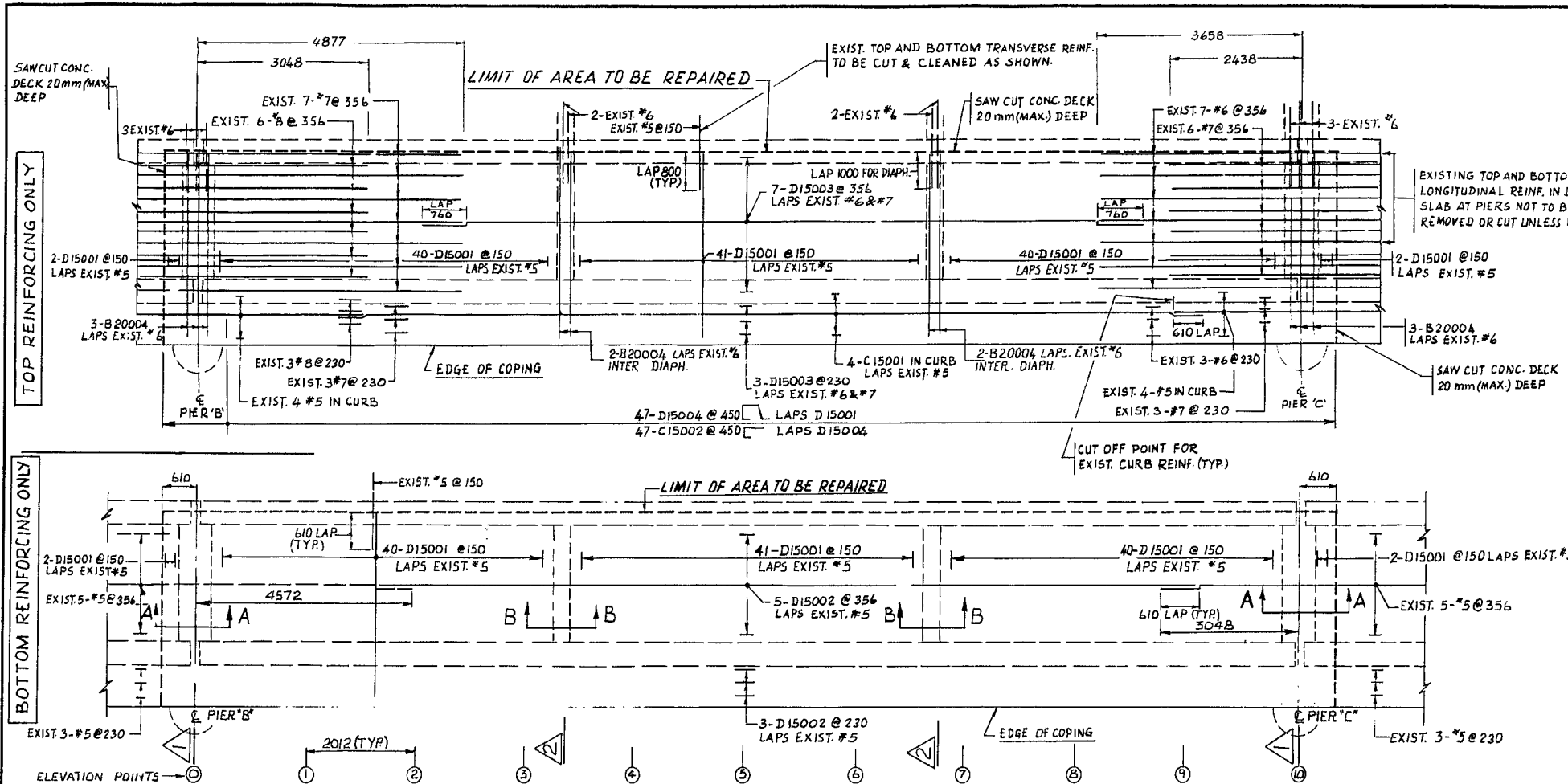




# METRIC

DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.  
 ELEVATIONS, COORDINATES, CURVE AND ALIGNMENT DATA ARE IN METRES.  
 STATIONS ARE IN KILOMETRES + METRES.



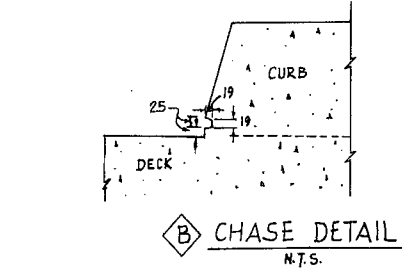
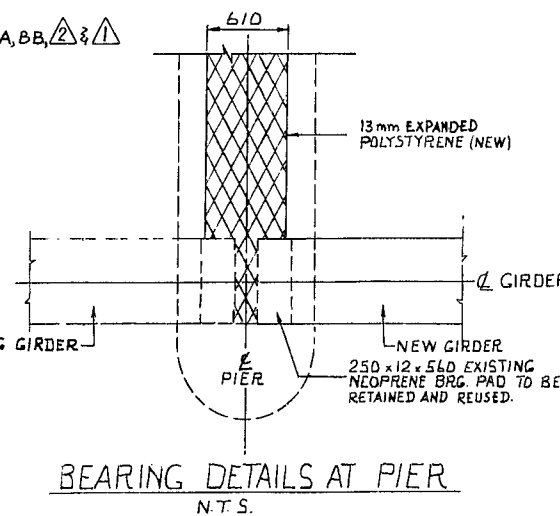
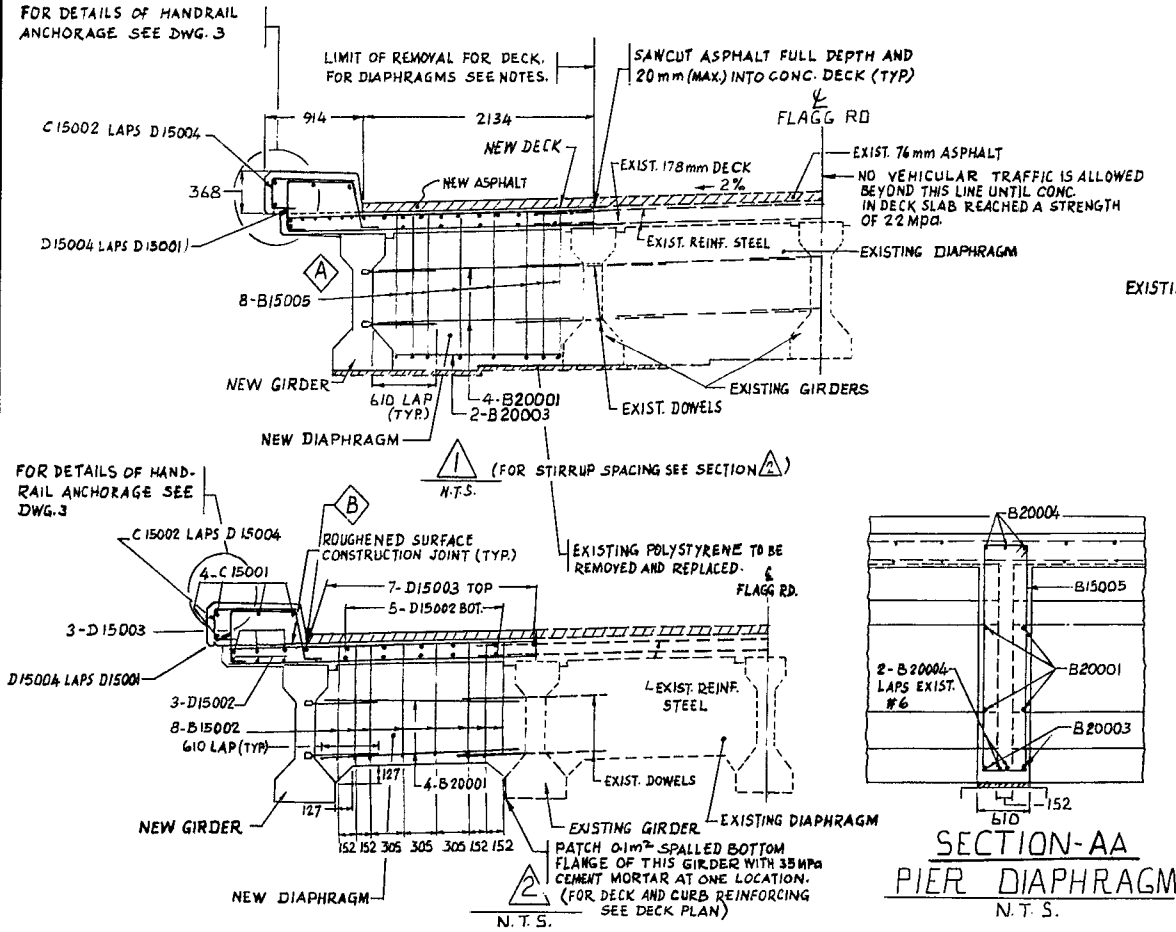
### SCREENED ELEVATIONS (TOP OF CONCRETE)

POINT	'A'
0	89.839
1	89.837
2	89.840
3	89.837
4	89.835
5	89.832
6	89.820
7	89.810
8	89.803
9	89.788
10	89.773

- NOTES:**
- CLASS OF CONCRETE:**
    - GIRDER - 35 MPa
    - REMAINDER - 30 MPa
  - REINFORCING STEEL:**
    - GRADE 400
    - CLEAR COVER TO REINF. STEEL:
      - DIAPHRAGMS AND CURB - 50mm
      - DECK TOP AND BOTTOM - 25mm
  - REMOVAL NOTES:**
    - DECK SLAB, CURB, STEEL HANDRAILS AND POSTS TO BE REMOVED TO THE LIMITS SHOWN ON DWG. 183. HANDRAILS AND POSTS TO BE CLEANED AND RETAINED.
    - DESIGNATED EXIST. DECK REINF. TO BE RETAINED AND CLEANED. EXISTING LONGITUDINAL REINFORCING MAY BE BENT TO PERMIT REMOVAL AND INSTALLATION OF GIRDER.
    - DIAPHRAGMS SHOWN TO BE REMOVED TO THE FACE OF EXIST. GIRDER. DOWELS FROM EXIST. INTERIOR GIRDERS TO BE RETAINED AND CLEANED.
    - THE DAMAGED GIRDER TO BE REMOVED, THE PIER CAP TO BE CLEANED AND THE EXISTING EXPANDED POLYSTYRENE TO BE DISCARDED. EXISTING BEARINGS TO BE RETAINED AND REUSED.
  - CONSTRUCTION NOTES:**
    - PLACE 13mm EXPANDED POLYSTYRENE OVER PIER CAPS AT DIAPHRAGMS.
    - AFTER INSTALLATION OF NEW GIRDER EXIST. LONGITUDINAL REINF. TO BE STRAIGHTENED AND REINF. IN DECK AND DIAPHRAGMS TO BE PLACED.
    - EDGES OF EXIST. DECK AND GIRDER FACES TO BE COATED WITH NEAT CEMENT PASTE BEFORE PLACING NEW CONCRETE.
    - CONCRETE IN DIAPHRAGM TO BE CAST INTEGRAL WITH DECK SLAB CONCRETE.
    - CONCRETE BETWEEN ENDS OF GIRDERS TO BE CAST INTEGRAL WITH DIAPHRAGMS AND TO BE FLUSH WITH OUTSIDE FACE OF EXTERIOR GIRDERS.
    - AN APPROVED ADDITIVE TO BE USED IN THE DECK CONCRETE TO RETARD THE INITIAL SET FOR THE DURATION OF THE DECK POUR.
    - CONCRETE IN CURB NOT TO BE CAST UNTIL CONCRETE IN DECK HAS REACHED A STRENGTH OF 22 MPa.
    - SCREENED ELEVATIONS INCLUDE AN ALLOWANCE FOR DEAD LOAD DEFLECTIONS. GENERAL CONTRACTOR TO DEDUCT IN PLACE CAMBER OF PRESTRESSED BEAM FROM SCREENED ELEVATIONS INDICATED.

## PARTIAL DECK PLAN

N.T.S.  
 FOR DETAILS OF DIAPHRAGM REINF. SEE SEC. AA, BB, & C



SAWCUT NOTE:  
 VARY SAWCUT DEPTH TO AVOID CUTTING TOP REINFORCING STEEL (TYP)

**CONCRETE QUANTITIES:**  
 CONCRETE QUANTITIES ARE LISTED BELOW FOR THE APPROPRIATE CONCRETE LUMP SUM TENDER ITEMS:  
 CONCRETE IN DECK AND DIAPHRAGMS - 20.770m<sup>3</sup>

- LIST OF DRAWINGS:**
- |                                       |          |
|---------------------------------------|----------|
| 1. DECK DETAILS                       | 31-203-1 |
| 2. PRESTRESSED GIRDER                 | 31-203-2 |
| 3. STANDARD HANDRAIL PANELS AND POSTS | 31-203-3 |

DRAWING NOT TO BE SCALED  
 100 mm ON ORIGINAL DRAWING

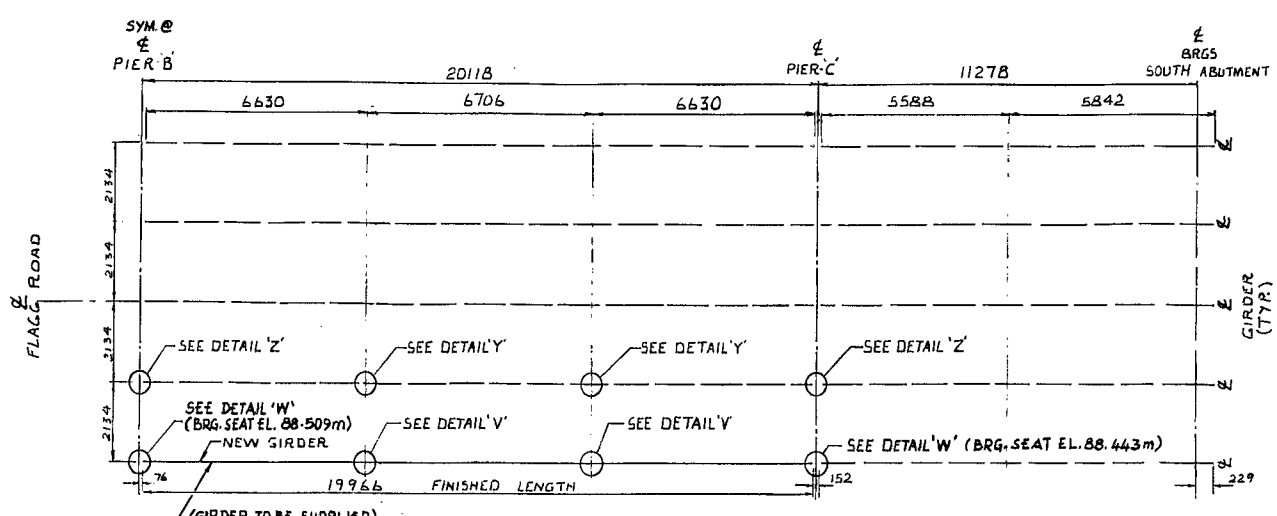
REVISIONS	DATE	BY	DESCRIPTION

DESIGN/ADPT CHECK Q.1. LOADING/520-44 DATE APR/82  
 DRAWING/DR. CHECK Q.7. SITE 31-203 DWG 1

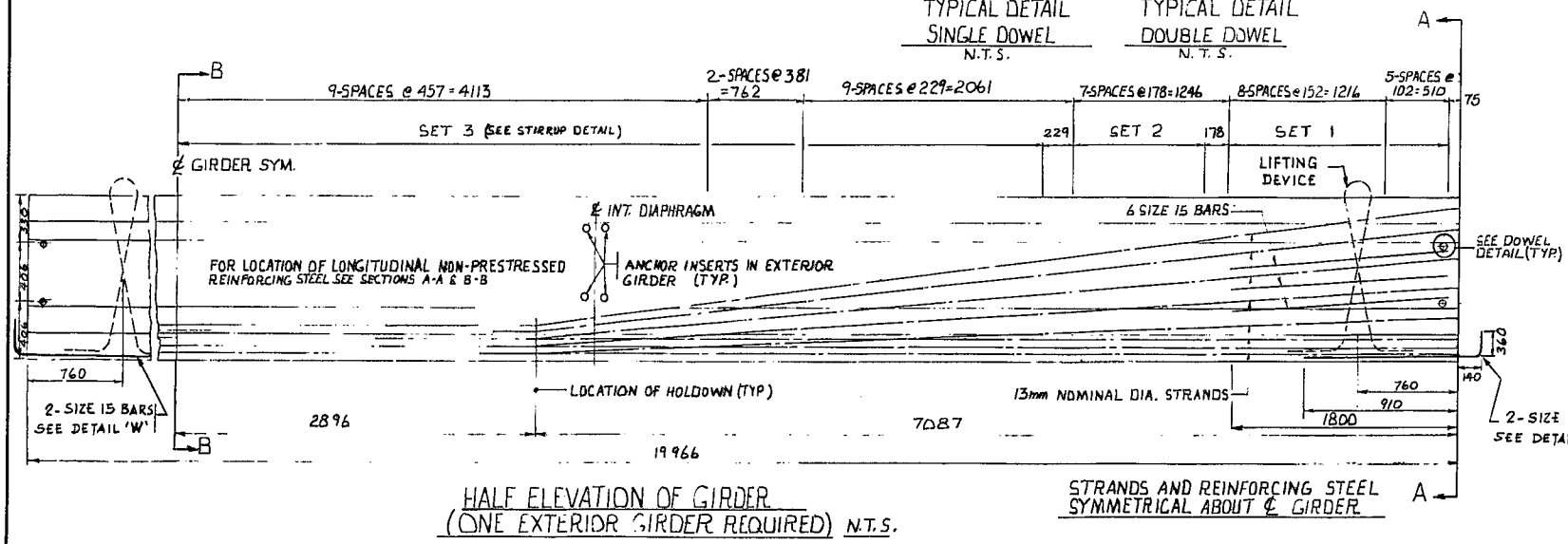
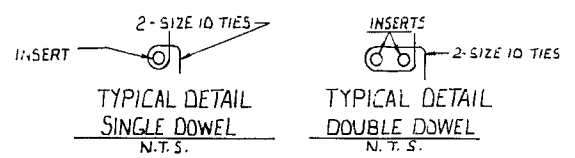
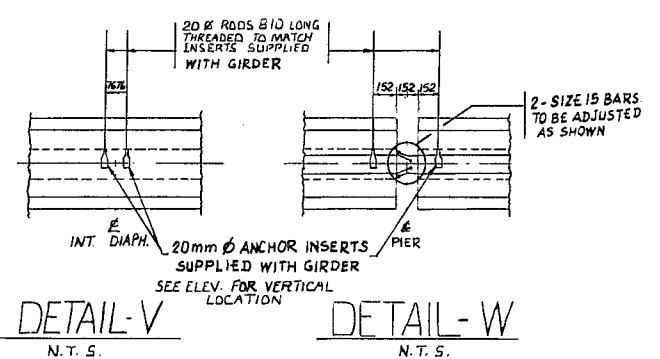
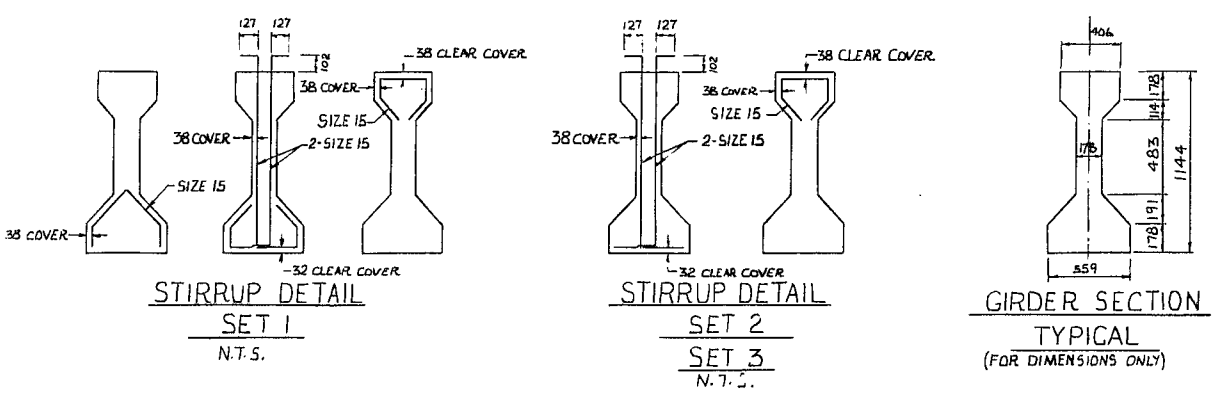
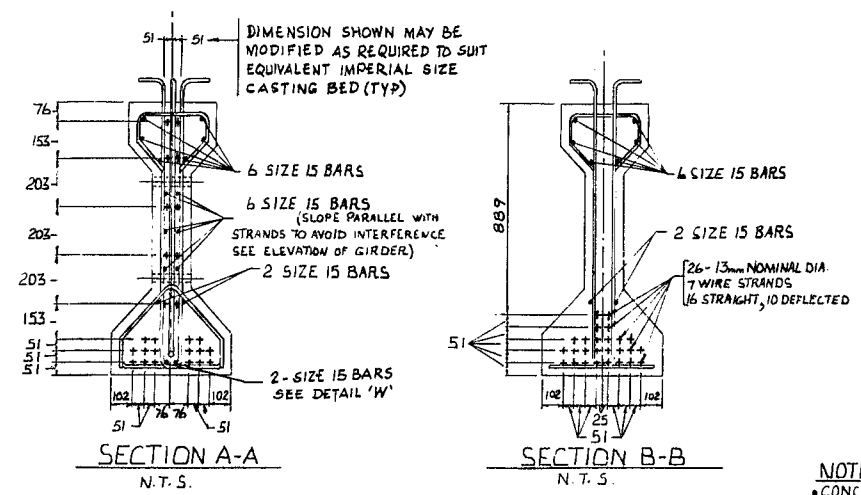
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REPAIRS TO FLAGG RD. U'PASS  
5.2 Km West of Hwy. 31  
PRESTRESSED GIRDER



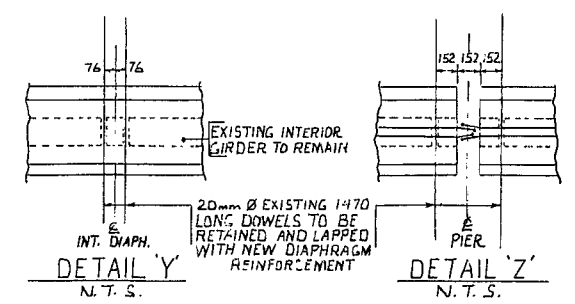
HALF PLAN OF GIRDER LAYOUT  
N.T.S.



HALF ELEVATION OF GIRDER  
(ONE EXTERIOR GIRDER REQUIRED) N.T.S.

STRANDS AND REINFORCING STEEL SYMMETRICAL ABOUT GIRDER.

- NOTES**
- CONCRETE STRENGTH AT 28 DAYS --- 35 MPa.
  - CONCRETE STRENGTH AT TRANSFER --- 30 MPa.
  - PRESTRESSING STEEL SHALL BE LOW-RELAXATION SEVEN WIRE STRAND, SIZE DESIGNATION 13, GRADE 1860, AND SHALL MEET THE REQUIREMENTS OF CSA STANDARD G279-75.
  - MIN. ULTIMATE STRENGTH OF STRAND 184 KN.
  - JACKING FORCE PER STRAND 113 KN.
  - FORCE PER STRAND AFTER ALL LOSSES 88 KN.
  - MIN. CLEAR COVER TO REINFORCING STEEL AS NOTED.
  - REINFORCING STEEL SHALL BE IN ACCORDANCE WITH C.S.A. STANDARD G30-16-M77, GRADE 400W.
  - ENDS OF STRANDS SHALL BE BURNED OFF 25 mm BEYOND GIRDER ENDS.
  - DOWEL INSERTS SHALL BE CAPABLE OF DEVELOPING FULL STRENGTH OF DOWELS AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.
  - SIZE 20 DOWELS FOR EXTERIOR GIRDER SHALL BE THREADED AT ONE END TO MATCH INSERTS.
  - THE GIRDER IS AASHTO TYPE III.
  - ALL DOWELS AND INSERTS SHALL BE SUPPLIED WITH GIRDER.
  - TOP OF THE GIRDER SHALL BE BROOM FINISHED.



DRAWING NOT TO BE SCALED  
100 mm ON ORIGINAL DRAWING

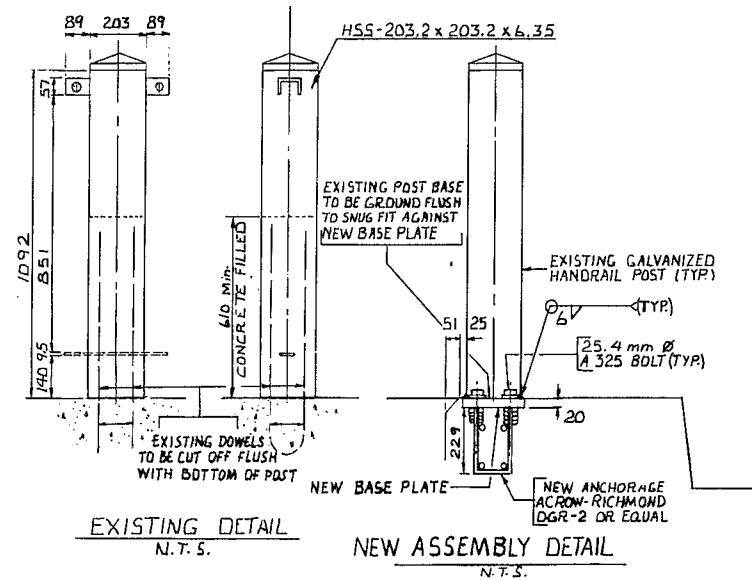
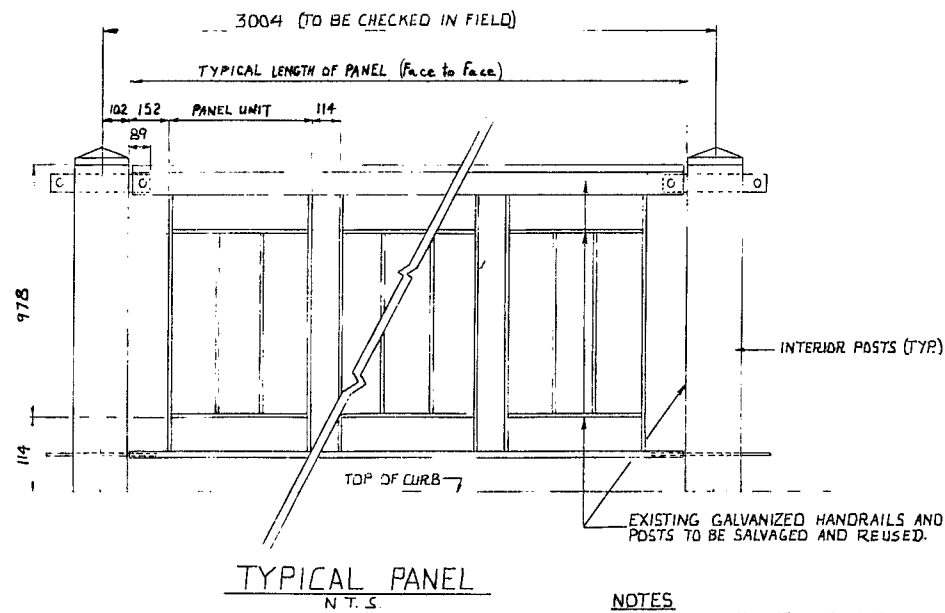
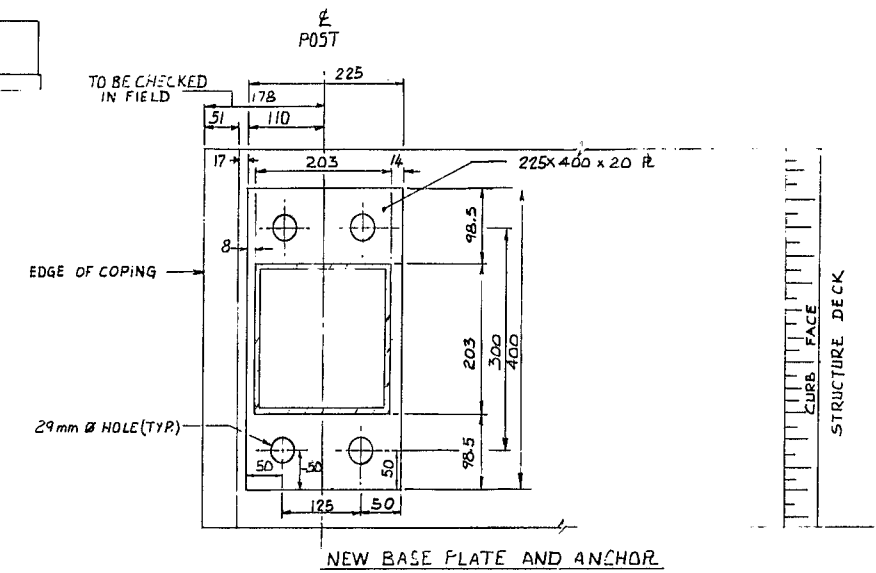
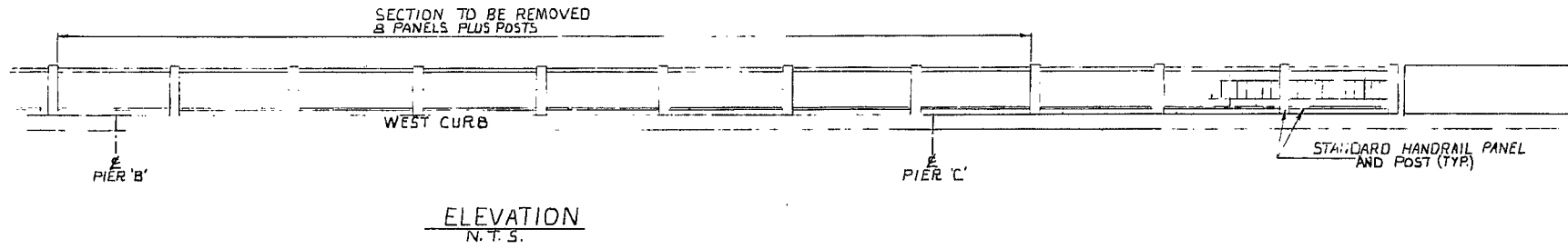
REVISIONS	DATE	BY	DESCRIPTION

DESIGN: A.D.P.T. CHECK: Q.I. LOADING: 1520-44 DATE: APR 82  
DRAWING: J.D. CHECK: Q.I. SITE: 31-203 DWG: 2

**METRIC**

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REPAIRS TO FLAGG RD. U'PASS  
5.2 Km West of Hwy. 31  
STANDARD HANDRAIL PANELS & POSTS



- NOTES**
1. REMOVE AND SALVAGE EXISTING RAILS AND POSTS AS SHOWN ON THIS DRAWING.
  2. ACTUAL LOCATION OF RAILING POSTS SHALL BE DETERMINED IN FIELD.
  3. THE LOCATION OF NEW BASE PLATES AND ANCHORS SHALL MATCH THE LOCATION OF EXISTING RAILING POSTS.
  4. MODIFY EXISTING RAILING POSTS AND WELD TO NEW BASE PLATES AS SHOWN.
  5. RAILING POSTS SHALL BE SET PERPENDICULAR TO GRADE.
  6. HANDRAILS SHALL FOLLOW CURVATURE OF ROAD.

- GENERAL NOTES**
1. ALL STEEL SHALL CONFORM TO C.S.A. STANDARD CAN 3-G40.21-M81, GRADE 300WT, UNLESS OTHERWISE NOTED.
  2. BOLTS AND NUTS SHALL BE A.S.T.M. A325, 25.4mm DIA. H.S.
  3. BOLTS ARE TO BE GIVEN A LIBERAL COATING OF WHITE NON-STAINING GREASE.
  4. ANCHORAGE STRUTS AND COIL SHALL BE S.A.E. STANDARD 1020 STEEL, OR APPROVED EQUAL.
  5. ANCHORAGE SYSTEM SHALL BE ACROW-RICHMOND TYPE DGR-2 OR APPROVED EQUAL.
  6. WELDING SHALL BE OF LOW HYDROGEN CLASSIFICATION. MANUAL ELECTRODES SHALL BE E7016 OR E7018.
  7. WELDING SHALL BE ACCORDING TO C.S.A. STANDARD W59-1977.
  8. THE COMPLETE ANCHORAGE ASSEMBLY INCLUDING BOLTS, NUTS, WASHERS, AND THE BASE PLATES SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH C.S.A. STANDARD G-164 AFTER FABRICATION.
  9. ALL WFLD AREAS OF GALVANIZED STEEL SURFACE AND ANY DAMAGE AREAS SHALL BE PAINTED WITH ZINC RICH PAINT.
  10. A 19 mm THICK PLYWOOD SETTING TEMPLATE SHALL BE PROVIDED WITH EACH ANCHORAGE ASSEMBLY FOR ACCURATE POSITIONING OF ANCHORAGE.
  11. BASE PLATES SHALL BE SET INTO FLINTSEAL 570-05 (CR-10) BEDDING COMPOUND OR APPROVED EQUAL.

**MATERIALS REQUIRED**  
7 RAILING POSTS BASE PLATES AND ANCHORAGES

DRAWING NOT TO BE SCALED  
100 mm ON ORIGINAL DRAWING

REVISIONS	DATE	BY	DESCRIPTION

DESIGN/ADPT	CHECK G.I.	LOADING H520-44	DATE APR/82
DRAWING J.D.	CHECK G.I.	SITE 31-203	DWG 3