



Dr. Benjamin Collingwood

B.E., Ph.D., MIEAust., CPEng, RPEQ

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Areas of Expertise

Foundation engineering, geotechnical engineering, geomechanics, construction, foundation evaluation, deep foundations, pile design, foundation construction methodology, pile damage, excavations, basements, retaining walls, bridge foundations, bored piles, drilled shafts, pile sockets, driven piles, steel piles, CFA piles, screw piles, secant walls, sheet piling, piled retaining walls, diaphragm walls, soil mixing, cut-off wall, drilling fluids, bentonite slurry, polymer slurry, pile testing, static load testing, dynamic pile testing, construction management, cost planning and assessment.

Qualifications

- ◆ Bachelor of Civil Engineering (Hons), 1995, Monash University, Melbourne, Australia.
- ◆ Doctor of Philosophy in Geomechanics, 2000, Monash University, Melbourne, Australia. Thesis: The Effects of Construction Practices on the Performance of Rock Socketed Bored Piles.
- ◆ Member of Engineers Australia, Certified Practicing Engineer (CPEng.) and National Engineers Register (NER).
- ◆ Registered Professional Engineer, Queensland (RPEQ).
- ◆ Registered Building Practitioner, Victoria (RBP Vic).

Professional Memberships and Affiliations

- ◆ 2003-2004 Chairman of Australian Geomechanics Society, Victoria Chapter and member of Engineers Australia, Board of Engineering, Victoria.
- ◆ 1998-2000 Australian Geomechanics Society, Victorian Chapter - committee member.
- ◆ 1997-98 Chairman of Organising Committee for the Third ANZ Young Geotechnical Professionals Conference Melbourne, 18-21st February, 1998.
- ◆ 1995-current member of the Australian Geomechanics Society

Awards

- ◆ 1996-1999 Monash University Departmental Scholarship for postgraduate studies.
- ◆ 1994 Foundation Engineering Prize, Department of Civil Engineering, Monash University.



Career Overview

Dr Ben Collingwood is Principal Engineer and Managing Director of FSG Geotechnics & Foundations, where he leads a growing team of professionals practicing in a broad range of geotechnical fields. In addition to his general geotechnical engineering skills, Ben holds key expertise in design and construction of deep foundations and retention systems, having over 23 years' experience in both technical and construction management roles.

Ben commenced his career in 1995 with a leading infrastructure contractor and geotechnical consultant, before spending 11 years with national piling contractor, Wagstaff Piling Pty Ltd. During this time, he was responsible for tendering, design, project engineering and project and construction management for over 350 commercial foundation and retention construction contracts, including some of the largest and most challenging piling projects in Australia. He has a detailed understanding of a broad range of deep foundation and retention systems including bored piling, CFA piling, driven precast, steel and timber piling, sheet piling, piled retention systems, diaphragm walls, cut-off walls and ground improvement. Ben's unique blend of technical knowledge, construction management experience and commercial understanding make him ideally placed to assist clients in all aspects of foundation engineering practice.

Since establishing FSG with colleague Dr Julian Seidel in 2010, Ben has been involved in a broad range of major projects, both nationally and internationally. His business philosophy is built around providing consulting services of the highest technical standard, with a clear emphasis on value engineering and practicality.

Employment History

July 2010-current

Managing Director, FSG Geotechnics & Foundations (formerly Foundations Specialist Group)

Consulting in all aspects of foundation engineering projects throughout Australia and internationally, spanning a broad range of industries, including infrastructure, building, energy, mining, marine, offshore and environmental sectors, for clients including principal contractors, piling subcontractors, structural and geotechnical consultants, private and government owners, insurers and legal firms.

1999-2010

Design Engineer/Project Manager (1999-2003), Construction Manager (2004-2010), Wagstaff Piling Pty Ltd

Project engineering, design and tendering, and project and construction management for a variety of foundation construction projects, involving precast and steel driven piles, bored piles, continuous flight auger piles, sheet piles, secant/contiguous/soldier retaining piles, diaphragm walls; encompassing engineering design, tendering, estimating, marketing and contract negotiation, preparation of marketing documentation, contract preparation and review, preparation and delivery of technical and marketing presentations.

1996-1999

Postgraduate Research Scholar, Monash University, Clayton

Ph.D Project: The effects of construction practices on the capacity of rock socketed piles underaken at the Department of Civil Engineering, Monash University, under the supervision of Dr Julian Seidel and Assoc. Prof. Chris Haberfield.

1995-1996

Geotechnical Engineer, Golder associates (Melbourne)

Planning, execution and reporting of geotechnical site investigation works and geo-environmental site assessments, including site operations, geotechnical logging, sampling, testing, modelling, and formulation of technical recommendations. Supervision and certification of pile foundation and pad footings during construction.



1994-1995

Engineer, Transfield Tunnelling

Project engineering for a number of large-scale tunnelling projects and tender submissions including Melbourne Citylink project.

Selected Projects

FSG Geotechnics + Foundations

Melbourne Metro Tunnels and Stations

Client: Cross Yarra Partnership

Tender peer review of station box diaphragm wall, delivery phase peer review, temporary works design of working platforms, retention and temporary access shafts, constructability advice for station box retention (diaphragm walls and piled retaining walls).

Buckley St Grade Separation

Client: John Holland

Principal foundation and retention designer for road under rail grade separation.

Victoria Harbour, Docklands

Client: Lendlease

Geotechnical design and peer review for Lendlease development precinct, incorporating foundation piling, retaining walls and protection and remediation of existing wharf structures.

Mackay Ring Road

Client: AECOM

Principal foundation designer for 13 road bridges.

Cashin Quay Wharf Remediation

Client: CQ2 Remediation Works

Principal Consultant to Opus International, working for Port of Lyttleton Corporation.

Ipswich Motorway, Stage 1, Rocklea to Darra

Client: BHA JV

Principal designer/Internal reviewer for foundation design for motorway upgrade including 12 new bridges.

Cape Lambert Port B, Phase B Marine Works

Client: Rio Tinto

Design and verification services for wharf piling.

Adelaide Superway Elevated Roadway

Client: Urban Superway Joint Venture

Preliminary and detailed design of CFA foundation scheme for elevated roadway, ground improvement design, sheet piling design, construction phase advice.

Kempsey Bypass, Design and Construct Bridges

Client: Abigroup

Constructability advice and verification services.



Port of Brisbane Wharfs 10 & 11

Client: Port of Brisbane

Verification services for marine piling.

Hay Point Stage 3 Expansion

Client: McConnell Dowell Geosea JV

Constructability advice, temporary works design and verification services for marine piling.

Port Botany, Bulk Liquids Berth 2

Client: John Holland/Smithbridge

Design and verification services for marine piling.

Gladstone LNG and Queensland Curtis LNG Marine Works

Client: John Holland

Constructability advice and verification services for marine piling.

Australian Pacific LNG Marine Works

Client: Waterway Constructions

Constructability advice and verification services for marine piling.

Australian Pacific LNG Marine Works

Client: McConnell Dowell

Design of 1.5 km sheet pile retaining wall.

Wiggins Island Coal Export Terminal (WICET)

Client: Monadelphous

Constructability advice and verification services for marine piling.

Wagstaff Piling (1999-2010)

Baju Apartments, Henley Square

Client: Hickory Developments

Design and construction management for diaphragm wall and ground anchors.

120 Bay St, Port Melbourne

Client: Delta Group

Design and construction management for diaphragm wall for basement retention.

Stevensons Rd Landfill, Cranbourne

Client: Golder Projects

Bentonite cement cut-off wall constructed with diaphragm wall grab.

M1 Upgrade, West Gate Freeway Section (2008-2009)

Client: Thiess Boulderstone JV

Precast and bored piling.

Eastlink Tollway, Knox, Dandenong and Frankston Sections (2006-2007)

Client: Thiess-John Holland Joint Venture

Bored and precast piling.

**M80 Upgrade****Client: Tulla-Sydney Alliance**

Precast piling.

Southern Cross (Spencer St) Station Redevelopment (2004-2005)**Client: Leighton Contractors**

Bored, precast, sheet piling, steel piling, micro-piles.

MCG Northern Stand Redevelopment (2002-2004)**Client: Grocon Constructors Pty Ltd.**

Bored piling.

Deer Park Bypass**Client: Leighton Contractors**

Precast and bored piling.

Adelaide Desalination Plant**Client: Adelaide Aqua**

Large diameter riser shafts.

Sugarloaf Pipeline, Intake Structure**Client: Sugarloaf Pipeline Alliance**

Sheet piling.

Dynon Port Rail Link**Client: Leighton Contractors**

Precast piling.

ANZ Head Office Development, Docklands**Client: Bovis Lendlease**

Precast piling and sheet piling.

Victoria Harbour Development, Docklands**Client: Bovis Lendlease**

Precast piling.

Regional Fast Rail Project, Ballarat Section**Client: Thiess Pty Ltd**

Bored and precast piling.

Bayshore Apartments, Port Melbourne**Client: Delta Pty Ltd**

Contiguous CFA piled retention/foundations.

Crown Casino, Second Hotel Tower**Client: Crown Projects**

Bored and precast piling.

**Collins Street Extension Project****Client: Thiess Pty Ltd**

Bored and precast piling.

Geelong Road Upgrade, Lara, Little River, Maltby and Laverton Sections**Client: John Holland, Leighton Contractors**

Bored and precast piling.

Hallam Bypass Project**Client: *Cut & Fill, John Holland***

Bored and precast piling.

Sale Swing Bridge Project**Client: Thiess Pty Ltd**

Precast piling.

Centurion Apartments, Southbank**Client: Walter Constructions**

Bored and precast piling.

Golder Associates (1995-1996)**Melbourne City Link Project****Client: Southern By-pass, Yarra Crossing, Grant St Cut and Cover****Melbourne City Link****Client: Western Link****Publications**

- B Collingwood, JP Seidel, CM Haberfield (1999). Laser Based Roughness Measurement for Design and Verification of Rock Socketed Piles. Eighth A-NZ Conference on Geomechanics, Hobart, Tasmania, February 1999.
- B Collingwood (2000). The Effects of Construction Practices on the Performance of Rock Socketed Bored Piles. Ph.D Dissertation. Department of Civil Engineering, Monash University Clayton.
- JP Seidel, B Collingwood (2001). A New Factor for Predicting Shaft Resistance of Rock Socketed Piles. Canadian Geotechnical Journal. February, 2001.
- B Collingwood (2003). Geotechnical Investigations for Piling Projects – The False Economy of a Cheap Site Investigation. Australian Geomechanics. Volume 38, No. 1, March 2003.
- B Collingwood (2006). Precast Driven Piles in the Melbourne Region – A Brief Overview of Current Practice. Australian Geomechanics. December 2006.
- CM Haberfield and B Collingwood (2006). Recent Advances in Practical Design of Rock Socketed Piles in Victoria. Australian Geomechanics. December 2006.
- CM Haberfield and B Collingwood (2006). Rock Socketed Pile Design And Construction – A Better Way? Proceedings of the Institution of Civil Engineers - Geotechnical Engineering, Vol. 159, no3, pp. 207-217.
- B Collingwood and J Slatter (2017). Construction Methods and Quality Outcomes for Bored Cast-In-Situ Piles - A Review of Current Practice. DFI-PFSF Piled Foundations & Ground Improvement Technology for the Modern Building and Infrastructure Sector. Deep Foundations Institute, Article #2579; publication #1032 (IC-2017), Melbourne.