

		Red Line North Elevated and At Grade										
		ITP Doc. No: M002-RLR-ELE-ITP-00006 Rev. 1 Reference Document No: METHOD STATEMENT - M002-RLR-ELE-MES-00006 (Installation of Earthing & Bonding)			Element: Earthing & Bonding							
					SUB-PACKAGE No./Section:							
					Location : Stations							
Legend: <b>H</b> - Hold Point; <b>W</b> - Witness; <b>R</b> - Record Review; <b>S</b> - Surveillance; <b>P</b> - Proceed; <b>QC FREQ</b> - QC Inspection Frequency; <b>TPL</b> - Third Party Laboratory; <b>SUB</b> - Subcontractor; <b>EMP</b> -Employer, <b>ENG</b> -Engineer, <b>N/A</b> - Not Applicable												
Item No.	Operations Activity	QC Inspection Frequency	Verification Docs.: Specification and Code Standard Ref.	Acceptance Criteria	Checking Method	Responsible	ACTION					COMPLIANCE RECORD
							SUB	TPL	RLR	PMC	ENG	
<b>1.0 PRE CONSTRUCTION</b>												
1.1	Permit to Work	Prior to start of work	General Construction Permit	Inspection Report	Granted permits/licenses	Construction Manager/Site Engineer	H	-	H	S	-	Construction permit
1.2	Method Statement Approval	Prior to start of work	Employer's Requirement Vol. 4 clause 16.2	SONO	Review	Construction Manager/Site Engineer/QA/QC/HSE	H	-	H	H	-	Approved M002-RLR-ELE-MES-00006
1.3	Materials Approval	Prior to start of work	i) QCS Section 21 Part 01 Clause 1.1.26 ii) ER Volume 6 Clause 13.1.2.5	SONO	Review	Construction Engineer, QC Inspector	H	-	H	H	-	Approved MAR
1.4	Calibration of Instruments and Measuring Devices and Power Tools	Prior to start of work	Volume 7 Clause 14.7.1	Valid Calibration Certification	Inspection	Site Engineer, QA/QC Engineer/supervisor	H	-	H	R	-	Valid Third Party Certificate
1.5	Area for Storage of Material	Once Prior to Start and Every Material Delivery	M002-RLR-ELE-MES-00006 clause 4.1.4	Space provided is safe for the intended use, not to endanger adjacent structure and avoid obstruction & as per manufacturer's recommendation	Visual and Review of Safety compliant report	Store Manager, QC Inspector, Safety officer	H	-	H	S	-	Inspection Report - IRE & Safety Report
1.6	Material Delivery	Every Material Delivery MIR to be Issued	i) Employer's Requirement Vol. 7 Section 1.2 & ii) M002-RLR-ELE-MES-00006 clause 4.1.4	Verify Material Quantities and Type, Sizes are in accordance with approved Material Submittal and as per manufacturer's recommendation	Visual/inspection/Measurements	QC Inspector & Ware House Supervisor / Site Engineer	H	-	H	W	-	Form M002-RLR-QMS-FRM-00005-Material Inspection Report (MIR), Test/Mill Certificates MAR & M002-RLR-QMS-FRM-00006-Inspection request
1.7	Quality Induction	Prior to start of work	ER Volume 4 section 2.8	Quality induction and training is provided to all personnel	Induction Attendance	Site Engineer, QA/QC Engineer/supervisor	H	-	H	S	-	Training Records
1.8	Approved Shop Drawing	Prior to start of work	ER Volume 4 section 12.1.3	SONO	Visual/inspection/Measurements	Site Engineer, QA/QC Engineer/supervisor	H	-	H	R	-	Drawing Record
<b>2.0 CONSTRUCTION</b>												
2.1	Safety Tool Box talk	Prior to start of work	M002-RLR-ELE-MES-00006 clause 6	Briefing for daily task	Review	Site Engineer/HSE	H	-	H	S	-	Induction Attendance/record

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2.2	Survey Works	Each Location	Employer;s Requirement Volume 4 Section 25 Cl 25.1 to 25.4	Within Accepted survey tolerance, Installation of LV Cables and Wires shall be done as per drawings.	Visual/inspection/Measurements	Site Engineer, QC Engineer, Supervision Engineer (SE)	H	-	H	W	-	Inspection Request Checklist
2.3	Installation of Earthing & Bonding	Each Location	i) M002-RLR-ELE-MES-00006 clause 4.2.2 to 4.2.11 ii) QCS Section 21 Clause 22.3 iii) Volume 7 Section 15	Installation as per Approved drawing & procedure, Property supported/Fixed	Visual/inspection/Measurements/Testing	Site Engineer, QA/QC Engineer	H	-	H	W	-	M002-RLR-QMS-FRM-00006-Inspection request M002-RLR-ELE-FRM-00003-Check list Earthing & Bonding, approved latest drawings, latest Material
<b>3.0 POST CONSTRUCTION</b>												
3.1	Earth Resistance Test (Using Earth Resistance)	Each Location	ii) ER Volume 4 Clause 17.1.5 iii) M002-RLR-ELE-MES-00007 Section 4 Clause 4.2.6 iii) QCS Section 21, Part 22, & Part 23	Test Report	Visual/inspection/Measurements	Site Engineer, QC Engineer	H	-	H	W	-	M002-RLR-QMS-FRM-00006-Inspection request/Test Certificates
3.2	Earthing Continuity Test (using Continuity Tester)	Each Location	i) ER Volume 4 Clause 17.1.5 ii) M002-RLR-ELE-MES-00007 Section 4 Clause 4.2.6 iii) QCS Section 21, Part 22, & Part 23	Test Report	Visual/inspection/Measurements	Site Engineer, QC Engineer	H	-	H	W	-	M002-RLR-QMS-FRM-00006-Inspection request/Test Certificates
3.3	As built Documentation	Submittal after completion	i) QCS 2014 Section 21 Part 1 Clause 1.1.7 & ii) Employers Requirements Volume 3 Clause 5.7	As-Built drawing & Survey & All Test report	Review	QA/QC Engineer/Document Controller/TPL/Subcontractor	H	H	H	W	-	All Documents are complete and readily available / approved IRE's /MAR's /Drawings/Test report or result
<b>VERIFICATION DOCUMENTS</b>												
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					<b>YES - /</b>	<b>NO - X</b>						
4.00	Approved Drawings with Specification											
4.01	Subcontractor SONO											
4.02	Method Statement SONO											
4.03	Request for Commencement											
4.04	Health and Safety Plan											

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4.05	Environment, Sustainability Plan											
<p>The documents identified and contained herein demonstrate that the work described in this package has been constructed in accordance with the contract, available relevant project specifications, drawings and standards. Any notices of non-conformances raised pertaining this package are "Closed-Out". The copy of Packages Records uploaded in the ACONEX database.</p> <p><b>Subcontractor's Engineer</b></p> <p>Name _____ Signature _____ Date _____</p> <p>The documents identified and contained herein demonstrate that the work described in this package has been constructed in accordance with the contract, available relevant project specifications, drawings and standards. Any notices of non-conformances raised pertaining this package are "Closed-Out". The copy of Packages Records uploaded in the ACONEX database.</p> <p><b>Comments By Responsible Project Engineer</b></p> <p>.....</p> <p>Name _____ Signature _____ Date _____</p> <p><b>Comments by the Quality Engineer</b></p> <p>.....</p> <p>.....</p> <p>An audit of the compliance records for this package was carried out and additional non-conformances identified have been issued.</p> <p>Name _____ Signature _____ Date _____</p>												
Form: M002-RLR-QMS-FRM-00001							Rev: 4		10-11-2015			