Role Description
Senior Spatial Developer

Cluster	Planning, Housing and Infrastructure
Agency	Department of Planning, Housing and Infrastructure
Division/Branch/Unit	Property Development and Valuation /Value NSW /VAL IQ Application Support
Classification/Grade/Band	Clerk Grade 9/10
ANZSCO Code	312116
PCAT Code	1126492
Date of Approval	September 2024
Agency Website	https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure

Agency overview

The Department of Planning, Housing and Infrastructure (DPHI) improves the liveability and prosperity of NSW. To achieve this, we:

- create vibrant, productive spaces and precincts;
- manage lands, assets and property effectively; and
- deliver affordable and diverse housing.

We strive to be a high performing, world class public service organisation that celebrates and reflects the full diversity of the community we serve and builds the cultural capability of our department to improve outcomes with, and for, Aboriginal people, communities and entities

Value NSW (VNSW), a key agency within DPHI, operates under delegated authority from the Valuer General to provide fair and independent land valuations for the NSW community. VNSW manages essential functions such as customer service, contract management, and the maintenance of the Register of Land Values. Each year, VNSW values approximately 2.6 million properties, worth over $2.6 trillion, and provides live data that supports $15 billion in annual revenue for state and local services. VNSW ensures compliance with relevant legislation while upholding public trust in the valuation system.

Primary purpose of the role

The Senior Spatial Developer develops, maintains, and enhances GIS (Geographic Information System) applications and spatial data systems to ensure they meet the business requirements and align with organisational goals through the leverage of spatial technologies.

.

Key accountabilities

- Design, develop, and maintain GIS applications and spatial databases using ESRI's ArcGIS platform and other relevant technologies, focusing on optimising performance, data accessibility, and integration with enterprise systems.
- Manage and implement best practices for spatial data management ensuring data quality, integrity, transformation, storage and compliance with relevant standards.
- Collaborate with development teams and other stakeholders to implement new features, ensuring the stability, performance, and scalability of spatial applications and data systems
- Lead the integration of GIS systems with other enterprise platforms using APIs and manage cloud-based deployments to ensure seamless and efficient operations across the organization.
- Develop high-quality spatial visualisations, using advanced cartographic techniques and GIS visualization tools that effectively communicate complex data insights to stakeholders.
- Provide technical support for GIS services, implement test-driven development (TDD) practices, and troubleshoot issues to maintain high standards of code quality and system stability.

Key challenges

- Ensuring the accuracy, quality, and integrity of large spatial datasets in a complex, multi-system environment.
- Balancing the need for robust, efficient GIS application design with the requirement for seamless integration with other enterprise systems.
- Effectively communicating complex spatial data insights through advanced visualisations while maintaining clarity and usability.

.

Key relationships

Who	Why
Internal	
Director	• Offer technical advice on the design and integration of GIS systems, focusing on data management and visualisation capabilities. • Contribute to discussions on GIS-related projects, ensuring alignment with organisational goals.
Manager/Product Owner	• Provide guidance on ensuring GIS development aligns with project goals, particularly in the areas of data management, system design, and visualisation. • Participate in sprint planning and execution, focusing on optimising data management processes and integrating advanced visualisation techniques.
Team	• Collaborate with team members on resolving technical issues, sharing best practices in GIS development, data management, and visualization. • Participate in discussions to ensure the achievement of data management and visualization goals.

Who	Why
Stakeholders	- Provide expert advice on GIS and spatial science related issues - Consult and collaborate to resolve project related issues, define mutual interests and determine strategies to achieve their realisation
External	
Customers/Stakeholder/Industry Professionals/government agencies	- Develop and maintain effective working relationships and open channels of communication to provide information, seek advice and ensure effective management and implementation of expectations and standards - Collaborate on the implementation of strategies, stay current with best practices, and ensure compliance with contracts and service arrangements. - Represent the organisation in external forums, meetings, and discussions, advocating the agency's position and contributing to the exchange of information and innovative practices.

Role dimensions

Decision making

- This role has autonomy and makes decisions that are under their direct control as directed by their Manager. It refers decisions that require significant change to program outcomes or timeframes or are likely to escalate or require submission to a higher level of management to their manager.
- This role is fully accountable for the delivery of work assignments on time and to expectations in terms of quality, deliverables and outcomes.
- This role submits reports, business cases and other forms of written advice with minimal input from the manager.

Reporting line

Principal Application Developer

Direct reports

Nil

Budget/Expenditure

Nil

Knowledge and experience

- Experience designing, developing, integrating and maintaining spatial databases, with systems such as PostGIS, Oracle Spatial or similar.
- Expertise creating high-quality spatial visualisations, such as maps and dashboards, that effectively communicate complex data insights. Knowledge of advanced cartographic techniques and GIS tools.
- Proven ability to provide technical support for GIS services, implement test-driven development (TDD) practices, and maintain high standards of code quality and system stability.

Essential requirements

- Tertiary qualifications in a related discipline or equivalent experience.

Cyber Security

Cyber security forms an integral part of every employee's role description and responsibilities. Individuals such as those with privileged access, application developers, risk owners, and system and application owners have additional responsibilities in securing the Department's digital resources. As part of your role, you will be expected to undertake cyber security related activities to help contribute to the Department's overall security posture.
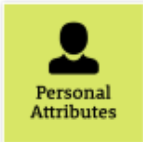
Capabilities for the role

The NSW public sector capability framework describes the capabilities (knowledge, skills and abilities) needed to perform a role. There are four main groups of capabilities: personal attributes, relationships, results and business enablers, with a fifth people management group of capabilities for roles with managerial responsibilities. These groups, combined with capabilities drawn from occupation-specific capability sets where relevant, work together to provide an understanding of the capabilities needed for the role.
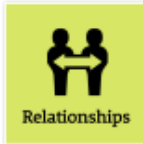
The capabilities are separated into focus capabilities and complementary capabilities

Focus capabilities

Focus capabilities are the capabilities considered the most important for effective performance of the role. These capabilities will be assessed at recruitment.

The focus capabilities for this role are shown below with a brief explanation of what each capability covers and the indicators describing the types of behaviours expected at each level.

Capability group/sets	Capability name	Behavioural indicators	Level
Personal Attributes	**Manage Self** Show drive and motivation, an ability to self-reflect and a commitment to learning	- Keep up to date with relevant contemporary knowledge and practices - Look for and take advantage of opportunities to learn new skills and develop strengths - Show commitment to achieving challenging goals - Examine and reflect on own performance - Seek and respond positively to constructive feedback and guidance - Demonstrate and maintain a high level of personal motivation	Adept

Capability group/sets	Capability name	Behavioural indicators	Level
Relationships	**Communicate Effectively** Communicate clearly, actively listen to others, and respond with understanding and respect	• Present with credibility, engage diverse audiences and test levels of understanding • Translate technical and complex information clearly and concisely for diverse audiences • Create opportunities for others to contribute to discussion and debate • Contribute to and promote information sharing across the organisation • Manage complex communications that involve understanding and responding to multiple and divergent viewpoints • Explore creative ways to engage diverse audiences and communicate information • Adjust style and approach to optimise outcomes • Write fluently and persuasively in plain English and in a range of styles and formats	Advanced
Relationships	**Work Collaboratively** Collaborate with others and value their contribution	• Encourage a culture that recognises the value of collaboration • Build cooperation and overcome barriers to information sharing and communication across teams and units • Share lessons learned across teams and units • Identify opportunities to leverage the strengths of others to solve issues and develop better processes and approaches to work • Actively use collaboration tools, including digital technologies, to engage diverse audiences in solving problems and improving services	Adept

NSW
GOVERNMENT

Capability group/sets	Capability name	Behavioural indicators	Level
Results	**Think and Solve Problems** Think, analyse and consider the broader context to develop practical solutions	• Undertake objective, critical analysis to draw accurate conclusions that recognise and manage contextual issues • Work through issues, weigh up alternatives and identify the most effective solutions in collaboration with others • Take account of the wider business context when considering options to resolve issues • Explore a range of possibilities and creative alternatives to contribute to system, process and business improvements • Implement systems and processes that are underpinned by high-quality research and analysis • Look for opportunities to design innovative solutions to meet user needs and service demands • Evaluate the performance and effectiveness of services, policies and programs against clear criteria	Advanced
Business Enablers	**Technology** Understand and use available technologies to maximise efficiencies and effectiveness	• Identify opportunities to use a broad range of technologies to collaborate • Monitor compliance with cyber security and the use of technology policies • Identify ways to maximise the value of available technology to achieve business strategies and outcomes • Monitor compliance with the organisation's records, information and knowledge management requirements	Adept

NSW GOVERNMENT

Capability group/sets	Capability name	Behavioural indicators	Level
People Management	**Manage and Develop People** Engage and motivate staff, and develop capability and potential in others	• Collaborate to set clear performance standards and deadlines in line with established performance development frameworks • Look for ways to develop team capability and recognise and develop individual potential • Be constructive and build on strengths by giving timely and actionable feedback • Identify and act on opportunities to provide coaching and mentoring • Recognise performance issues that need to be addressed and work towards resolving issues • Effectively support and manage team members who are working flexibly and in various locations • Create a safe environment where team members' diverse backgrounds and cultures are considered and respected • Consider feedback on own management style and reflect on potential areas to improve	Intermediate

Occupational Specific Focus Capabilities

| Capability group/sets	Capability name	Behavioural indicators	Level
SFIA	Development and implementation / Systems development / Programming/software development (PROG)	• Takes technical responsibility across all stages and iterations of software development. • Plans and drives software construction activities. Adopts and adapts appropriate software development methods, tools and techniques. • Measures and monitors applications of project/team standards for software construction, including software security. • Contributes to the development of organisational policies, standards, and guidelines for software development.	Level 5

Capability group/sets	Capability name	Behavioural indicators	Level
SFIA	Development and implementation / Systems development / Systems integration and build (SINT)	• Plans and drives activities to develop organisational systems integration and build capabilities including automation and continuous integration. • Identifies, evaluates and manages the adoption of tools, techniques and processes to create a robust integration framework. • Provides authoritative advice and guidance on any aspect of systems integration. • Leads integration work in line with the agreed system and service design. Assesses risks and takes preventative action. Measures and monitors applications of standards. • Contributes to the development of organisational policies, standards, and guidelines for systems integration	Level 5
SFIA	Development and implementation / Data and analytics / Database design (DBDS)	• Implements physical database designs to support transactional data requirements for performance and availability. • Develops and maintains specialist knowledge of database and data warehouse concepts, design principles, architectures, software and facilities. • Assesses proposed changes to object/data structures and evaluates alternative options. • Implements data warehouse designs that support demands for business intelligence and data analytics.	Level 4

Complementary capabilities

Complementary capabilities are also identified from the Capability Framework and relevant occupation-specific capability sets. They are important to identifying performance required for the role and development opportunities.

Note: capabilities listed as 'not essential' for this role are not relevant for recruitment purposes however may be relevant for future career development.

Capability group/sets	Capability name	Description	Level
Personal Attributes	Display Resilience and Courage	Be open and honest, prepared to express your views, and willing to accept and commit to change	Adept
Personal Attributes	Act with Integrity	Be ethical and professional, and uphold and promote the public sector values	Adept
Personal Attributes	Value Diversity and Inclusion	Demonstrate inclusive behaviour and show respect for diverse backgrounds, experiences and perspectives	Intermediate

NSW GOVERNMENT

Capability group/sets	Capability name	Description	Level
Relationships	Commit to Customer Service	Provide customer-focused services in line with public sector and organisational objectives	Adept
Relationships	Influence and Negotiate	Gain consensus and commitment from others, and resolve issues and conflicts	Adept
Results	Deliver Results	Achieve results through the efficient use of resources and a commitment to quality outcomes	Adept
Results	Plan and Prioritise	Plan to achieve priority outcomes and respond flexibly to changing circumstances	Adept
Results	Demonstrate Accountability	Be proactive and responsible for own actions, and adhere to legislation, policy and guidelines	Intermediate
Business Enablers	Finance	Understand and apply financial processes to achieve value for money and minimise financial risk	Intermediate
Business Enablers	Procurement and Contract Management	Understand and apply procurement processes to ensure effective purchasing and contract performance	Intermediate
Business Enablers	Project Management	Understand and apply effective project planning, coordination and control methods	Intermediate
People Management	Inspire Direction and Purpose	Communicate goals, priorities and vision, and recognise achievements	Intermediate
People Management	Optimise Business Outcomes	Manage people and resources effectively to achieve public value	Intermediate
People Management	Manage Reform and Change	Support, promote and champion change, and assist others to engage with change	Intermediate

Occupation specific complementary capabilities

Capability group/sets	Capability name	Description	Level
SFIA	Development and implementation / Data and analytics / Data visualisation (VISL)	Facilitating understanding of data by displaying concepts, ideas, and facts using graphical representations.	Level 4
SFIA	Delivery and operation / Technology management / Application support (ASUP)	Delivering management, technical and administrative services to support and maintain live applications.	Level 4