

Warren  
Smith

Consulting Engineers

# CIVIL SERVICES EXPERTISE STATEMENT

# BUSINESS AND GOALS



BARANGAROO HEADLAND

Warren Smith Consulting Engineers (Hydraulic, Fire, Civil and Utilities Infrastructure), was founded on the 10th August, 1981.

We have been involved with over 6,000 projects of all development classifications and scale.

Our project experience extends to not only NSW, ACT and VIC, but throughout Australia and abroad.

## Company Core Values:

- Partnerships and collaborations with our delivery partners
- Commitment to innovation and excellence
- Advancement of our staff through training and development
- Treat others like you would want to be treated

## Our objectives are to:

- Produce and deliver excellent cost effective design
- Provide dependable professional service with unquestionable integrity
- Continually research and develop new design techniques
- Maintain our position as leaders in our profession
- Be friendly and approachable
- Co-operate within a team



# THE TEAM

**Our key personnel and directors have comprehensive industry experience and knowledge.**

Our managers, without exception are all long-term employees of the firm. Our key personnel are:



**Warren Smith**  
*Managing Director*  
Years in Industry: 55  
Years with WSCE: 40



**Michael Cahalane**  
*Director –  
Civil & Water Engineering*  
Years in Industry: 23  
Years with WSCE: 14



**Tom Wise**  
*Director –  
Hydraulic*  
Years in Industry: 12  
Years with WSCE: 10



**David Bolt**  
*Director –  
Fire*  
Years in Industry: 26  
Years with WSCE: 25



**Preneshin Govender**  
*Partner –  
Civil & Water Engineering*  
Years in Industry: 17  
Years with WSCE: 4



**Cristina Nugpo**  
*Team Leader –  
Utility Infrastructure –  
Civil & Water Engineering*  
Years in Industry: 12  
Years with WSCE: 1

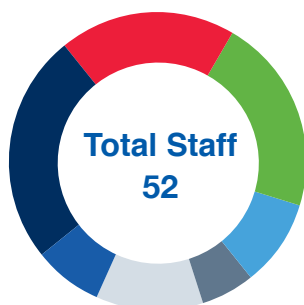


**Grahame Barnes**  
*Design Manager –  
Hydraulic*  
Years in Industry: 40  
Years with WSCE: 35



**Ian Stone**  
*Expertise Leader –  
Fire*  
Years in Industry: 43  
Years with WSCE: 35

Currently, Warren Smith Consulting Engineers consists of the following directly employed staff:



- Engineers & Designers, Hydraulic
- Engineers & Designers, Fire
- Engineers, Technologists & Designers, Civil
- Water Servicing Coordinators, Water & Sewer
- BIM/CAD Operators
- Support Staff
- Directors

Our engineers, technologists and designers are qualified profession members of the following organisations:-



# WHAT WE DELIVER

Warren Smith Consulting Engineers offer skilled professionals, who are effective communicators and valued members of any team. Our team is supported by our progressive design and quality assurance systems.

With access to decades of design and engineering experience, matched by our young innovative staff, we present a dynamic team capable of delivering significant projects.

Our team has a thorough understanding of both common and unique engineering design challenges. Through our experience, we have developed design knowledge and strategies to maximise the usable space and minimise the cost of the development.

Our team applies our design skills to ensure that the documentation we produce, and the advice we provide, is tailored to meet individual project goals and challenges.

We focus on the delivery of a premium product to our clients, which in the long term, is proven to be the most cost effective, aesthetically pleasing and space efficient. We also recognise that it is not only engineering that makes for an effective outcome. Engineering needs to be backed up by astute management and understanding of the project timeline and deliverables.

## Warren Smith Consulting Engineers provide specialist engineering services:

- Due diligence, compliance, condition and investigation reporting
- Master planning, concept, and schematic design
- Design development and contract documentation
- Sustainable and strategic system capex and opex analysis
- Construction administration
- Project management
- Feasibility studies
- Risk management
- Safety in design analysis
- Fit for purpose analysis

***We hope you enjoy the open, friendly, yet professional and skilled culture of our team, when embarking on your next project.***



SYDNEY OPERA HOUSE



Warren Smith Consulting Engineers civil and water engineering group was established in 1994 and has demonstrated expertise in a broad range of projects.

With outstanding, driven professionals we provide consulting and technical services to developers across all infrastructure, health, commercial and residential sectors.

These services range from initial planning and feasibility studies, site planning and design, detailed road, civil and services design, contract documentation through construction phase.

We are committed to collaborate with all stakeholders and their vision by providing cost-effective and innovative solutions to each project with reliability, innovation and quality.

### Civil services specialise in:

- Hydrological, hydraulic and river systems modelling
- Flood studies
- Design of hydraulic structures, culverts, weirs etc
- On site detention modelling and design
- Water sensitive urban design (WSUD)
- Water balance modelling and design
- Urban drainage and overland flow design
- Stormwater management plans
- Road geometric design
- Flexible and rigid pavement design
- Intersection and roundabout design
- Linemarking and street signage design
- Bulk earthworks
- Erosion and sedimentation management plans
- Water Smart including the design of sewer/water treatment plants, pump stations and reticulation networks
- Pipeline design (water, sewer, stormwater) including design of trenchless systems

### Software for design and analysis:

- 12D, CIVIL 3D and ARD – survey, road geometric, bulk earthworks and drainage analysis
- TUFLOW, DRAINS AND ILSAX – hydrologic, hydraulic and on-site detention analysis
- HEC-RAS – river and channel hydraulic analysis
- MUSIC – water quality modelling
- LiDAR – 3D satellite imagery
- CIRCLY – road pavement design
- Pipeclass – pipeline design
- Pipe Flow - Hydraulic Modelling

### Key personnel

Michael Cahalane  
Director – Civil & Water Engineering  
61 433 522 569  
michael@warrensmith.com.au



Preneshin Govender  
Partner & Technical Manager –  
Civil & Water Engineering  
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preneshin@warrensmith.com.au



McCARRS CREEK

## Accredited Water Servicing Co-Ordinators and Designers

Warren Smith Consulting Engineers water engineering team has been part of the practice since 1994 and is managed by senior professional staff with long connections to the business and industry.

We are fully licensed Water Servicing Coordinators and designers for Sydney Water, Hunter Water Corporation and Icon Water. We have developed positive relationships over the years built on a foundation of trust and a dedication to quality. The result is the ability of the team to obtain reasonable outcomes in a timely manner.

Our services cover the following:

### **Sydney Water Section 73 Applications**

### **Hunter Water Section 50 Applications**

### **Facilitation of building plan approval in accordance with Sydney Water guidelines**

### **Water and wastewater engineering:**

- Precinct master planning
- Feasibility, strategy studies and investigations
- Water network modelling and design
- Water and effluent reuse systems
- Sewerage reticulation and distribution pipe networks

### **The types of infrastructure services include:**

- Watermains
- Sewer mains
- Pumping stations
- Stormwater channels
- Wastewater treatment plants
- Amplifications and renewals

The team is fully accredited to undertake design, and to project manage the construction of sewer, water, and stormwater assets of all sizes.

### **Construction Management:**

Personnel on the ground understand the importance of completing works in accordance with construction programming.

By planning works with careful consideration of health & safety procedures, the satisfaction of utility asset inspection services is ensured and works can proceed unhindered.

### **Key personnel**

Michael Cahalane  
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Cristina Nugpo  
Team Leader – Utility Infrastructure  
– Civil & Water Engineering  
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# CIVIL SERVICES – PROJECTS

Some of the key Civil Services Projects that we have provided consultancy services on include:



## Northconnex M1-M2 Motorway (2015 – ongoing)

### Client:

Lend Lease Bouygues Joint Venture

### Project Value:

\$3B

### Contact:

Arthur Vasilaras (LLB Joint Venture)  
Services Manager  
0418 686 452

### Scope of Works:

- Deviation of water and sewer infrastructure to allow for road augmentation works associated with the new 9km tunnel including new bore under M1 motorway.
- Production of flow isolation and management plans.
- Deviation of stormwater infrastructure, including hydraulic analysis of new pipe system.

## Barangaroo Headland Park (2010 – ongoing)

### Clients:

Barangaroo Delivery Authority/  
Boulderstone /Lend Lease  
Building

### Project Value:

\$220M

### Contact:

Kieron Little (Lend Lease)  
Project Director  
0414 870 675

### Scope of Works:

- Masterplanning design to deal with the existing pump station located on the site where 8m of fill is to be placed over.
- Decommissioning of the heritage listed sewage pump station SPS0014.

- Deviation of 700m of DN375 pipeline by microtunnelling with bore pit depths of 6.0-7.5m.
- 900m of bio-retention swales capturing stormwater from the parklands.
- A seepage water collection system capturing stormwater which infiltrates through the newly created 18.0m high hill.
- 1.25ML stormwater storage tank, 0.25ML seepage water storage tank and pump room, all located at RL -7.0m below basement carpark.
- Numerous permanent and temporary deviations required for the development works.

# CIVIL SERVICES – PROJECTS

Some of the key Civil Services Projects that we have provided consultancy services on include:



## University of Canberra Public Hospital (2015 – ongoing)

**Client:**  
Brookfield Multiplex

**Project Value:**  
\$180M

**Contact:**  
Heidi Sowerbutts  
Design Manager  
0409 435 812

### Scope of works:

- Design of 600m of public roads including two roundabouts.
- Design of internal roads, car parking and loading docks.
- Design of bulk earthworks and cut/fill.
- Design of stormwater drainage including 1,000m<sup>3</sup> of detention basins.
- Design of environmental controls and water quality measures.



## Kapooka Army Base ELF Expansion (2008 – 2012)

**Client:**  
Department of Defence (DoD)

**Project Value:**  
\$220M

**Contact:**  
Nathan Szymanski (DoD)  
Project Manager  
0428 963 276

### Scope of works:

- New base sewage treatment plant for irrigation and toilet flushing reuse.
- 10km of effluent distribution pipelines, including 2km of rising main.
- A 1.0ML effluent reservoir, telemetry and chlorination system.
- All road and stormwater drainage works for the above facilities.



## Calvary Bruce Private Hospital Redevelopment, ACT (2014 - ongoing)

**Client:**  
Calvary Private Hospital

**Project Value:**  
\$55M

**Contact:**  
Mick O'Driscoll (Donald Cant Watts Corke)  
Project Manager  
0420 540 211

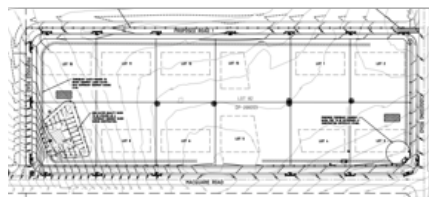
### Scope of works:

- Diversion of existing overland flow path through DN900 pipe away from proposed development site.
- Design of site stormwater drainage system incorporating water quality treatment device to meet pollutant reduction loads for ACT Planning and Land Authority.
- Design of pavements for driveway, car parking, service area and loading dock.
- Design of driveways and turning path analysis.



# CIVIL SERVICES – PROJECTS

Some of the key Civil Services Projects that we have provided consultancy services on include:



## Byron Shire Central Hospital (2013 – Ongoing)

**Client:**

Brookfield Multiplex

**Project Value:**

\$95M

**Contact:**

John Corcoran (Multiplex)  
Services Manager  
0414 411 979

**Scope of Works:**

- Design of new Byron Shire Council sewage pumping station including pumping station wet well, valve pits and all associated pumping equipment design.
- 4.5km of associated twin rising main connecting to council treatment plant (DN280 and DN110).

## Rouse Hill Subdivision (2014 – 2015)

**Client:**

Mr. Jonathan O'Brien

**Project Value:**

\$25M

**Contact:**

Jonathan O'Brien (client)  
0404 499 251

**Scope of Works:**

- 12 lot subdivision.
- Design of stormwater treatment systems including 10 rainwater tanks, enviropods and gross pollutant traps.
- Temporary on-site detention tanks and bioretention swales to facilitate the staged construction process.
- Road design of the public network which surrounds the property.
- Connection into existing watermain service to provide frontage for each lot.

## RSL Veterans Retirement Village, Narrabeen (2009 – 2015)

**Client:**

RSL Lifecare

**Project Value:**

\$10M

**Contact:**

Mark Owens (RSL Lifecare)  
Project Manager  
0401 236 618

**Scope of Works:**

- 83 Unit Living Independent Unit Development.
- Design for early works to construction.
- Design of 1500m of roadway, bulk earthworks, stormwater drainage and bioretention swales.

# CIVIL SERVICES – PROJECTS

Some of the key Civil Services Projects that we have provided consultancy services on include:



## Sydney Opera House Upgrade (2010 – 2012)

**Client:**  
Sydney Opera House (SOH)

**Project Value:**  
\$150M

**Contact:**  
Greg McTaggart (SOH)  
Project Director  
0418 260 684

### Scope of Works:

- Deviation of the Bennelong trunk stormwater system as part of the VAPS project.
- Works included the installation of 2.4m wide by 1.8 deep in-situ box culvert system and new harbour discharge.
- Challenging construction issues with tide and existing services.

## University of Sydney Australian Institute of Nanoscience

**Client:**  
University of Sydney (UoS)

**Project Value:**  
\$40M

**Contact:**  
Seamus O'Connell (UoS)  
Project Director  
0411 126 060

### Scope of Works:

- Deviation of DN900 stormwater trunk main around the new Nanoscience precinct.
- Design of a pressurised stormwater pipe system to ensure no surcharge flows reticulate into depressed site.
- New overflow systems provided to sports oval to prevent downstream flooding.

## Royal North Shore Hospital (2012 –2015)

**Client:**  
Health Infrastructure

**Project Value:**  
\$170M

**Contact:**  
Tim Pike (APP Corporation)  
Project Manager  
0411 750 517

### Scope of Works:

- Deviation of existing DN500 trunk watermain around the property boundary. The works included the installation of DN500 steel pipes 3 metres deep to avoid significant electrical infrastructure.
- Sewer and trade waste drainage.
- Cold, hot and warm water services.
- Non potable water.
- Fire sprinkler and detection service.

# CIVIL SERVICES – PROJECTS

Some of the key Civil Services Projects that we have provided consultancy services on include:



## Sydney Adventist Hospital (2011 – 2013)

**Client:**  
Sydney Adventist Hospital

**Project Value:**  
\$200M

**Contact:**  
Ioan Morgan (Johnstaff Projects)  
Project Manager  
0433 127 448

### Scope of Works:

- Amplification of existing DN150 watermain to DN200 watermain to provide adequate pressure and supply for the Hospital's future expansion.
- Sewer and trade waste drainage.
- Cold, hot and warm water services.
- Non potable water.
- Fire sprinkler and detection service.
- Syphonic roof drainage and rainwater harvesting.
- Dialysis reverse osmosis treated water.



## Darling Quarter (2009 – 2011)

**Client:**  
Lend Lease

**Project Value:**  
\$500M

**Contact:**  
Rob Van Wanrooy (Lend Lease)  
Project Manager  
0401 148 864

### Scope of Works:

- Deviation of existing trunk stormwater main around the footprint of the new commercial precinct.
- Works included the installation of DN1800 pipes and 1.5m wide by 1.5m deep box culverts in extremely tight corridors.



## Northern Beaches Hospital (2012 – ongoing)

**Client:**  
Health Infrastructure/ Ferroual York

**Project Value:**  
\$600M

**Contact:**  
James Holbrook (Johnstaff Projects) Project Manager  
0428 026 417

### Scope of Works:

- Design and project management of 1150 metres of DN300mm sewer reticulation main for the new Hospital development.
- Design and project management of water and sewer adjustments required for road upgrades.





# CIVIL SERVICES – PROJECTS

Some of the key Civil Services Projects that we have provided consultancy services on include:



## Holroyd to Rookwood Power Infrastructure (2013 – 2014)

**Client:**

Transgrid/Diona

**Project Value:**

\$300,000

**Contact:**

Charlie Haire (Diona)  
Project Manager  
0408 481 134

**Scope of Works:**

- Relocation of two (2) DN450 steel sewer lines and scour valve arrangements for DN1800 steel trunk watermain.

## Singleton Army Base Vehicle Wash Station ELF Upgrade (2008 – 2012)

**Client:**

Department of Defence

**Project Value:**

\$220M

**Contact:**

Mati Yogev (Jacobs)  
Project Architect  
(02) 9032 1531

**Scope of Works:**

- Design of automated truck wash for Defence vehicles, including Mack MC3.
- Design of effluent reuse system to treat and reuse the wash down water.
- System includes a 1.5Ha with 18mL capacity overflow pond.
- Recycled waste water treatment system incorporating screen filter, depth filter, carbon filter and reverse osmosis system.
- A 216kL recycled water tank to store treated water for reuse in automatic truck wash.

## Castle Hill Subdivision (2011 – Ongoing)

**Clients:**

Lanox Pty Ltd & KMSJ Pty Ltd

**Value:**

\$20M

**Contact:**

Bob Stewart (Complete  
Infrastructure Services)  
Project Manager  
0414 257 238

**Scope of Works:**

- Design of 800m of pavement and roadways.
- Civil design of allotments, including cut/fill analysis and retaining walls.
- Interallotment drainage and water quality.
- Onsite detention provided by a series of in ground tanks located in each lot.
- 1.0m wide swale with rock/rubble lined base to capture overland flow along the eastern boundary.
- Sydney Water sewer extension.



# CIVIL SERVICES – PROJECTS

Some of the key Civil Services Projects that we have provided consultancy services on include:



## Riverwood North Residential Renewal Project, Riverwood (2010 – 2013)

**Client:**

Cantebury Council, Housing NSW & Payce Communities Pty Ltd Sydney

**Project Value:**

\$40M

**Contact:**

Nik Frank (M Projects)  
Project Manager  
0416 199 981

**Scope of Works:**

- Design of 900m of public roads and drainage.
- Design and Project Management of the construction of 730 metres of DN200mm watermain reticulation for 8 super lots.
- Design and Project Management of the construction of 534 metres of DN225mm sewer reticulation main for 8 super lots.



## Barangaroo Masterplan (2010-Ongoing)

**Client:**

Barangaroo Delivery Authority (BDA)

**Project Value:**

\$22M

**Contact:**

Peter Funder (BDA)  
Project Director  
0437 689 915

**Scope of Works:**

- Design of upgrade road works to Hickson Road.
- Sydney Water sewer and water masterplanning to address the additional loading resulting from Barangaroo South, Central, Crown Casino and Barangaroo Point.
- Advice on the construction of new buildings in Central adjacent to and over the existing sewerage pump station SPS1129.



## University of Sydney (UoS) Masterplan (2013-Ongoing)

**Client:**

The University of Sydney

**Project Value:**

\$20M

**Contact:**

Martin Ayers (UoS)  
Services Manager  
0401 719 579

**Scope of Works:**

- Provision of construction documentation for the campus infrastructure upgrade of stormwater, water, gas and sewer.
- Assessment of the capacity of the existing sewer and watermain infrastructure within and surrounding the campus.
- Estimation of the additional loading resulting from the \$1.4bn 2020 Campus Improvement Plan which proposes an additional 260,000m<sup>2</sup> of GFA.
- Identification of upgrade and amplification requirements which may need to be carried out due to the proposed developments.
- Provision of sewer and water infrastructure upgrade plans for proposed staged developments.

# CONTACTS



## DIRECTORS

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## KEY PERSONNEL – NEW SOUTH WALES

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Team Leader – Utility Infrastructure –  
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## KEY PERSONNEL – VICTORIA

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HYDRAULIC

FIRE

CIVIL

UTILITIES INFRASTRUCTURE