Link to PDN Documentation

UDOT PROJECT DELIVERY NETWORK (PDN) DIAGRAM

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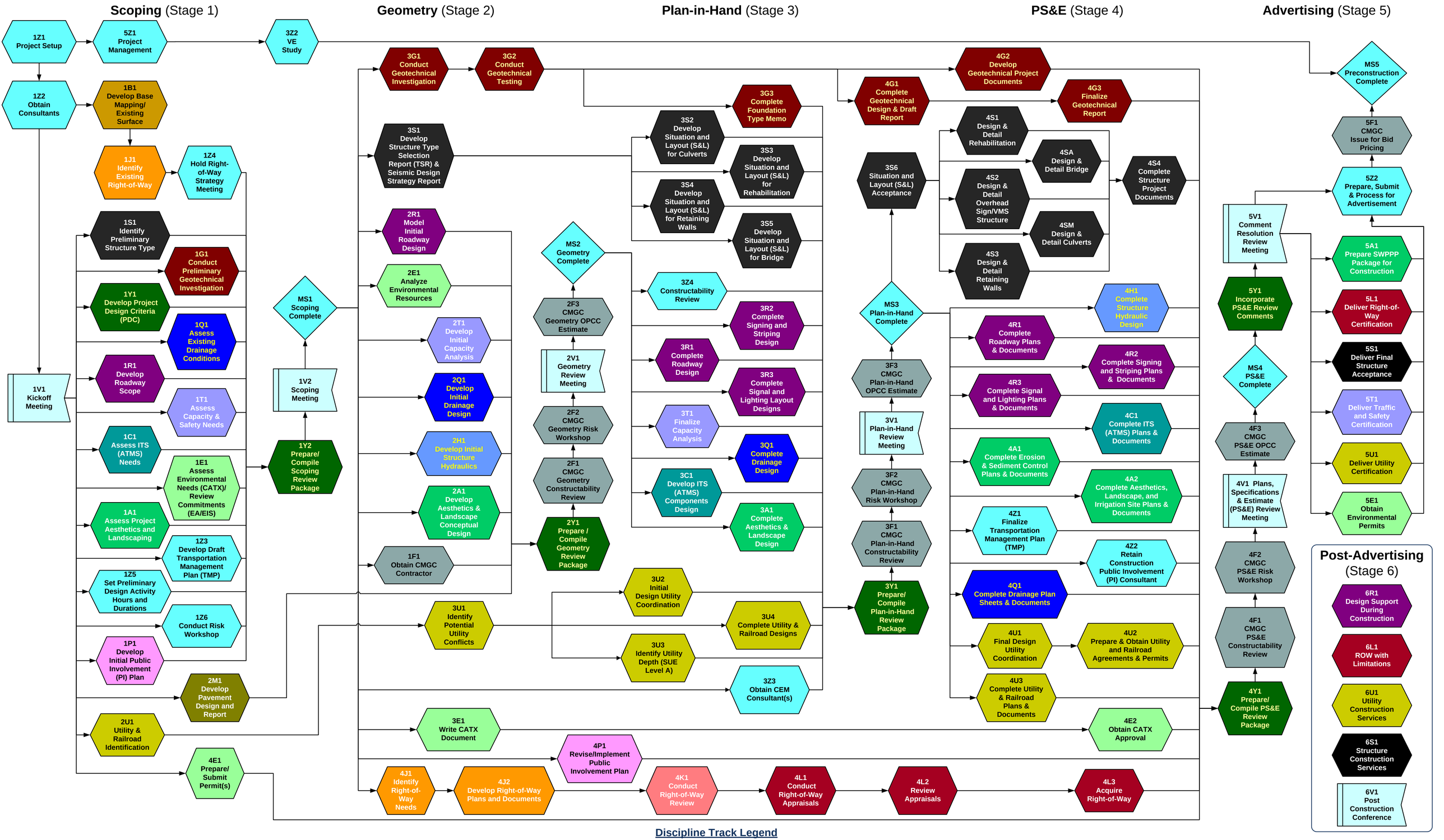

Preface

The *Project Delivery Network* outlines the steps necessary for producing successful projects. Specifically, the network is to assist Project Managers and team members to complete specific tasks:

- Maintain consistency with other project delivery phases (e.g., concept, environmental, and construction phases)
- Easily setup design projects in Microsoft Project
- Outline the steps of the design phase in a logical manner
- Assign appropriate discipline resources to design activities and track project status
- Provide team members with a list of logical activities tracking and determining status
- Streamline the design process when possible
- Focus on project delivery goals at appropriate project stages (scope, schedule, budget)

To accomplish these goals, the network is divided into stages, activities, and tasks.

UDOT Project Delivery Network Documentation

The Project Delivery Network was launched January 2011 with the most recent update having taken place in April 2014. It was developed from the ground up by using deliverables as the core building blocks. It was developed and approved by the Project Delivery Network Committee (PDNC). The PDNC is composed of senior level design and project management personnel from both the Region and Central offices. Each node in the network is explained in greater detail in the Project Delivery Network documentation.

The Project Delivery Network Documentation is now online at:
www.udot.utah.gov/go/pdn

UDOT Scheduling Project Management Office

In 2012 UDOT developed a custom ePM module known as UDOT Schedule Project Management Office or PMO. The PMO facilitates project teams development and execution of project schedules. Project templates in the PMO are based on the Project Delivery Network and are customizable to any project based on the project team's needs and discretion. For example, if there is the need to have multiple tasks with the same activity code due to multiple structures the project team can discuss how to track that. The PMO utilizes four UDOT business system, The Project Management Office (PMO), Microsoft Project Web Application (PWA), Microsoft Project, and ePM.

Project Delivery Network and QC/QA Procedures

The UDOT QC/QA Procedures go hand-in-hand with the network activities to assist the design team to verify that the design and the project documents are produced with due diligence through the use of acceptable industry standards, appropriate techniques, available resources, and reasonable decisions by competent professionals. The procedures are a tool and cannot replace the sound judgment and experience of competent professionals. It is the project design team's responsibility to verify the quality of project documents **before** distribution.

Additionally, Project Delivery Network QC Checklists are available to assist the project design team members conduct a thorough QC check.

The QC/QA Procedures Documentation is now online at:
www.udot.utah.gov/go/qcqa

Design Leader

The *Design Leader* is a new position and discipline track within this network. **The Design Leader is primarily responsible for all technical coordination and communication necessary to compile the project Plans, Specifications, & Estimate.**

All other management duties and coordination default to the Project Manager unless assigned to the Design Leader through negotiation with the Project Manager.

Each stage is concluded with a milestone review meeting, indicated by the letter V (1V2, 2V1, 3V1, 4V1, 5V1, 6V1), to assess the status of the project and review project designs.

Scoping – Goal: Identify critical project goals (scope, schedule, & budget) that set the tone for the project. A clear defined scope in this stage minimizes problems later in the project delivery process.

- Setup project activities, project schedule, and negotiate for resources and organize the project team
- Hold a Kickoff meeting to develop an understanding of the project based on the concept report or any available information
- Review information about the project developed during the concept phase and research additional information pertinent to developing the project scope
- Identify a risk analysis method and develop a risk register
- Determine the design effort and a strategy for delivering critical elements of the project within the scheduled time
- Hold a Scoping meeting to finalize project schedule and the Project Definition Document (PDD)

Geometry – Goal: Develop optimum geometric alignment and minimize/mitigate project impacts.

- Based on input from the Scoping meeting (1V1), determine the recommended horizontal and vertical alignments
- Develop initial roadway model
- Coordinate between disciplines to identify potential impacts
- Identify preliminary cut/fill lines and initial ROW impacts
- Each discipline develops preliminary designs and performs preliminary testing
- Environmental identifies resources and conducts research
- Right-of-way (ROW) managers meet to determine the initial ROW needs for the project and early acquisition may begin
- Each discipline compiles a cost estimate that is included in the total project cost estimate and discussed at the geometry review meeting (2V1)
- This stage concludes after the Geometry review meeting when all issues from the meeting are resolved. At this meeting, the disciplines review and discuss the preliminary design, total cost estimate, scope, risk register, and schedule
- The Structures "Situation and Layout" (S&L) is developed

Plan-in-Hand – Goal: Review completed design and verify that plans meet the project scope and have captured existing conditions.

- Based on input from the Geometry Review Meeting (2V1), the project roadway model is finalized
- The categorical exclusion document is written and approved and the permitting process is started
- The Right of Way process (plans, appraisals and acquisitions) commonly begins
- Each discipline finalizes their designs and develops preliminary plan sheets
- The Plan-in-Hand review meeting (3V1) gives the team members an opportunity to review and discuss the final model. The total project cost estimate is updated and the project budget along with the scope and schedule are discussed
- The Structures "Situation and Layout" (S&L) is accepted by the structures division

PS&E – Goal: Review and verify all disciplines plans, specifications and estimates meet project goals.

- Final plan production begins once the design revisions from the Plan-in-Hand review meeting (3V1) are incorporated
- All details and detail plans sheets are developed and finalized
- The final ROW plans are developed, final appraisals are underway, and, if necessary, property condemnation and owner relocations have started
- All project documents are finalized including all reports, special provisions, cost estimates, summary sheets, etc.
- At the PS&E review meeting (4V1), team members review and discuss the plan sheets

Advertisement – Goal: Incorporate final comments and advertise a successful project.

- Based on input from the PS&E review meeting (4V1), the project team makes final revisions to designs, plans, and documents.
- Final Comment Resolution meeting is held to ensure all previous comments are addressed
- The project advertisement package is compiled. The package will include the final structure acceptance, the storm water pollution prevention plan (SWPPP), and all other plan sheets, specifications, summaries, etc.
- Project advertisement completes this stage

Construction – Goal: Facilitate Construction Completion and Financial Closeout

- Project move to PDBS for contract management
- Stage 6 tasks for design, utility, & structures construction support begins
- At final acceptance the Project Manager begins the financial closeout process using the financial closeout network
- At substantial completion the Project Manager participates in the post-construction closeout meeting (6V1)