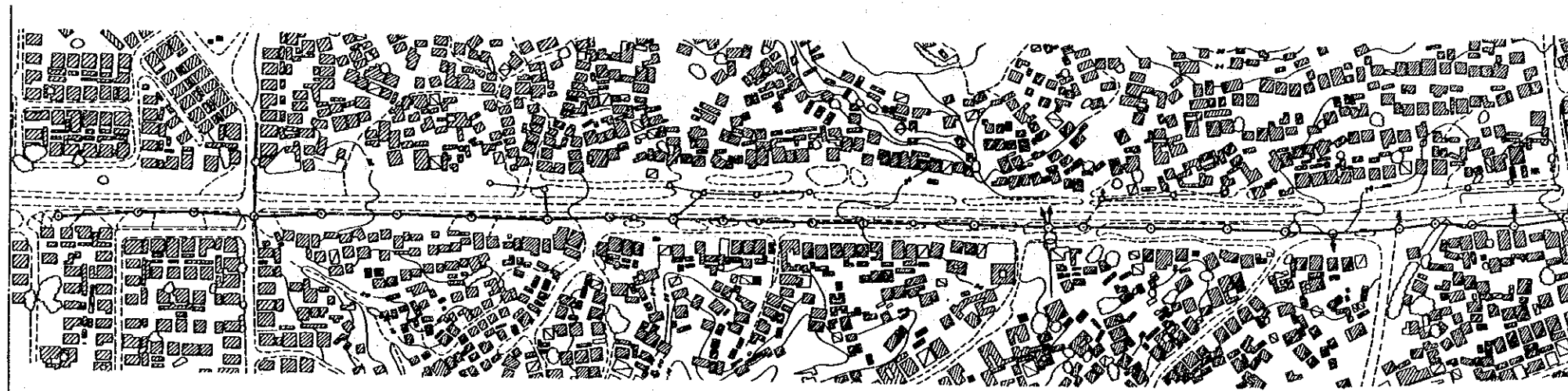
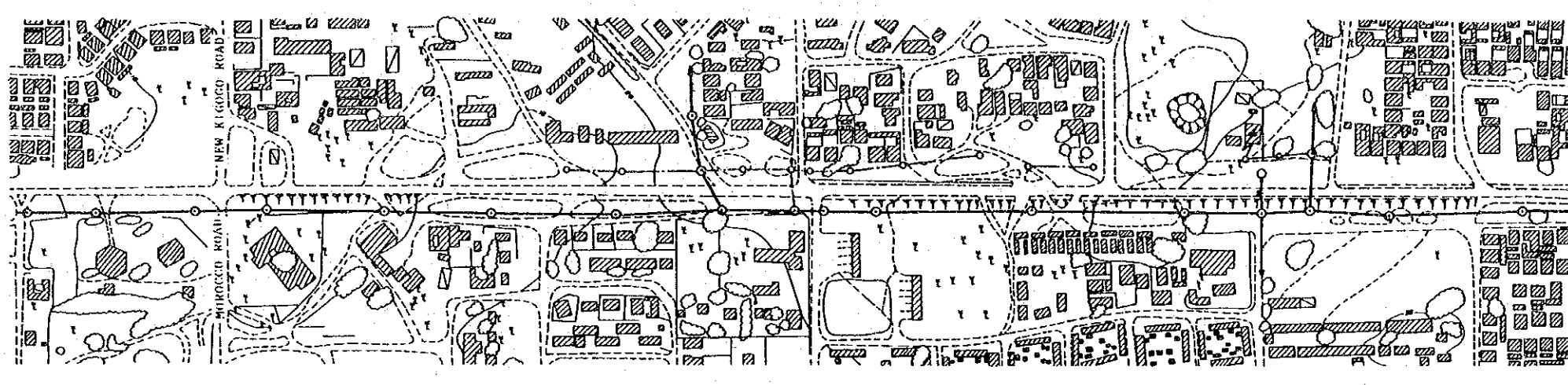
NEW BAGAMOYO ROAD



LEGEND
 - - - - - UNDER GROUND TELEPHONE CABLES

| | | | | | |
|---|--|---|--------------------|-----------|-----------|
| THE UNITED REPUBLIC OF TANZANIA DAR ES SALAAM CITY COUNCIL | THE FEASIBILITY STUDY ON ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM | JAPAN INTERNATIONAL COOPERATION AGENCY | NEW BAGAMOYO ROAD | DATE | SHEET NO. |
| | | | TELEPHONE LINE (4) | JUNE 1990 | 57 / |

MOROGORO ROAD (1)

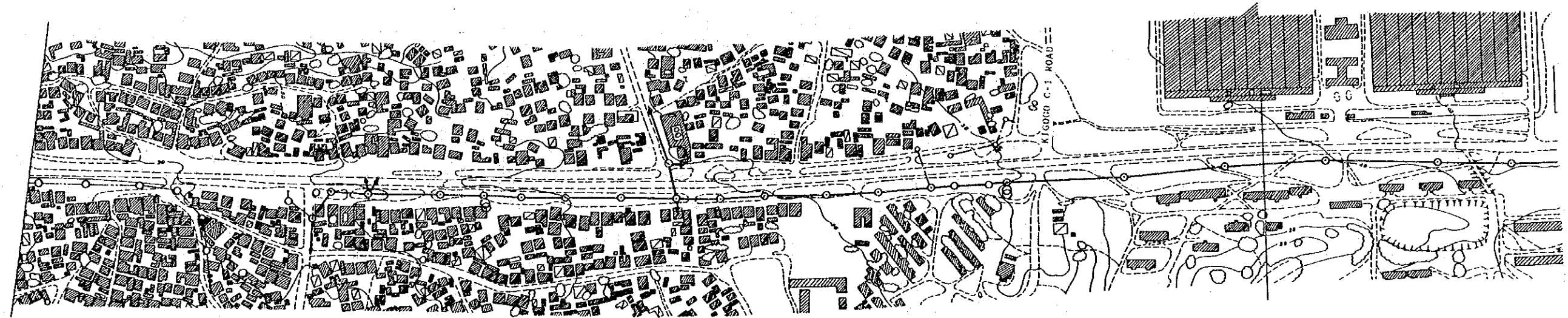


LEGEND

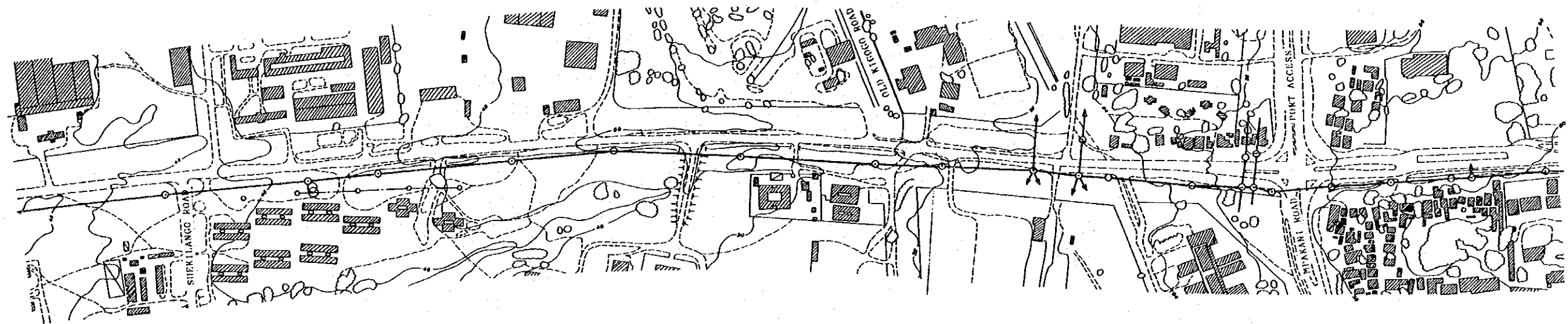
- ⊙ TRANSFORMER
- H.T. LINE
- STREET LIGHT
- FLYING STAY
- STAY
- ~~~~~ UNDER GROUND CABLE

| | | | | | |
|---|--|---|-------------------|-----------|-----------|
| THE UNITED REPUBLIC OF TANZANIA DAR ES SALAAM CITY COUNCIL | THE FEASIBILITY STUDY ON ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM | JAPAN INTERNATIONAL COOPERATION AGENCY | MOROGORO ROAD (1) | DATE | SHEET NO. |
| | | | ELECTRIC WIRE (1) | JUNE 1990 | 58 |

MOROGORO ROAD (2)



TRUCK TERMINAL



LEGEND

- ⊙ TRANSFORMER
- H.T. LINE
- |— STREET LIGHT
- /— FLYING STAY
- |— STAY
- ~~~~~ UNDER GROUND CABLE

| | | | | | |
|---|--|---|-------------------|-----------|-----------|
| THE UNITED REPUBLIC OF TANZANIA DAR ES SALAAM CITY COUNCIL | THE FEASIBILITY STUDY ON ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM | JAPAN INTERNATIONAL COOPERATION AGENCY | MOROGORO ROAD (2) | DATE | SHEET NO. |
| | | | ELECTRIC WIRE (2) | JUNE 1990 | 59 |

UPANGA ROAD

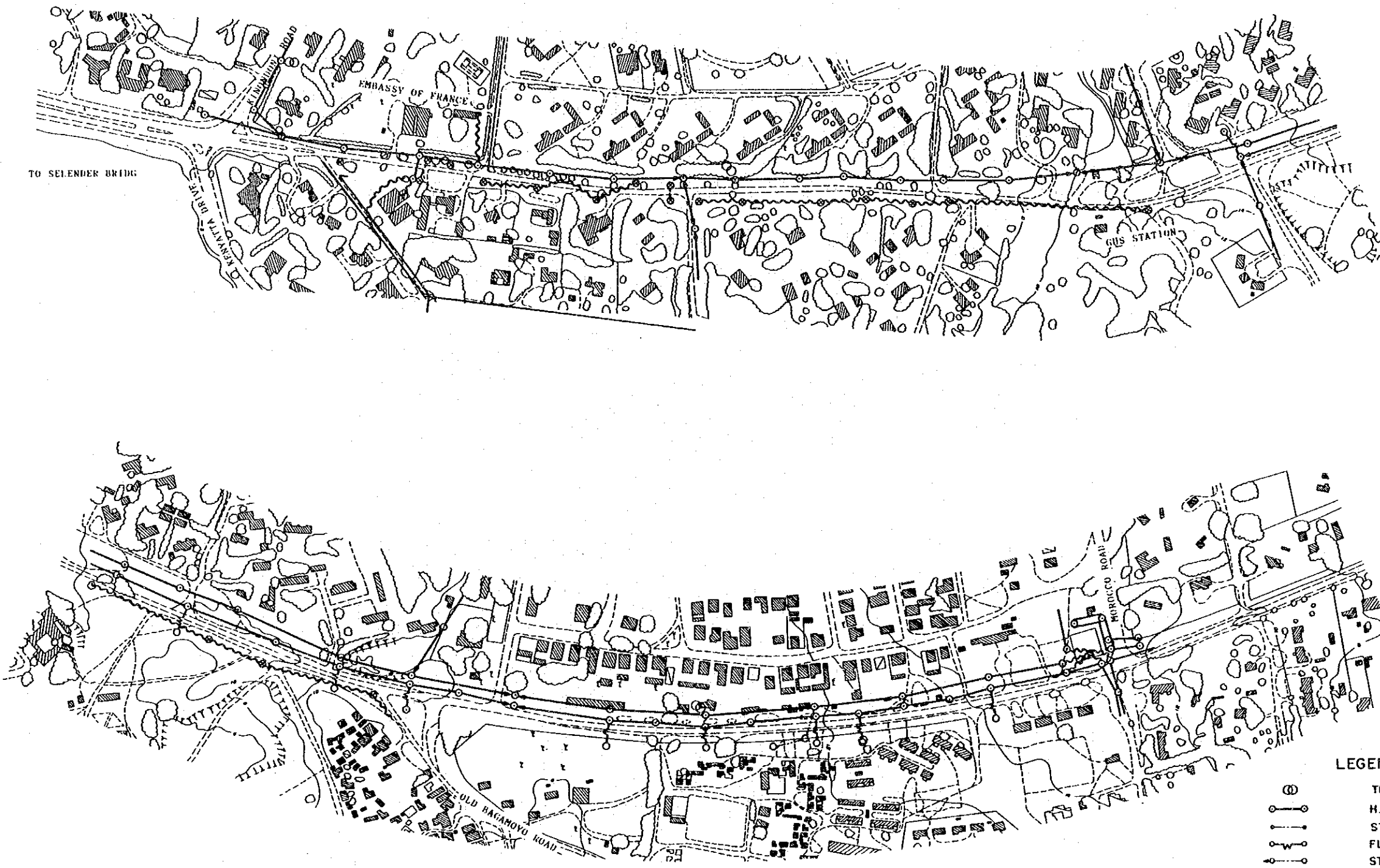


LEGEND

- ⊙ TRANSFORMER
- H.T. LINE
- |— STREET LIGHT
- |— FLYING STAY
- |— STAY
- ~~~~~ UNDER GROUND CABLE

| | | | | | |
|---|--|---|-------------------|-----------|-----------|
| THE UNITED REPUBLIC OF TANZANIA DAR ES SALAAM CITY COUNCIL | THE FEASIBILITY STUDY ON ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM | JAPAN INTERNATIONAL COOPERATION AGENCY | UPANGA ROAD | DATE | SHEET NO. |
| | | | ELECTRIC WIRE (3) | JUNE 1990 | 60 / |

NEW BAGAMOYO ROAD

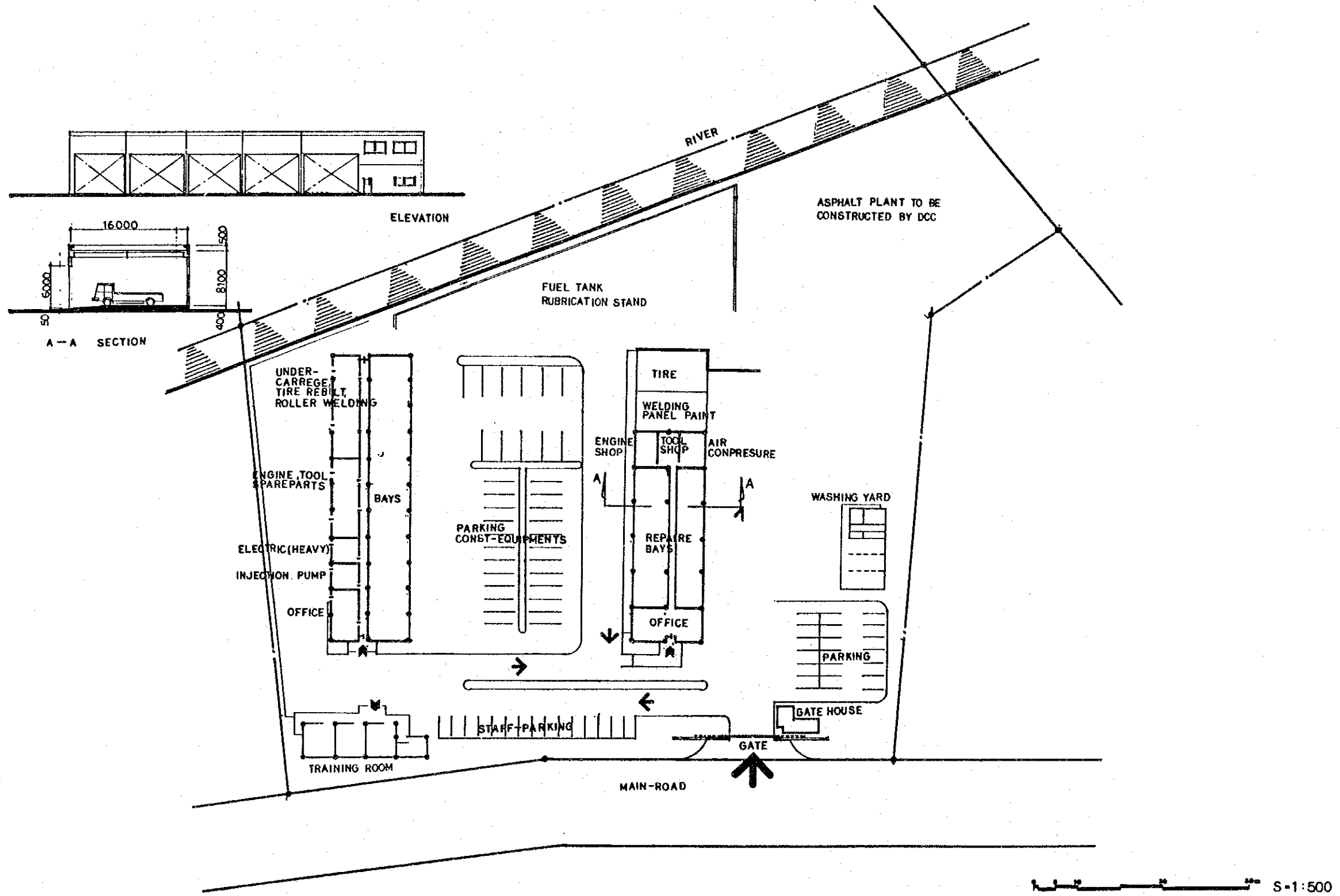


LEGEND

- ⊕ TRANSFORMER
- H.T. LINE
- STREET LIGHT
- FLYING STAY
- STAY
- ~ UNDER GROUND CABLE

| | | | | | |
|---|--|---|-------------------|-----------|-----------|
| THE UNITED REPUBLIC OF TANZANIA DAR ES SALAAM CITY COUNCIL | THE FEASIBILITY STUDY ON ROAD IMPROVEMENT AND MAINTENANCE IN DAR ES SALAAM | JAPAN INTERNATIONAL COOPERATION AGENCY | NEW BAGAMOYO ROAD | DATE | SHEET NO. |
| | | | ELECTRIC WIRE (4) | JUNE 1990 | 61 / |

MAINTENANCE DEPOT



JICA