

**INDEX TO THE JOURNAL OF THE SOUTH AFRICAN
INSTITUTION OF CIVIL ENGINEERING
ISSN 1021-2019 (Volume 63) 2021**

<u>Title</u>	<u>Author(s)</u>	<u>Journal Number</u> <u>Page Numbers</u> <u>File Number</u> <u>DOI Number</u>
ARTICLES		
Reliability basis for assessment of existing building structures with reference to SANS 10160	M Holický J V Retief C Viljoen	No 1, pp 2–10 Paper 1041 http://dx.doi.org/10.17159/2309-8775/2021/v63n1a1
Keywords: structural reliability, existing structures, assessment, standard procedures, applications		
Measurement of probabilistic ballast particle dynamics using Kli-Pi	A Broekman P J Gräbe	No 1, pp 11–23 Paper 0966 http://dx.doi.org/10.17159/2309-8775/2021/v63n1a2
Keywords: probalistic ballast particle dynamics, smart ballast instrumentation, Kli-Pi, granular fabric quantification, mesoscale ballast dynamics, impact loading		
Reliability performance of bridges designed according to TMH7 NA load model	R Lenner S E Basson M Sýkora P F van der Spuy	No 1, pp 24–36 Paper 1102 http://dx.doi.org/10.17159/2309-8775/2021/v63n1a3
Keywords: bridge loading, structural reliability, WIM data, TMH7, traffic loads		
The variability in commercial laboratory aggregate testing for road construction in South Africa	I J Breytenbach H G Fourie	No 1, pp 37–44 Paper 1038 http://dx.doi.org/10.17159/2309-8775/2021/v63n1a4
Keywords: hard rock aggregate, aggregate crushing value, 10% fines aggregate crushing value, polished stone value		

<u>Title</u>	<u>Author(s)</u>	<u>Journal Number</u> <u>Page Numbers</u> <u>File Number</u> <u>DOI Number</u>
<p>Review of compatibility between SANS 10400 deemed-to-satisfy masonry wall provisions and loading code</p> <p>Keywords: low-income housing, National Building Regulations, SANS 10400, South African loading code, concrete masonry, simplified micro-model</p>	<p>W I de Villiers G P A G van Zijl W P Boshoff</p>	<p>No 1, pp 45–60</p> <p>Paper 1062</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n1a5</p>
<p>Design and construction of laboratory-scale activated carbon, gravel and rice husk filter columns for the treatment of stormwater runoff from automobile workshops</p> <p>Keywords: automobile workshop, filter media, pollution, stormwater runoff, treatment</p>	<p>C O Ataguba I Brink</p>	<p>No 1, pp 61–66</p> <p>Technical Note 1158</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n1a6</p>
<p>Prediction of water reuse potential in South African water management areas: A linear regression and Bayesian network approach</p> <p>Keywords: water reuse, wastewater recycling, Bayesian network, linear regression</p>	<p>S Mamane A Abimbade A Ilemobade</p>	<p>No 2, pp 2–9</p> <p>Paper 0784</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n2a1</p>
<p>A self-calibrating model to estimate average speed from AADT</p> <p>Keywords: speed prediction, average annual speed, self-calibration, AADT, economic assessment</p>	<p>M M Bruwer</p>	<p>No 2, pp 10–18</p> <p>Paper 0953</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n2a2</p>
<p>Static pile capacity from the rapid test via the unloading-point method</p> <p>Keywords: piles, load test, clays, dynamics, empiricism</p>	<p>I Luker</p>	<p>No 2, pp 19–26</p> <p>Paper 1120</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n2a3</p>

<u>Title</u>	<u>Author(s)</u>	<u>Journal Number</u> <u>Page Numbers</u> <u>File Number</u> <u>DOI Number</u>
<p>A critical review of the Water Sorptivity Index (WSI) parameter for potential durability assessment: Can WSI be considered in isolation of porosity?</p> <p>Keywords: concrete durability, durability index, water sorptivity, porosity, absorption</p>	<p>A J Moore A T Bakera M G Alexander</p>	<p>No 2, pp 27–34</p> <p>Paper 1123</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n2a4</p>
<p>South African infrastructure condition – an opinion survey for the SAICE Infrastructure Report Card</p> <p>Keywords: infrastructure condition, SAICE Infrastructure Report Card, infrastructure grading system</p>	<p>F C Rust K Wall M A Smit S Amod</p>	<p>No 2, pp 35–46</p> <p>Paper 1030</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n2a5</p>
<p>Prediction of California Bearing Ratio and compaction characteristics of Transvaal soils from indicator properties</p> <p>Keywords: CBR, prediction, indicator tests, subgrade, Proctor</p>	<p>F J Haupt F Netterberg</p>	<p>No 2, pp 47–56</p> <p>Paper 1220</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n2a6</p>
<p>Three-dimensional contact stresses of a slick solid rubber tyre on a rigid surface</p> <p>Keywords: slick solid rubber tyre, three-dimensional contact stresses, 3D, stress-in-motion (SIM) device, heavy vehicle simulator (HVS), multi-layer linear elastic (MLLE) modelling, asphalt concrete (AC) base, Portland cement concrete (PCC) base</p>	<p>M de Beer Y van Rensburg J W Maina</p>	<p>No 3, pp 2–13</p> <p>Paper 1211</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n3a1</p>
<p>Incipient motion of Armorflex articulating concrete blocks on steep slopes</p> <p>Keywords: Armorflex, incipient motion, Movability Number, Technicrete, revetment</p>	<p>K Delpont G R Basson A Bosman</p>	<p>No 3, pp 14–28</p> <p>Paper 1059</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n3a2</p>

<u>Title</u>	<u>Author(s)</u>	<u>Journal Number</u> <u>Page Numbers</u> <u>File Number</u> <u>DOI Number</u>
<p>A parametric design process model for box culverts</p> <p>Keywords: parametric design, automation, culvert, BIM, 3D modelling, design optimisation</p>	<p>N Ngobeni A L Marnewick D J van Vuuren</p>	<p>No 3, pp 29–42</p> <p>Paper 1252</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n3a3</p>
<p>Applicability of CHIRPS-based satellite rainfall estimates for South Africa</p> <p>Keywords: CHIRPS, satellite data, rainfall estimates, remote sensed rainfall, monthly rainfall</p>	<p>J A du Plessis J K Kibii</p>	<p>No 3, pp 43–54</p> <p>Paper 1195</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n3a4</p>
<p>A review of methods to account for impacts of non-stationary climate data on extreme rainfalls for design rainfall estimation in South Africa</p> <p>Keywords: extreme rainfalls, design rainfall and flood estimation, climate change, non-stationarity, global circulation models</p>	<p>K A Johnson J C Smithers R E Schulze</p>	<p>No 3, pp 55–61</p> <p>Paper 0946</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n3a5</p>
<p>Reduction of local scouring at round-nosed rectangular piers using a downstream bed sill</p> <p>Keywords: bed sill, bridge, pier, local scour, rectangular piers</p>	<p>E Sanadgol M Heidarpour R Mohammadpour</p>	<p>No 3, pp 62–70</p> <p>Paper 1060</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n3a6</p>
<p>Flow resistance in channels with large emergent roughness elements</p> <p>Keywords: flow resistance, drag, large-scale roughness, low-flow hydraulics, river flow</p>	<p>C S James</p>	<p>No 4, pp 2–10</p> <p>Paper 1040</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n4a1</p>

<u>Title</u>	<u>Author(s)</u>	<u>Journal Number</u> <u>Page Numbers</u> <u>File Number</u> <u>DOI Number</u>
<p>Understanding the barriers and drivers of sustainable construction adoption and implementation in South Africa: A quantitative study using the Theoretical Domains Framework and COM-B model</p> <p>Keywords: sustainable construction, barriers, drivers, behaviour change, quantitative, South Africa</p>	<p>RJ Marsh A C Brent I H de Kock</p>	<p>No 4, pp 11–23</p> <p>Paper 1202</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n4a2</p>
<p>An investigation of South African low-income housing roof anchor systems</p> <p>Keywords: finite element analysis, low-income housing, masonry, roof anchors, wind damage</p>	<p>R van der Merwe J Mahachi</p>	<p>No 4, pp 24–34</p> <p>Paper 1280</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n4a3</p>
<p>A development cost comparison between a multi-storey mass timber and reinforced concrete building in South Africa</p> <p>Keywords: mass timber, reinforced concrete, construction cost, construction schedule, development cost comparison</p>	<p>S van der Westhuyzen J Wium</p>	<p>No 4, pp 35–44</p> <p>Paper 1281</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n4a4</p>
<p>Load spreading in ultra-thin high-strength steel-fibre-reinforced concrete pavements</p> <p>Keywords: ultra-thin concrete pavements, cement-stabilised bases, finite element modelling, load spreading</p>	<p>M S Smit E P Kearsley</p>	<p>No 4, pp 45–52</p> <p>Paper 1168</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n4a5</p>
<p>Priority infrastructure for minibus-taxis: An analytical model of potential benefits and impacts</p> <p>Keywords: paratransit, minibus-taxi, economic model, priority infrastructure, operating cost</p>	<p>L R de Beer C Venter</p>	<p>No 4, pp 53–65</p> <p>Paper 1228</p> <p>http://dx.doi.org/10.17159/2309-8775/2021/v63n4a6</p>