

## **Appendix G – Civil Structures and Viaduct Drawings (Plans, Elevations, Typical Sections) prepared by ALUA**



Government of **Western Australia**  
Public Transport Authority

# VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL

## ARMADALE LINE - CIVIL STRUCTURES

### BECKENHAM VIADUCT



#### REFERENCE DESIGN

REV	DATE	ISSUED FOR REFERENCE DESIGN	CC	LR	RP	RM
A	21.07.23	AMENDMENT	DSN	DRN	CHK	APP
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A1			<small>Contractor No: LXR-P4-Z5-BK-ST-CS-DWG-00001</small>			

ARMADALE LINE UPGRADE ALLIANCE  
Innovation to Reality

VALIDATION
SIGNATURE
DATE
DATE APPROVED

REFERENCES
SCALE
DATUM
HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED	C.CHANG
DRAWN	L.RADICI
CHECKED	R.REYYILA
APPROVED	B.MARSHALL
DATE	

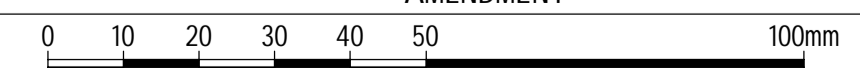
	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
ARMADALE LINE - CIVIL STRUCTURES	
BECKENHAM VIADUCT	
COVER SHEET	
PTA Drawing No: 04-S-169-10001	Rev: A

DRAWING LIST			
REV	ALUA DRAWING NUMBER	PTA DRAWING NUMBER	TITLE
A	LXR-P4-Z5-BK-ST-CS-DWG-00001	04-S-169-10001	BECKENHAM VIADUCT - COVER SHEET
A	LXR-P4-Z5-BK-ST-CS-DWG-00002	04-S-169-10002	BECKENHAM VIADUCT - DRAWING INDEX
A	LXR-P4-Z5-BK-ST-CS-DWG-00003	04-S-169-10003	BECKENHAM VIADUCT - LOCALITY PLAN
A	LXR-P4-Z5-BK-ST-CS-DWG-00007	04-S-169-10007	BECKENHAM VIADUCT - PLAN AND ELEVATION - SHEET 1
A	LXR-P4-Z5-BK-ST-CS-DWG-00008	04-S-169-10008	BECKENHAM VIADUCT - PLAN AND ELEVATION - SHEET 2
A	LXR-P4-Z5-BK-ST-CS-DWG-00009	04-S-169-10009	BECKENHAM VIADUCT - SECTIONS - SHEET 1
A	LXR-P4-Z5-BK-ST-CS-DWG-00010	04-S-169-10010	BECKENHAM VIADUCT - SECTIONS - SHEET 2
A	LXR-P4-Z5-BK-ST-CS-DWG-00013	04-S-169-10013	BECKENHAM VIADUCT - FOUNDATION LAYOUT
A	LXR-P4-Z5-BK-ST-CS-DWG-00015	04-S-169-10015	BECKENHAM VIADUCT - PILECAP SCHEDULE
A	LXR-P4-Z5-BK-ST-CS-DWG-00016	04-S-169-10016	BECKENHAM VIADUCT - PILE SCHEDULE
A	LXR-P4-Z5-BK-ST-CS-DWG-00025	04-S-169-10025	BECKENHAM VIADUCT - PIER & HEADSTOCK MARKING PLAN
A	LXR-P4-Z5-BK-ST-CS-DWG-00027	04-S-169-10027	BECKENHAM VIADUCT - PIER SCHEDULE
A	LXR-P4-Z5-BK-ST-CS-DWG-00028	04-S-169-10028	BECKENHAM VIADUCT - HEADSTOCK SCHEDULE
A	LXR-P4-Z5-BK-ST-CS-DWG-00050	04-S-169-10050	BECKENHAM VIADUCT - BEARING MARKING PLAN
A	LXR-P4-Z5-BK-ST-CS-DWG-00052	04-S-169-10052	BECKENHAM VIADUCT - BEARING SCHEDULE
A	LXR-P4-Z5-BK-ST-CS-DWG-00053	04-S-169-10053	BECKENHAM VIADUCT - BEARING LOAD SCHEDULE
A	LXR-P4-Z5-BK-ST-CS-DWG-00055	04-S-169-10055	BECKENHAM VIADUCT - L-BEAM MARKING PLAN
A	LXR-P4-Z5-BK-ST-CS-DWG-00059	04-S-169-10059	BECKENHAM VIADUCT - L-BEAM SCHEDULE

REFERENCE DRAWINGS		
ALUA DRAWING NUMBER	PTA DRAWING NUMBER	TITLE
LXR-PW-ZO-GN-ST-CS-DWG-00143	04-S-169-0043	VIADUCT - PILE DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00144	04-S-169-0044	VIADUCT - PILE DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00145	04-S-169-0045	VIADUCT - PILE DETAILS - SHEET 3
LXR-PW-ZO-GN-ST-CS-DWG-00147	04-S-169-0047	VIADUCT - PILECAP CONCRETE DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00148	04-S-169-0048	VIADUCT - PILECAP CONCRETE DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00149	04-S-169-0049	VIADUCT - PILECAP CONCRETE DETAILS - SHEET 3
LXR-PW-ZO-GN-ST-CS-DWG-00150	04-S-169-0050	VIADUCT - PILECAP CONCRETE DETAILS - SHEET 4
LXR-PW-ZO-GN-ST-CS-DWG-00151	04-S-169-0051	VIADUCT - PILECAP CONCRETE DETAILS - SHEET 5
LXR-PW-ZO-GN-ST-CS-DWG-00152	04-S-169-0052	VIADUCT - PILECAP CONCRETE DETAILS - SHEET 6
LXR-PW-ZO-GN-ST-CS-DWG-00153	04-S-169-0053	VIADUCT - PILECAP REINFORCEMENT DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00154	04-S-169-0054	VIADUCT - PILECAP REINFORCEMENT DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00155	04-S-169-0055	VIADUCT - PILECAP REINFORCEMENT DETAILS - SHEET 3
LXR-PW-ZO-GN-ST-CS-DWG-00156	04-S-169-0056	VIADUCT - PILECAP REINFORCEMENT DETAILS - SHEET 4
LXR-PW-ZO-GN-ST-CS-DWG-00157	04-S-169-0057	VIADUCT - PILECAP REINFORCEMENT DETAILS - SHEET 5
LXR-PW-ZO-GN-ST-CS-DWG-00158	04-S-169-0058	VIADUCT - PILECAP REINFORCEMENT DETAILS - SHEET 6
LXR-PW-ZO-GN-ST-CS-DWG-00159	04-S-169-0059	VIADUCT - PILECAP REINFORCEMENT DETAILS - SHEET 7
LXR-PW-ZO-GN-ST-CS-DWG-00160	04-S-169-0060	VIADUCT - PILECAP REINFORCEMENT DETAILS - SHEET 8
LXR-PW-ZO-GN-ST-CS-DWG-00161	04-S-169-0061	VIADUCT - PILECAP REINFORCEMENT DETAILS - SHEET 9
LXR-PW-ZO-GN-ST-CS-DWG-00180	04-S-169-0080	VIADUCT - PIER CONCRETE DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00181	04-S-169-0081	VIADUCT - PIER CONCRETE DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00182	04-S-169-0082	VIADUCT - PIER CONCRETE DETAILS - SHEET 3
LXR-PW-ZO-GN-ST-CS-DWG-00188	04-S-169-0088	VIADUCT - PIER NOTES & TYPICAL DETAILS
LXR-PW-ZO-GN-ST-CS-DWG-00189	04-S-169-0089	VIADUCT - PIER CONSTRUCTION SEQUENCE
LXR-PW-ZO-GN-ST-CS-DWG-00190	04-S-169-0090	VIADUCT - PIER REINFORCEMENT DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00191	04-S-169-0091	VIADUCT - PIER REINFORCEMENT DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00192	04-S-169-0092	VIADUCT - PIER REINFORCEMENT DETAILS - SHEET 3
LXR-PW-ZO-GN-ST-CS-DWG-00193	04-S-169-0093	VIADUCT - PIER REINFORCEMENT DETAILS - SHEET 4
LXR-PW-ZO-GN-ST-CS-DWG-00194	04-S-169-0094	VIADUCT - PIER REINFORCEMENT DETAILS - SHEET 5
LXR-PW-ZO-GN-ST-CS-DWG-00197	04-S-169-0097	VIADUCT - PIER REINFORCEMENT DETAILS - SHEET 8
LXR-PW-ZO-GN-ST-CS-DWG-00200	04-S-169-0100	VIADUCT - PIER DRAINAGE DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00201	04-S-169-0101	VIADUCT - PIER DRAINAGE DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00202	04-S-169-0102	VIADUCT - HEADSTOCK CONCRETE DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00203	04-S-169-0103	VIADUCT - HEADSTOCK CONCRETE DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00204	04-S-169-0104	VIADUCT - HEADSTOCK CONCRETE DETAILS - SHEET 3
LXR-PW-ZO-GN-ST-CS-DWG-00205	04-S-169-0105	VIADUCT - HEADSTOCK CONCRETE DETAILS - SHEET 4
LXR-PW-ZO-GN-ST-CS-DWG-00206	04-S-169-0106	VIADUCT - HEADSTOCK CONCRETE DETAILS - SHEET 5
LXR-PW-ZO-GN-ST-CS-DWG-00207	04-S-169-0107	VIADUCT - HEADSTOCK CONCRETE DETAILS - SHEET 6
LXR-PW-ZO-GN-ST-CS-DWG-00208	04-S-169-0108	VIADUCT - HEADSTOCK CONCRETE DETAILS - SHEET 7
LXR-PW-ZO-GN-ST-CS-DWG-00209	04-S-169-0109	VIADUCT - HEADSTOCK CONCRETE DETAILS - SHEET 8
LXR-PW-ZO-GN-ST-CS-DWG-00212	04-S-169-0112	VIADUCT - HEADSTOCK REINFORCEMENT DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00213	04-S-169-0113	VIADUCT - HEADSTOCK REINFORCEMENT DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00214	04-S-169-0114	VIADUCT - HEADSTOCK REINFORCEMENT DETAILS - SHEET 3
LXR-PW-ZO-GN-ST-CS-DWG-00215	04-S-169-0115	VIADUCT - HEADSTOCK REINFORCEMENT DETAILS - SHEET 4
LXR-PW-ZO-GN-ST-CS-DWG-00216	04-S-169-0116	VIADUCT - HEADSTOCK REINFORCEMENT DETAILS - SHEET 5
LXR-PW-ZO-GN-ST-CS-DWG-00217	04-S-169-0117	VIADUCT - HEADSTOCK REINFORCEMENT DETAILS - SHEET 6
LXR-PW-ZO-GN-ST-CS-DWG-00218	04-S-169-0118	VIADUCT - HEADSTOCK REINFORCEMENT DETAILS - SHEET 7
LXR-PW-ZO-GN-ST-CS-DWG-00219	04-S-169-0119	VIADUCT - HEADSTOCK REINFORCEMENT DETAILS - SHEET 8
LXR-PW-ZO-GN-ST-CS-DWG-00220	04-S-169-0120	VIADUCT - HEADSTOCK REINFORCEMENT DETAILS - SHEET 9
LXR-PW-ZO-GN-ST-CS-DWG-00224	04-S-169-0124	VIADUCT - HEADSTOCK REINFORCEMENT DETAILS - SHEET 13
LXR-PW-ZO-GN-ST-CS-DWG-00225	04-S-169-0125	VIADUCT - HEADSTOCK REINFORCEMENT DETAILS - SHEET 14
LXR-PW-ZO-GN-ST-CS-DWG-00227	04-S-169-0127	VIADUCT - HEADSTOCK DRAINAGE DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00228	04-S-169-0128	VIADUCT - HEADSTOCK DRAINAGE DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00248	04-S-169-0148	VIADUCT - BEARING DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00262	04-S-169-0162	VIADUCT - L-BEAM SCHEDULE - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00263	04-S-169-0163	VIADUCT - L-BEAM SCHEDULE - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00264	04-S-169-0164	VIADUCT - L-BEAM SCHEDULE - SHEET 3
LXR-PW-ZO-GN-ST-CS-DWG-00265	04-S-169-0165	VIADUCT - L-BEAM SCHEDULE - SHEET 4
LXR-PW-ZO-GN-ST-CS-DWG-00276	04-S-169-0176	VIADUCT - U-TROUGH GENERAL DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00277	04-S-169-0177	VIADUCT - U-TROUGH GENERAL DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00278	04-S-169-0178	VIADUCT - U-TROUGH GENERAL DETAILS - SHEET 3
LXR-PW-ZO-GN-ST-CS-DWG-00279	04-S-169-0179	VIADUCT - U-TROUGH GENERAL DETAILS - SHEET 4
LXR-PW-ZO-GN-ST-CS-DWG-00280	04-S-169-0180	VIADUCT - L-BEAM CONCRETE DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00281	04-S-169-0181	VIADUCT - L-BEAM CONCRETE DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00282	04-S-169-0182	VIADUCT - L-BEAM CONCRETE DETAILS - SHEET 3
LXR-PW-ZO-GN-ST-CS-DWG-00283	04-S-169-0183	VIADUCT - L-BEAM CONCRETE DETAILS - SHEET 4
LXR-PW-ZO-GN-ST-CS-DWG-00284	04-S-169-0184	VIADUCT - L-BEAM CONCRETE DETAILS - SHEET 5
LXR-PW-ZO-GN-ST-CS-DWG-00289	04-S-169-0189	VIADUCT - L-BEAM CONCRETE DETAILS - SHEET 10
LXR-PW-ZO-GN-ST-CS-DWG-00290	04-S-169-0190	VIADUCT - L-BEAM CONCRETE DETAILS - SHEET 11
LXR-PW-ZO-GN-ST-CS-DWG-00300	04-S-169-0200	VIADUCT - L-BEAM - PRE-STRESSING DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00301	04-S-169-0201	VIADUCT - L-BEAM - PRE-STRESSING DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00302	04-S-169-0202	VIADUCT - L-BEAM - PRE-STRESSING DETAILS - SHEET 3
LXR-PW-ZO-GN-ST-CS-DWG-00303	04-S-169-0203	VIADUCT - L-BEAM - PRE-STRESSING DETAILS - SHEET 4
LXR-PW-ZO-GN-ST-CS-DWG-00304	04-S-169-0204	VIADUCT - L-BEAM - PRE-STRESSING DETAILS - SHEET 5
LXR-PW-ZO-GN-ST-CS-DWG-00310	04-S-169-0210	VIADUCT - L-BEAM REINFORCEMENT DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00311	04-S-169-0211	VIADUCT - L-BEAM REINFORCEMENT DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00312	04-S-169-0212	VIADUCT - L-BEAM REINFORCEMENT DETAILS - SHEET 3
LXR-PW-ZO-GN-ST-CS-DWG-00313	04-S-169-0213	VIADUCT - L-BEAM REINFORCEMENT DETAILS - SHEET 4
LXR-PW-ZO-GN-ST-CS-DWG-00314	04-S-169-0214	VIADUCT - L-BEAM REINFORCEMENT DETAILS - SHEET 5
LXR-PW-ZO-GN-ST-CS-DWG-00315	04-S-169-0215	VIADUCT - L-BEAM REINFORCEMENT DETAILS - SHEET 6
LXR-PW-ZO-GN-ST-CS-DWG-00328	04-S-169-0228	VIADUCT - L-BEAM REINFORCEMENT DETAILS - SHEET 19
LXR-PW-ZO-GN-ST-CS-DWG-00329	04-S-169-0229	VIADUCT - L-BEAM REINFORCEMENT DETAILS - SHEET 20

REFERENCE DRAWINGS - CONT.		
ALUA DRAWING NUMBER	PTA DRAWING NUMBER	TITLE
LXR-PW-ZO-GN-ST-CS-DWG-00332	04-S-169-0232	VIADUCT - INSITU STITCH REINFORCEMENT DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00333	04-S-169-0233	VIADUCT - INSITU STITCH REINFORCEMENT DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00340	04-S-169-0240	VIADUCT - EARTHING & BONDING DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00341	04-S-169-0241	VIADUCT - EARTHING & BONDING DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00342	04-S-169-0242	VIADUCT - EARTHING & BONDING DETAILS - SHEET 3
LXR-PW-ZO-GN-ST-CS-DWG-00350	04-S-169-0250	VIADUCT - COVER PLATE DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00364	04-S-169-0264	VIADUCT - ANCILLARY DETAILS - SHEET 1
LXR-PW-ZO-GN-ST-CS-DWG-00365	04-S-169-0265	VIADUCT - ANCILLARY DETAILS - SHEET 2
LXR-PW-ZO-GN-ST-CS-DWG-00366	04-S-169-0266	VIADUCT - ANCILLARY DETAILS - SHEET 3

<b>REFERENCE DESIGN</b>	
	<b>VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL</b>
<b>ARMADALE LINE - CIVIL STRUCTURES</b>	
<b>BECKENHAM VIADUCT</b>	
<b>DRAWING INDEX</b>	
PTA Drawing No: <b>04-S-169-10002</b>	Rev: <b>A</b>

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A1		AT ORIGINAL PLOT SIZE		Contractor No: LXR-P4-Z5-BK-ST-CS-DWG-00002		


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VALIDATION	REFERENCES
SIGNATURE	
DATE	
DATE APPROVED	

SCALE	DESIGNED
1 : 1	C.CHANG
DATUM	DRAWN
HORIZONTAL: PCG20	L.RADICI
VERTICAL: AHD71	CHECKED
	R.REYYILA
	APPROVED
	B.MARSHALL
	DATE



**LOCALITY PLAN**  
SCALE 1 : 5000

- LEGEND:**
- VIADUCT / PSP BRIDGE
  - EMBANKMENT
  - STATION
  - RAIL ALIGNMENT
  - RAIL RESERVE BOUNDARY

REV	DATE	ISSUED FOR REFERENCE DESIGN	CC	LR	RP	RM
A	21.07.23	AMENDMENT	DSN	DRN	CHK	APP
ORIG SIZE		0 10 20 30 40 50 100mm		This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.		
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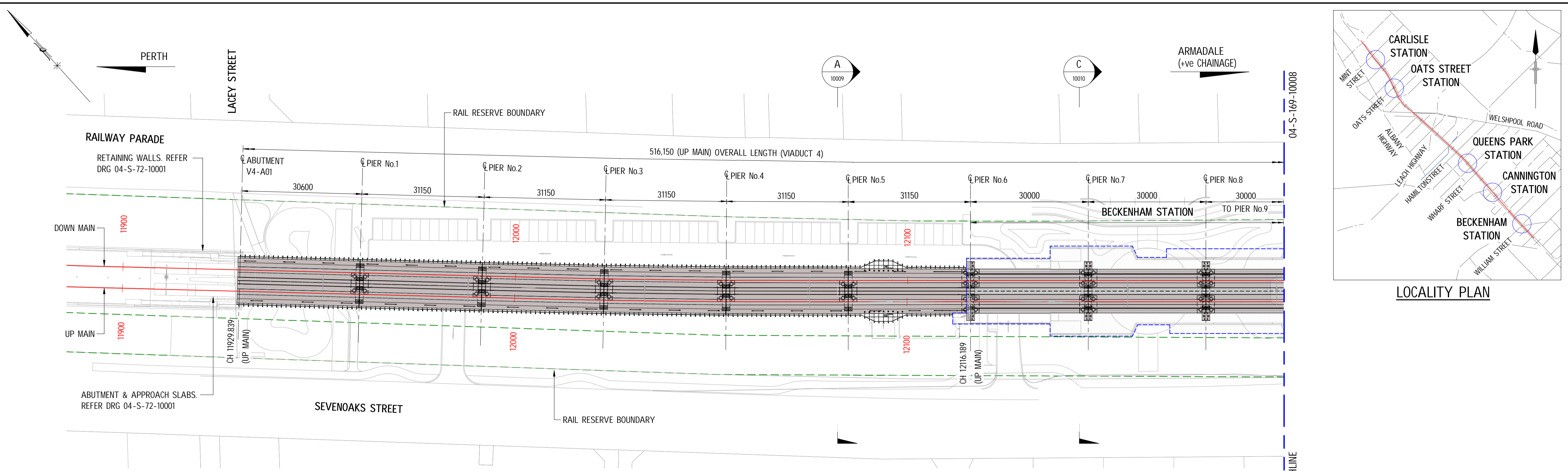
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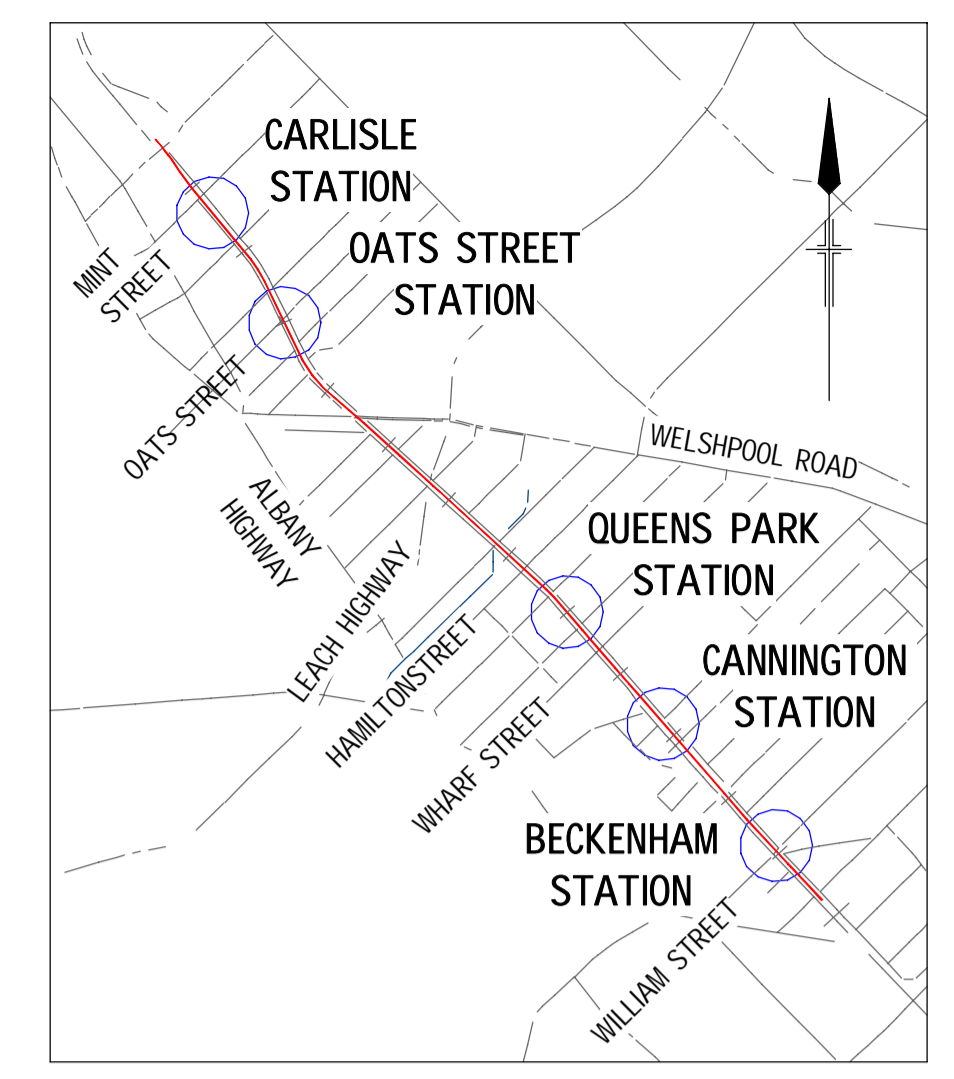
SCALE  
As indicated  
DATUM  
HORIZONTAL: PCG20  
VERTICAL: AHD71

DESIGNED C.CHANG  
DRAWN L.RADICI  
CHECKED R.PEYILA  
APPROVED B.MARSHALL  
DATE

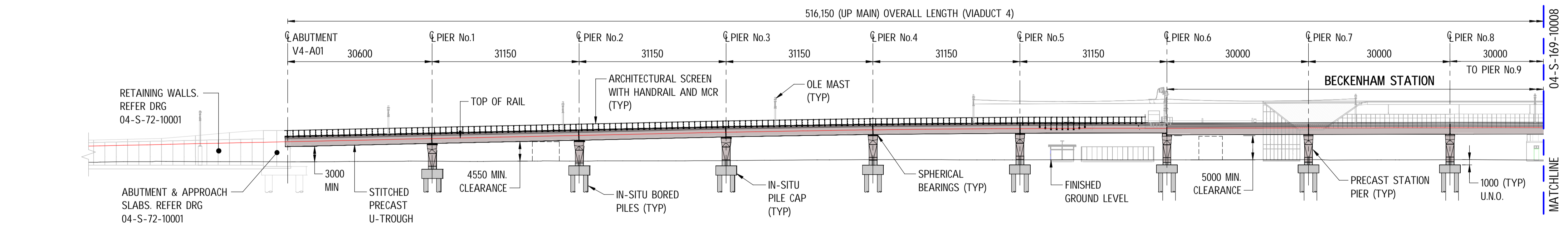
<b>REFERENCE DESIGN</b>	
	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
<b>ARMADALE LINE - CIVIL STRUCTURES</b> <b>BECKENHAM VIADUCT</b> <b>LOCALITY PLAN</b> PTA Drawing No: 04-S-169-10003   Rev: A	



**VIADUCT 4 PLAN - BECKENHAM**  
SCALE 1 : 500



**LOCALITY PLAN**

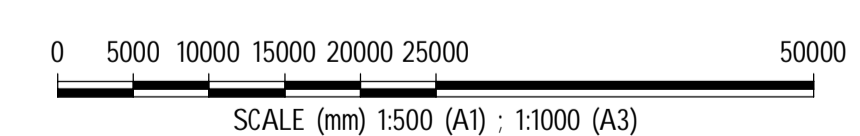


**VIADUCT 4 ELEVATION - BECKENHAM**  
SCALE 1 : 500

CHAINAGE (UP MAIN)	11929.839	11960.439	11991.589	12022.739	12053.889	12085.039	12116.189	12146.189	12176.189
DESIGN TOP OF RAIL RL (LOW RAIL)	9.992	10.659	11.338	12.012	12.525	12.794	12.872	12.932	12.992
DESIGN SURFACE LEVEL	5.930	5.800	5.920	5.900	6.050	6.100	6.100	6.100	6.100

- NOTES:**
- FOR GENERAL NOTES REFER DRG No. 04-S-169-0006 TO 00008.
  - ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
  - ALL LEVELS & CHAINAGES ARE IN METERS.
  - REFER TO RAIL TRACK DRAWINGS FOR RAIL ALIGNMENT DETAILS.
  - REFER TO STATION ARCHITECTURE DRAWINGS FOR PLATFORM DETAILS.
  - REFER TO CIVIL DRAWINGS FOR PROPOSED ROAD LAYOUTS & BUS FACILITY DETAILS.
  - ALL SPANS ARE MEASURED ALONG THE UP MAIN CONTROL LINE.

- LEGEND:**
- VIADUCT
  - STATION PLATFORM
  - RAIL ALIGNMENT
  - RAIL RESERVE BOUNDARY



**REFERENCE DESIGN**

Government of Western Australia  
Public Transport Authority

VICTORIA PARK TO CANNING  
LEVEL CROSSING REMOVAL

**ARMADALE LINE - CIVIL STRUCTURES**  
**BECKENHAM VIADUCT**  
**PLAN AND ELEVATION - SHEET 1**  
PTA Drawing No: **04-S-169-10007** Rev: **A**

REV	DATE	ISSUED FOR REFERENCE DESIGN	AMENDMENT	CC	LR	RP	RM
DSN	DRN	CHK	APP				
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ORIG SIZE **A1** AT ORIGINAL PLOT SIZE

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VALIDATION

SIGNATURE

DATE

DATE APPROVED

REFERENCES

SCALE

As indicated

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

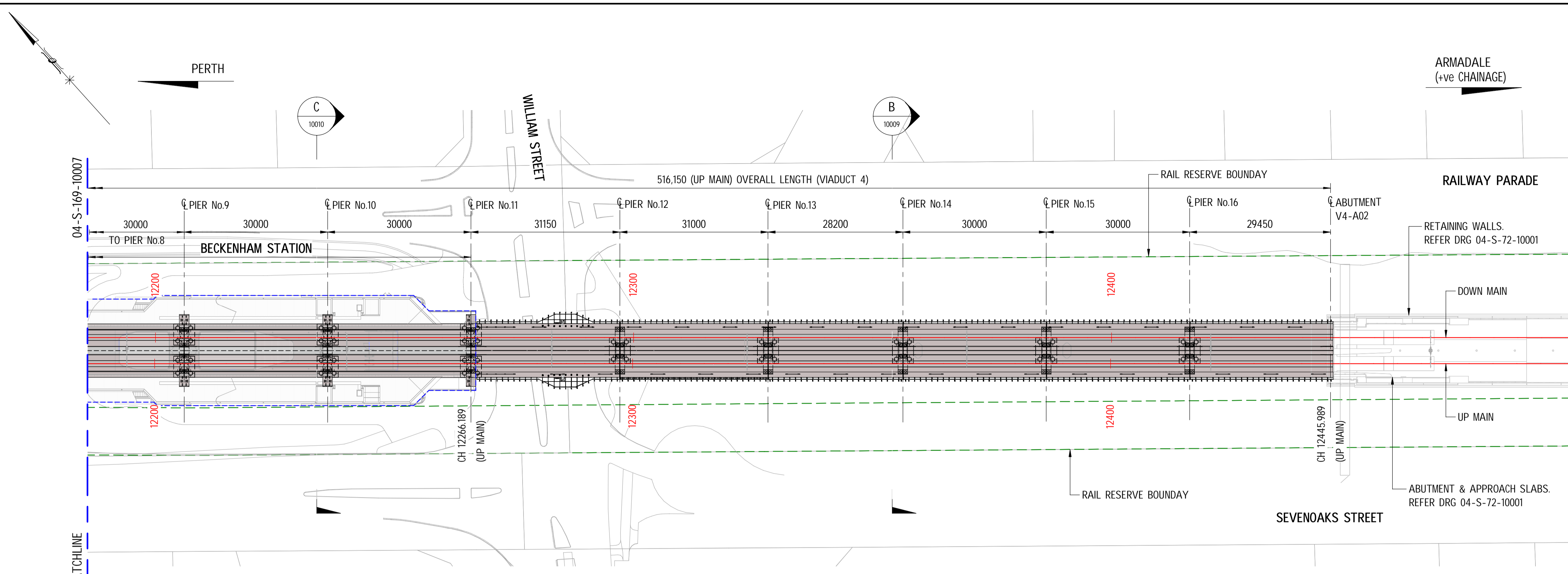
DESIGNED C.CHANG

DRAWN L.RADICI

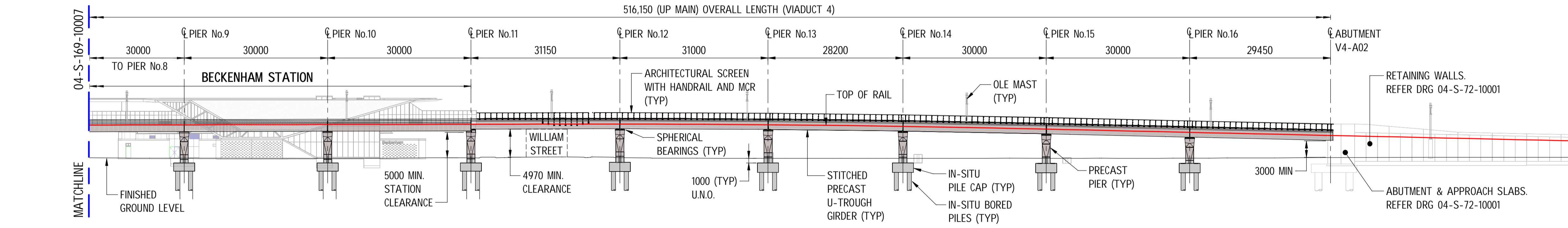
CHECKED R.REYYILA

APPROVED B.MARSHALL

DATE



**VIADUCT 4 PLAN - BECKENHAM**  
SCALE 1 : 500

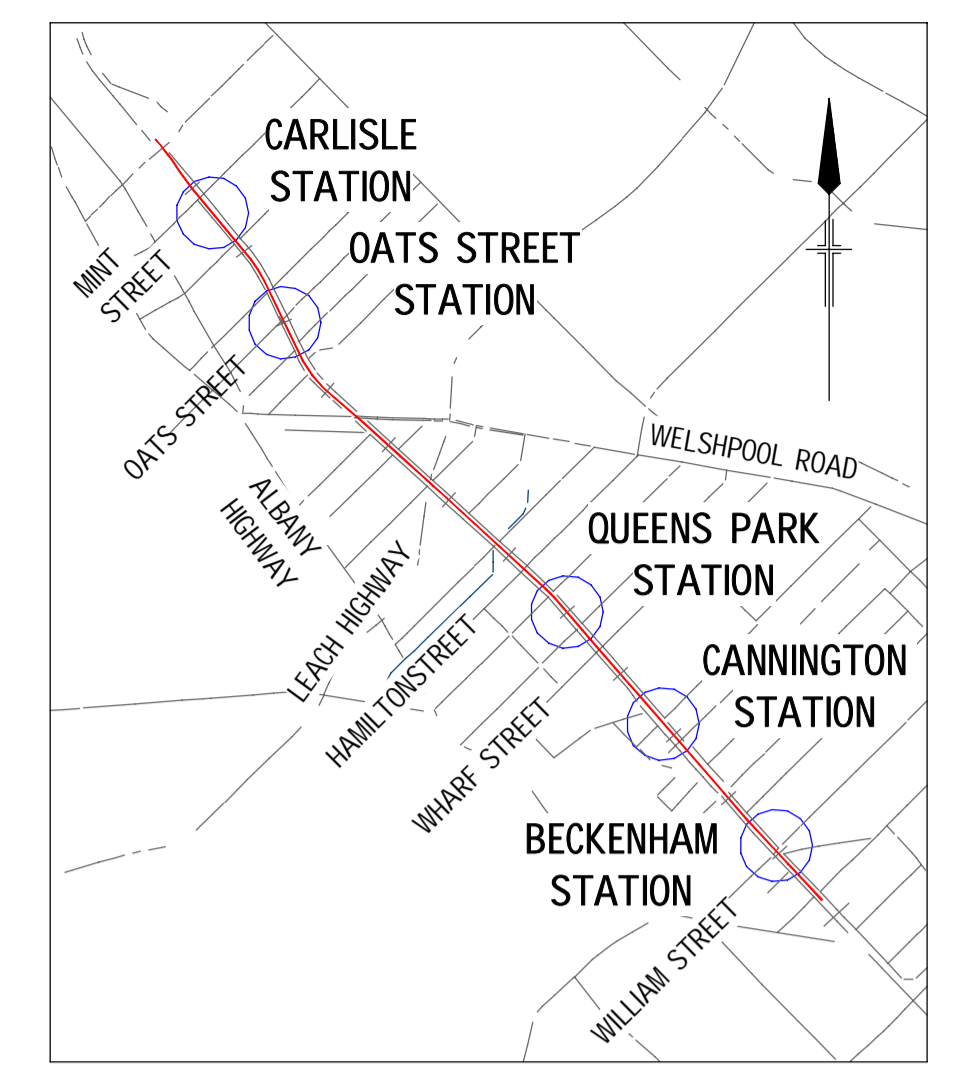
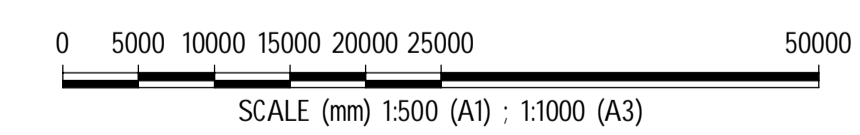


**VIADUCT 4 ELEVATION - BECKENHAM**  
SCALE 1 : 500

CHAINAGE (UP MAIN)	12206.189	12236.189	12266.189	12297.339	12328.339	12356.539	12386.539	12416.539	12445.989
DESIGN TOP OF RAIL RL (LOW RAIL)	13.052	13.112	13.172	13.218	13.073	12.733	12.155	11.490	10.837
DESIGN SURFACE LEVEL	6.100	6.100	6.100	6.250	6.100	6.100	6.000	6.000	5.900

- NOTES:**
- FOR GENERAL NOTES REFER DRG No. 04-S-169-0006 TO 00008.
  - ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
  - ALL LEVELS & CHAINAGES ARE IN METERS.
  - REFER TO RAIL TRACK DRAWINGS FOR RAIL ALIGNMENT DETAILS.
  - REFER TO STATION ARCHITECTURE DRAWINGS FOR PLATFORM DETAILS.
  - REFER TO CIVIL DRAWINGS FOR PROPOSED ROAD LAYOUTS & BUS FACILITY DETAILS.
  - ALL SPANS ARE MEASURED ALONG THE UP MAIN CONTROL LINE.

- LEGEND:**
- VIADUCT
  - STATION PLATFORM
  - RAIL ALIGNMENT
  - RAIL RESERVE BOUNDARY



**LOCALITY PLAN**

REV	DATE	ISSUED FOR REFERENCE DESIGN	CC	LR	RP	RM
ORIG SIZE	AMENDMENT		DSN	DRN	CHK	APP
A1	21.07.23	ISSUED FOR REFERENCE DESIGN				

Contractor No: LXR-P4-Z5-BK-ST-CS-DWG-00008

VALIDATION  
SIGNATURE  
DATE  
DATE APPROVED

REFERENCES

SCALE  
As indicated  
DATUM  
HORIZONTAL: PCG20  
VERTICAL: AHD71

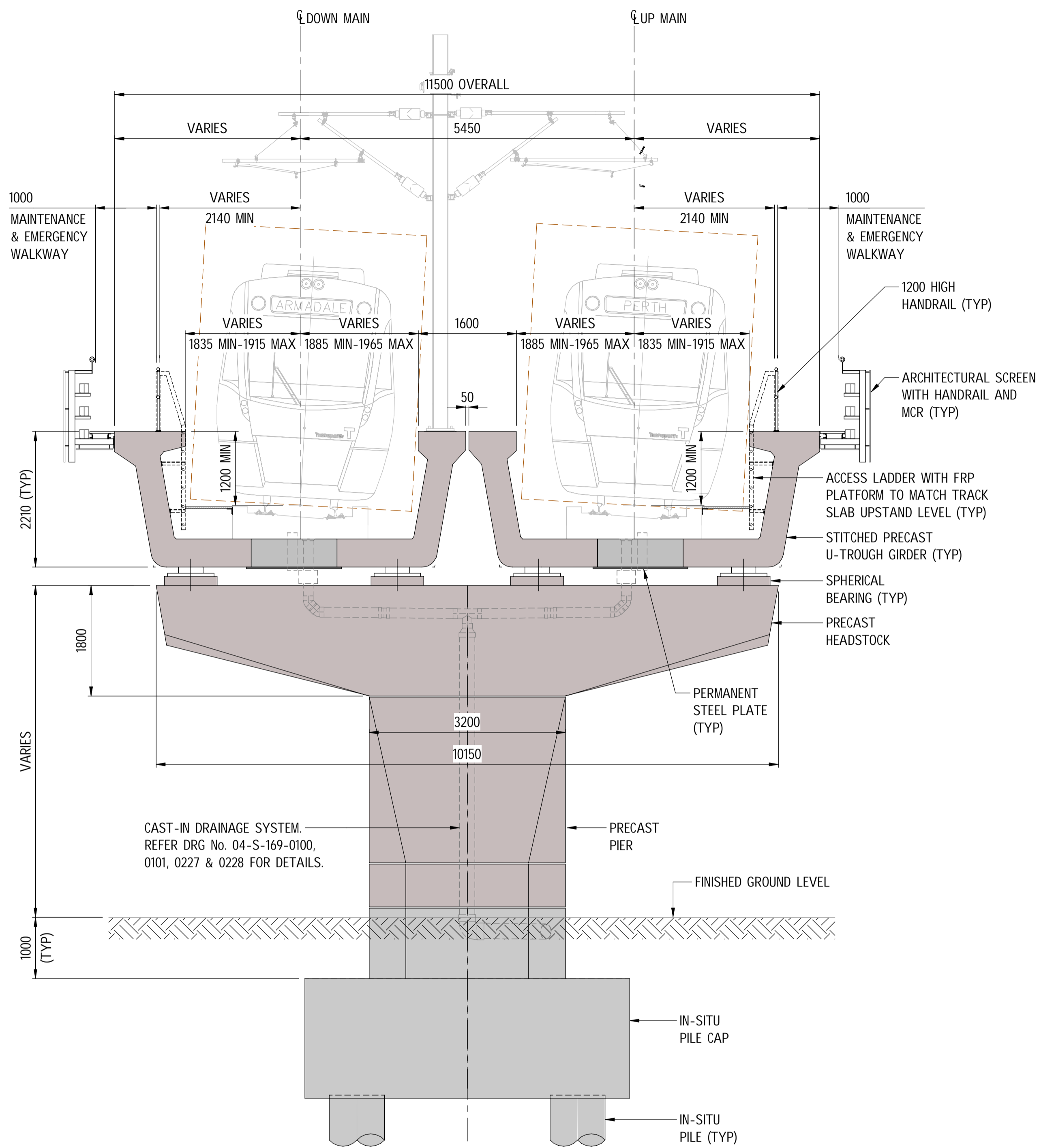
DESIGNED C.CHANG  
DRAWN L.RADICI  
CHECKED R.REYYILA  
APPROVED B.MARSHALL  
DATE

**REFERENCE DESIGN**

Government of Western Australia  
Public Transport Authority

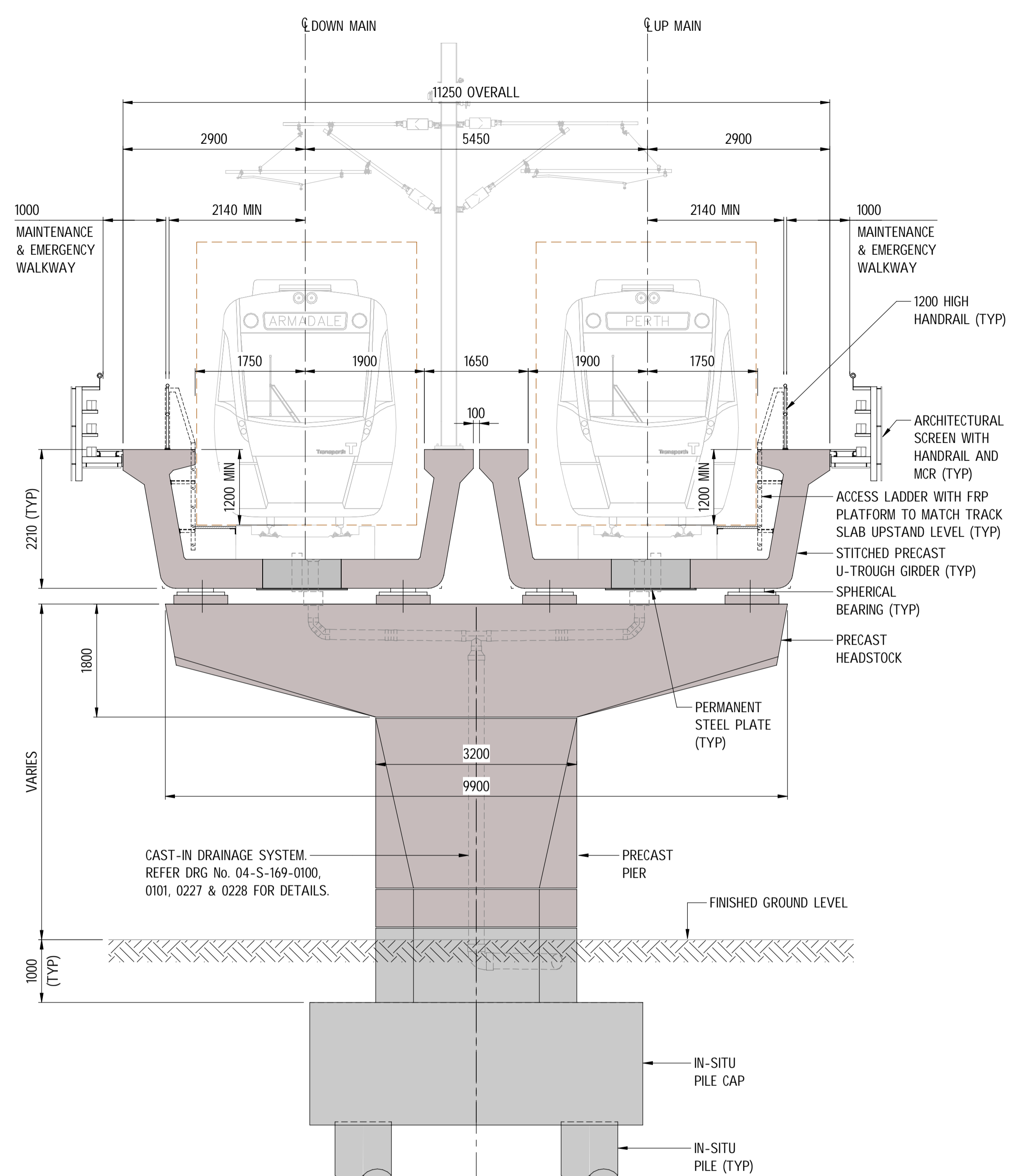
VICTORIA PARK TO CANNING  
LEVEL CROSSING REMOVAL

**ARMADALE LINE - CIVIL STRUCTURES**  
**BECKENHAM VIADUCT**  
**PLAN AND ELEVATION - SHEET 2**  
PTA Drawing No: **04-S-169-10008** Rev: **A**



VIADUCT PIER  
ON CURVED ALIGNMENT

SECTION A  
SCALE 1 : 50



VIADUCT PIER  
ON STRAIGHT ALIGNMENT

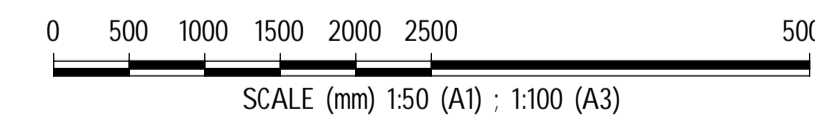
SECTION B  
SCALE 1 : 50

LEGEND:

- PRECAST CONCRETE
- IN-SITU CONCRETE

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL LEVELS & CHAINAGES ARE IN METERS.
3. REFER TO RAIL TRACK DRAWINGS FOR RAIL ALIGNMENT DETAILS.
4. REFER TO STATION ARCHITECTURE DRAWINGS FOR PLATFORM DETAILS.
5. REFER TO CIVIL DRAWINGS FOR PROPOSED ROAD LAYOUTS & BUS FACILITY DETAILS.
6. ALL SPANS ARE MEASURED ALONG THE UP MAIN CONTROL LINE.



REFERENCE DESIGN

REV	DATE	ISSUED FOR REFERENCE DESIGN	CC	LR	RP	RM
ORIG SIZE	AMENDMENT		DSN	DRN	CHK	APP
A1	21.07.23	ISSUED FOR REFERENCE DESIGN				

Contractor No: LXR-P4-Z5-BK-ST-CS-DWG-00009

VALIDATION  
SIGNATURE  
DATE  
DATE APPROVED

REFERENCES

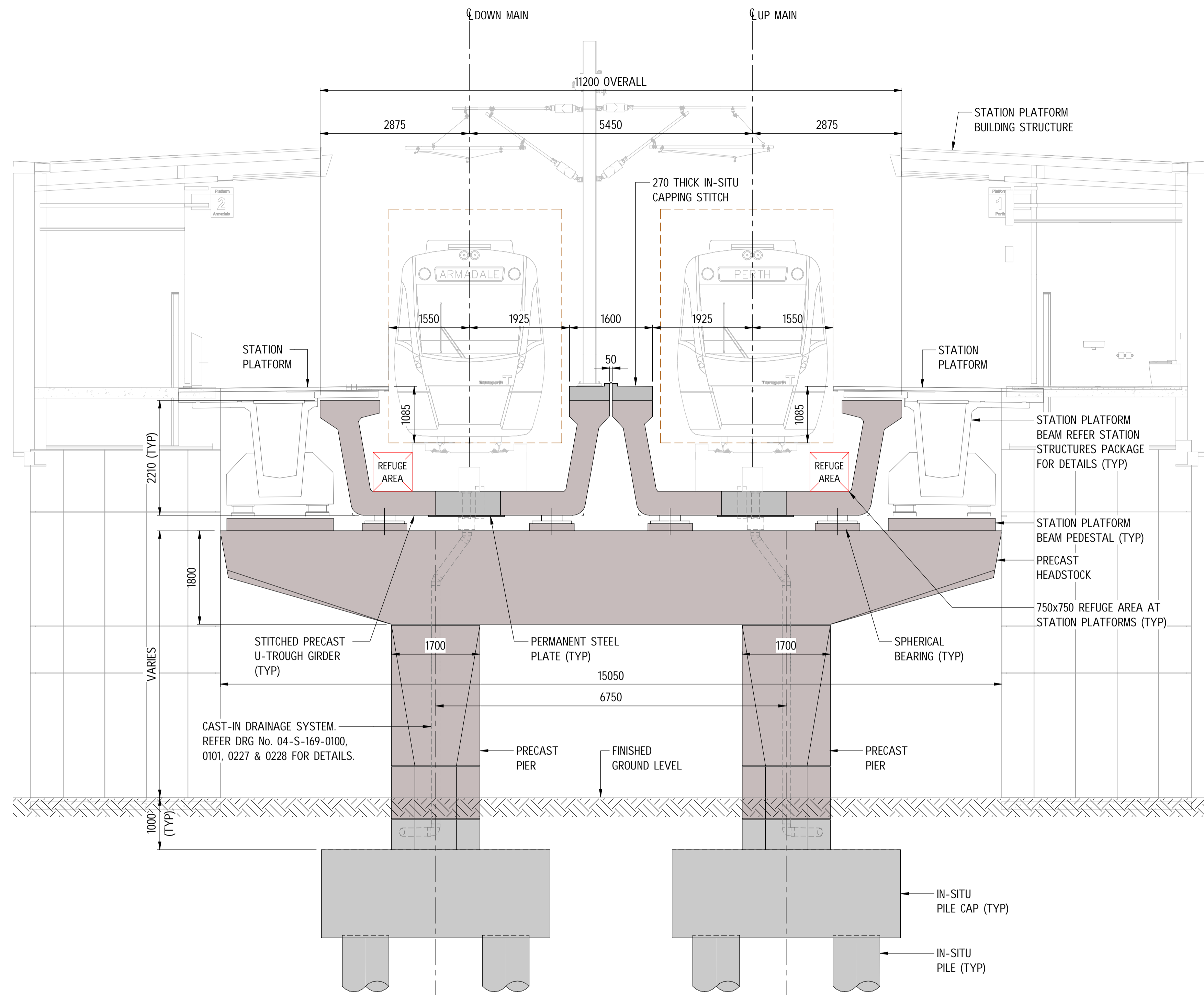
SCALE  
As indicated  
DATUM  
HORIZONTAL: PCG20  
VERTICAL: AHD71

DESIGNED C.CHANG  
DRAWN L.RADICI  
CHECKED R.REYYILA  
APPROVED B.MARSHALL  
DATE

VICTORIA PARK TO CANNING  
LEVEL CROSSING REMOVAL

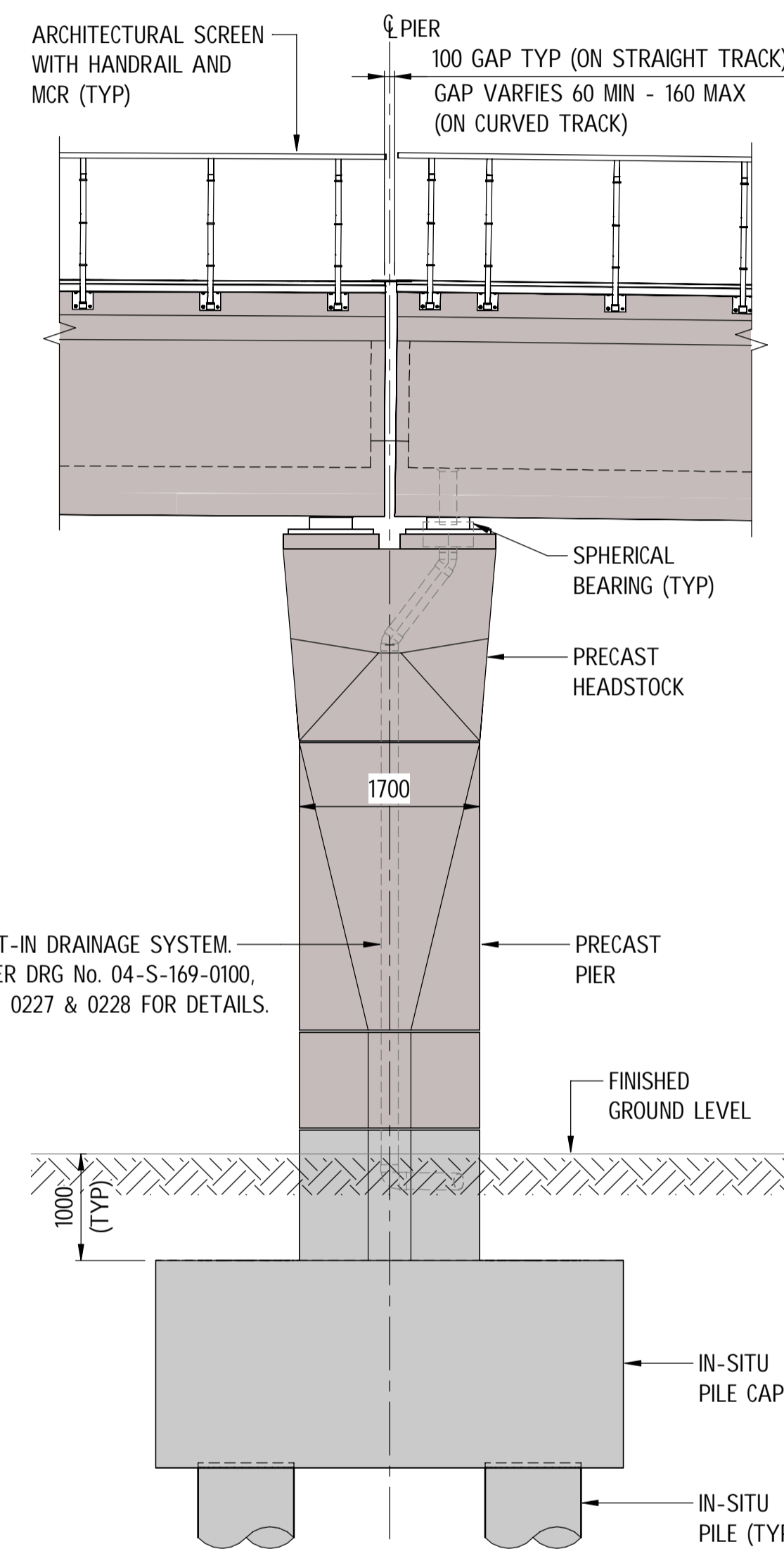
ARMADALE LINE - CIVIL STRUCTURES  
BECKENHAM VIADUCT  
SECTIONS - SHEET 1  
PTA Drawing No: 04-S-169-10009

Rev: A



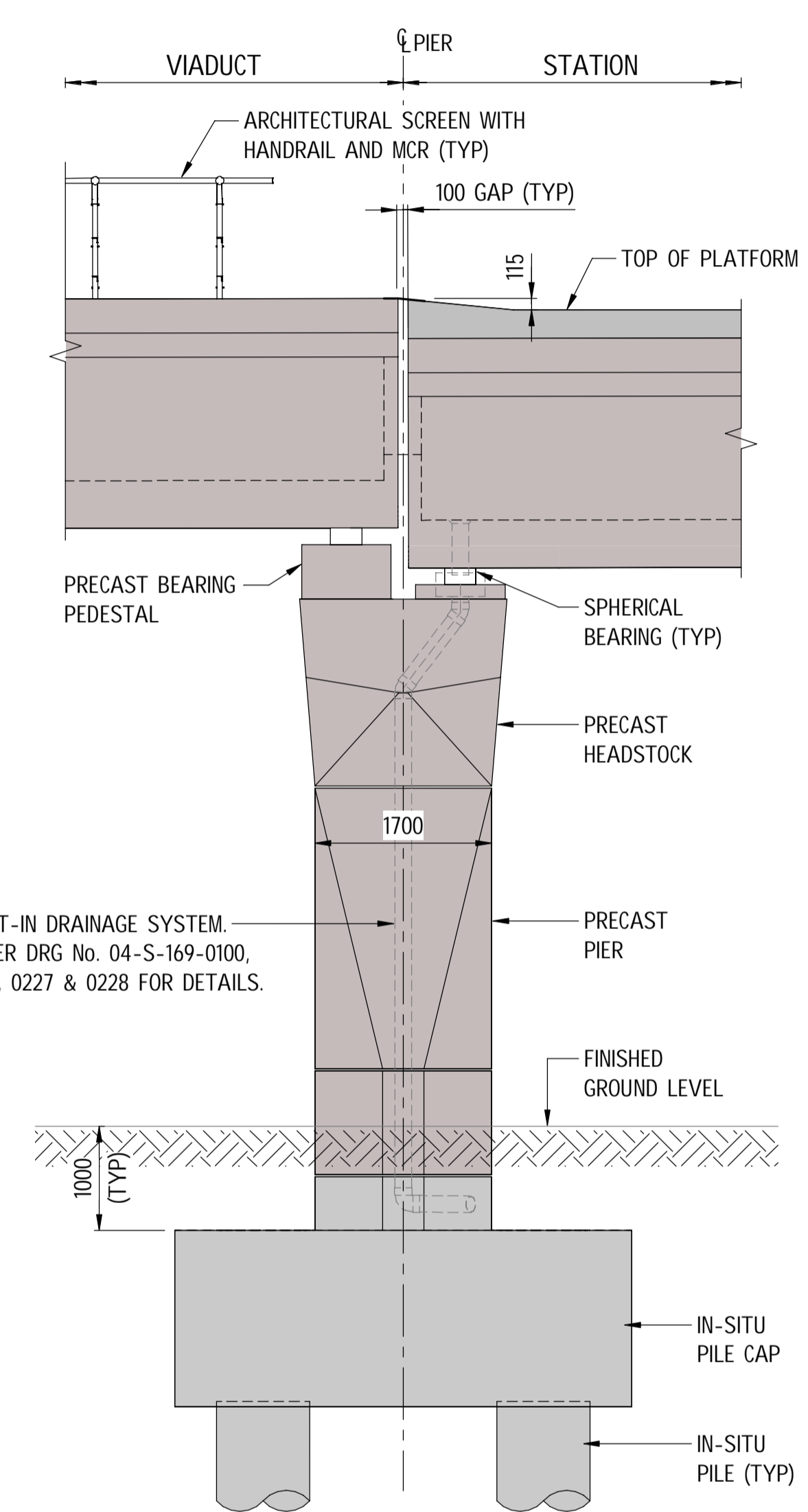
**STATION PIER  
BECKENHAM STATION**

SECTION C  
SCALE 1 : 50



**TYPICAL PIER ELEVATION**

SCALE 1 : 50



**STATION APPROACH PIER ELEVATION**

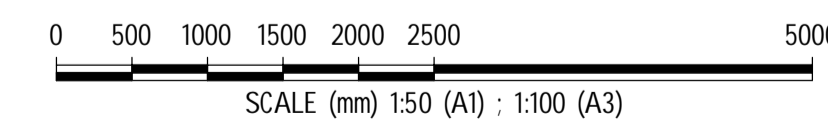
SCALE 1 : 50

**LEGEND:**

- PRECAST CONCRETE
- IN-SITU CONCRETE

**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL LEVELS & CHAINAGES ARE IN METERS.
3. REFER TO RAIL TRACK DRAWINGS FOR RAIL ALIGNMENT DETAILS.
4. REFER TO STATION ARCHITECTURE DRAWINGS FOR PLATFORM DETAILS.
5. REFER TO CIVIL DRAWINGS FOR PROPOSED ROAD LAYOUTS & BUS FACILITY DETAILS.
6. ALL SPANS ARE MEASURED ALONG THE UP MAIN CONTROL LINE.



REV	DATE	ISSUED FOR REFERENCE DESIGN	CC	LR	RP	RM
ORIG SIZE	AMENDMENT		DSN	DRN	CHK	APP
A	21.07.23	ISSUED FOR REFERENCE DESIGN				
A1		AT ORIGINAL PLOT SIZE				

Contractor No: LXR-P4-Z5-BK-ST-CS-DWG-00010

VALIDATION	REFERENCES
SIGNATURE	
DATE	
DATE APPROVED	

SCALE	DESIGNED
As indicated	C.CHANG
DATUM	DRAWN
HORIZONTAL: PCG20	L.RADICI
VERTICAL: AHD71	CHECKED
	R.REYYILA
	APPROVED
	B.MARSHALL
	DATE

**REFERENCE DESIGN**

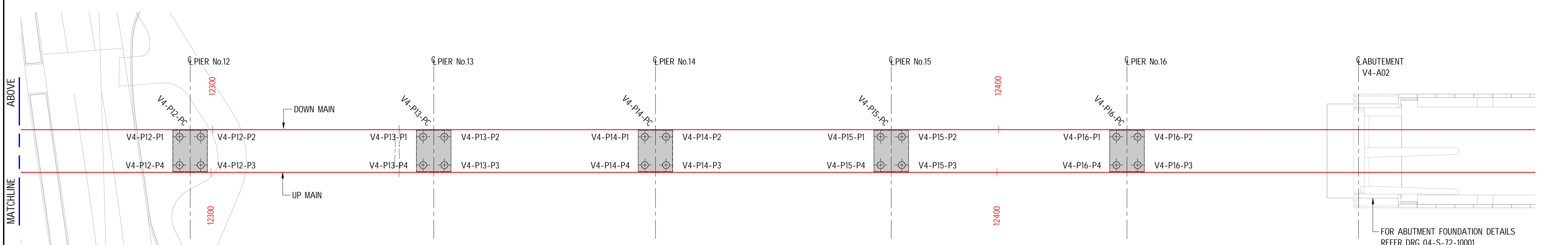
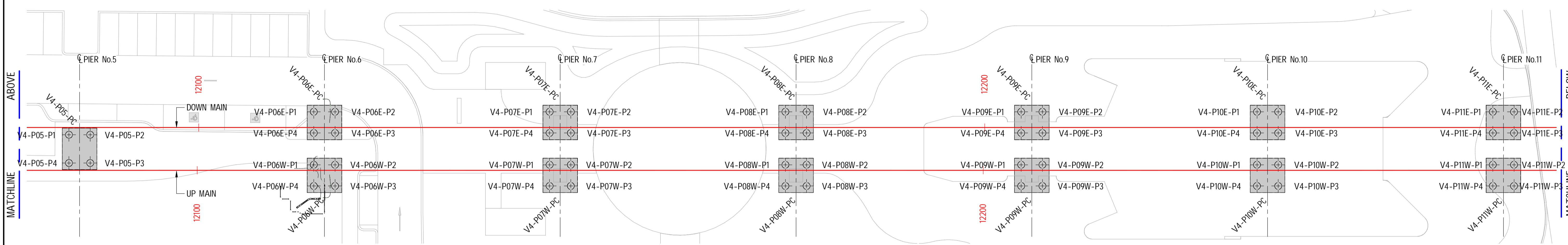
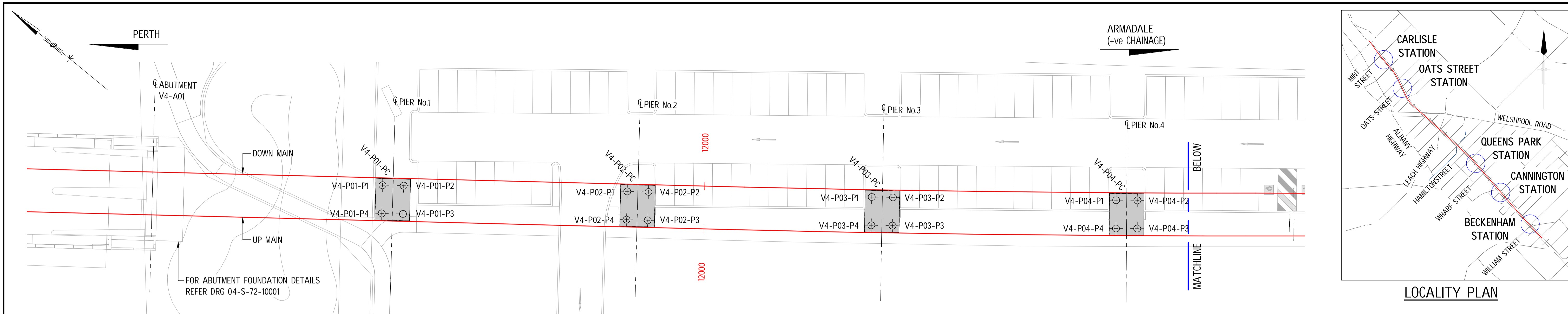
Government of Western Australia  
Public Transport Authority

VICTORIA PARK TO CANNING  
LEVEL CROSSING REMOVAL

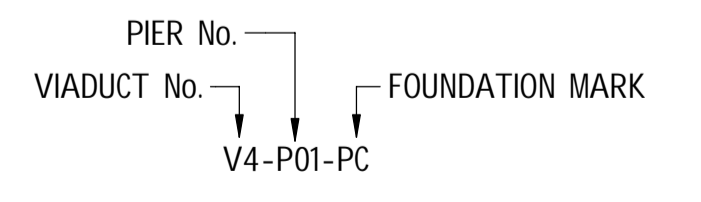
**ARMADALE LINE - CIVIL STRUCTURES**  
BECKENHAM VIADUCT  
SECTIONS - SHEET 2  
PTA Drawing No: 04-S-169-10010

Rev: **A**





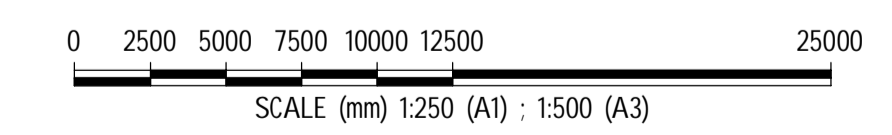
**NOTATION LEGEND:**



**VIADUCT 4 - FOUNDATION MARKING PLAN**

SCALE 1 : 250

- NOTES:**
- FOR GENERAL NOTES REFER DRG No. 04-S-169-0006 TO 00008.
  - FOR PILECAP SCHEDULE REFER DRG No. 04-S-169-00015.
  - FOR PILE SCHEDULE REFER DRG No. 04-S-169-00016.



**REFERENCE DESIGN**

REV	DATE	ISSUED FOR REFERENCE DESIGN	AI	LR	RP	RM
A	21.07.23					
ORIG SIZE		AMENDMENT	DSN	DRN	CHK	APP
A1						



VALIDATION  
SIGNATURE  
DATE  
DATE APPROVED

REFERENCES

SCALE  
As indicated  
DATUM  
HORIZONTAL: PCG20  
VERTICAL: AHD71

DESIGNED A.ISAAC  
DRAWN L.RADICI  
CHECKED R.PEYIYA  
APPROVED B.MARSHALL  
DATE

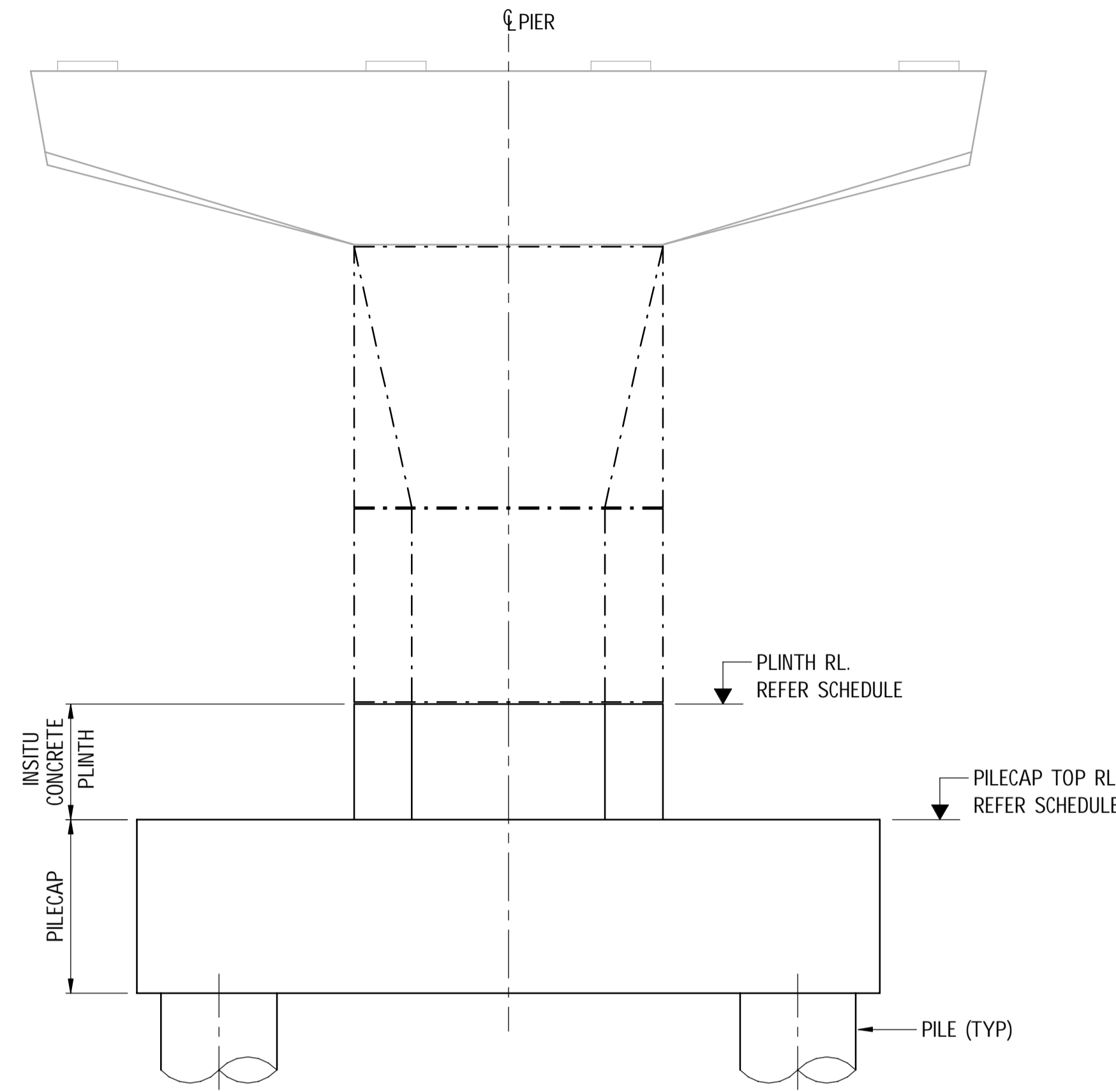
Government of Western Australia  
Public Transport Authority

VICTORIA PARK TO CANNING  
LEVEL CROSSING REMOVAL

**ARMADALE LINE - CIVIL STRUCTURES**  
BECKENHAM VIADUCT  
FOUNDATION LAYOUT

PTA Drawing No: 04-S-169-10013 Rev: A

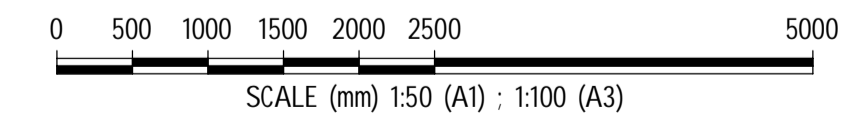
PILECAP SCHEDULE - VIADUCT 4								PLINTHS	
PILECAP MARK	PILECAP TYPE	DIMENSIONS	PILE TYPE	EASTING	NORTHING	PILECAP TOP RL (m)	PLINTH TYPE	PLINTH HEIGHT (mm)	PLINTH RL (m)
V4-P01-PC	TYPE 3	5300 x 4400 x 1950	BORED PILE	62808.968	355854.473	4.200	PLINTH TYPE 1	599	4.799
V4-P02-PC	TYPE 3	5300 x 4400 x 1950	BORED PILE	62829.624	355831.158	4.920	PLINTH TYPE 1	555	5.475
V4-P03-PC	TYPE 3	5300 x 4400 x 1950	BORED PILE	62850.335	355807.918	4.900	PLINTH TYPE 1	1271	6.171
V4-P04-PC	TYPE 3	5300 x 4400 x 1950	BORED PILE	62871.273	355784.900	5.050	PLINTH TYPE 1	1024	6.074
V4-P05-PC	TYPE 3	5300 x 4400 x 1950	BORED PILE	62892.489	355762.112	5.100	PLINTH TYPE 1	1150	6.250
V4-P06-PC	TYPE 2	4400 x 4400 x 1700	BORED PILE	62916.202	355741.634	5.100	PLINTH TYPE 2	517	5.617
V4-P06W-PC	TYPE 2	4400 x 4400 x 1700	BORED PILE	62911.266	355737.030	5.100	PLINTH TYPE 2	517	5.617
V4-P07E-PC	TYPE 2	4400 x 4400 x 1700	BORED PILE	62936.663	355719.694	5.100	PLINTH TYPE 2	577	5.677
V4-P07W-PC	TYPE 2	4400 x 4400 x 1700	BORED PILE	62931.727	355715.090	5.100	PLINTH TYPE 2	577	5.677
V4-P08E-PC	TYPE 2	4400 x 4400 x 1700	BORED PILE	62957.124	355697.755	5.100	PLINTH TYPE 2	637	5.737
V4-P08W-PC	TYPE 2	4400 x 4400 x 1700	BORED PILE	62952.188	355693.151	5.100	PLINTH TYPE 2	637	5.737
V4-P09E-PC	TYPE 2	4400 x 4400 x 1700	BORED PILE	62977.585	355675.815	5.100	PLINTH TYPE 2	697	5.797
V4-P09W-PC	TYPE 2	4400 x 4400 x 1700	BORED PILE	62972.649	355671.211	5.100	PLINTH TYPE 2	697	5.797
V4-P10E-PC	TYPE 2	4400 x 4400 x 1700	BORED PILE	62998.047	355653.875	5.100	PLINTH TYPE 2	757	5.857
V4-P10W-PC	TYPE 2	4400 x 4400 x 1700	BORED PILE	62993.110	355649.272	5.100	PLINTH TYPE 2	757	5.857
V4-P11E-PC	TYPE 2	4400 x 4400 x 1700	BORED PILE	63018.508	355631.936	5.100	PLINTH TYPE 2	817	5.917
V4-P11W-PC	TYPE 2	4400 x 4400 x 1700	BORED PILE	63013.571	355627.332	5.100	PLINTH TYPE 2	817	5.917
V4-P12-PC	TYPE 3	5300 x 4400 x 1950	BORED PILE	63037.285	355606.853	5.250	PLINTH TYPE 1	1226	6.476
V4-P13-PC	TYPE 3	5300 x 4400 x 1950	BORED PILE	63058.428	355584.183	5.100	PLINTH TYPE 1	1225	6.325
V4-P14-PC	TYPE 3	5300 x 4400 x 1950	BORED PILE	63077.661	355563.559	5.100	PLINTH TYPE 1	1183	6.283
V4-P15-PC	TYPE 3	5300 x 4400 x 1950	BORED PILE	63098.122	355541.620	5.000	PLINTH TYPE 1	1323	6.323
V4-P16-PC	TYPE 3	5300 x 4400 x 1950	BORED PILE	63118.583	355519.680	5.000	PLINTH TYPE 1	627	5.627



TYPICAL PIER - ELEVATION  
SCALE 1 : 50

NOTES:

- FOR GENERAL NOTES REFER DRG. No's 04-S-169-0006 TO 0008.
- FOR SETOUT INFORMATION REFER DRG. No's 04-S-169-10060.



REFERENCE DESIGN

REV	DATE	ISSUED FOR REFERENCE DESIGN	AMENDMENT	CC	LR	RP	RM
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A	21.07.23	ISSUED FOR REFERENCE DESIGN					
ORIG SIZE A1		AT ORIGINAL PLOT SIZE		This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			

ARMADALE LINE UPGRADE ALLIANCE  
Innovation to Reality

Contractor No: LXR-P4-Z5-BK-ST-CS-DWG-00015

VALIDATION	REFERENCES
SIGNATURE	
DATE	
DATE APPROVED	

SCALE	DESIGNED
1 : 50	J.DAS
DATUM	DRAWN
HORIZONTAL: PCG20	L.RADICI
VERTICAL: AHD71	CHECKED
	R.REYYILA
	APPROVED
	B.MARSHALL
	DATE

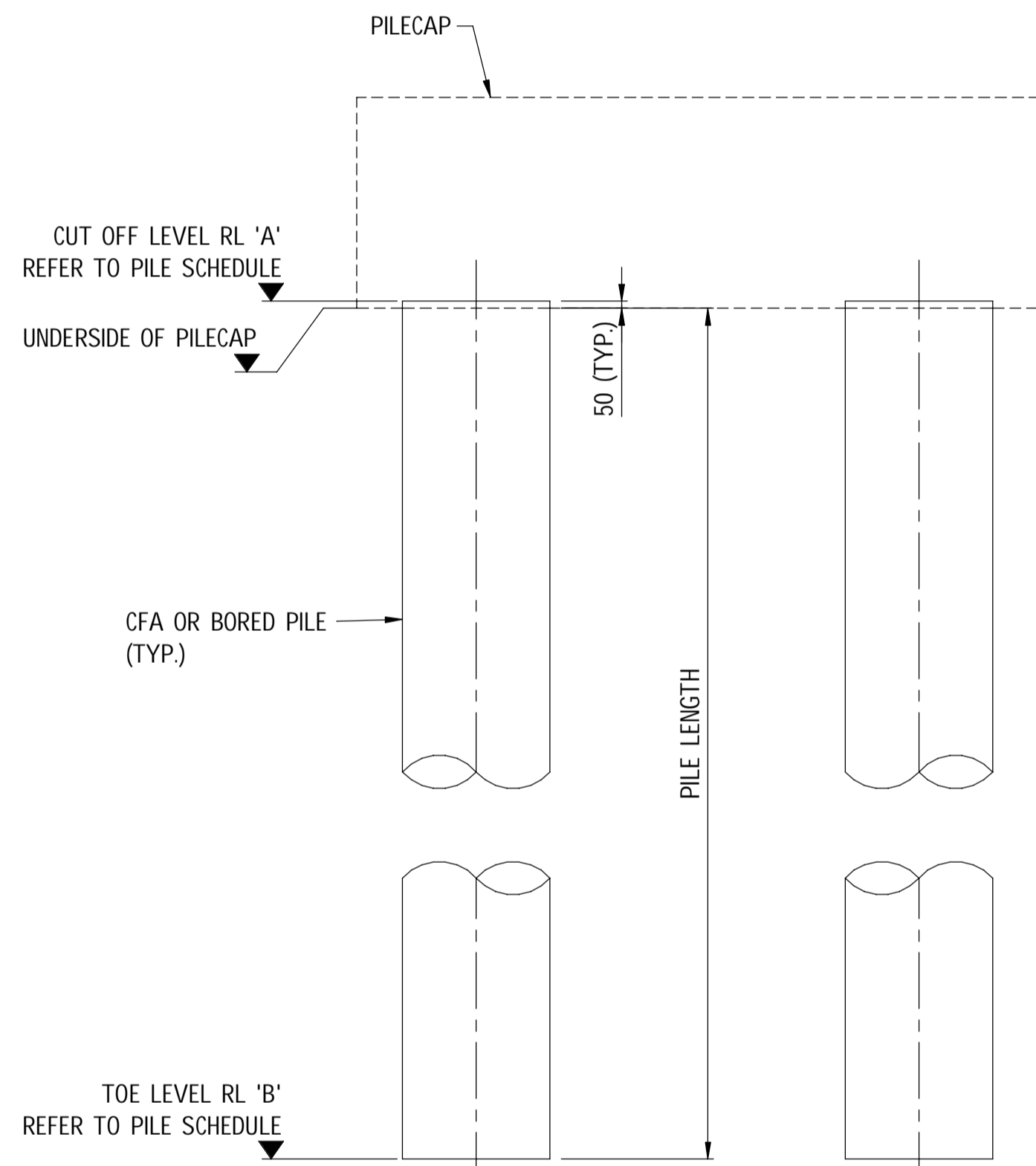
VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL	
ARMADALE LINE - CIVIL STRUCTURES	
BECKENHAM VIADUCT	
PILECAP SCHEDULE	
PTA Drawing No: 04-S-169-10015	Rev: A

PILE SCHEDULE VIADUCT 4

Table with 8 columns: MARK, PILE DIA, PILE LENGTH (m), CUT-OFF LEVEL RL 'A', TOE LEVEL RL 'B', PILE DESIGN BEARING CAPACITY (kN), PILE DESIGN TENSION CAPACITY (kN), ULS AXIAL COMPRESSION (kN), ULS AXIAL TENSION (kN). Rows include V4-P01-P1 through V4-P11W-P4.

PILE SCHEDULE VIADUCT 4

Table with 8 columns: MARK, PILE DIA, PILE LENGTH (m), CUT-OFF LEVEL RL 'A', TOE LEVEL RL 'B', PILE DESIGN BEARING CAPACITY (kN), PILE DESIGN TENSION CAPACITY (kN), ULS AXIAL COMPRESSION (kN), ULS AXIAL TENSION (kN). Rows include V4-P12-P1 through V4-P16-P4.



TYPICAL PILE ELEVATION  
NTS

- NOTES:
- FOR GENERAL NOTES REFER DRG. No's 04-S-169-0006 TO 0008.
  - FOR SETOUT INFORMATION REFER DRG. No's 04-S-169-0031 TO 0038.
  - PILE LENGTH DOES NOT INCLUDE 50mm PILE HEAD PROTRUSION INTO PILECAP.
  - FOR THE GEOTECHNICAL INVESTIGATION PLAN AND PROFILE, REFER TO THE GEOTECHNICAL INTERPRETIVE REPORT LXR-PW-ZO-GN-CI-GT-RPT-00001, APPENDIX A.
  - THE REQUIRED DESIGN ULTIMATE GEOTECHNICAL STRENGTH (Rd, ug) IS NOT LESS THAN Ed/φg, IN WHICH φg IS THE GEOTECHNICAL STRENGTH REDUCTION FACTOR ADOPTED AS 0.74 FOR CFA PILES AND 0.70 FOR BORED PILED IN ACCORDANCE WITH AS2159.3.
  - ULS DESIGN ACTIONS ARE GIVEN AT TOP OF PILE.
  - PILE TOE LEVELS SHALL NOT BE HIGHER THAN THE LEVELS SHOWN IN THE PILE SCHEDULE TABLE.

REFERENCE DESIGN

Table with columns: REV, DATE, ISSUED FOR REFERENCE DESIGN, AMENDMENT, CC, LR, RP, RM, DSN, DRN, CHK, APP. Includes a scale bar from 0 to 100mm and a disclaimer: 'This document must not be copied without PTA's written permission...'

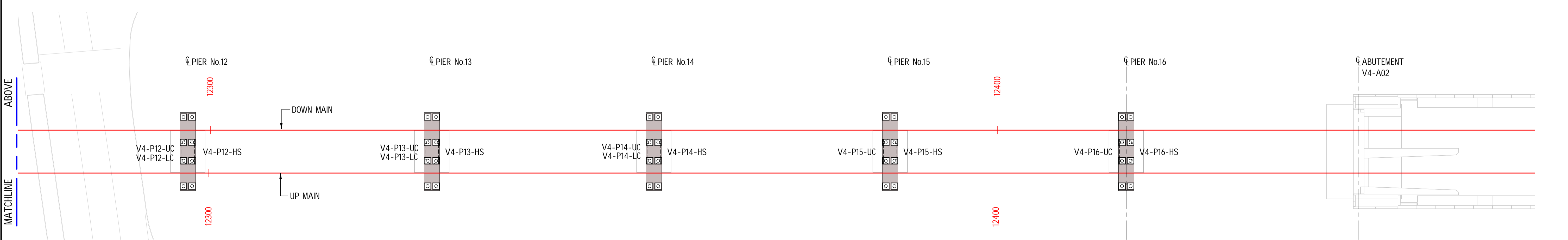
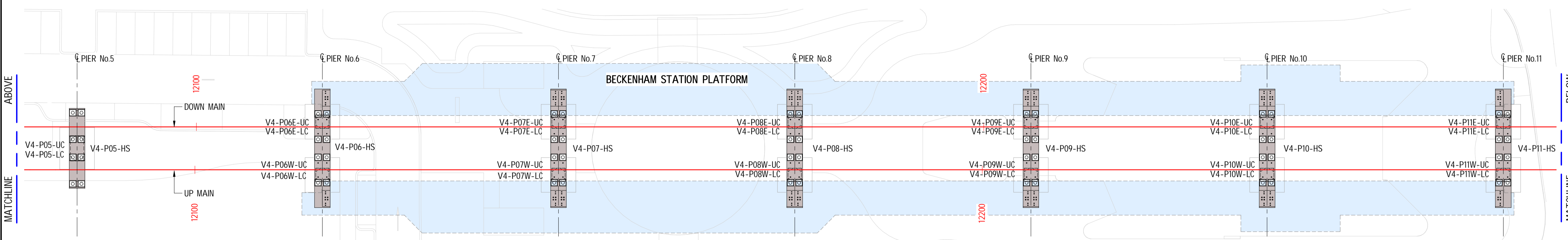
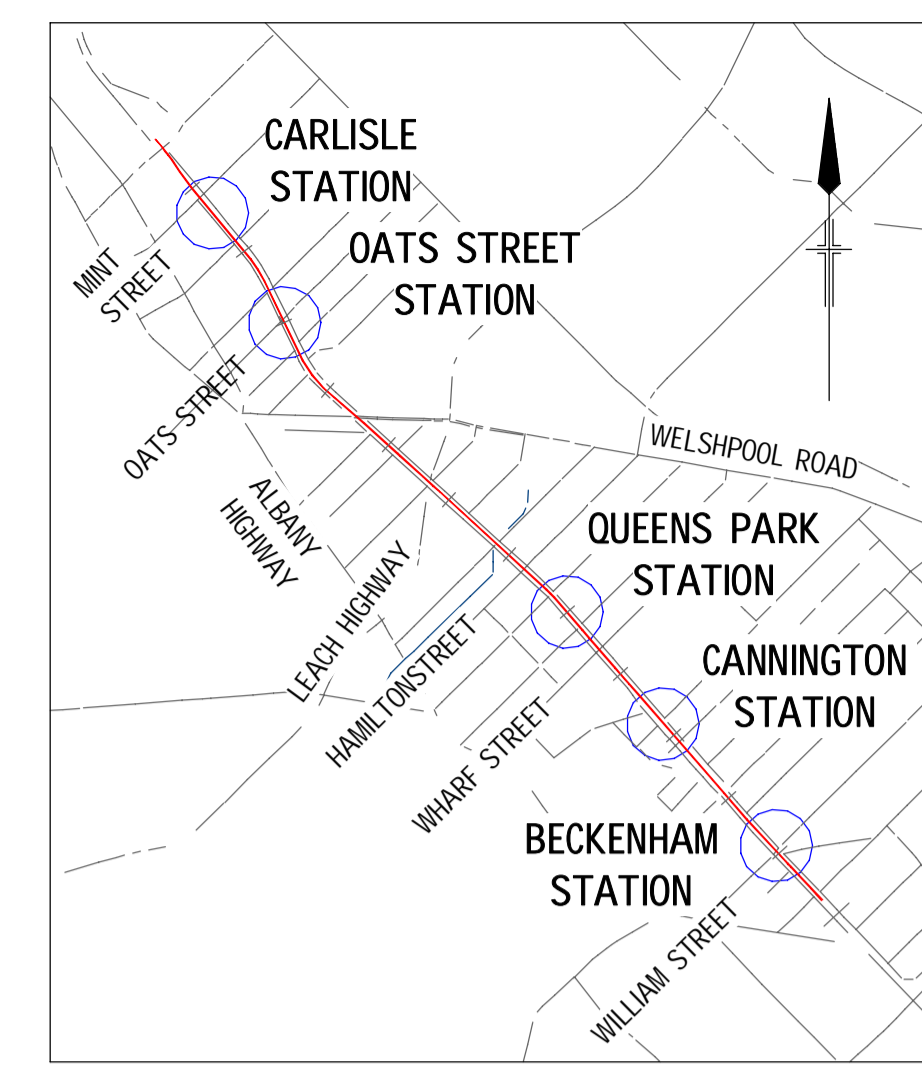
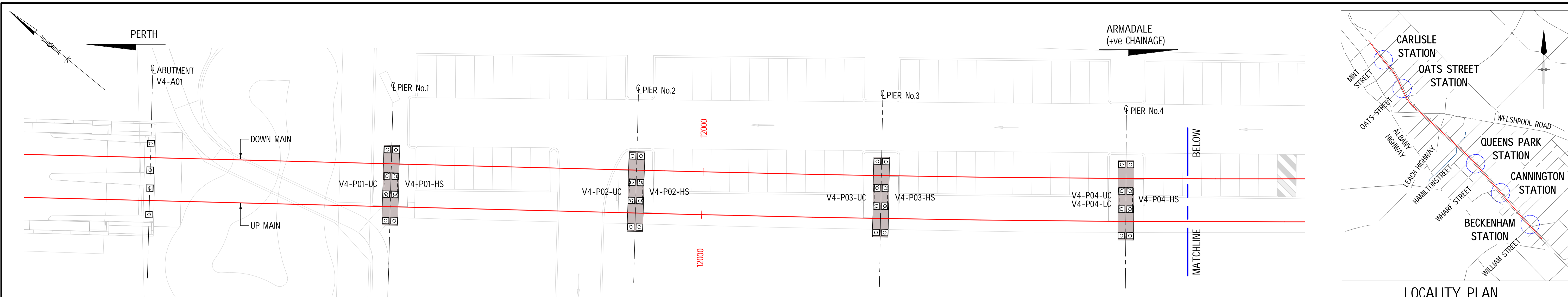


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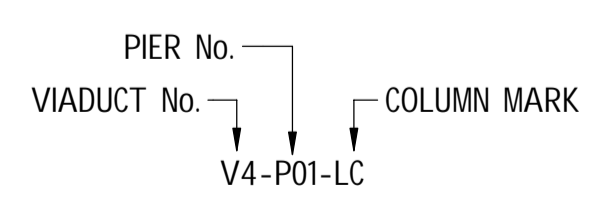
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SCALE: As indicated  
DATUM  
HORIZONTAL: PCG20  
VERTICAL: AHD71

DESIGNED: A.ISAAC  
DRAWN: L.RADICI  
CHECKED: R.REYYILA  
APPROVED: B.MARSHALL  
DATE

VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL  
ARMADALE LINE - CIVIL STRUCTURES  
BECKENHAM VIADUCT  
PILE SCHEDULE  
PTA Drawing No: 04-S-169-10016  
Rev: A



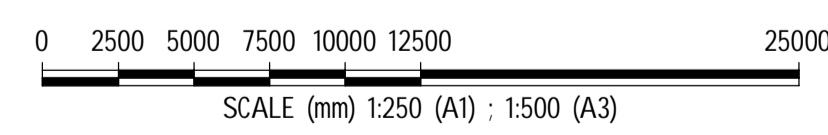
**NOTATION LEGEND:**



**VIADUCT 4 - PIER & HEADSTOCK MARKING PLAN**

SCALE 1 : 250

- NOTES:**
1. FOR GENERAL NOTES REFER DRG No. 04-S-169-0006 TO 00008.
  2. FOR PIER SCHEDULE REFER DRG No. 04-S-169-10027.
  3. FOR HEADSTOCK SCHEDULE REFER DRG No. 04-S-169-10028.



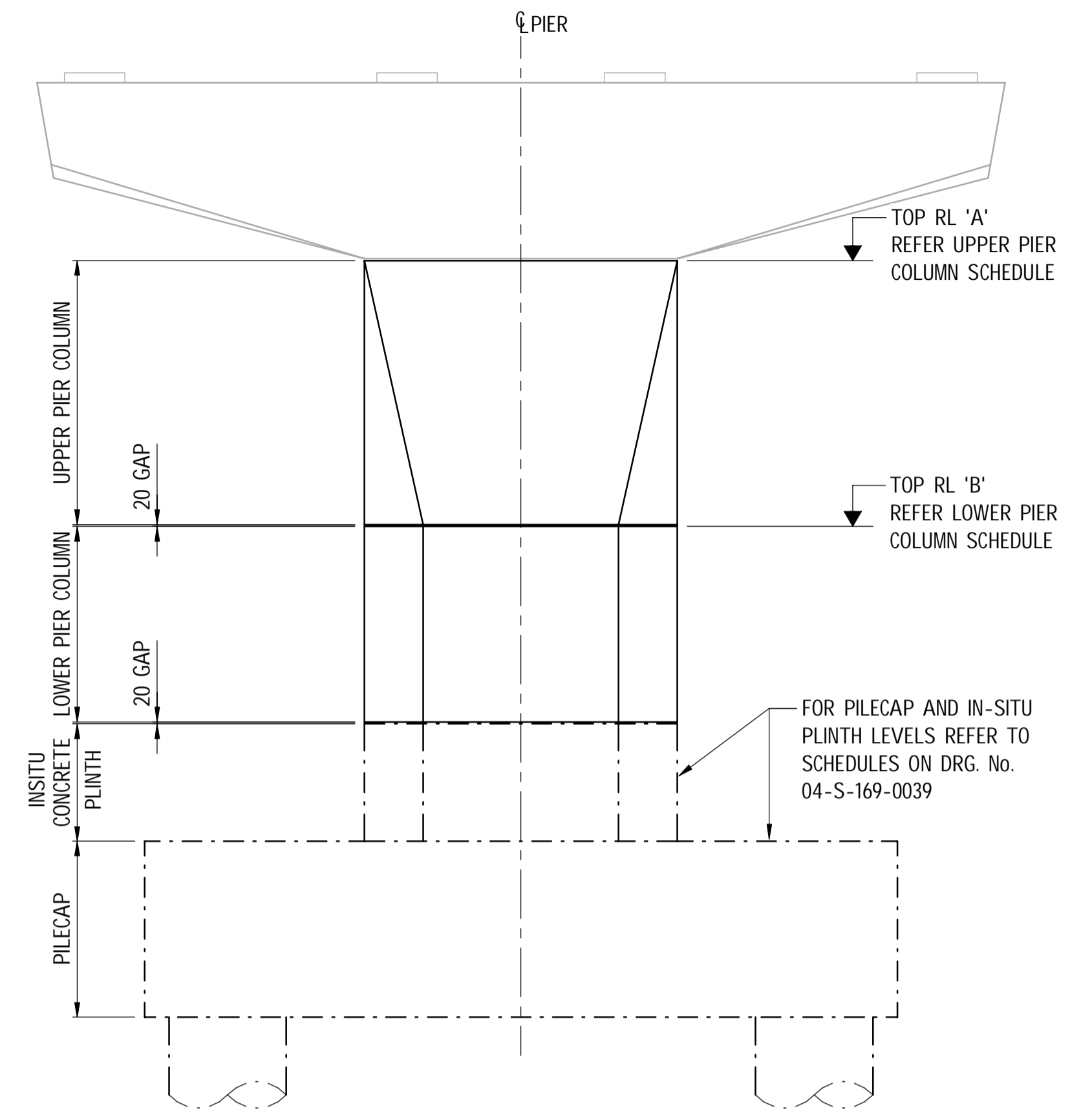
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<b>ARMADALE LINE - CIVIL STRUCTURES BECKENHAM VIADUCT PIER &amp; HEADSTOCK MARKING PLAN</b>	
<b>PTA Drawing No: 04-S-169-10025</b>	
Rev:	<b>A</b>

Contractor No: LXR-P4-Z5-BK-ST-CS-DWG-00025

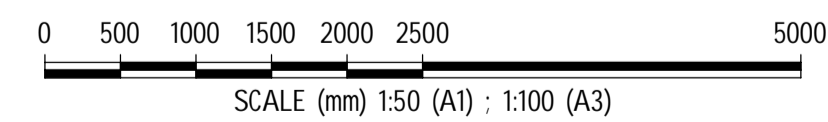
VALIDATION	REFERENCES	SCALE	DESIGNED
SIGNATURE		As indicated	C.CHANG
DATE		DATUM	DRAWN
DATE APPROVED		HORIZONTAL: PCG20	L.RADICI
		VERTICAL: AHD71	CHECKED
			R.PEYIILA
			APPROVED
			B.MARSHALL
			DATE

LOWER PIER COLUMN SCHEDULE - VIADUCT 4						
MARK	PIER LOCATION	PIER TYPE	DUCT SLEEVE ARRANGEMENT TYPE	REINFORCEMENT ARRANGEMENT TYPE	PIER HEIGHT	TOP RL 'B'
V4-P04-LC	NON-STATION	TYPE 1	D2	R1	600	6.694
V4-P05-LC	NON-STATION	TYPE 1	D2	R1	700	6.970
V4-P06E-LC	STATION	TYPE 2	D15	R4	1000	6.637
V4-P06W-LC	STATION	TYPE 2	D15	R4	1000	6.637
V4-P07E-LC	STATION	TYPE 2	D15	R4	1000	6.697
V4-P07W-LC	STATION	TYPE 2	D15	R4	1000	6.697
V4-P08E-LC	STATION	TYPE 2	D15	R4	1000	6.757
V4-P08W-LC	STATION	TYPE 2	D15	R4	1000	6.757
V4-P09E-LC	STATION	TYPE 2	D15	R4	1000	6.817
V4-P09W-LC	STATION	TYPE 2	D15	R4	1000	6.817
V4-P10E-LC	STATION	TYPE 2	D15	R4	1000	6.877
V4-P10W-LC	STATION	TYPE 2	D15	R4	1000	6.877
V4-P11E-LC	STATION	TYPE 2	D15	R4	1000	6.937
V4-P11W-LC	STATION	TYPE 2	D15	R4	1000	6.937
V4-P12-LC	NON-STATION	TYPE 1	D2	R1	900	7.396
V4-P13-LC	NON-STATION	TYPE 1	D2	R1	900	7.245
V4-P14-LC	NON-STATION	TYPE 1	D2	R1	600	6.903
Grand total: 17						

UPPER PIER COLUMN SCHEDULE - VIADUCT 4						
MARK	PIER LOCATION	PIER TYPE	DUCT SLEEVE ARRANGEMENT TYPE	REINFORCEMENT ARRANGEMENT TYPE	PIER HEIGHT	TOP RL 'A'
V4-P01-UC	NON-STATION	TYPE 1	D2	R10	2700	7.519
V4-P02-UC	NON-STATION	TYPE 1	D2	R10	2700	8.195
V4-P03-UC	NON-STATION	TYPE 1	D2	R10	2700	8.891
V4-P04-UC	NON-STATION	TYPE 1	D2	R11	2700	9.414
V4-P05-UC	NON-STATION	TYPE 1	D2	R11	2700	9.690
V4-P06E-UC	STATION	TYPE 2	D15	R14	2700	9.357
V4-P06W-UC	STATION	TYPE 2	D15	R14	2700	9.357
V4-P07E-UC	STATION	TYPE 2	D15	R14	2700	9.417
V4-P07W-UC	STATION	TYPE 2	D15	R14	2700	9.417
V4-P08E-UC	STATION	TYPE 2	D15	R14	2700	9.477
V4-P08W-UC	STATION	TYPE 2	D15	R14	2700	9.477
V4-P09E-UC	STATION	TYPE 2	D15	R14	2700	9.537
V4-P09W-UC	STATION	TYPE 2	D15	R14	2700	9.537
V4-P10E-UC	STATION	TYPE 2	D15	R14	2700	9.597
V4-P10W-UC	STATION	TYPE 2	D15	R14	2700	9.597
V4-P11E-UC	STATION	TYPE 2	D15	R14	2700	9.657
V4-P11W-UC	STATION	TYPE 2	D15	R14	2700	9.657
V4-P12-UC	NON-STATION	TYPE 1	D2	R11	2700	10.116
V4-P13-UC	NON-STATION	TYPE 1	D2	R11	2700	9.965
V4-P14-UC	NON-STATION	TYPE 1	D2	R11	2700	9.623
V4-P15-UC	NON-STATION	TYPE 1	D2	R10	2700	9.043
V4-P16-UC	NON-STATION	TYPE 1	D2	R10	2700	8.347
Grand total: 22						



**TYPICAL PIER - ELEVATION**  
SCALE 1 : 50



REV	DATE	ISSUED FOR REFERENCE DESIGN	CC	LR	RP	RM
A	21.07.23	AMENDMENT	DSN	DRN	CHK	APP
ORIG SIZE A1		AT ORIGINAL PLOT SIZE		<small>This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.</small>		

**ARMADALE LINE UPGRADE ALLIANCE**  
*Innovation to Reality*

Contractor No: LXR-P4-Z5-BK-ST-CS-DWG-00027

VALIDATION

SIGNATURE

DATE

DATE APPROVED

REFERENCES

SCALE

1 : 50

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED C.CHANG

DRAWN L.RADICI

CHECKED R.REYYILA

APPROVED B.MARSHALL

DATE

**REFERENCE DESIGN**

VICTORIA PARK TO CANNING  
 LEVEL CROSSING REMOVAL

**ARMADALE LINE - CIVIL STRUCTURES**  
**BECKENHAM VIADUCT**  
**PIER SCHEDULE**  
 PTA Drawing No: **04-S-169-10027**

Rev: **A**

HEADSTOCK SCHEDULE - VIADUCT 4

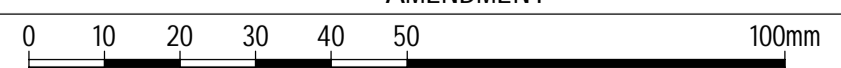
MARK	HEADSTOCK TYPE	DUCT SLEEVE ARRANGEMENT TYPE	TOP OF HEADSTOCK RL	PEDESTAL HEIGHT BP1	PEDESTAL HEIGHT BP2	PEDESTAL HEIGHT BP3	PEDESTAL HEIGHT BP4	PEDESTAL HEIGHT BP5	PEDESTAL HEIGHT BP6	PEDESTAL HEIGHT BP7	PEDESTAL HEIGHT BP8	PEDESTAL HEIGHT BP9	PEDESTAL HEIGHT BP10	PEDESTAL HEIGHT BP11	PEDESTAL HEIGHT BP12	DRAINAGE PIPE LOCATION
V4-P01-HS	H2	D2	9.339	135	85	85	135	120	160	160	120	-	-	-	-	UP CH
V4-P02-HS	H2	D2	10.015	135	85	85	135	120	160	160	120	-	-	-	-	UP CH
V4-P03-HS	H2	D2	10.711	135	85	85	135	120	160	160	120	-	-	-	-	UP CH
V4-P04-HS	H2	D2	11.234	135	85	85	135	95	140	140	95	-	-	-	-	UP CH
V4-P05-HS	H2	D2	11.510	135	85	85	135	95	140	140	95	-	-	-	-	UP CH
V4-P06-HS	H3A	D15	11.177	520	470	470	520	95	140	140	95	-	-	240	240	UP CH
V4-P07-HS	H3	D15	11.237	135	85	85	135	95	140	140	95	240	240	-	-	UP CH
V4-P08-HS	H3	D15	11.297	135	85	85	135	95	140	140	95	240	240	-	-	UP CH
V4-P09-HS	H3	D15	11.357	135	85	85	135	95	140	140	95	240	240	-	-	UP CH
V4-P10-HS	H3	D15	11.417	135	85	85	135	95	140	140	95	240	240	-	-	UP CH
V4-P11-HS	H3A	D15	11.477	135	85	85	135	475	525	525	475	240	240	-	-	UP CH
V4-P12-HS	H1	D2	11.936	135	85	85	135	80	130	130	80	-	-	-	-	DN CH
V4-P13-HS	H1	D2	11.785	135	95	95	135	80	130	130	80	-	-	-	-	DN CH
V4-P14-HS	H1	D2	11.443	150	95	95	150	80	130	130	80	-	-	-	-	DN CH
V4-P15-HS	H1	D2	10.863	150	110	110	150	80	130	130	80	-	-	-	-	DN CH
V4-P16-HS	H1	D2	10.167	150	110	110	150	80	130	130	80	-	-	-	-	DN CH

Grand total: 16

NOTES:

- FOR GENERAL NOTES REFER DRG No. 04-S-169-0006 TO 0008.
- MAXIMUM ALLOWABLE GROUT THICKNESS IS 74mm. MINIMUM GROUT THICKNESS IS 21mm. AT INSULATION LOCATION THE MINIMUM GROUT THICKNESS IS 23mm.
- ERECTION LOAD FROM THE L-BEAM OVER THE GROUT ON THE BEARING PEDESTAL SHALL BE UNIFORMLY DISTRIBUTED.
- FOR GROUT THICKNESS ABOVE 50mm, SL81 MESH TO BE PROVIDED WITHIN MID HEIGHT OF THE GROUT.
- FOR PEDESTALS BP9 TO BP12 ON HEADSTOCK H3/H3A, THE HEIGHT OF THE PEDESTAL IS BASED ON A HOG OF 50 mm TO THE PLATFORM BEAM. THE CONTRACTOR SHALL CONFIRM THE HOG OF THE PLATFORM BEAM AND CONFIRM IF THE HEIGHT OF THE CONCRETE PEDESTALS ARE SUITABLE FOR THE PLATFORM BEAM DESIGN AND TOLERANCES PROVIDED - REFER TO PLATFORM BEAM DESIGN DRAWING FOR ALL ASSUMPTIONS AND TOLERANCES REGARDING THE PLATFORM BEAM DESIGNS. DISCREPANCIES EXCEEDING TOLERANCES SHALL BE REPORTED TO THE ALLIANCE.

REFERENCE DESIGN

REV	DATE	ISSUED FOR REFERENCE DESIGN	CC	LR	RP	RM
A	21.07.23	AMENDMENT	DSN	DRN	CHK	APP
ORIG SIZE A1				This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.		




ARMADALE LINE UPGRADE ALLIANCE  
Innovation to Reality

VALIDATION  
SIGNATURE  
DATE  
DATE APPROVED

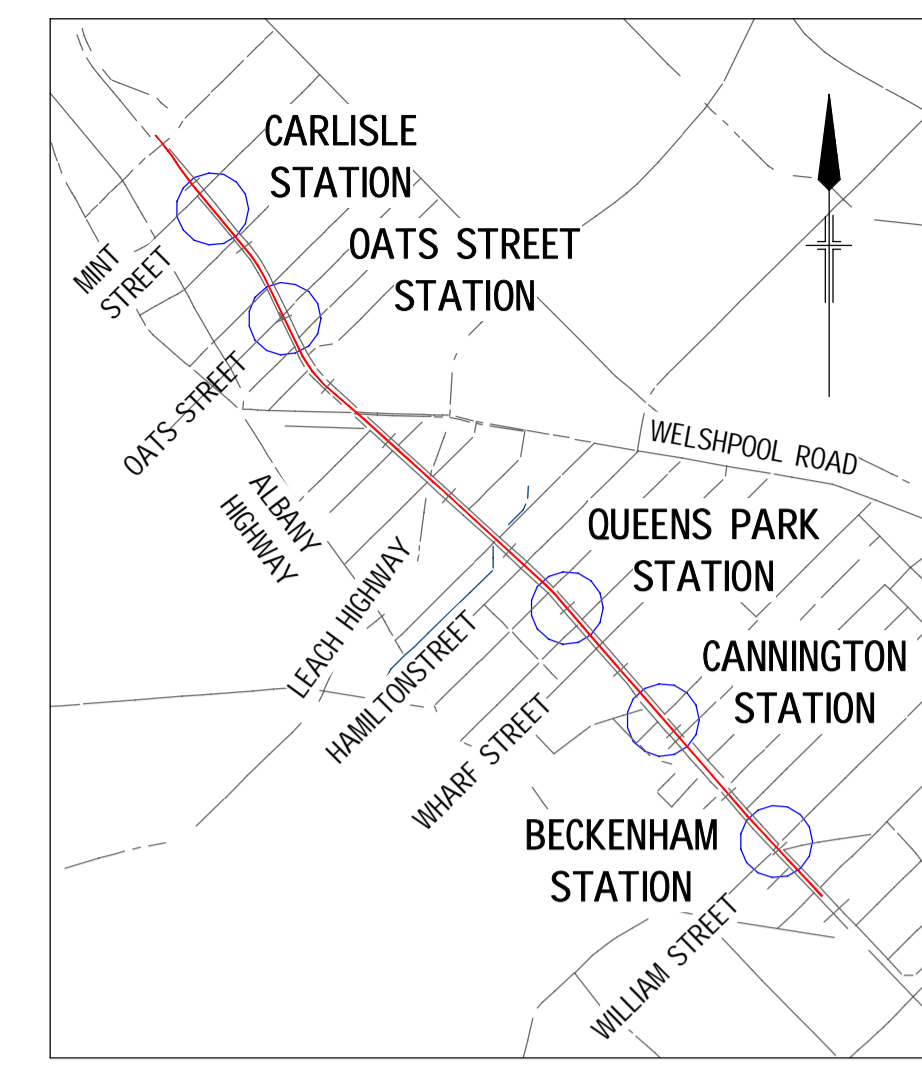
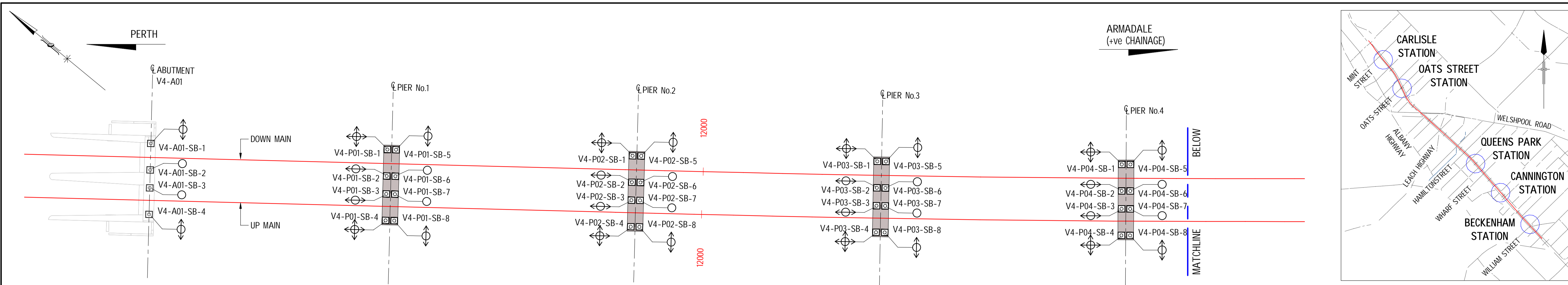
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SCALE  
1 : 1  
DATUM  
HORIZONTAL: PCG20  
VERTICAL: AHD71

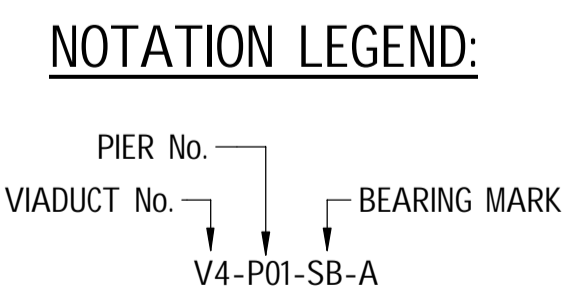
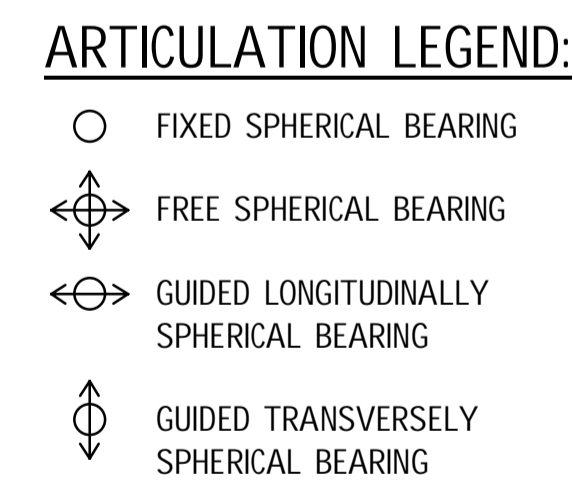
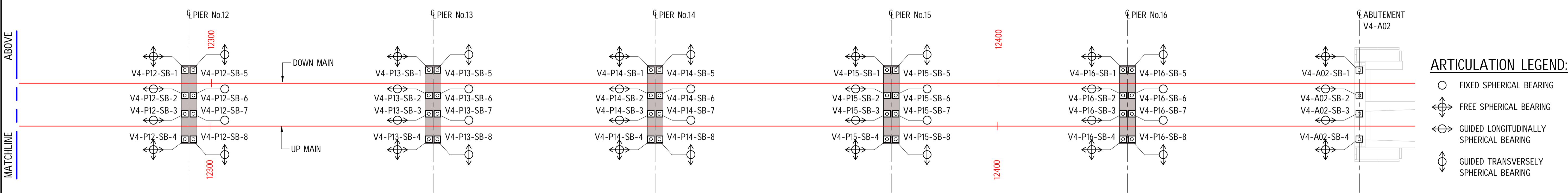
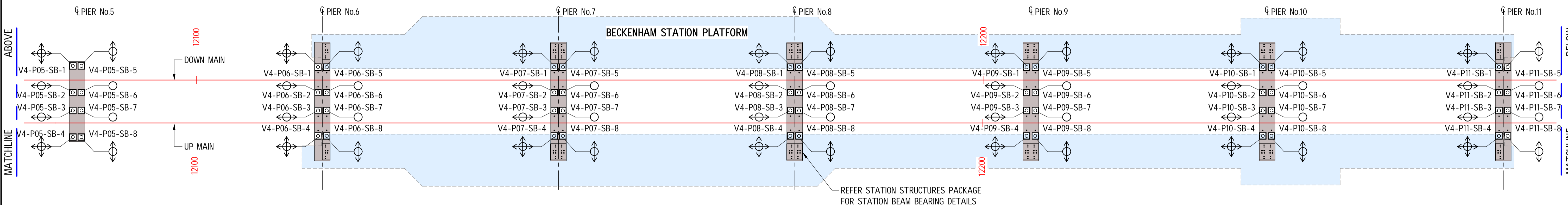
DESIGNED C.CHANG  
DRAWN L.RADICI  
CHECKED R.PEYIYA  
APPROVED B.MARSHALL  
DATE



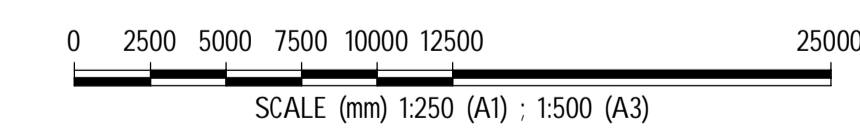
VICTORIA PARK TO CANNING  
LEVEL CROSSING REMOVAL  
ARMADALE LINE - CIVIL STRUCTURES  
BECKENHAM VIADUCT  
HEADSTOCK SCHEDULE  
PTA Drawing No: 04-S-169-10028 Rev: A



**NOTES:**  
 1. FOR GENERAL NOTES REFER DRG No. 04-S-169-0006 TO 0008.  
 2. FOR BEARING SCHEDULE & NOTES REFER DRG No. 04-S-169-10052



**VIADUCT 4 PLAN - BECKENHAM**  
 SCALE 1 : 250



**REFERENCE DESIGN**

Government of Western Australia  
 Public Transport Authority

VICTORIA PARK TO CANNING  
 LEVEL CROSSING REMOVAL

**ARMADALE LINE - CIVIL STRUCTURES**  
**BECKENHAM VIADUCT**  
**BEARING MARKING PLAN**

PTA Drawing No: 04-S-169-10050 | Rev: A

REV	DATE	ISSUED FOR REFERENCE DESIGN	AMENDMENT	DSN	DRN	CHK	APP
A	21.07.23						
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A1				Contractor No: LXR-P4-Z5-BK-ST-CS-DWG-00050			



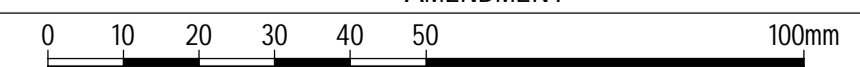
VALIDATION	REFERENCES	SCALE	DESIGNED
SIGNATURE		As indicated	A.ISAAC
DATE		DATUM	DRAWN
DATE APPROVED		HORIZONTAL: PCG20	L.RADICI
		VERTICAL: AHD71	CHECKED
			R.PEYIYA
			APPROVED
			B.MARSHALL
			DATE

BEARING SCHEDULE - VIADUCT 4		
MARK	BEARING ARTICULATION	BEARING TYPE
V4-A01-SB-1	GUIDED TRANS	TETRON SB GG 3500-1700.30(V4)
V4-A01-SB-2	FIXED	TETRON SB FX 3500-1700(V4)
V4-A01-SB-3	FIXED	TETRON SB FX 3500-1700(V4)
V4-A01-SB-4	GUIDED TRANS	TETRON SB GG 3500-1700.30(V4)
V4-P01-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P01-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P01-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P01-SB-4	FREE	TETRON SB GL 3700.180.30(V4)
V4-P01-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P01-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P01-SB-7	FIXED	TETRON SB FX 3700-1000(V4)
V4-P01-SB-8	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P02-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P02-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P02-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P02-SB-4	FREE	TETRON SB GL 3700.180.30(V4)
V4-P02-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P02-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P02-SB-7	FIXED	TETRON SB FX 3700-1000(V4)
V4-P02-SB-8	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P03-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P03-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P03-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P03-SB-4	FREE	TETRON SB GL 3700.180.30(V4)
V4-P03-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P03-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P03-SB-7	FIXED	TETRON SB FX 3700-1000(V4)
V4-P03-SB-8	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P04-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P04-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P04-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P04-SB-4	FREE	TETRON SB GL 3700.180.30(V4)
V4-P04-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P04-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P04-SB-7	FIXED	TETRON SB FX 3700-1000(V4)
V4-P04-SB-8	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P05-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P05-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P05-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P05-SB-4	FREE	TETRON SB GL 3700.180.30(V4)
V4-P05-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P05-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P05-SB-7	FIXED	TETRON SB FX 3700-1000(V4)
V4-P05-SB-8	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P06-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P06-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P06-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P06-SB-4	FREE	TETRON SB GL 3700.180.30(V4)
V4-P06-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P06-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P06-SB-7	FIXED	TETRON SB FX 3700-1000(V4)
V4-P06-SB-8	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P07-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P07-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P07-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P07-SB-4	FREE	TETRON SB GL 3700.180.30(V4)
V4-P07-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P07-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P07-SB-7	FIXED	TETRON SB FX 3700-1000(V4)
V4-P07-SB-8	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P08-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P08-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P08-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P08-SB-4	FREE	TETRON SB GL 3700.180.30(V4)
V4-P08-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P08-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P08-SB-7	FIXED	TETRON SB FX 3700-1000(V4)
V4-P08-SB-8	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P09-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P09-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P09-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P09-SB-4	FREE	TETRON SB GL 3700.180.30(V4)
V4-P09-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P09-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P09-SB-7	FIXED	TETRON SB FX 3700-1000(V4)
V4-P09-SB-8	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P10-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P10-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P10-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P10-SB-4	FREE	TETRON SB GL 3700.180.30(V4)
V4-P10-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P10-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P10-SB-7	FIXED	TETRON SB FX 3700-1000(V4)
V4-P10-SB-8	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)

BEARING SCHEDULE - VIADUCT 4		
MARK	BEARING ARTICULATION	BEARING TYPE
V4-P11-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P11-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P11-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P11-SB-4	FREE	TETRON SB GL 3700.180.30(V4)
V4-P11-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P11-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P11-SB-7	FIXED	TETRON SB FX 3700-1000(V4)
V4-P11-SB-8	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P12-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P12-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P12-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P12-SB-4	FREE	TETRON SB GL 3700.180.30(V4)
V4-P12-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P12-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P12-SB-7	FIXED	TETRON SB FX 3700-1300
V4-P12-SB-8	GUIDED TRANS	TETRON SB GG 3700-1000.30
V4-P13-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P13-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P13-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.150
V4-P13-SB-4	FREE	TETRON SB GL 3700.150.30
V4-P13-SB-5	GUIDED TRANS	TETRON SB GG 3700-1000.30
V4-P13-SB-6	FIXED	TETRON SB FX 3700-1300
V4-P13-SB-7	FIXED	TETRON SB FX 3700-1000(V4)
V4-P13-SB-8	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P14-SB-1	FREE	TETRON SB GL 3700.150.30
V4-P14-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.150
V4-P14-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P14-SB-4	FREE	TETRON SB GL 3700.180.30(V4)
V4-P14-SB-5	GUIDED TRANS	TETRON SB GG 3700-1000.30
V4-P14-SB-6	FIXED	TETRON SB FX 3700-1300
V4-P14-SB-7	FIXED	TETRON SB FX 3700-1300
V4-P14-SB-8	GUIDED TRANS	TETRON SB GG 3700-1000.30
V4-P15-SB-1	FREE	TETRON SB GL 3700.150.30
V4-P15-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.150
V4-P15-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.150
V4-P15-SB-4	FREE	TETRON SB GL 3700.150.30
V4-P15-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P15-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P15-SB-7	FIXED	TETRON SB FX 3700-1300
V4-P15-SB-8	GUIDED TRANS	TETRON SB GG 3700-1000.30
V4-P16-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-P16-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-P16-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.150
V4-P16-SB-4	FREE	TETRON SB GL 3700.150.30
V4-P16-SB-5	GUIDED TRANS	TETRON SB GG 3700-700.30(V4)
V4-P16-SB-6	FIXED	TETRON SB FX 3700-1000(V4)
V4-P16-SB-7	FIXED	TETRON SB FX 3700-1300
V4-P16-SB-8	GUIDED TRANS	TETRON SB GG 3700-1000.30
V4-A02-SB-1	FREE	TETRON SB GL 3700.180.30(V4)
V4-A02-SB-2	GUIDED LONG	TETRON SB GG 3700-1000.180(V4)
V4-A02-SB-3	GUIDED LONG	TETRON SB GG 3700-1000.150
V4-A02-SB-4	FREE	TETRON SB GL 3700.150.30

(E) DENOTES BEARING TYPE REQUIRING ELECTRICAL ISOLATION PLATE

<b>REFERENCE DESIGN</b>	
	<b>VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL</b>
<b>ARMADALE LINE - CIVIL STRUCTURES</b>	
<b>BECKENHAM VIADUCT</b>	
<b>BEARING SCHEDULE</b>	
<b>PTA Drawing No: 04-S-169-10052</b>	
Rev:	<b>A</b>

A	21.07.23	ISSUED FOR REFERENCE DESIGN	AI	LR	RP	RM
REV	DATE	AMENDMENT	DSN	DRN	CHK	APP
ORIG SIZE			<small>This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.</small>			
<b>A1</b>	AT ORIGINAL PLOT SIZE		Contractor No: LXR-P4-Z5-BK-ST-CS-DWG-00052			



VALIDATION	REFERENCES	SCALE	DESIGNED
SIGNATURE		1 : 1	A.ISAAC
DATE		DATUM	DRAWN
DATE APPROVED		HORIZONTAL: PCG20	L.RADICI
		VERTICAL: AHD71	CHECKED
			R.PEYIYLA
			APPROVED
			B.MARSHALL
			DATE



STRUCTURE NAME OF REFERENCE			VIADUCT 4 - PIER BEARINGS (PIERS 1 TO 5, PIERS 12 TO 16)				VIADUCT 4 - STATION BEARINGS (PIERS 6 TO 11)				VIADUCT 4 - ABUTMENT BEARINGS							
BEARING IDENTIFICATION MARK #			TETRON SB FX 3700-1000(V4)	TETRON SB GL 3700.180.30(V4)	TETRON SB GG 3700-1000.180(V4)	TETRON SB GG 3700-700.30(V4)	TETRON SB FX 3700-1000(V4)	TETRON SB GL 3700.180.30(V4)	TETRON SB GG 3700-1000.180(V4)	TETRON SB GG 3700-700.30(V4)	TETRON SB FX 3500-1700(V4)	TETRON SB GL 3700.180.30(V4)	TETRON SB GG 3700-1000.180(V4)	TETRON SB GG 3500-1700.30(V4)				
TYPE OF BEARING			SPHERICAL BEARING FIXED	SPHERICAL BEARING FREE	SPHERICAL BEARING LONGITUDINAL GUIDED	SPHERICAL BEARING TRANSVERSELY GUIDED	SPHERICAL BEARING FIXED	SPHERICAL BEARING FREE	SPHERICAL BEARING LONGITUDINAL GUIDED	SPHERICAL BEARING TRANSVERSELY GUIDED	SPHERICAL BEARING FIXED	SPHERICAL BEARING FREE	SPHERICAL BEARING LONGITUDINAL GUIDED	SPHERICAL BEARING TRANSVERSELY GUIDED				
NUMBER OFF			20	20	20	20	12	12	12	12	2	2	2	2				
SEATING MATERIAL			UPPER SURFACE				PRECAST CONCRETE S50/60				PRECAST CONCRETE S50/60							
			LOWER SURFACE				PRECAST CONCRETE S50/60				CAST IN-SITU CONCRETE S40/50							
DESIGN LOAD (kN)			SERVICEABILITY LIMIT STATE		VERTICAL, Ns	MAXIMUM	2450	2450	2450	2450	2600	2600	2600	2600	2450	2450	2450	2450
					PERMANENT	1250	1250	1250	1250	1500	1500	1500	1500	1250	1250	1250	1250	
			MINIMUM	700	700	700	700	800	800	800	800	700	700	700	700			
			TRANSVERSE, Vy,sd		-	-	250	-	-	-	250	-	-	-	250	-		
			LONGITUDINAL, Vx,sd		500	-	-	325	500	-	-	325	500	-	-	350		
			ULTIMATE LIMIT STATE		VERTICAL, Nu	3500	3500	3500	3500	3700	3700	3700	3700	3500	3500	3500	3500	
					TRANSVERSE, Vy,ud	600	-	500	-	600	-	500	-	700	-	500	-	
					LONGITUDINAL, Vx,ud	-	-	-	460	-	-	-	460	-	-	-	500	
			SEISMIC LIMIT STATE		VERTICAL, Nu	2100	2100	2100	2100	2400	2400	2400	2400	2200	2200	2200	2200	
					TRANSVERSE, Vy,ud	800	-	600	-	1000	-	900	-	1700	-	1000	-	
LONGITUDINAL, Vx,ud	-	-			-	650	-	-	-	700	-	-	-	1700				

# REFER TO BEARING SUPPLIER DRAWINGS

- THE REPORTED FORCES & DEFORMATIONS ARE THE MAXIMUM, NON-CONCURRENT VALUES. HOWEVER, THEY SHOULD BE CONSERVATIVELY CONSIDERED TOGETHER FOR EACH LIMIT STATE.
- THE TABULATED VALUES FOR THE VIADUCT BEARINGS ARE THE MOST CRITICAL ONES AMONG DIFFERENT VIADUCT CONFIGURATIONS. STATION BEARINGS ARE GROUPED SIMILARLY.
- MINIMUM VERTICAL LOADS ARE GIVEN ONLY FOR SLS. SIMILARLY, A MINIMUM VERTICAL LOADS OF 20% & 10% OF 'N' SHOULD BE CONSIDERED IN ULS & EQ CONSECUTIVELY IN CONCURRENCE WITH THE PROVIDED HORIZONTAL LOADS.
- THE HORIZONTAL LOADS GIVEN FOR THE FIXED BEARING ARE THE RESULTANT LATERAL FORCES FOR DIFFERENT LIMIT STATES.
- THE MAXIMUM 0.03 RAD SHALL BE ADDED TO TABLE VALUES FOR LONGITUDINAL PROFILE OF THE BRIDGE DECK.
- 0.005 RAD SHALL BE ADDED TO TABLE VALUES FOR CONSTRUCTION TOLERANCE.
- THE TOP PLATE OF SPHERICAL BEARING IS ASSUMED TO BE FLAT WHERE ROTATION DUE TO CONSTRUCTION SEQUENCE WILL BE TAKEN BY THE BEARING.
- TRAVERSE ROTATION OF THE BEARING IS NOT INCLUDED DURING CONSTRUCTION, AS "L-GIRDERS" ARE ASSUMED TO BE BRACED UNTIL COMPLETION OF STITCHING.
- BEARING DISPLACEMENTS ARE CONSIDERED ONLY AFTER STITCH JOINT IS COMPLETED. PRIOR TO STITCHING, GIRDERS ARE ASSUMED TO SIT ON TEMPORARY JACKS.

## REFERENCE DESIGN

A	21.07.23	ISSUED FOR REFERENCE DESIGN	AI	LR	RP	RM													
REV	DATE	AMENDMENT	DSN	DRN	CHK	APP													
ORIG SIZE	0 10 20 30 40 50 100mm		This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.																
A1	AT ORIGINAL PLOT SIZE		Contractor No: LXR-P4-Z5-BK-ST-CS-DWG-00053																



VALIDATION  
SIGNATURE  
DATE  
DATE APPROVED

REFERENCES

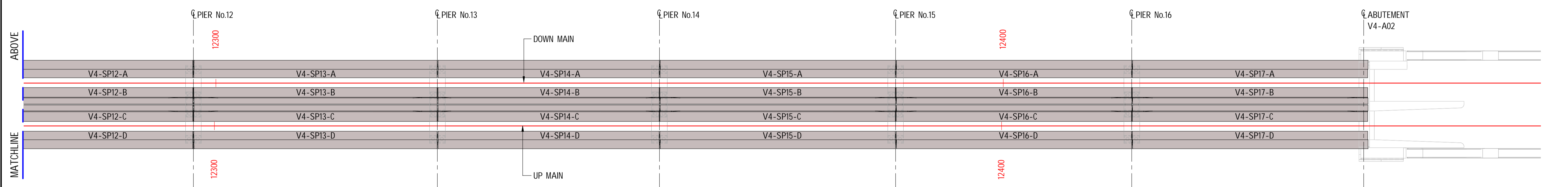
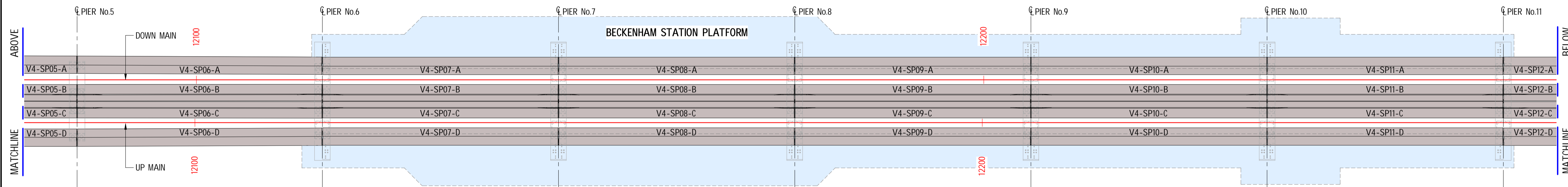
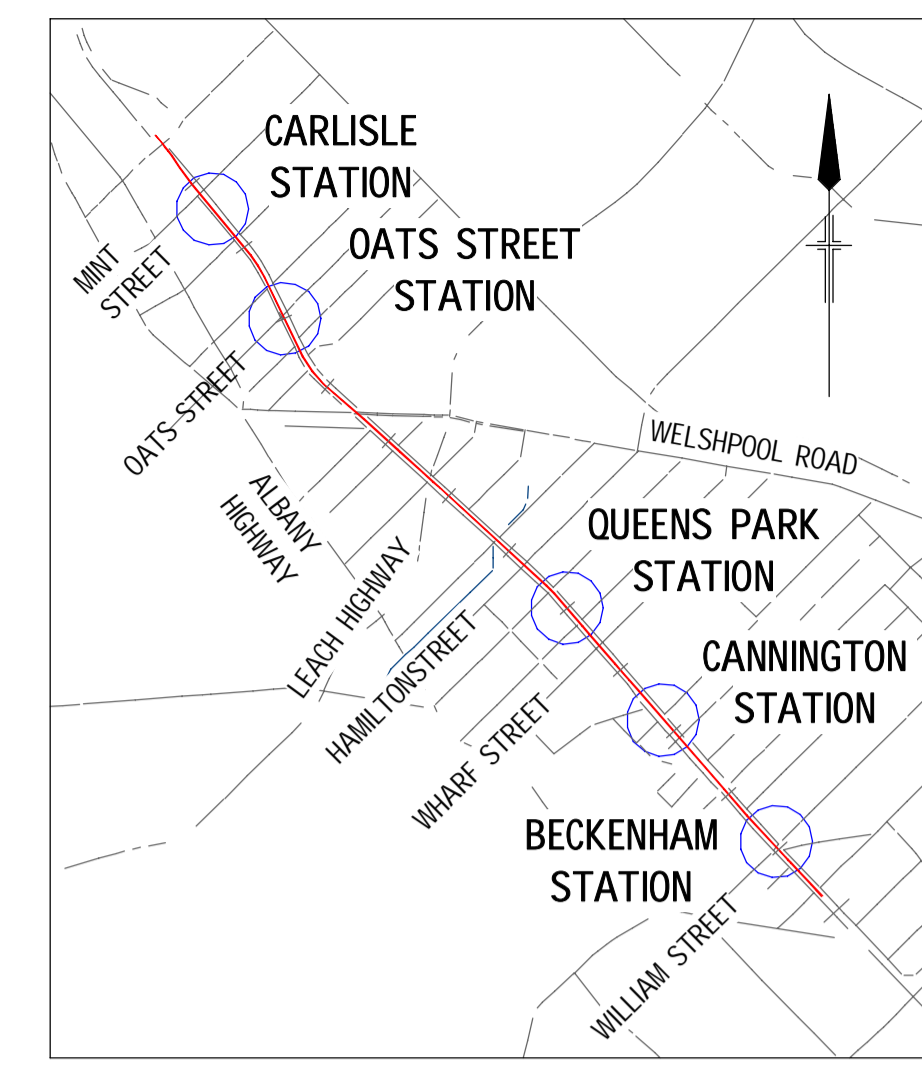
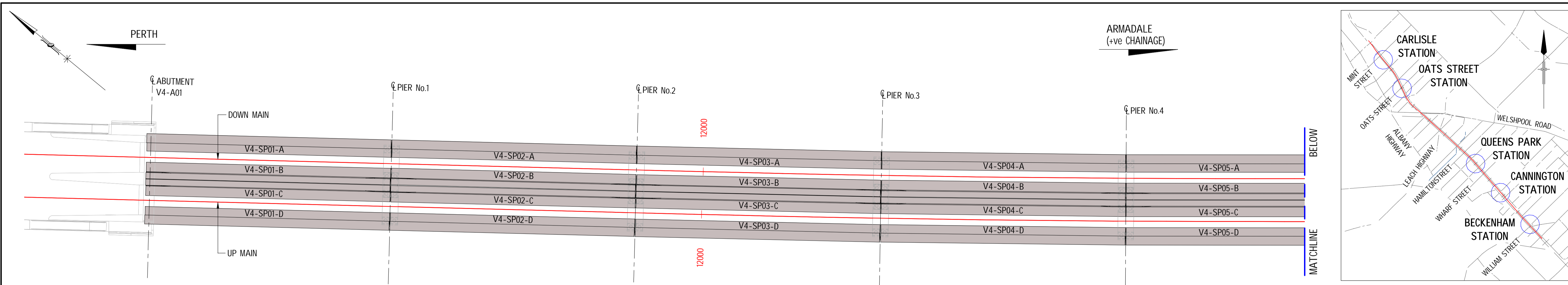
SCALE  
1 : 1  
DATUM  
HORIZONTAL: PCG20  
VERTICAL: AHD71

DESIGNED A.ISAAC  
DRAWN L.RADICI  
CHECKED R.PEYIYLA  
APPROVED B.MARSHALL  
DATE

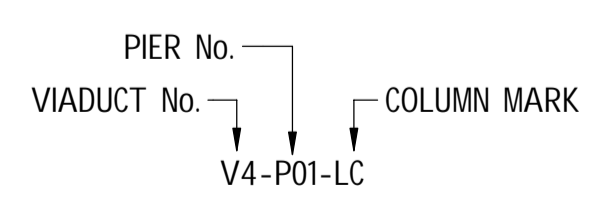
VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL

**ARMADALE LINE - CIVIL STRUCTURES**  
**BECKENHAM VIADUCT**  
**BEARING LOAD SCHEDULE**

PTA Drawing No: **04-S-169-10053**    Rev: **A**



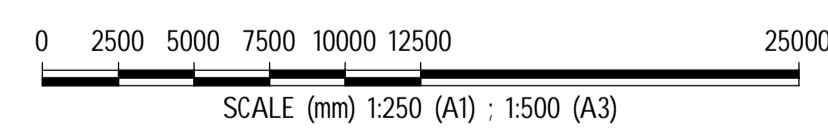
**NOTATION LEGEND:**



**VIADUCT 4 - L-BEAM MARKING PLAN**

SCALE 1 : 250

- NOTES:**
- FOR GENERAL NOTES REFER DRG No. 04-S-169-0006 TO 00008.
  - FOR PIER SCHEDULE REFER DRG No. 04-S-169-10027.
  - FOR HEADSTOCK SCHEDULE REFER DRG No. 04-S-169-10028.



<b>REFERENCE DESIGN</b>	
VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL	
<b>ARMADALE LINE - CIVIL STRUCTURES</b> BECKENHAM VIADUCT L-BEAM MARKING PLAN PTA Drawing No: 04-S-169-10055	
Rev:	<b>A</b>

Contractor No: LXR-P4-Z5-BK-ST-CS-DWG-00055

VALIDATION	REFERENCES	SCALE	DESIGNED
SIGNATURE		As indicated	C.CHANG
DATE		DATUM	DRAWN
DATE APPROVED		HORIZONTAL: PCG20	L.RADICI
		VERTICAL: AHD71	CHECKED
			R.PEYIYA
			APPROVED
			B.MARSHALL
			DATE

