



Skilled Migration Occupation Lists Consultation

Department of Education, Skills and Employment

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About us



Consult Australia is the industry association representing consulting firms operating in the built and natural environment sectors. These services include design, engineering, architecture, technology, survey, legal and management solutions for individual consumers through to major companies in the private and public sector including local, state and federal governments. We represent an industry comprising some 48,000 firms across Australia, ranging from sole practitioners through to some of Australia's top 500 firms with combined revenue exceeding \$40 billion a year.

Some of our member firms include:



Traffic Light Bulletin

The following occupation types identified in the Department's [Traffic Light Bulletin](#) of proposed changes to the Skilled Migration Occupation Lists relate to Consult Australia member firms:

- Mechanical Engineering Draftsperson – **upgraded** from the Regional Occupation List (ROL) to the Short-Term Skilled Occupation List (STSOL);
- Geologist – **downgraded** from the STSOL to the ROL;
- Information and Organisation Professionals (not elsewhere classified (NEC)) – **upgraded** from the STSOL to the Medium and Long-Term Strategic Skills List (MLTSSL); and
- Procurement Manager – **upgraded** from the ROL to the MLTSSL.

We welcome these proposed changes, with the exception of the proposal to move geologist from the STSOL to the ROL where we instead believe there is a case to move this profession to the MLTSSL.

Further detail on our position and supplementary evidence on relevant proposed changes, along with an additional change that we recommend the Department consider, are outlined below.

To support our submission, we have attached the following:

- A desktop review that we have undertaken to match key positions at Consult Australia member firms to the Skilled Migration Occupation Lists and the broader Australian and New Zealand Standard Classification of Occupations (ANZSCO) ([Attachment A](#)); and
- Findings from our [2019 Skills Survey Results Report](#) to support our submission.

Medium and Long-Term Strategic Skills List

Consult Australia is supportive of the Department's proposal to include Procurement Manager and Information and Organisation Professionals (NEC) to the MLTSSL.

Information and Organisation Professionals (not elsewhere classified) (224999)

Consult Australia understands the Department's proposal to upgrade information and organisational professionals (NEC) to the MLTSSL relates to emerging data and digital professions that are not captured under the current ANZSCO occupations.

Our member firms have provided feedback that data and digital related skillsets are increasingly in demand at consulting firms in the built environment, and are being used to assist engineering practices to improve and enhance service offerings. Consult Australia's skills survey does not currently capture information on data and digital related skills; however, it is an area that we will look to incorporate in future surveys given recent increases in demand for these skillsets from our industry. We welcome the Department's advice on particular data and digital related skillsets that would be useful to provide further information on to assist with future Skilled Migration Occupation Lists reviews.

We have also requested the Department's assistance to provide a determination on where digital engineers and BIM managers are categorised in the existing ANZSCO occupations, particularly when some of these

roles do not require civil engineering qualifications. Given their similarity to data managers (as 3D modelling captures a range of data that is used to help inform design and construction decisions), we believe there is a case to also include these role types under the information and organisational professionals (NEC) ANZSCO category if this is not yet determined.

Geologist (234411)

Consult Australia's 2019 skills survey identified geologists as a discipline where our member firms are recently experiencing a growing skill shortage. Our skill surveys from 2014 to 2017 did not pick up any skill shortages relating to geologists, however this increased to four per cent of firms experiencing a shortage of geologists in 2018 and to eight per cent in 2019. Over the same timeframe, member firms have flagged an increase in geoscience services, with a year-on-year increase in the proportion of respondents indicating this is an area they have predominately undertaken activities in the survey periods (13 per cent in 2014 to 25 per cent in 2019). We believe an increase in major infrastructure projects, such as new investments in rail and road tunnels in Sydney and Melbourne, is a factor in the increase in demand for geoscience services.

Given the concentration of our member firms in major cities, particularly for our large firms, we believe it is also likely that a high proportion of geological services are provided from our member firm offices in Melbourne, Sydney and Brisbane. We therefore anticipate a breakdown of the skill shortage demand for geologists identified by the Department could suggest that this profession would more appropriately sit in the MLTSSL or STSOL.

We understand the Department is somewhat limited in how it can decipher the national labour market datasets to determine geographical nuances with skill shortages. We are willing to engage further with our member firms to provide further information on the current spread of geologists in our workforce, and where skill shortages are highest, if this assists the Department with the final proposed changes recommended.

Procurement Manager (133612)

While procurement managers in the built environment industry are more common in government agencies and contracting firms than consulting firms, Consult Australia believes the proposal to include procurement managers (and procurement specialists under the information and organisational professional NEC occupations) on the MLTSSL is positive.

We have long campaigned for better procurement practices and skills, highlighting the improved project outcomes and ultimately community and economic benefits that can be achieved through an improved approach. We therefore believe addressing procurement skill shortages by including related professions on the MLTSSL can play an important role in addressing current challenges.

Short-Term Skilled Occupation List

Consult Australia is supportive of the Department's proposal to include Mechanical Engineering Draftsperson to the STSOL. We have no further recommendations for the Department to consider in their proposed update to the STSOL.

Mechanical Engineering Draftsperson (234411)

Our research suggests demand for mechanical engineering drafting skills has increased over recent years and is resulting in skill shortages, and we therefore support the Department's proposal to include this occupation type on the STSOL.

Consult Australia's 2019 skills survey results report identified that percentage of our member firms indicating that they are experiencing shortages relating to mechanical engineering drafting skills increased to 13 per cent. This is an increase from eight per cent in 2018 and seven per cent in 2017.

Regional Occupation List

Consult Australia has no further recommendations for the Department to consider in their proposed update to the ROL.

Australian and New Zealand Standard Classification of Occupations

From a desktop review, Consult Australia has identified the below positions in our member firms that we believe do not have a clear fit within the ANZSCO occupation categories. We welcome feedback or a determination from the Department on how these positions can align to ANZSCO occupation categories.

Digital Engineer/BIM Manager

Engineering in the built environment is increasingly using advanced technologies to capture data and design structure in a digitalised environment. 3D modelling is the best-known type of digital engineering, however the range of data behind these designs also help engineers capture a range of data that can be utilised by construction teams.¹

The growth of digital engineering to inform built environment projects has opened up an increasing demand for digital engineering and Building Information Modelling (BIM) professionals. Many of these professionals may have experience and qualifications in civil engineering, however this is not always critical in these types of roles.

The typical duties of digital design and/or BIM manager roles are:

- Implementing BIM standards on projects;
- Providing input into company-wide BIM systems development;
- Quality assurance checks on designs/documentation prepared to BIM standards to meet client expectations;
- Implementing project documentation plans and any project BIM management or execution plans;
- Participating in day-to-day modelling tasks.

¹ Aurecon, [What is digital engineering?](#)

Skills, qualifications and experiences typically required for these roles include:

- Knowledge of engineering software solutions (i.e. AutoCAD, Revit, Bentley) across different disciplines, including an ability to advise on best practice, interoperability and workflows;
- Experience developing and implementing digital design engineering strategies; and
- A degree in civil engineering or equivalent industry qualification.

Fire Engineer

Fire engineers provide fire safety design, advice and risk assessments, often informed by advanced techniques in simulation and analysis. Fire safety engineering often requires a delicate balance between the competing demands of design's functionality, sustainability, innovation and fire performance.²

The typical duties of a fire engineer are:

- Undertaking the following design, project management, and consulting services:
 - Performance solutions;
 - Fire hazard analysis;
 - Evacuation analysis;
 - Structural fire engineering; and
 - Probabilistic risk assessment.

Skills, qualifications and experiences typically required for fire safety engineering roles include:

- Experience in fire engineering design, project management and implementation;
- Experience in building code consultancy, strategic advice, fire prevention through specialised fire safety design, smoke and egress modelling, construction supervision, inspection and risk assessment;
- Knowledge of relevant legislation, regulations, codes of practice and guidelines; and
- Relevant tertiary qualifications in fire and life safety, structural engineering or similar.

Bushfire Consultant

Bushfire consultants provide a range of services relating to natural resource management, forestry and bushfire services for clients and communities, including preparing technical reports, management plans and strategies, making technical decisions, and contributing to the preparation of related proposals.

Skills, qualifications and experiences of a bushfire consultant will typically entail:

- Experience in natural resource management and/or bushfire management;
- Qualifications in science or forestry/land management related disciplines;
- Post-graduate qualifications in bushfire planning and design; and
- Ability to deliver high quality and technically robust project outcomes.

² Arup, [Fire engineering](#)

Human Factors Consultant

This role plans and delivers human factors activities and deliverables as part of wider engineering programs, and in conjunction with other engineering disciplines. Human factors can be defined as the science dealing with the application of information on physical and psychological characteristics to the design of systems and assets for human use.

The typical duties of a human factors consultant include:

- Developing relevant human factors management plans and procedures for complex projects, from both a technical and commercial perspective;
- Identifying human factors issues and carrying out assessments for a range of projects (for example, a rail or road infrastructure project);
- Carrying out human factors analysis techniques by using anthropometric data (for example, hierarchical task analysis, human error and reliability analysis, human factors analysis, workload analysis, and structured interviews with subject matter experts);
- Preparing human factors requirements as part of inputs for a design;
- Facilitating human factors workshops and participating in risk workshops; and
- Supporting bid and proposal activities that identify human factors engineering solutions.

Skills, qualifications, and experiences of a human factors consultant could include:

- Experience in undertaking formal human factors analysis as applied to engineering programs;
- Knowledge of systems engineering and an understanding on how to integrate human factors into this approach; and
- Relevant degree and/or post graduate qualification in occupational psychology or ergonomics (or three years equivalent experience).

Attachment A: Key positions at Consult Australia member firms

Key positions at Consult Australia member firms based on how they relate to ANZSCO and the current Skilled Migration Occupation Lists are outlined below. We have also undertaken a desktop review of other related position titles, and we welcome the Department's feedback to confirm how they align with ANZSCO occupations.

MLTSSL

ANZSCO occupation	ANZSCO code	Other related position titles
Analyst Programmer	261311	<ul style="list-style-type: none"> Benchmarking and Analytics Modeller
Architect	232111	<ul style="list-style-type: none"> Heritage Architect
Botanist	234515	
Cartographer	232213	
Chemical Engineer	233111	
Chief Executive or Managing Director	111111	
Chief Information Officer	135111	
Civil Engineer	233211	<ul style="list-style-type: none"> Hydraulic Services Engineer Dams Engineer Water Engineer Utilities Engineer Pavement Engineer Design Manager Tailings Engineer
Civil Engineering Draftsperson	312211	<ul style="list-style-type: none"> Civil Structures Modeller Revit Modeller Civil Designer Technical Officer MX Designer Structural Drafter CAD Technician
Civil Engineering Technician	312212	
Construction Project Manager	133111	<ul style="list-style-type: none"> Program Manager Project Manager Design Manager Integrated Project Planner

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ANZSCO occupation	ANZSCO code	Other related position titles
Corporate General Manager	111211	
Economist	224311	<ul style="list-style-type: none"> • Infrastructure Economist • Business Case Advisor
Electrical Engineer	233311	<ul style="list-style-type: none"> • Earthing and Bonding Engineer • Secondary System Engineer • Airfield Ground Lighting Engineer • Power Systems and Network Planning Engineer • Rail Systems Engineer • OHW Engineer • Intelligent Transport Systems Engineer • Traffic Signals Engineer
Electrical Engineering Draftsperson	312311	<ul style="list-style-type: none"> • Secondary Systems Designer • Electrical Drafter
Engineering Professionals NEC	233999	<ul style="list-style-type: none"> • Acoustic Engineer <ul style="list-style-type: none"> ◦ Audio Visual and ICT Engineer
Environmental Consultant	234312	<ul style="list-style-type: none"> • Sustainability Consultant • Occupational Hygienist • Environmental Approvals Consultant
Environmental Engineer	233915	<ul style="list-style-type: none"> • Drainage Engineer
Environmental Manager	139912	<ul style="list-style-type: none"> •
Environmental Research Scientist	234313	<ul style="list-style-type: none"> • Marine Environmental Scientist • Ecologist
Environmental Scientists NEC	234399	
Geophysicist	234412	
Geotechnical Engineer	233212	
Hydrogeologist	234413	
ICT Business Analyst	261111	<ul style="list-style-type: none"> • ICT Consultant • Digital Solutions Architect
ICT Security Specialist	262112	<ul style="list-style-type: none"> • Cyber Security Consultant
Industrial Engineer	233511	
Landscape Architect	232112	
Management Accountant	221112	<ul style="list-style-type: none"> • Finance Business Partner

ANZSCO occupation	ANZSCO code	Other related position titles
		<ul style="list-style-type: none"> Project Finance Representative
Management Consultant	224711	
Materials Engineer	233112	
Mechanical Engineer	233512	<ul style="list-style-type: none"> Utilities Engineer Bulk Fuel Engineer
Mining Engineer	233611	
Other Spatial Scientist	232214	
Petroleum Engineer	233612	
Production or Plant Engineer	233513	
Quantity Surveyor	233213	<ul style="list-style-type: none"> Cost Manager
Structural Engineer	233214	<ul style="list-style-type: none"> Bridges Engineer Marine Structural Engineer
Surveyor	232212	
Transport Engineer	233215	<ul style="list-style-type: none"> Highway Design Engineer Combined Services Route (CSR) Engineer Rail Engineer Systems and Safety Assurance Engineer

STSOL

ANZSCO occupation	ANZSCO code	Related position/role types at member firms
Architectural Draftsperson	312111	
Building Inspector	312113	
Contract Administrator	511111	
Geologist	234411	<ul style="list-style-type: none"> Contaminated Land Consultant
Human Resource Manager	132311	
Information and Organisation Professionals NEC	224999	
Marketing Specialist	225113	<ul style="list-style-type: none"> Marketing Advisor
Mechanical Engineering Technician	312512	
Occupational Health and Safety Adviser	251312	<ul style="list-style-type: none"> Safety Specialist Site HSE Advisor
Organisation and Methods Analyst	224712	

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Program or Project Administrator	511112	<ul style="list-style-type: none"> • Proposal Project Coordinator • Project and Finance Administrative Assistant • Design Coordinator • Document Controller • Integrated Project Planner
Quality Assurance Manager	139914	
Research and Development Manager	132511	
Sales and Marketing Manager	131112	<ul style="list-style-type: none"> • Business Development Manager • Marketing and Bid Manager
Social Professionals NEC	272499	
Specialist Managers NEC	139999	
Urban and Regional Planner	232611	<ul style="list-style-type: none"> • Urban Designer • Environmental Planner • Transport Planner • Space Planner • Water Planner

ROL

ANZSCO occupation	ANZSCO code	Related position/role types at member firms
Archaeologist	272414	
Building and Engineering Technicians NEC	312999	
Building Associate	312112	
Conservation Officer	234311	
Construction Estimator	312114	
Human Resource Adviser	223111	
Liaison Officer	224912	<ul style="list-style-type: none"> • Social Impact Assessment Consultant • Stakeholder Engagement Consultant
Maintenance Planner	312911	
Mechanical Engineering Draftsperson	312511	
Migration Agent/Consultant	224913	
Procurement Manager	133612	
Surveying or Spatial Science Technician	312116	<ul style="list-style-type: none"> • GIS Analyst

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Contact

We would welcome any opportunity to further discuss the issues raised in this submission. To do so, please contact:

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