# Design Engineer Responsibilities per Town/Cluster

## Project Management Phase

### Prepare for Inspection
- Develop and Maintain Overall Project Plan
- Develop and Maintain Town-by-Town Project Plans initiated by Notice to Proceed

### System of Record
- Establish System of Record (SOR) and provide appropriate access to project team members, MBI and Town(s)
- Maintain SOR by uploading all draft and final project documentation (e.g. project plans, design drawings, analysis documents, pole licenses, plans, standards, document templates)

### Analyses, Approaches & Roadmaps
- Develop technology and product roadmaps
- Evaluate material/equipment uniformity
- Develop town clustering approach
- Develop systems integration and commissioning approach/plan

### General Eng. and Proj. Management
- Perform general project management services as defined in the RFP such as: reporting, status tracking, value engineering, taking meeting minutes, budget monitoring, and critical path monitoring

### Plans
- Develop Acceptance Test Plan
- Develop Communications Plan

### Add/Alternate Services
- Broadcast Video
- Closing Network Spurs
- Regional Design Considerations

## Design Phase

### Route and Premise Evaluation
- Route Evaluation for all Roads, Wireless Equipment Sites, Site Visits for all Premises, and Challenges Identified

### Route Design
- Use the Data from the Route and Premises Evaluation to Develop a Route Design for Each Town Listing the Streets that will Require Pole Applications

### Preliminary Design
- Intake Technology Decision Tree, Data from the Route and Premises Evaluation, and/or any Preliminary Designs Created by Town' Consultants
- Work with Towns to Determine Topology, Technology, Equipment Specification, Fiber Counts, Route Definition, Shortlist of Hut Locations, Cable Distance Calculations, Route Challenge Mitigations, and Budget for Project
- Develop and Distribute the Town Approved Preliminary Design Documents

### Conduit Licensing
- Obtain conduit licenses for existing conduit

### Pole Licensing
- Provide the Route Design to the MBI's Pole Data Collection Firm
- Use the Preliminary Design Documents for Final Route Evaluation and Pole Selection to Eliminate Unneeded Poles

### Special Permitting
- Use the Preliminary Design Documents for Special Permitting Projects
- Analyze Initial Route, Identify Fiber Routes that may have an Impact, Conduct Site Visits, Receive Design Drawings, Prepare Permit Filing Documents, Attend Hearing, Receive Permits

### Final Design
- Construction Ready Fully Developed CAD Drawings with Pole by Pole Detail, Port Level Systems Configuration Details, Detailed Wireless Infrastructure Drawings and Civil Construction Details for Huts/Shelters/ Towers/Poles

## Construction Phase

### Construction Cluster Bidding
- Create Construction Bid Packages and Assist with Bidding

### Construction Standards
- Writing Standards
- Document Templates
- Naming Conventions
- Labling Standards
- Workmanship/Installation Standards, and Method of Proceedures
- Safety Management Plan
- Quality Management Plan

### Field Supervision
- Monitor construction teams to ensure compliance with construction standards

### Safety and Quality Assurance
- Monitor construction teams to ensure compliance with safety and quality standards

### Construction Firm Monitoring
- Monitor all construction firms under contract with MBI to include: invoice intake, submittal review (e.g. red-lined plans), monitor progress and status, and escalating issues (e.g. material backlogs, long lead times)

### Route Adds/Moves/Changes
- Participate in and provide input into change management process
- Intake approved changes from project team members and update design and budget accordingly

## Inspection Phase

### Intake Redlined Plans
- Conduct Assessment of Red Lined Plans To Identify and Deviations from Design Plans
- Update Plans

### Prepare for Inspection
- Finalize the Acceptance Test Plan
- Develop a Version of the Plans to be used for Inspection
- Develop Inspection Checklists

### Initial Inspection
- Fiber Construction Inspection
- Customer Premise Inspection
- Systems Integration Inspection

### Punchlist Items Identification
- Identify Punchlist Items, Develop and Distribute Tracker for Punchlist Items

### Final Inspection
- Fiber Construction Inspection
- Customer Premise Inspection
- Systems Integration Inspection

### Punchlist Completion Assurance
- Ensure that all Punchlist Items have been Remedied
- Update Plans
- Document the Inspection, Findings, and Remedies

## Turnover Phase

### Pole Licenses
- Extract all licenses relevant to the Town (Owner) from the make ready database (or SOR) and provide copies of the licenses

### Final Network Dcumentation
- Final as-builts include final details after punchlist items have been remedied
- Compile a bill of materials listing all assets and materials transferred to the Towns
- Construction and Inspection Photos
- GIS and Other Mapping Diagrams
- Compile any equipment warrantees provided by vendors
- Compile any test results (OTDR, EtherBert, EtherSAM, etc.)

### Sparing
- Provide a sparing recommendation for Town and/or network operator
- Document contents of OSP Restoration Kit

### Software Licenses
- Compile any software license required for networking devices installed

### Copies of Permits
- Compile all permits relevant to the Town's (Owner's) network (e.g. env. eonstr. arch. Permits)

### Manuals
- Town/Owners Manual
- Technical Equipment Manual
- Technical Operations Manual

### Inspection Reports
- Compile inspection reports from all inspections conducted for the network

### Financial Reports
- Support MBI finance team with final financial reports

### Turnover Packages
- Compile Turnover Packages & Present to MBI
- Edit Packages to Address Feedback